

Latent Cumulative Disadvantage:
U.S. Immigrants' Reversed Economic Assimilation in Later Life*

Leafia Zi Ye¹

(Forthcoming at *Social Forces*)

* I thank Michal Engelman, Cullen Cohane, Amanda Bosky, Jordan Conwell, Jason Fletcher, Josefina Flores-Morales, Mary Hamman, Noah Hirschl, Jenna Nobles, Alberto Palloni, Stephanie Robert, and Christian Michael Smith for reading drafts of this paper and providing feedback. I thank faculty and staff members of the Center for Financial Security and members of the Center for Demography of Health and Aging Working Group at the University of Wisconsin-Madison for helpful discussions. The research reported herein was derived in whole or in part from research activities performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement and Disability Research Consortium. The opinions and conclusions expressed are solely those of the author(s) and do not represent the opinions, or policy of SSA or any agency of the Federal Government.

¹ Department of Sociology, University of Wisconsin-Madison. leafiaye@ssc.wisc.edu

Abstract

One of the most salient findings in research on immigration has been that immigrants experience substantial economic mobility as they accumulate more years in the host-society labor force and eventually approach earnings parity with their native-born counterparts. However, we do not know whether this progress is sustained in retirement. In this paper, I develop a model of *Latent Cumulative (Dis)advantage* and hypothesize that even as immigrants are approaching parity with the native-born in terms of current earnings, they accumulate disadvantages in lifetime earnings, job benefits, and retirement planning that eventually lead them to have growing disadvantages in income in later life. Drawing on decades of longitudinal data from the Health and Retirement Study, I find that while foreign- and native-born men in the U.S. both experience a decline in income after age 50, the decline is much more substantial among foreign-born men. As a result, immigrant men's economic assimilation is reversed in later life. I find evidence that this phenomenon is driven mainly by immigrants' lower lifetime earnings and cumulative exposure to worse job benefits. Given that the foreign-born elderly population in the U.S. is projected to quadruple by 2050, findings from this paper have important implications for long-term policy planning.

Keywords: immigrant integration, retirement income, cumulative (dis)advantage, aging and the life course

Introduction

Half a century after the 1965 Immigration and Nationality Act, 45 million immigrants now live in the U.S., most of whom came in pursuit of economic opportunities. Decades of research have made tremendous progress in understanding immigrants' economic integration. Researchers agree that immigrants arrive in the U.S. with lower earnings than the native-born but gradually close this gap over a few decades (Duleep & Dowhan, 2008; Kaushal et al., 2016). However, this research has focused on individuals' trajectories during their working years and has paid limited attention to what happens as immigrants age and retire. It is unclear whether older immigrants would continue to experience economic convergence with the native-born or to experience setbacks and reversals in their progress.

Traditionally, scholars have used theories of cumulative (dis)advantage to highlight how small initial (dis)advantages can accumulate over time to cause increasingly large socioeconomic and health gaps between groups (Crystal, Shea, and Reyes 2017; O'Rand 1996; Shuey and Willson 2008). In this study, I develop a latent version of the cumulative (dis)advantage model and apply it to the study of immigrants' economic integration over the life course. Unlike in a traditional cumulative (dis)advantage model where small disparities become large ones, the latent version of the model emphasizes that some (dis)advantages accumulate *covertly* in the background and manifest themselves as diverging trajectories once a critical event (e.g., retirement) takes place. I hypothesize that even as immigrants are closing income gaps with the native-born in the labor market, their compounding disadvantages in lifetime earnings, job benefits, and retirement planning over the life course eventually lead their post-retirement income trajectory to diverge from that of the native-born. For example, because immigrants arrive in the U.S. with lower earnings, they may accumulate less in lifetime earnings than the native-born even if they achieve

substantial mobility in the labor force, eventually leading to lower Social Security income. Because many immigrants have temporary resident status when they first arrive, they may also delay retirement planning, eventually receiving lower annuity income in later life. Counter to previous findings of working-age immigrants' economic assimilation, immigrants may undergo a "reversal of fortune" when they retire and experience increased economic insecurity in later life relative to the native-born, but there has been little empirical research to test this possibility.

Indeed, there is an urgent need for research on immigrants' economic well-being in later life given the growing number of studies revealing extreme vulnerabilities of older immigrant groups in terms of their physical, psycho-social and material well-being (Gubernskaya and Tang 2017; Boen and Hummer 2019), which can appear disconnected with findings on immigrants' positive labor force trajectories. Aging immigrants' economic well-being also has important implications for the socioeconomic integration of later generations. For example, children with poorer parents and grandparents have fewer educational opportunities (Jæger 2012; Tevington, Napolitano, and Furstenberg 2017). Parents with limited income may also rely on financial transfer from adult children, which can lead to immigrant children's economic and psychological distress (Savla et al. 2008). Given that the U.S. foreign-born population aged 65 is projected to quadruple by 2050 (Leach 2008), more research on current older immigrants' well-being can help predict future policy needs in diverse aging populations and their offspring.

The current study is the first to describe and analyze U.S. immigrant's economic trajectories beyond their prime working years. I examine two questions. First, does immigrants' economic integration in income continue after age 50? Second, what are the mechanisms through which immigrant status shapes the way individuals generate income in later life? I draw on data from the Health and Retirement Study (HRS) to answer these questions.

Theoretical Framework

Immigrants' Economic Integration

Immigrants' integration is an important research topic because it has profound implications for the well-being of immigrant families and for host societies' evolving culture and economic vitality (National Academies of Sciences Engineering and Medicine 2016; Waters and Jiménez 2005). While earlier theoretical frameworks focused on cultural assimilation / acculturation and social integration (Gordon 1964; Park 1928), more recent work in migration research has sought to predict and explain how immigrants adapt economically. Studies on the topic agree that while immigrants tend to occupy lower economic positions when they first arrive, they develop more skills that are valuable to the host society labor market over time and catch up to their native-born counterparts in terms of occupational prestige and earnings (Duleep and Dowhan 2002; Lubotsky 2007; Akresh 2008). To capture the effect of nativity, studies have typically operationalized immigrants' economic integration as the percentage difference in income or earnings between the native- and foreign-born net of educational attainment. For example, Lubotsky (2007) analyzed Social Security records and found that men arriving in the U.S. between 1960-79 began with 35-40% lower earnings than the native-born and narrowed this gap to 10-20% after 20 years.

Research on immigrants' economic integration has experienced a few advancements in the last few decades. First, while earlier research was only able to compare the earnings of recently arrived immigrants with those of immigrants who have been in the host country for longer in cross-sectional data (Chiswick 1978), more recent work has been able to observe individual-level trajectories thanks to the availability of longitudinal records (Duleep and Dowhan 2002; Lubotsky 2007; Hu 2000). In addition to offering real trajectories, longitudinal data allow higher quality checks of mortality selection and attrition issues, which I am also able to do in this study. Second,

scholars have paid more attention to variations in immigrants' economic integration in response to new assimilation (R. D. Alba 2009; R. Alba and Nee 1997) and segmented assimilation (Zhou 1997; Portes and Zhou 1993) theories. These theories argued that immigrants' speed and direction of integration may both vary depending on their characteristics because the mainstream population is also socially stratified, constantly changing, and accept different immigrant groups to different extents. For example, Villarreal and Tamborini (2018) found that Black and Hispanic immigrants in the U.S. are less able than white immigrants to achieve the earnings levels of native-born whites in the 20 years after they arrive, potentially due to racial disparities in labor market opportunities. Variations in immigrants' economic integration are important to reflect on, as they present a unique look into host societies' social stratification systems. Nonetheless, the weight of evidence suggests that immigrant groups from various arrival cohorts (Borjas 1985; 2015), racial/ethnic groups (Villarreal and Tamborini 2018), and countries of origin (Duleep, Liu, and Regets 2014; Ye and Engelman 2021) experience some degree of economic integration, where their economic position relative to the native-born improves as they live in the host society for longer.

While previous research has built an increasingly comprehensive understanding of immigrants' integration during working ages, the literature on immigrants' economic trajectories in retirement is much sparser. A small, recent body of literature on immigrants' economic well-being in later life has highlighted that immigrants often receive lower income and face higher risks of poverty than their native-born counterparts (O'Neil and Tienda 2015; O'Brien, Wu, and Baer 2010; Scommegna 2016). However, this literature suffers from a few limitations. First, most related research has used cross-sectional data to describe older immigrants' income (Lee, Hong, and Harm 2014; O'Neil and Tienda 2015), which offer helpful snapshots at specific time points but do not tell us about changes in immigrants' economic well-being over the life course. Second,

they have tended to pool together early-life immigrants who moved to the host country for work and late-life arrivals who immigrated for family reunion. As result, we do not know whether older immigrants' economic disadvantage is due to late-life arrivals' lack of income or due to setbacks in long-term immigrants' integration processes.

In this study, I use longitudinal data from the Health and Retirement Study to study the later-life economic trajectories of immigrant men who arrived in the U.S. between 1960 and 1986 during working ages. These immigrants were featured in a few previous studies of labor force integration and were found to have experienced substantial economic assimilation toward their native-born counterparts (Lubotsky 2007; Villarreal and Tamborini 2018). In identifying their later-life trajectories, I bring together the literature on immigrants' economic integration and recent studies of older immigrants' financial vulnerabilities.

Latent Cumulative (Dis)advantage and Older Immigrants' Income

The core task of this paper is to understand how economic differences by nativity evolve across the life span. This matches the key idea of cumulative (dis)advantage theory, which is frequently used to explain how inequalities manifest themselves over time. As summarized in Ferraro and Kelley-Moore (2003), the theory “emphasizes how early advantage or disadvantage is critical to how cohorts become differentiated over time” (Ferraro and Kelley-Moore 2003, p.708). It originated as an explanation for why some scientists are much more successful than others (Merton 1968) but was later generalized as a theory of diverging life course trajectories across groups (O’Rand 1996; Diprete and Eirich 2006; Dannefer 2003). In research on immigrants' outcomes, the theory has most frequently been applied to the study of the diminishing immigrant health advantage – the phenomenon where new immigrants have a health advantage over the native-born that gradually disappears over time, net of socioeconomic controls (Antecol and

Bedard 2006). While earlier studies attributed immigrants' shrinking health advantage to acculturative changes in diet and exercise (Jasso et al. 2004; Abraído-Lanza et al. 2006), recent evidence points to cumulative exposure to structural inequalities as a fundamental cause. For example, scholars have documented that the negative association between time in the U.S. and immigrant health is still present after accounting for health behaviors (Riosmena et al. 2015) and is stronger among immigrants of color (Engelman and Ye 2019).

There is great potential for applying cumulative (dis)advantage theory to the study of immigrants' economic integration after retirement. For example, immigrants' lack of job security, among other sources of precarity due to immigrant status, can lead to an accumulation of disadvantages in retirement financing. However, this accumulation does not follow the conventional patterns of cumulative (dis)advantage in two ways. First, the accumulation of disadvantages in retirement financing happens *concurrently* as immigrants make positive progress (closing earnings gaps with the native-born in the labor force). Second, the process leads to divergence in economic trajectories in the future rather than immediately. As a result, we should not expect to observe the typical pattern of diverging trajectories between immigrants and the native-born regarding income over the life course. Instead, immigrants' economic trajectories are only expected to diverge from that of the native-born when they approach retirement age. I call this a *latent model of cumulative (dis)advantage* to differentiate it from the conventional model. In a traditional cumulative (dis)advantage model, small gaps between groups compound over time and become large disparities; in the latent version of the model, the accumulation of disadvantages happens in the background and only manifests itself as diverging trajectories once a critical event (e.g., retirement) takes place.

A few specific mechanisms can drive latent cumulative (dis)advantages in the case of U.S. immigrants' later-life income. First, immigrants' initial labor market disadvantage can accumulate to negatively affect their Social Security retirement benefits in later life. In the U.S., Social Security benefits are a function of lifetime earnings – more accurately, earnings during an individual's 35 highest-paid years. Because immigrants arrive in the U.S. with lower initial earnings compared with the native-born (Villarreal and Tamborini 2018; Duleep and Dowhan 2008), they are likely to have accumulated less in lifetime earnings when they retire. Second, immigrants' worse job benefits can accumulate to reduce their pension income. Many immigrants experience periods of precarious or temporary immigration status before they become permanent residents or U.S. citizens; others remain in precarious status throughout their lifetime. This can lead immigrants to accept job positions with less employer-sponsored retirement support (Gleeson and Gonzales 2012; Orrenius and Zavodny 2009; Heim, Lurie, and Ramnath 2012), which lowers their chances of having employer-sponsored retirement plans. Third and relatedly, structural inequalities and immigrants' lack of certainty about the future can lead to a disadvantage in annuity income. Immigrants have systematically less knowledge about the U.S. retirement system and lower financial literacy than the native-born (Rostamkalaei and Riding 2020), which makes personal financing a challenging task. Many experience uncertainty about whether they will stay in the U.S. for the long term, especially when host country immigration policies are changeable and difficult to navigate (Ayón and Becerra 2013; Rincón 2017). Undocumented immigrants have especially limited economic prospects (Hall, Greenman, and Yi 2019) and face additional precariousness due to the fear of deportation (Becerra et al. 2017). All of this can lead immigrants to delay long-term retirement planning, which eventually reduce their later-life annuity income from insurance products.

In addition to the mechanisms above, immigrants may counter some of their retirement income disadvantages by staying in the labor force for longer. If so, they would experience slower declines in income from earnings compared with the native-born. I seek to assess the contribution of these mechanisms in this study.

Research Questions

While decades of research have made tremendous progress documenting immigrants' economic integration patterns in the labor force, it is unclear whether immigrants maintain their economic convergence with the native-born or experience a reversal of fortune when they age and retire. This calls for research on immigrants' economic well-being beyond their prime working years and for theoretical frameworks that pay attention to how the cumulative process of retirement financing operates. I aim to fill this gap with a latent model of cumulative (dis)advantage.

I ask two questions in this paper:

1. What does U.S. immigrants' economic integration look like after age 50?
2. Through what mechanisms does immigrant status shape income generation in later life?

Hypotheses

For my first question, the null hypothesis is that U.S. immigrants will stay economically integrated as they age and retire. I call this the hypothesis of *continuous integration*. If this hypothesis were true, then I should find that the ratio of immigrant-to-native income (net of educational attainment and period effects) stays near 1 as immigrants enter later life. Figure 1a illustrates a scenario where immigrant men approach income convergence with the native-born at age 50, after which their income remains close to native-born levels. There are two possible reasons why immigrants may stay integrated in later life. On the one hand, immigrants may have integrated with the U.S.-born in both earnings and retirement financing during working ages, thus

experiencing no income disadvantage in later life. On the other hand, immigrants may have some later-life disadvantages in retirement income, but they make up for these disadvantages through staying in the labor force for longer and having a slower decline in earnings.

The alternative hypothesis is that as individuals age, latent inequalities by nativity would increasingly manifest themselves through a relative decline in income compared to native-born. I call this the hypothesis of *reversal of fortune*. If this hypothesis were true, then I should find that immigrants' income trajectories diverge from their native-born counterparts in later life despite convergence during prime working years (Figure 1b). We may see this pattern if immigrants have later-life disadvantages in retirement income *and* they do not make up for these disadvantages through delaying retirement.

My second question is about the specific mechanisms behind immigrants' potential disadvantages in later-life income trajectories. I hypothesize that the reason why immigrants experience reversed economic assimilation (or that they stay integrated but only through staying in the labor force for longer) is that they accumulate latent disadvantages in lifetime earnings, job benefits, and personal retirement plans over the life course. I test my hypotheses through examining nativity gaps in income from different sources, taking advantage of the fact that each type of income corresponds to a specific mechanism of interest. Cumulative disadvantage in lifetime earnings mainly affects individuals' Social Security retirement benefits; long-term exposure to poor job benefits is most likely to impact individuals' income from pensions; delayed and less structured retirement planning contribute to lower annuity income in later life. While these processes are interrelated (e.g., lifetime earnings can affect how much income one sets aside for retirement plans), pinpointing the exact sources of income where immigrants experience

disadvantageous aging trajectories can nonetheless lend support to the importance of different mechanisms.

Data and Methods

To test my hypotheses, I use data from the 1992-2018 Health and Retirement Study (HRS). The HRS is a multi-cohort longitudinal study of a nationally representative sample of adults aged 50 and older in the United States (Brown et al., 2008). It provides detailed information on individuals' demographic information and income for a large sample of native- and foreign-born older adults. Respondents were interviewed roughly every two years.

Finding high-quality data on immigrants' life course income trajectories is challenging. Datasets that have large immigrant samples tend to be cross-sectional (e.g., the Current Population Survey) or have short panels (e.g., the Survey of Income and Program Participation), but datasets that contain long follow-ups have few immigrants who are old enough for a study on their later-life trajectories (e.g., the Panel Study of Income Dynamics). The HRS has the advantage of containing follow-ups on multiple birth cohorts over decades, which covers most immigrants who appeared in previous studies on immigrants' labor force trajectories. The trade-off is that sample sizes are relatively small when broken down by subgroups, which limits my ability to examine heterogeneities. Nonetheless, the HRS offers a rare opportunity to describe and analyze the later-life economic integration of immigrants who have been entering retirement in the last few decades.

I narrow down my sample in a few ways. First, I limit the analysis to men. Studying women's income in later life is undoubtedly important but would require detailed accounts of selection into employment over the life course, and my data cannot facilitate that. Second, because individuals need to have worked in the U.S. for at least 40 quarters to qualify for Social Security retirement benefits, I only include immigrants who arrived in the U.S. between ages 25- 45 to

ensure that immigrants in my sample have worked enough quarters to receive Social Security. Third, I focus on immigrants who arrived in the U.S. between 1960 and 1986 to allow enough time for observation of most respondents' full trajectories after 50. Immigrants in these cohorts have also been featured in previous studies on labor force assimilation. As mentioned earlier, Lubotsky (2007) documented earnings integration for men arriving in 1960-69 and 1970-79. Similarly, Villarreal and Tamborini (2018) found that men arriving in 1980-86 begin with about 35% lower earnings than their native-born counterparts and narrow this gap to about 12% after 13-14 years.

I also restrict my sample to minimize errors and biases in my estimates. I limit the analysis to person-years before age 80 to reduce biases from differential mortality selection by nativity (Mehta et al. 2016). I also exclude person-years in which the respondent did not report income from any source. A supplemental check found that 81% of zero-income person years in my data are from individuals who report to be working for pay or having started claiming Social Security, consistent with previous work that found high rates of reporting error among survey respondents who claim to receive no income (Bricker and Engelhardt 2008; Pedace and Bates 2000). This amounts to 6.7% of person-years that are dropped.

Table 1 contains summary statistics of the sample by nativity. Permanent attrition from the survey is slightly more prevalent among immigrants than for the native-born (4.33% vs. 3.95%), and mortality selection is slightly higher among the native-born (19.61% vs. 15.75%). These numbers confirm that biases through differential attrition are relatively small in my estimates, although I keep them in mind as I interpret my findings and discuss limitations. There are nativity differences in both educational and racial/ethnic composition. Particularly striking is the highly bifurcated distribution of immigrants' educational attainment: 39% did not finish high school (vs. 15% among the native-born), but 27% have college education or above (same as the native-born).

The high percentage of immigrants with less than high school education means that immigrants' overall income disadvantage does not come as a surprise (\$39k vs. \$57k among native-born), and it points to the importance of accounting for educational attainment in my regression models. My final analytical sample consists of 75,761 person-year observations from 15,036 men.

Measurements

Nativity is a binary variable, where an individual is either born in any of the 50 U.S. states (U.S.-born) or born in a foreign country, including outlying U.S. territories (foreign-born).

Total individual income (time-varying) is the sum of an individual's inflation-adjusted annual income from Social Security retirement benefits, pensions (including 410k plans, defined benefit plans, defined contribution plans, etc.), annuities, labor force earnings, Supplemental Security Income (SSI), unemployment insurance, worker's compensation, Social Security Disability Insurance (SSDI), and other government transfer. Because income is right-skewed, I take its logarithm when using it as the outcome variable in regression models. I focus on income on the individual rather than the household level for two reasons. First, focusing on individual income is consistent with previous research on immigrants' economic integration during working years, which typically studied individual earnings. Second, because older immigrants have higher rates of co-residence with family members than the native-born (Scommegna 2016), family income may hide older immigrants' economic vulnerabilities. The decision to examine individual income is also appropriate given the study's focus on men, who have more consistent labor force participation and make more individualistic retirement decisions (Grace, Weaven, and Ross 2010).

Age (time-varying) is based on respondent's age (in years) at the month in which the interview ends. I divide age into 5-year intervals, from 50-54 to 75-79. Specifying age as categorical rather than linear or curvilinear allows me to capture more nuances in individuals'

income trajectories in later life. It also matches the treatment of the variable in previous studies on immigrants' economic integration, which often specified the time variable as discrete (Duleep and Dowhan 2002; Villarreal and Tamborini 2018). Results from the categorical specification are also very similar to alternative models where I specify age as curvilinear.

Education captures respondent's highest level of schooling completed, including the following categories: less than high school, completed General Educational Development (GED), high school graduate, some college, and college or above.

Analytical Strategy

The first goal of the paper is to estimate longitudinal changes in immigrants' economic integration after age 50. To estimate the overall level of economic integration at each age, I model the logarithm of total individual income with a random-intercept linear regression. Using a random-intercept regression allows me to simultaneously account for the multi-level structure of the data and to estimate the effect of nativity, which is time-invariant.

The regression model identifies nativity gaps in income net of education attainment. The model also contains interaction terms between education and age to capture the differential effect of education on income over the life course, and calendar-year dummies to account for period fluctuations in broader economic conditions. I do not control for race to focus on the overall influence of nativity on income, but I consider racial stratification as an additional explanation for my findings in the discussion section.

The model has two levels: person and person-year, and can be expressed as follows:

$$\begin{aligned} \ln(I_{it}) = & \alpha_0 + \alpha_1 * immigrant_i + \beta * age_{it} + \gamma * immigrant_i * age_{it} \\ & + \delta * edu_i + \pi * edu_i * age_{it} + \theta * inyear_{it} + u_i + \varepsilon_{it} \end{aligned} \quad \text{Eq. (1)}$$

$\ln(I_{it})$ is the logarithm of individual i 's total income in year t ; $immigrant_i$ indicates the individual's nativity (Ref = U.S.-born); \mathbf{age}_{it} is a vector of dummy variables for each 5-year age interval (Ref = 50-54); \mathbf{edu}_i is a vector of dummy variables for each education category (Ref = high school graduate); and \mathbf{inyear}_{it} is a vector of dummy variables for each year of interview (Ref = 2012). u_i is the individual-specific error term, and ε_{it} is the person-year error term. Coefficients in $\boldsymbol{\gamma}$ indicate whether the effect of age on individuals' income differs by nativity. Assuming that age after 50 has a negative effect on individuals' total income, negative coefficients in this vector would suggest that immigrants experience even more decline in their income than their native-born counterparts with age. I conduct a further analysis by education, which I elaborate when I describe the results.

My second goal is to evaluate the mechanisms behind the influence of nativity on later-life income. To achieve this goal, I estimate the same model as specified in Eq. (1) but replace the outcome variable with individuals' income from specific sources. I estimate a total of six models, one for each of the following income sources: Social Security retirement benefits, pensions, annuity, earnings, Supplemental Security Income (SSI), and other government programs/transfers (including unemployment insurance, disability insurance, worker's compensation, and other government transfer). I also compare immigrants and native-born older men's income composition in order to more clearly demonstrate the relative importance of different mechanisms across ages.

Results

Immigrants' Later-Life Economic Integration

Table 2 illustrates immigrants' later-life economic integration patterns when accounting for period effects, educational attainment, age, and their interactions. At age 50-54, immigrants receive $e^{(-0.0976)} - 1$, or 9% less income compared with their native-born counterparts, and the

difference is not statistically significant. In other words, from the perspective of total individual income, immigrant men are only slightly behind their native-born counterparts in their early fifties. This is consistent with expectations based on previous studies, which showed that immigrants make much progress in closing economic gaps with the native-born after being in the U.S. for a few decades.

Because interaction terms are in the model, the coefficients for age indicate effects among the native born only. As expected, age after 50 has a negative effect on income among the native-born. My two competing hypotheses had different predictions about the coefficients for interaction terms between nativity and age. My *continuous integration* hypothesis stated that the effect of aging on total income should *not* differ by nativity. In contrast, my *reversal of fortune* hypothesis expects the negative effect of aging on income to be *even larger* among immigrants than among the native-born. I find clear support for the latter hypothesis. All coefficients for interaction terms between nativity and age are negative, and the coefficients for older ages have larger magnitudes. For example, the effect of age on income at age 60-64 (vs. age 50-54) is -15% among the native-born, but it is even larger by an *additional* 10% among immigrants. The effect of age on income at age 75-79 (vs. age 50-54) is -30% among the native-born, but it is even larger by an *additional* 25% among immigrants. In other words, immigrants age into disadvantage relative to the U.S.-born.

Figure 2 plots the ratio of immigrant to native-born income across ages, and it shows that the nativity gap in income increases from about 10% at age 50-54 to over 15% at age 60-64. The gap widens much more dramatically after age 65, reaching 32% at age 75-79. To put the gap into perspective, a U.S.-born man with average levels of education received \$35,093 in annual income

at age 50-54, compared with \$31,830 for the average immigrant man. The average U.S.-born man received \$23,373 at age 75-79, compared with only \$15,894 for the average immigrant.

As noted earlier, a large share of immigrants in the sample did not finish high school. The analysis above accounted for educational attainment, but patterns can still be driven by immigrants with particularly low education, who are also more likely to be undocumented. As a check for heterogeneity, I divided my data into two subsets: those with less than high school education, and those who completed high school / GED². Figure 3 shows that immigrants' reversed economic assimilation in later life is consistent across the two education groups (See Table A1 in the appendix for details). Compared with native-born men with less than high school education, immigrant men receive 5% less income at age 50-54; this gap expands to 28% at age 70-74, although it narrows to 24% at 75-79. The slight shrinkage of the nativity gap at older ages may be because the most economically disadvantaged immigrants are selected out of the sample through return migration, consistent with the fact that immigrants have slightly higher permanent attrition rates in the sample. Among those with at least high school education, the nativity gap in income is 12% at age 50-54 and expands to 35% at age 75-79. In general, nativity gaps greatly expand with age in both education groups but are milder among those with less than high school education, likely due to low income among native-born men who did not finish high school.

Overall, results here reveal a striking pattern: despite having narrowed income gaps with the native-born during working ages, immigrants move further away from parity with their native-born counterparts in later life, reversing their progress in economic assimilation. Immigrants with and without a high school degree both experience this trend. The process is especially accelerated

² The education and education*age terms drop out in the regression on respondents with less than high school education because there is only one level of education in this subsample. Unfortunately, sample sizes are not large enough to support analyses of further heterogeneity within immigrants with at least high school education.

after age 65, which is typical retirement age for U.S. workers. This points to cumulative (dis)advantages in retirement financing as a likely explanation for these patterns.

How Immigrant Status Shapes Later-Life Income

What may explain immigrants' reversed economic assimilation in later life? My hypothesis was that immigrants age into income disadvantage because they accumulate latent disadvantages in lifetime earnings, job benefits, and personal retirement plans over the life course. Respectively, these three mechanisms would lead immigrants to receive less income from Social Security retirement benefits, pensions, and annuity than their native-born counterparts. I also hypothesized that immigrants may counter some of their retirement income disadvantages by staying in the labor force for longer, which means they may receive more income from earnings in later life.

I find clear support for the hypothesis that cumulative disadvantages in lifetime earnings are a main driver of immigrants' reversed economic assimilation in later life. Model 1 in Table 3 shows that although the nativity difference in benefits is small at age 50-59 when most individuals do not yet receive benefits³, an immigrant disadvantage emerges as a higher share of the population begins to claim Social Security. At age 60-64, immigrants receive about 40% less in benefits relative to the native-born; at age 65-69, they receive 42% less. These patterns help explain why immigrants' relative disadvantage in total income grows by an especially large amount between ages 60 and 69. Relative to other explanations, lifetime earnings are also especially important because Social Security accounts for a large share of individuals' income among older adults. For example, at age 65-69, about 30% of native-born men's income and nearly 40% of immigrants' income are from Social Security (Figure 4).

³ This is consistent with the fact that Social Security retirement benefits are not legally claimable until 62 years old. Nonetheless, some individuals report receiving benefits before age 62, who are potentially survivors claiming the Social Security of a deceased spouse. Removing these individuals from the regression did not change my findings.

I also find convincing support for the hypothesis that immigrants' income disadvantage is in part driven by poorer employment benefits, which would lead them to have lower pensions. Model 2 in Table 3 shows that a nativity gap in pension already emerges at age 50-54, where immigrants receive 28% less pension than the native-born. This gap expands dramatically as more individuals in the population begin to receive pensions, and at age 65-69, immigrant men receive 85% less pension than their native-born counterparts. The pension gap then persists throughout the later part of the life course. The fact that nativity disparities in pension emerge early, expand quickly, and remain large throughout later life can help explain why the overall income gap by nativity already starts widening before typical retirement age, accelerates around age 65-69, and persists after age 70. Pension is also a dominant explanation relative to other factors, as it accounts for a large share of income especially among native-born men (Figure 4). At age 55-59, pension already accounts for 6% of native-born men's income (vs. less than 1% among immigrants); at age 65-69, it accounts for 25% of native-born men's income (vs. 11% among immigrants). The importance of pension continues to grow in later life.

Immigrants may also have a growing income disadvantage in later life because they have fewer resources, less access to financial knowledge, and lower certainty about their future, which can lead them to make smaller and more delayed investments in retirement insurance plans. I can confirm this hypothesis if I observe an increasing nativity gap in annuity income in later life. My empirical findings offer little support for this hypothesis. While immigrants indeed experience less increase in their annuity income compared with the native-born at older ages, the magnitudes of these differences are small (Model 3, Table 3). Furthermore, annuity income accounts for a small share of total income in later life for both groups of men (Figure 4). It is possible that while differences do exist between immigrants and native-born men's retirement planning processes,

they do not manifest as disparities in annuity income but instead as disparities in accumulated wealth. I examine nativity wealth gaps in a supplementary analysis, which I discuss later.

Do immigrants make up for their lack of retirement income through other means? I hypothesized that immigrants may stay in the labor force for longer in order to counter their disadvantage in Social Security and pension income with more earnings. Surprisingly, evidence suggests the opposite: immigrants fall behind in earnings relative to the native-born at older ages, despite having an earnings advantage in their fifties and early sixties (Model 4, Table 3)⁴. At age 70-74, immigrants receive about 8% less than native-born men in earnings; at age 75-79, this gap expands to 18%. At the same time that immigrants develop an earnings disadvantage, however, the share of income from earnings also declines (Figure 4). Therefore, while immigrants have unfavorable earnings trajectories as they age, earnings likely play only a small role in shaping the increase in their overall income disadvantage in later life.

Finally, older adults also receive income from Supplemental Security Income and other government transfer. In contrast to native-born men who receive less in Supplemental Security Income as they age, immigrant men receive more SSI as they age (Model 5, Table 3). This signals severe economic hardship among immigrants since the income and asset limits for SSI are very low (about \$1700/month for income and \$2000 for assets). Immigrants receive less in other government transfers than the native-born, and this nativity gap remains about the same throughout the later part of the life course (Model 6, Table 3). Both sources of income (and their determinants) likely play a smaller role than Social Security and pensions in shaping big-picture nativity disparities, as they together account for just about 5% of individual income in later life (Figure 4).

⁴ Immigrants' earnings advantage at age 50-54 may be surprising, since previous studies found that immigrants rarely exceed parity with the native-born. However, previous research primarily focused on individuals whose earnings are above a certain threshold. I find in a supplementary check that immigrants still have a small earnings disadvantage relative to the native-born at 50-54 when I restrict the sample to those earning at least \$3000.

Discussion

Rethinking economic integration from a life course perspective

One of the most salient findings in research on immigration has been that immigrants experience substantial economic mobility as they accumulate more years in the labor force and eventually approach earnings parity with their native-born counterparts (Duleep and Dowhan 2002; Kaushal et al. 2016). Immigrants from various arrival cohorts (Lubotsky 2007; Villarreal and Tamborini 2018; Hu 2000), racial/ethnic groups (Villarreal and Tamborini 2018), and countries of origin (Duleep, Liu, and Regets 2014) all experience this trend, although their speed and extent of integration varies. However, we know much less about whether immigrants' economic integration sustains beyond working age. In this paper, I conducted the first study to investigate U.S. immigrants' economic integration after age 50, rethinking immigrants' economic assimilation from a life course perspective. I focused on immigrants from arrival cohorts that achieved much progress in earnings integration according to previous literature and found that they have expanding disadvantages income compared with their native-born counterparts after 50. This demonstrates that economic integration in the labor force does not equal financial security in later life. First-generation immigrants experience increasing economic vulnerability as they age, and immigrants' descendants are likely exposed to more restricted resources and more financial responsibilities as they grow up and enter the labor force themselves.

An additional contribution of this paper is a set of analyses that spell out the mechanisms through which immigrant status shapes later-life income. I find lifetime earnings and job benefits to be the main drivers of immigrants' growing disadvantage in income, which confirms the value of applying a latent cumulative (dis)advantage framework when considering immigrants' economic well-being. The calculation of U.S. Social Security retirement benefits is based on how

much earnings individuals have accumulated over their lifetime and not how much progress they have made. This means that initial nativity differences in earnings have long-extending impacts: arriving in the U.S. with lower earnings than their native-born counterparts (Duleep and Dowhan 2008), immigrants are somewhat “destined” to receive lower benefits when they retire. The latent cumulative (dis)advantage framework also highlights that immigrant status can shape early-life decisions, such as which jobs to take and whether to enroll in employer-sponsored retirement plans. Immigrants’ feeling of uncertainty and temporality, as evidenced by some groups’ high emigration rates and loose attachment to the U.S. labor force (VanHook and Zhang 2011; Ye and Engelman 2021), can lead them to accept jobs that provide poorer retirement benefits and to delay retirement planning. While this process operates in the background when immigrants are in the labor force, it eventually manifests as a growing immigrant disadvantage in pension income.

I focused on income in my analyses, but wealth is another indicator of economic well-being that profoundly affects older adults’ health, mortality, and social engagement (McMunn, Nazroo, and Breeze 2009; Engelman et al. 2022; Demakakos et al. 2016). If immigrants are at or above parity with the native-born in terms of wealth in later life, then their income disadvantages are less consequential for their actual well-being than this paper has suggested. To supplement my findings, I conducted an additional check where I divided inflation-adjusted household wealth (including financial and housing wealth) by the number of people in the household to generate a measure of individual wealth. I found that immigrants have consistently lower wealth compared with the native-born across ages (Figure A1), and these patterns further hold up within education groups (results omitted for brevity and available upon request). Previous research has pointed out that new immigrants tend to have wealth in their country of origin that they do not report to U.S. surveys (Flippen 2020), but that is unlikely the case here because I focused on long-term immigrants who

have lived in the U.S. for longer. Therefore, older immigrants' growing income disadvantage reflects an important aspect of their economic well-being that is not compensated by their wealth, and one that requires research and policy attention.

Racial stratification as an upstream determinant of nativity disparities

I considered a few mechanisms where immigrants may be accumulating disadvantages over the life course in this study. It would be remiss not to emphasize that nativity disparities in these areas can be further driven by upstream factors, such as racial stratification. Previous research documented that relative to native-born whites with the same educational attainment, Black and Hispanic immigrants experience less earnings growth than white and Asian immigrants in the labor force (Villarreal and Tamborini 2018). From a compositional perspective, nativity differences in later-life income trajectories may reflect the fact that a higher proportion of immigrants are people of color, and people of color face more structural barriers to wealth accumulation in the U.S. (Brown, 2016; Spilerman, 2000). Such barriers vary from historical exclusionary policies that blocked individuals from asset accumulation to present-day residential segregation and racial inequalities in home ownership (Oliver and Shapiro 1989; Quillian, Lee, and Honoré 2020; Hall and Crowder 2011).

I did not examine heterogeneity by race in the main analysis because sample sizes for subgroups are too small to yield reliable results⁵; nonetheless, crude results can be helpful, and I include an analysis in the appendix. I estimated the same model as outlined in Eq. (1) but replaced nativity with a vector of dummies representing configurations between race/ethnicity and nativity. I then calculated ratios of immigrant-to-native-born income, with non-Hispanic white native-born (Figure A2) and each immigrant group's native-born co-ethnics (Figure A3) as the reference group.

⁵ Sample sizes (person-year) are: 633 whites, 362 Blacks, 1,651 Hispanics, and 331 other immigrants.

I observe racial disparities in U.S. immigrants' income trajectories in later life. While all groups experience reversed economic assimilation relative to native-born whites, white immigrants fare consistently better than other groups: they have even higher income than native whites between ages 50-64, and still receive about 85% of what native whites receive at age 75-79 (Figure A2). Black⁶, Hispanic, and all other immigrants receive about 60% of what native-born whites with the same education receive at age 75-79. Whereas white immigrants' growing income disadvantage in later life suggests that aging interacts with immigrant status to shape income, non-white immigrants' even larger disadvantages point to intersectional effects of racial stratification and nativity. Indeed, nativity disparities in later-life income are likely in part driven by structural barriers to wealth accumulation and retirement planning for populations of color.

Previous research also found that immigrant men of all racial/ethnic groups experience earnings integration with their native-born co-ethnics (Villarreal & Tamborini, 2018). Similarly, I find that all immigrant groups experience some reversed assimilation from their native-born co-ethnics in later life (Figure A3). These patterns signal extreme economic hardship among Hispanic and Black immigrants because their native-born counterparts are already at very high risks of poverty (O'Brien et al., 2010; Rank & Hirschl, 1999). Overall, findings here suggest that nativity disparities are still present *within* racial/ethnic groups, consistent with the study's central argument that being an immigrant has a dominant impact on later-life economic well-being.

Robustness checks and limitations

I conducted supplemental analyses to test whether my results are sensitive to alternative modeling decisions. First, because I focused on immigrants aged 25-45 upon arrival, most

⁶ The fact that Black immigrants are at parity with white natives at age 50-54 may be somewhat surprising given their potential exposure to labor market discrimination, but this finding is consistent with previous research that documented especially positive outcomes for older Black immigrants (T. H. Brown 2018; Pebley et al. 2021).

immigrants in my sample completed their education prior to arrival. To account for nativity differences in place of education, I ran an additional model with interaction terms between education and nativity. My main findings remain the same (Table A2, left column) and adding the interaction terms also did not significantly improve the model according to a likelihood ratio test ($p=0.607$). Second, even though all immigrants in my sample have enough time in the U.S. labor force to qualify for Social Security benefits, those who arrived at older ages can still be disadvantaged because they have less time to plan for retirement. To test whether my findings are driven by these individuals, I ran an alternative model that excludes those arriving in the U.S. after age 40. My main findings again remain the same (Table A2, right column).

This study has a few limitations. First, immigrants in my sample remained in the U.S. in later-life instead of returning to their country of origin, which means they are positively selected on health and economic outcomes (VanHook and Zhang 2011; Borjas and Bratsberg 1996). Therefore, the actual extent to which immigrant status stratifies income is likely even stronger than observed. Second, while I examined patterns by education and race/ethnicity, other sources of heterogeneity also deserve attention. Importantly, there are likely differences between documented and undocumented immigrants, the latter of whom tend to be ineligible for government benefits or do not claim benefits, despite their contribution to the system (Becerra et al. 2012). My analysis of income trajectories among those with less than high school education offered some perspective on this, but future research can address this even better if they are able to infer undocumented status in their data. Last but not least, given persistent gender gaps in pay (Blau and Kahn 2017), it is likely that immigrant women's later-life income trajectories are more disadvantaged than those of men. Women are also even less likely to have wealth to make up for their lack of income (Denton and Boos 2007), which makes immigrant women's potential disadvantages more

consequential for their well-being. More longitudinal data on individuals' labor force decisions and economic outcomes with oversampling of immigrants can help researchers understand women's trajectories.

Despite some limitations, this study offered the first comprehensive analysis of U.S. immigrant men's later-life income trajectories. It introduced the latent cumulative (dis)advantage model, which refreshed how one should interpret findings on immigrants' economic integration during prime working years and resolved the puzzling dissonance between immigrants' positive outcomes as labor force participants and their financial vulnerability as older adults.

Implications

Many immigrant-receiving societies are at crossroads with their immigration policies and, more broadly, social policies that support immigrant families. Policymakers have often posited immigrants as solutions to domestic problems – whether to fill manual labor shortages or to sustain national innovation and competitiveness as native-born generations move toward retirement. However, an unprecedented number of immigrants are also entering retirement and they are rarely the focus of policy discussions. Their outcomes not only reflect the future of aging in host societies, but also affect the well-being of a new generation of children who grow up in immigrant families. While the present study focused on the U.S., population aging among immigrants is occurring in many other societies and findings in this paper call for more attention to the later-life integration trajectories of immigrants around the world.

This paper shows that U.S. immigrants develop a growing economic disadvantage relative to their native-born counterparts in retirement and reverse some of the economic integration progress they gained during their working years. The roots of this phenomenon lie earlier in the life course: immigrants accumulate latent disadvantages in retirement financing as they enter the

labor force with lower earnings, take jobs with worse benefits, and encounter more barriers to long-term planning. As such, policies that aim at narrowing disparities in aging trajectories may benefit from more consideration of the role of nativity and the impact of cumulative (dis)advantages earlier in the life course. For example, I found that a lack of pensions was an important source of later-life disadvantage for immigrants. More tax incentives that reward businesses for setting up employment benefits can help more workers receive retirement support, ultimately reducing population inequalities in later-life income. It is also worth noting that immigrants' latent cumulative disadvantage in retirement well-being is only latent from a research standpoint; from the perspective of foreign-born individuals, the uncertainties of being an immigrant and the looming retirement insecurity may well be an obvious stressor throughout their lives. Therefore, policies that strengthen retirement plans for vulnerable groups may also see additional benefits on population health and well-being.

References

- Abraído-Lanza, Ana F, Adria N Armbrister, Karen R Flórez, and Alejandra N Aguirre. 2006. "Toward a Theory-Driven Model of Acculturation in Public Health Research." *American Journal of Public Health* 96 (8): 1342–46.
- Akresh, Ilana Redstone. 2008. "Occupational Trajectories of Legal US Immigrants: Downgrading and Recovery." *Population and Development Review* 34 (3): 435–56.
- Alba, Richard D. 2009. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Harvard University Press.
- Alba, Richard, and Victor Nee. 1997. "Rethinking Assimilation Theory for a New Era of Immigration." *International Migration Review* 31 (4): 826–74.
- Antecol, Heather, and Kelly Bedard. 2006. "Unhealthy Assimilation: Why Do Immigrants Converge to American Health Status Levels?" *Demography* 43 (2): 337–60.
- Ayón, Cecilia, and David Becerra. 2013. "Mexican Immigrant Families under Siege: The Impact of Anti-Immigrant Policies, Discrimination, and the Economic Crisis." *Advances in Social Work* 14 (1): 206–28.
- Becerra, David, David K Androff, Cecilia Ayón, and Jason T Castillo. 2012. "Fear vs. Facts: Examining the Economic Impact of Undocumented Immigrants in the US." *J. Soc. & Soc. Welfare* 39: 111.
- Becerra, David, M Alex Wagaman, David Androff, Jill Messing, and Jason Castillo. 2017. "Policing Immigrants: Fear of Deportations and Perceptions of Law Enforcement and Criminal Justice." *Journal of Social Work* 17 (6): 715–31.
- Blau, Francine D., and Lawrence M. Kahn. 2017. "The Gender Wage Gap: Extent, Trends, & Explanations." *Journal of Economic Literature* 55 (3): 789–865.
- Boen, Courtney E, and Robert A Hummer. 2019. "Longer-but Harder-Lives?: The Hispanic Health Paradox and the Social Determinants of Racial, Ethnic, and Immigrant-Native Health Disparities from Midlife through Late Life." *Journal of Health and Social Behavior* 60 (4): 434–52.
- Borjas, George J. 1985. "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants." *Journal of Labor Economics* 3 (4): 463–89.
- Borjas, George J. 2015. "The Slowdown in the Economic Assimilation of Immigrants: Aging and Cohort Effects Revisited Again." *Journal of Human Capital* 9 (4): 483–517.
- Borjas, George J., and Bernt Bratsberg. 1996. "Who Leaves? The Outmigration of the Foreign-Born." *The Review of Economics and Statistics* 78 (1): 165–76.

- Bricker, Jesse, and Gary v Engelhardt. 2008. "Measurement Error in Earnings Data in the Health and Retirement Study." *Journal of Economic and Social Measurement* 33 (1): 39–61.
- Brown, C, E M Crimmins, M D Hurd, K M Langa, J J McArdle, K McGarry, and R J Willis. 2008. "Health and Retirement Study, Public Use Dataset." Retrieved July 1: 2009.
- Brown, Tyson H. 2016. "Diverging Fortunes: Racial/Ethnic Inequality in Wealth Trajectories in Middle and Late Life." *Race and Social Problems* 8 (1): 29–41.
- . 2018. "Racial Stratification, Immigration, and Health Inequality: A Life Course-Intersectional Approach." *Social Forces* 96 (4): 1507–40.
- Chiswick, Barry R. 1978. "The Effect of Americanization on the Earnings of Foreign-Born Men." *Journal of Political Economy* 86 (5): 897–921.
- Crystal, Stephen, Dennis G. Shea, and Adriana M. Reyes. 2017. "Cumulative Advantage, Cumulative Disadvantage, and Evolving Patterns of Late-Life Inequality." *Gerontologist* 57 (5): 910–20.
- Dannefer, Dale. 2003. "Cumulative Advantage/Disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory." *Journals of Gerontology - Series B Psychological Sciences and Social Sciences* 58 (6): 327–37.
- Demakakos, Panayotes, Jane P Biddulph, Martin Bobak, and Michael G Marmot. 2016. "Wealth and Mortality at Older Ages: A Prospective Cohort Study." *J Epidemiol Community Health* 70 (4): 346–53.
- Denton, Margaret, and Linda Boos. 2007. "The Gender Wealth Gap: Structural and Material Constraints and Implications for Later Life." *Journal of Women & Aging* 19 (3–4): 105–20.
- Diprete, Thomas A., and Gregory M. Eirich. 2006. "Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments." *Annual Review of Sociology* 32: 271–97.
- Duleep, Harriet Orcutt, and Daniel J. Dowhan. 2002. "Insights from Longitudinal Data on the Earnings Growth of U.S. Foreign-Born Men." *Demography* 39 (3): 485–506.
- . 2008. "Research on Immigrant Earnings." *Social Security Bulletin* 68 (1): 31–50.
- Duleep, Harriet Orcutt, Xingfei Liu, and Mark Regets. 2014. *Country of Origin and Immigrant Earnings, 1960-2000: A Human Capital Investment Perspective*. IZA Discussion Paper No.8628.
- Duleep, Harriet Orcutt, and Mark C Regets. 1997. "Measuring Immigrant Wage Growth Using Matched CPS Files." *Demography* 34 (2): 239–49.

- Engelman, Michal, Won-tak Joo, Jason Fletcher, and Barry Burden. 2022. "Health, Wealth, and Voting Trajectories in Later Life." *The Journals of Gerontology: Series B* 77 (4): 827–37.
- Engelman, Michal, and Leafia Zi Ye. 2019. "The Immigrant Health Differential in the Context of Racial and Ethnic Disparities: The Case of Diabetes." *Advances in Medical Sociology* 19: 147–71.
- Ferraro, Kenneth F., and Jessica A. Kelley-Moore. 2003. "Cumulative Disadvantage and Health: Long-Term Consequences of Obesity?" *American Sociological Review* 68 (5): 707–29.
- Flippen, Chenoa Anne. 2020. "The Uphill Climb: A Transnational Perspective on Wealth Accumulation among Latino Immigrants in Durham, NC." *Journal of Ethnic and Migration Studies* 46 (18): 3762–84.
- Gleeson, Shannon, and Roberto G Gonzales. 2012. "When Do Papers Matter? An Institutional Analysis of Undocumented Life in the United States." *International Migration* 50 (4): 1–19.
- Gordon, Milton Myron. 1964. *Assimilation in American Life: The Role of Race, Religion, and National Origins*. Oxford, UK: Oxford University Press.
- Grace, Debra, Scott Weaven, and Mitchell Ross. 2010. "Consumer Retirement Planning: An Exploratory Study of Gender Differences." *Qualitative Market Research: An International Journal*.
- Gubernskaya, Zoya, and Zequn Tang. 2017. "Just Like in Their Home Country? A Multinational Perspective on Living Arrangements of Older Immigrants in the United States." *Demography* 54 (5): 1973–98.
- Hall, Matthew, and Kyle Crowder. 2011. "Extended-Family Resources and Racial Inequality in the Transition to Homeownership." *Social Science Research* 40 (6): 1534–46.
- Hall, Matthew, Emily Greenman, and Youngmin Yi. 2019. "Job Mobility among Unauthorized Immigrant Workers." *Social Forces* 97 (3): 999–1028.
- Heim, Bradley T, Ithai Z Lurie, and Shanthi P Ramnath. 2012. "Immigrant–Native Differences in Employment-Based Retirement Plan Participation." *Journal of Pension Economics & Finance* 11 (3): 365–88.
- Hu, Wei Yin. 2000. "Immigrant Earnings Assimilation: Estimates from Longitudinal Data." *American Economic Review* 90 (2): 368–72.
- Jæger, Mads Meier. 2012. "The Extended Family and Children's Educational Success." *American Sociological Review* 77 (6): 903–22.

- Jasso, Guillermina, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith. 2004. "Immigrant Health: Selectivity and Acculturation." *Critical Perspectives on Racial and Ethnic Differences in Health and Late Life*, 227–66.
- Kaushal, Neeraj, Yao Lu, Nicole Denier, Julia Shu-Huah Wang, and Stephen J. Trejo. 2016. "Immigrant Employment and Earnings Growth in Canada and the USA: Evidence from Longitudinal Data." *Journal of Population Economics* 29 (4): 1249–77.
- Leach, Mark. 2008. "America's Older Immigrants: A Profile." *Generations* 32 (4): 34–39.
- Lee, Yongwoo, Philip Young P. Hong, and Younhee Harm. 2014. "Poverty Among Korean Immigrant Older Adults: Examining the Effects of Social Exclusion." *Journal of Social Service Research* 40 (4): 385–401.
- Lubotsky, Darren H. 2007. "Chutes or Ladders? A Longitudinal Analysis of Immigrant Earnings." *Journal of Political Economy* 115 (5): 820–67.
- McMunn, Anne, James Nazroo, and Elizabeth Breeze. 2009. "Inequalities in Health at Older Ages: A Longitudinal Investigation of the Onset of Illness and Survival Effects in England." *Age and Ageing* 38 (2): 181–87.
- Mehta, Neil K., Irma T. Elo, Michal Engelman, Diane S. Lauderdale, and Bert M. Kestenbaum. 2016. "Life Expectancy Among U.S.-Born and Foreign-Born Older Adults in the United States: Estimates From Linked Social Security and Medicare Data." *Demography* 53 (4): 1109–34.
- Merton, Robert K. 1968. "The Matthew Effect in Science: The Reward and Communication Systems of Science Are Considered." *Science* 159 (3810): 56–63.
- National Academies of Sciences Engineering and Medicine. 2016. *The Integration of Immigrants into American Society*. Edited by Mary C. Waters and Marisa Gerstein Pineau. Washington, D.C.: National Academies Press.
- O'Brien, Ellen, Ke Bin Wu, and David Baer. 2010. "Older Americans in Poverty: A Snapshot." *Washington, DC: AARP Public Policy Institute*.
- Oliver, Melvin L, and Thomas M Shapiro. 1989. "Race and Wealth." *The Review of Black Political Economy* 17 (4): 5–25.
- O'Neil, Kevin, and Marta Tienda. 2015. "Age at Immigration and the Incomes of Older Immigrants, 1994-2010." *Journals of Gerontology - Series B Psychological Sciences and Social Sciences* 70 (2): 291–302.
- O'Rand, Angela M. 1996. "The Precious and the Precocious: Understanding Cumulative Disadvantage and Cumulative Advantage over the Life Course." *Gerontologist* 36 (2): 230–38.
- Orrenius, Pia M, and Madeline Zavodny. 2009. "Do Immigrants Work in Riskier Jobs?" *Demography* 46 (3): 535–51.

- Park, Robert E. 1928. "Human Migration and the Marginal Man." *American Journal of Sociology* 33 (6): 881–93.
- Pebbley, Anne R., Noreen Goldman, Theresa Andrasfay, and Boriana Pratt. 2021. "Trajectories of Physical Functioning among Older Adults in the US by Race, Ethnicity and Nativity: Examining the Role of Working Conditions." *PLoS ONE* 16 (3 March).
- Pedace, Roberto, and Nancy Bates. 2000. "Using Administrative Records to Assess Earnings Reporting Error in the Survey of Income and Program Participation." *Journal of Economic and Social Measurement* 26 (3–4): 173–92.
- Portes, Alejandro, and Min Zhou. 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.
- Quillian, Lincoln, John J Lee, and Brandon Honoré. 2020. "Racial Discrimination in the US Housing and Mortgage Lending Markets: A Quantitative Review of Trends, 1976–2016." *Race and Social Problems* 12 (1): 13–28.
- Rincón, Lina. 2017. "The Indelible Effects of Legal Liminality among Colombian Migrant Professionals in the United States." *Latino Studies* 15 (3): 323–40.
- Riosmena, Fernando, Bethany G. Everett, Richard G. Rogers, and Jeff A. Dennis. 2015. "Negative Acculturation and Nothing More? Cumulative Disadvantage and Mortality during the Immigrant Adaptation Process among Latinos in the United States." *International Migration Review* 49 (2): 443–78.
- Rostamkalaei, Anoosheh, and Allan Riding. 2020. "Immigrants, Financial Knowledge, and Financial Behavior." *Journal of Consumer Affairs* 54 (3): 951–77.
- Savla, Jyoti, David M Almeida, Adam Davey, and Steven H Zarit. 2008. "Routine Assistance to Parents: Effects on Daily Mood and Other Stressors." *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 63 (3): S154–61.
- Scommegna, Paola. 2016. "Elderly Immigrants in the United States." *Immigration and America's Cities: A Handbook on Evolving Services* 33.
- Shuey, Kim M, and Andrea E Willson. 2008. "Cumulative Disadvantage and Black-White Disparities in Life-Course Health Trajectories." *Research on Aging* 30 (2): 200–225.
- Spilerman, Seymour. 2000. "Wealth and Stratification Processes." *Annual Review of Sociology*, no. 13: 497–524.
- Tevington, Patricia, Laura Napolitano, and Frank F Furstenberg. 2017. "Financing Children's Futures: Economic Strategies for Postsecondary Education Among Middle-Income Families." In *Sociological Forum*, 32:726–47. Wiley Online Library.

- VanHook, Jennifer, and Weiwei Zhang. 2011. "Who Stays? Who Goes? Selective Emigration among the Foreign-Born." *Population Research and Policy Review* 30 (1): 1–24.
- Villarreal, Andrés, and Christopher R. Tamborini. 2018. "Immigrants' Economic Assimilation: Evidence from Longitudinal Earnings Records." *American Sociological Review* 83 (4): 686–715.
- Waters, Mary C., and Tomás R. Jiménez. 2005. "Assessing Immigrant Assimilation: New Empirical and Theoretical Challenges." *Annual Review of Sociology* 31 (Massey 1981): 105–25.
- Ye, Leafia Zi, and Michal Engelman. 2021. "Mobility, Stagnation, or Attrition? Diverse Earning Trajectories in a Cohort of Foreign-born Men." *Population and Development Review* 47 (1): 113–49.
- Zhou, Min. 1997. "Segmented Assimilation: Issues, Controversies, and Recent Research on the New Second Generation." *International Migration Review* 31 (4): 975–1008.

Table 1. Weighted Characteristics of Men Aged 50-79 by Nativity

	Native-born	Immigrants
Dropped out of the survey (%)	3.95	4.33
Died (%)	19.61	15.75
Age When First Interviewed (mean)	57.5	57.3
Education (%)		
Less than High School	15.4	39.1
GED	5.7	2.2
High School Graduate	26.8	16.5
Some College	24.9	15.2
College and above	27.2	27.0
Race/Ethnicity (%)		
Non-Hispanic White	80.9	23.6
Non-Hispanic Black	11.4	12.9
Hispanic	4.4	46.5
Other	3.3	17.0
Individual Total Income (Within-Person Mean)	57488.4	39218.9
Number of Person-Year Obs.	72,784	2,977
Number of Person Obs.	14,494	542

Note: Weighted using person-level analysis weights. Descriptive statistics for year of interview omitted for brevity.

Table 2. Random-Intercept Models Predicting Immigrants and Native-born Men's Logged Annual Total Income

	Logged Annual Income	Percent Difference
Immigrants	-0.0976 (0.0628)	-9%
Age (ref: 50-54)		
55-59	-0.0443*** (0.0119)	-4%
60-64	-0.162*** (0.0135)	-15%
65-69	-0.246*** (0.0142)	-22%
70-74	-0.313*** (0.0149)	-27%
75-79	-0.358*** (0.0160)	-30%
Age * Nativity		
55-59 * Immigrants	-0.0437 (0.0746)	-4%
60-64 * Immigrants	-0.109 (0.0743)	-10%
65-69 * Immigrants	-0.237*** (0.0702)	-21%
70-74 * Immigrants	-0.254*** (0.0701)	-22%
75-79 * Immigrants	-0.288*** (0.0740)	-25%
Education (ref: High School Graduate)		
Less than High School	-0.585*** (0.0386)	-44%
GED	-0.250*** (0.0539)	-22%
Some College	0.197*** (0.0316)	+22%
College and above	0.730*** (0.0307)	+108%
Constant	10.16*** (0.0260)	
Number of Person-Year Obs.	75,761	
Number of Person Obs.	15,036	

Note: Robust standard errors with clustering on individuals. *p < 0.05; **p<0.01; ***p<0.001 (two-tailed tests). Coefficients for year of interview (Ref: 2012) and for interaction terms between education and age are omitted for brevity.

Table 3. Random-Intercept Models Predicting Immigrants and Native-born Men's Logged Annual Income from Different Sources

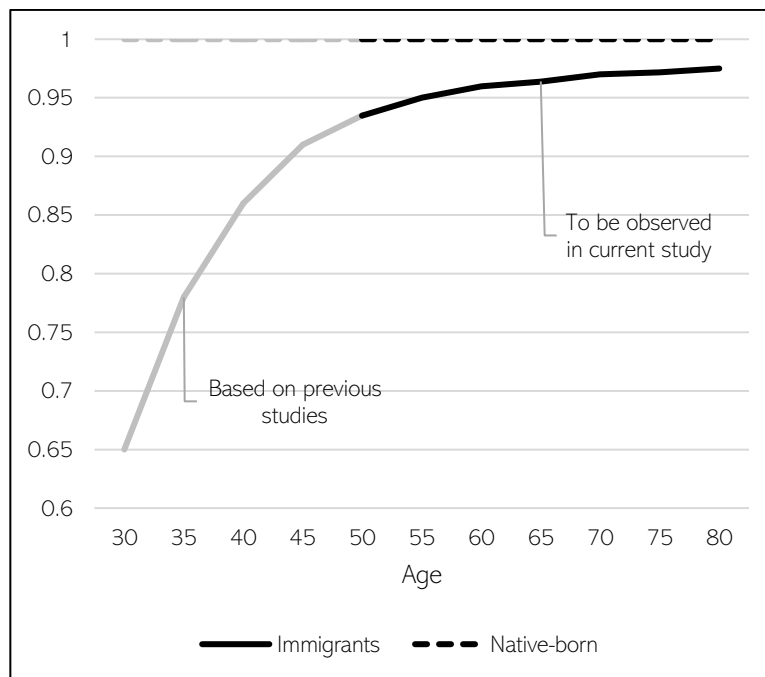
	Model 1: Logged Social Security Retirement Benefits	Model 2: Logged Income from Pensions	Model 3: Logged Income from Annuities	Model 4: Logged Earnings	Model 5: Logged Supplemental Security Income	Model 6: Logged Other Government Programs
Immigrant	-0.00797 (0.0795)	-0.332** (0.107)	-0.0421 (0.0234)	0.663** (0.203)	-0.0657 (0.103)	-0.778*** (0.192)
Age (ref: 50-54)						
55-59	0.0920* (0.0388)	0.797*** (0.0737)	0.0744*** (0.0205)	-0.607*** (0.0875)	0.0157 (0.0302)	-0.00960 (0.0806)
60-64	2.310*** (0.0705)	2.418*** (0.101)	0.114*** (0.0255)	-2.667*** (0.116)	0.0157 (0.0304)	0.0263 (0.0934)
65-69	7.943*** (0.0621)	3.864*** (0.111)	0.226*** (0.0323)	-5.504*** (0.124)	-0.0892** (0.0321)	-0.871*** (0.0966)
70-74	8.715*** (0.0467)	4.242*** (0.116)	0.362*** (0.0356)	-6.760*** (0.118)	-0.142*** (0.0314)	-1.126*** (0.0961)
75-79	8.692*** (0.0491)	4.194*** (0.117)	0.501*** (0.0481)	-7.463*** (0.115)	-0.195*** (0.0341)	-1.223*** (0.0994)
Age × Nativity						
55-59 × Immigrants	-0.166 (0.0932)	-0.700*** (0.110)	0.00167 (0.0270)	0.415 (0.218)	0.00123 (0.107)	0.168 (0.186)
60-64 × Immigrants	-0.521** (0.169)	-1.476*** (0.148)	-0.00155 (0.0480)	0.661* (0.268)	0.0931 (0.131)	-0.0738 (0.224)
65-69 × Immigrants	-0.541** (0.173)	-1.589*** (0.204)	0.0215 (0.0657)	-0.208 (0.305)	0.293* (0.121)	0.334 (0.215)
70-74 × Immigrants	-0.291* (0.121)	-1.238*** (0.249)	-0.149* (0.0715)	-0.746** (0.274)	0.458** (0.147)	0.358 (0.234)
75-79 × Immigrants	-0.107 (0.123)	-1.326*** (0.263)	-0.105 (0.108)	-0.860** (0.278)	0.503** (0.159)	0.0729 (0.237)
Education (ref: High School Grad)						
Less than HS	0.181** (0.0601)	0.0997 (0.0964)	-0.0185 (0.0172)	-1.928*** (0.160)	0.465*** (0.0736)	1.176*** (0.146)
GED	0.194*	0.0702	-0.000851	-0.992***	0.132	0.847***

	(0.0910)	(0.125)	(0.0235)	(0.230)	(0.0818)	(0.211)
Some College	-0.0875*	0.0937	-0.00662	0.214	-0.000557	-0.0209
	(0.0443)	(0.0962)	(0.0192)	(0.127)	(0.0384)	(0.116)
College and above	-0.146***	-0.157	0.0427	1.677***	-0.151***	-1.029***
	(0.0413)	(0.0990)	(0.0241)	(0.115)	(0.0308)	(0.103)
Constant	0.620***	0.435***	0.00154	7.667***	0.339***	2.467***
	(0.0435)	(0.0676)	(0.0232)	(0.0854)	(0.0305)	(0.0721)
Number of Person-Year Obs.	75,761	75,761	75,761	75,761	75,761	75,761
Number of Person Obs.	15,036	15,036	15,036	15,036	15,036	15,036

Note: Robust standard errors with clustering on individuals. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests). Coefficients for year of interview (Ref: 2012) and for interaction terms between education and age omitted for brevity.

Figure 1. Expected Ratio of Immigrant to Native-born Income over Age under Different Hypotheses

a. Continuous Integration



b. Reversed Economic Assimilation

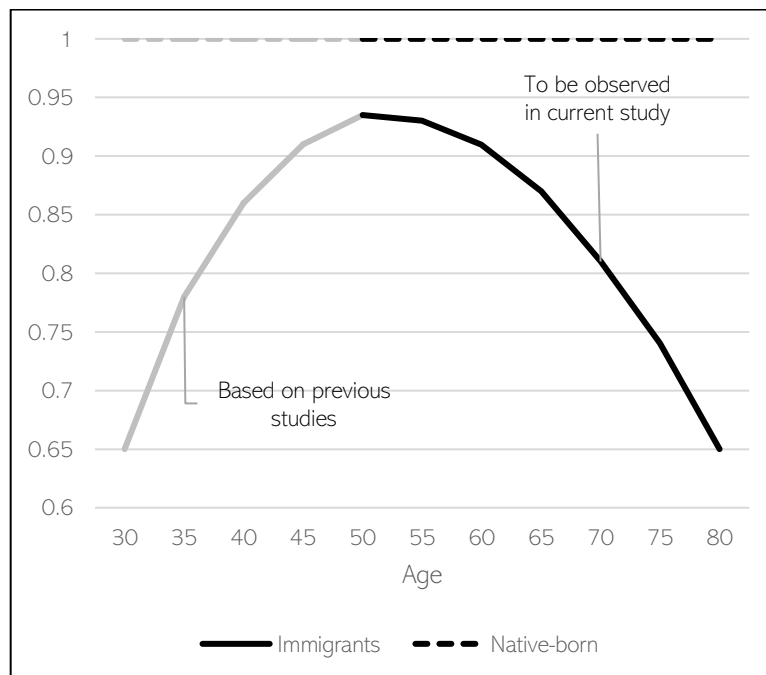


Figure 2. Ratio of Immigrant to Native-born Income (Based on Random-Effects Model)

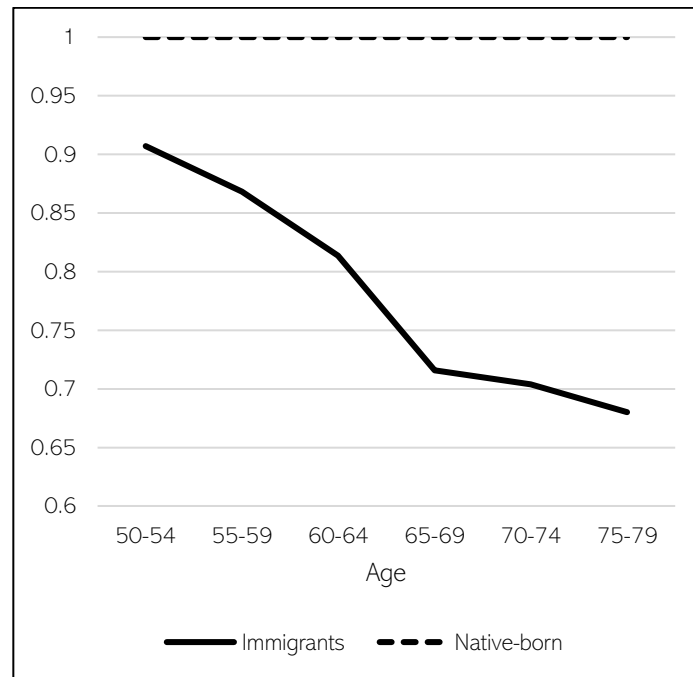
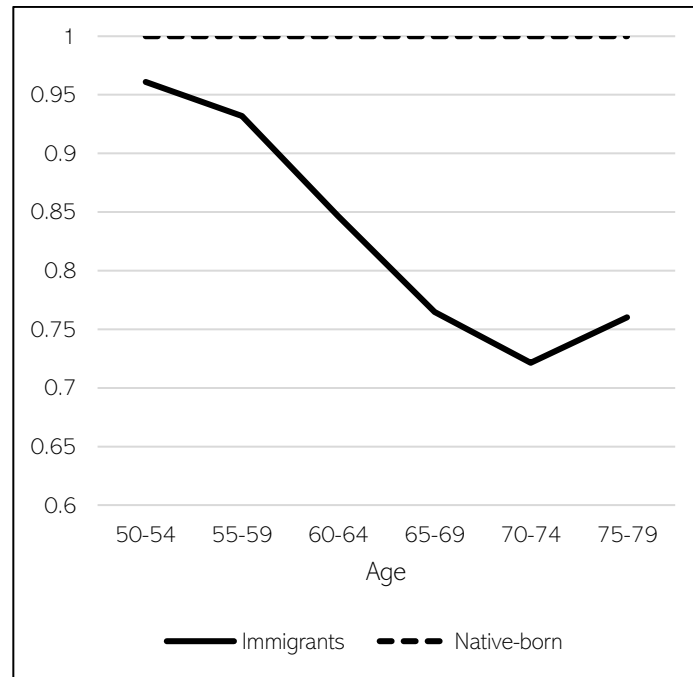


Figure 3. Ratio of Immigrant to Native-born Income (Based on Random-Effects Model)

a. Less than high school education



b. At least high school / GED

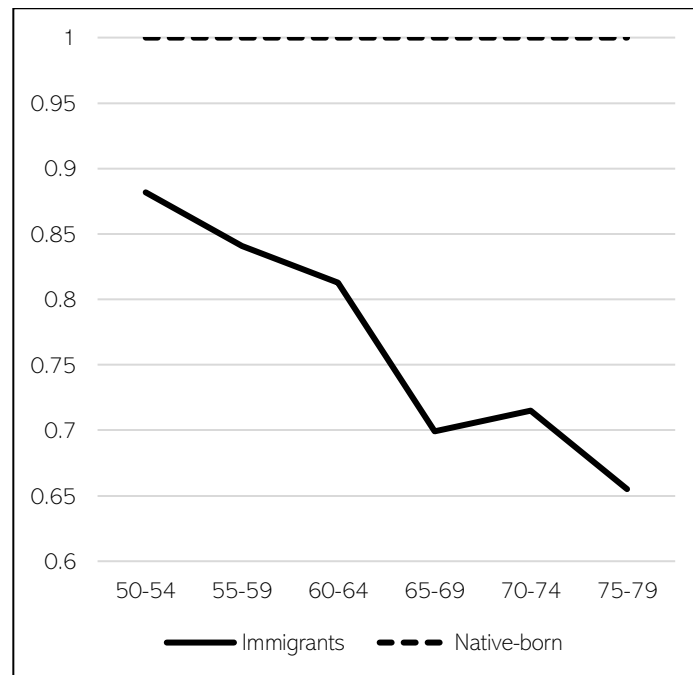
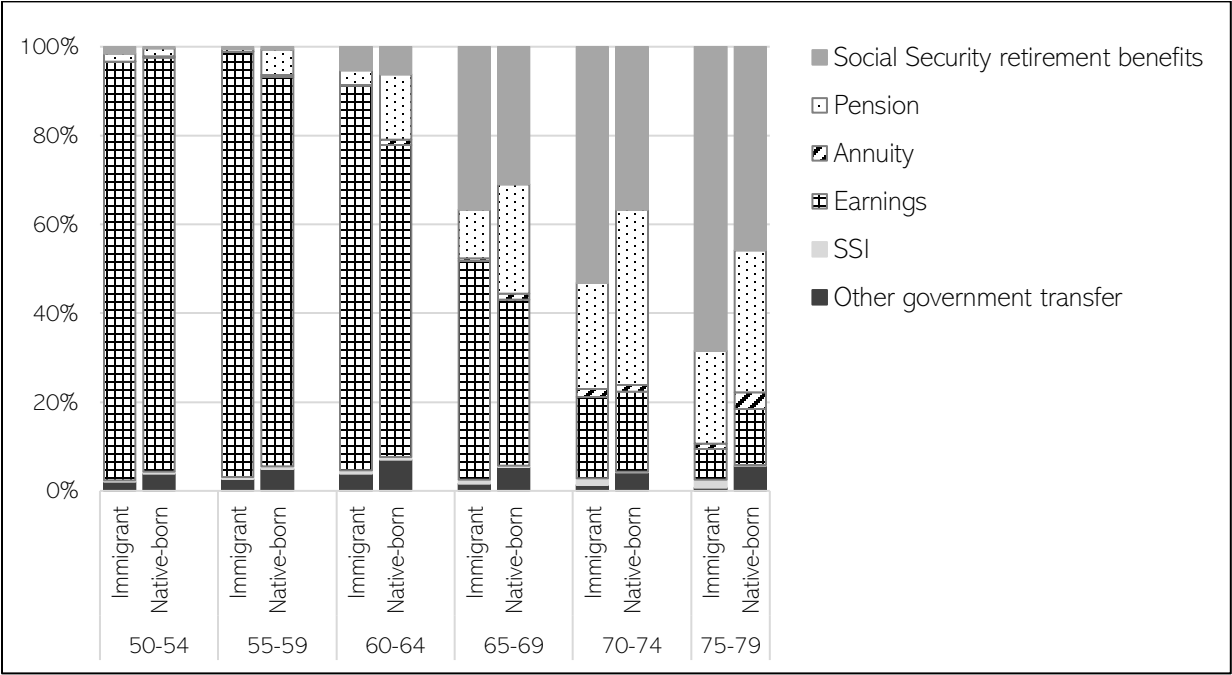


Figure 4. Composition of Immigrants vs. Native-born Men's Annual Income by Age



Note: Excluding one individual who reported receiving over \$150,000,000 in other government transfer.

Appendix

Table A1. Random-Intercept Models Predicting Immigrants and Native-born Men's Logged Annual Total Income by Education

	Less than high school	At least high school/GED
Immigrants	-0.0398 (0.0937)	-0.126 (0.0843)
Age (ref: 50-54)		
55-59	0.00442 (0.0342)	-0.0313 (0.0216)
60-64	0.0156 (0.0356)	-0.163*** (0.0236)
65-69	0.0105 (0.0375)	-0.226*** (0.0238)
70-74	-0.0245 (0.0388)	-0.300*** (0.0248)
75-79	-0.00641 (0.0408)	-0.374*** (0.0259)
Age * Nativity		
55-59 * Immigrants	-0.0309 (0.105)	-0.0476 (0.103)
60-64 * Immigrants	-0.127 (0.100)	-0.0815 (0.106)
65-69 * Immigrants	-0.228* (0.0971)	-0.232* (0.0980)
70-74 * Immigrants	-0.287** (0.101)	-0.210* (0.0965)
75-79 * Immigrants	-0.235* (0.101)	-0.297** (0.104)
Constant	9.430*** (0.0483)	10.19*** (0.0269)
Number of Person-Year Obs.	15,945	59,807
Number of Person Obs.	3,320	11,714

Note: Robust standard errors with clustering on individuals. *p < 0.05; **p<0.01; ***p<0.001 (two-tailed tests). In the left column, coefficients for year of interview (Ref: 2012) are omitted for brevity. In the right column, coefficients for educational attainment, year of interview (Ref: 2012), and interaction terms between education and age/nativity are omitted for brevity.

Table A2. Random-Intercept Models Predicting Immigrants and Native-born Men's Logged Annual Total Income: Alternative Modeling Decisions

	Adding Interactions between Education with Nativity	Excluding Immigrants Arriving after Age 40
Immigrants	-0.208** (0.0968)	-0.0883 (0.0744)
Age (ref: 50-54)		
55-59	-0.0264 (0.0215)	-0.0247 (0.0216)
60-64	-0.152*** (0.0235)	-0.150*** (0.0235)
65-69	-0.210*** (0.0236)	-0.207*** (0.0235)
70-74	-0.278*** (0.0245)	-0.275*** (0.0245)
75-79	-0.348*** (0.0255)	-0.345*** (0.0255)
Age * Nativity		
55-59 * Immigrants	-0.0432 (0.0747)	-0.0353 (0.0889)
60-64 * Immigrants	-0.109 (0.0744)	-0.112 (0.0846)
65-69 * Immigrants	-0.237*** (0.0704)	-0.236*** (0.0787)
70-74 * Immigrants	-0.255*** (0.0703)	-0.244*** (0.0784)
75-79 * Immigrants	-0.289*** (0.0742)	-0.275*** (0.0830)
Constant	10.16*** (0.0260)	10.16*** (0.0260)
Number of Person-Year Obs.	75,761	75,522
Number of Person Obs.	15,036	15,019

Note: Robust standard errors with clustering on individuals. *p < 0.05; **p<0.01; ***p<0.001 (two-tailed tests). Coefficients for educational attainment, year of interview (Ref: 2012), and for interaction terms between education and age/nativity omitted for brevity

Fig A1. Distribution of Inflation-adjusted Net Worth (per Person in the Household) for Immigrants vs. the Native-born by Age (Omitting Outliers)

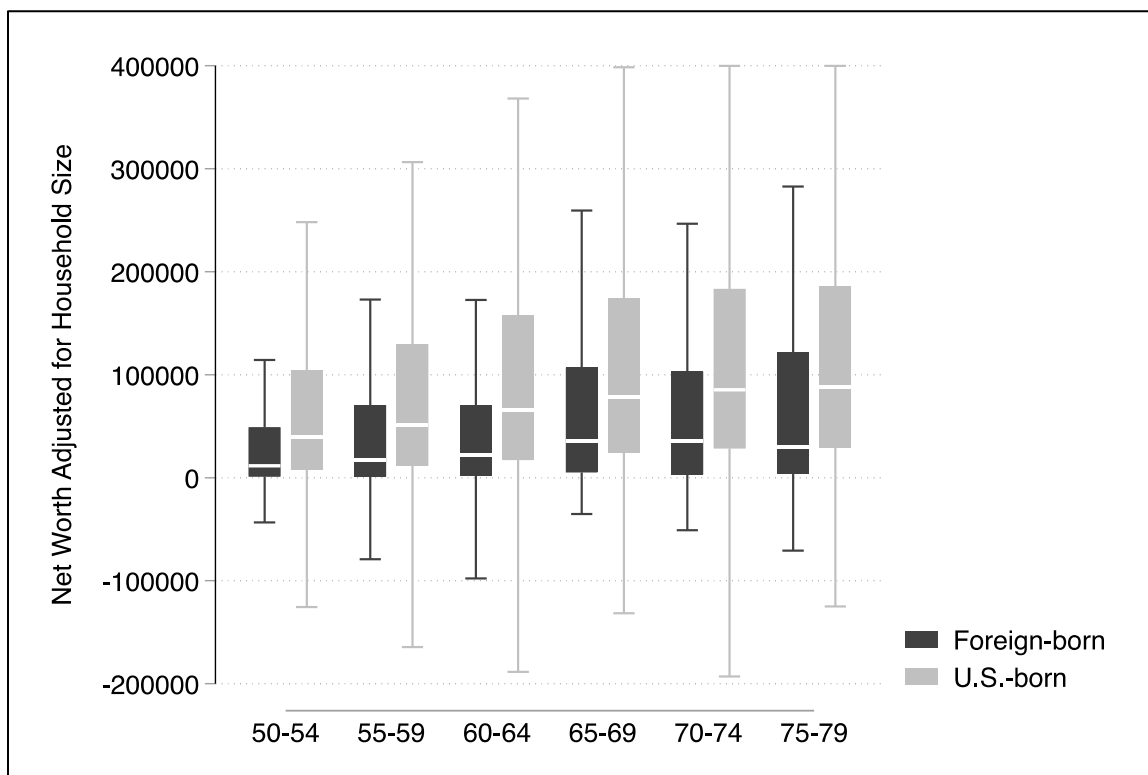


Fig A2. Ratio of Immigrant to Native-born Income for Immigrant Men, by Race/Ethnicity (Ref: Non-Hispanic white native-born)

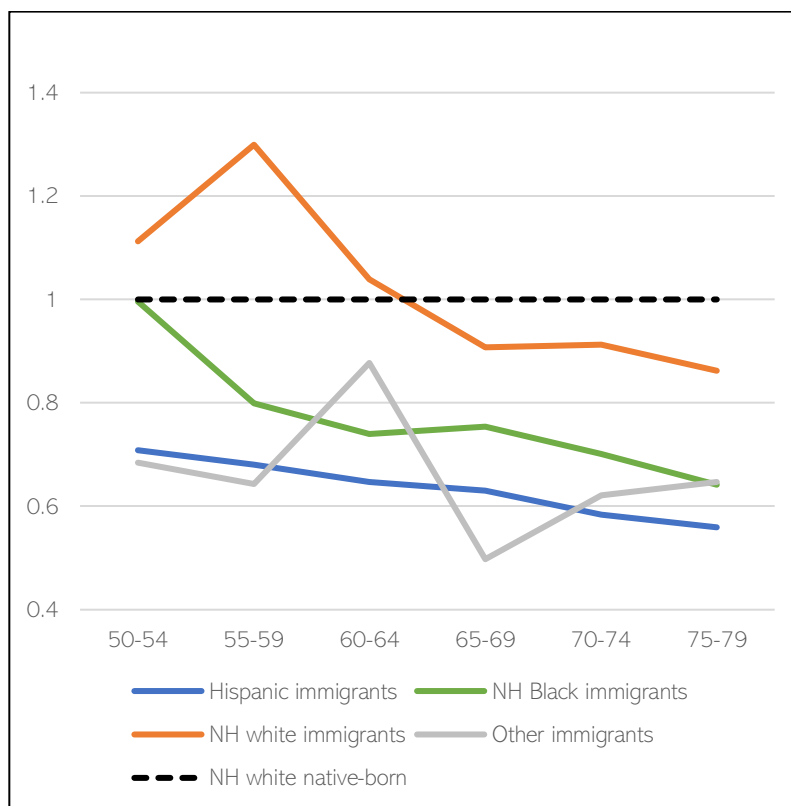


Fig A3. Ratio of Immigrant to Native-born Income for Immigrant Men, by Race/Ethnicity (Ref: Native-born co-ethnic)

