Mobility, Stagnation, or Attrition?

Diverse Earning Trajectories In a Cohort of Foreign-Born Men

Abstract

Since the Immigration Act of 1965, millions of immigrants have moved to the United States, many of them in pursuit of economic mobility. Researchers and policy makers have debated the extent to which foreign-born workers are integrated into the U.S. economy, often on the basis of limited data and in contentious political contexts. Using earning records from the Social Security Administration, we track the complete cohort of foreign-born men who received social security numbers in 1978 throughout their subsequent working years and characterize their earning trajectories. We find that the share of foreign-born men with low earnings declined over time, but only as a result of increasing attrition from the labor force. We also show, for the first time, that immigrants’ employment and earning histories vary considerably by their countries of origin: while those from several countries in Asia and Africa experienced somewhat substantial earnings growth and tended to stay in the U.S. for the long term, immigrant men from Central America and the Caribbean experienced mostly earnings stagnation and had high levels of temporary and permanent attrition from the labor force.
Introduction

People often move to a different country in expectation of better earnings, whether the specific goal is to maximize individual earnings or to minimize family income risks (Harris and Todaro 1970; Stark and Bloom 1985; Todaro and Maruszko 1987). What actually happens after they move? In the United States, there has been rising curiosity about whether immigrants experience steady earnings growth over time, or face obstacles to achieving economic success (Clark 2003; Hochschild 1996; Park 1997). Research on the topic has found that while immigrants arrive in the U.S. with lower earnings than the native-born, they gradually catch up: at least part of the nativity gap in earnings is closed after one or two decades (Duleep and Dowhan 2002; Hu 2000; Lubotsky 2007).

However, immigrants can leave the U.S. labor force temporarily or permanently for various reasons, which complicates the results of prior studies. Approximately one in three foreign-born individuals who come to the U.S. eventually leave the country (Duleep 1994; Warren and Kraly 1985). Increasingly, studies on immigrant earnings seek ways to quantify emigration and its impact on the interpretation of their results and previous findings. For instance, Lubotsky (2007) showed that selective outmigration by low-earning immigrants have not only led to overestimation of immigrants’ earning assimilation (Duleep and Regts 1997; LaLonde and Topel 1992) but also overestimation of the decline in earnings across successive cohorts (Borjas 1985). Akee and Jones (2019) examined immigrants’ 10-year earning trajectories, and found that return migration is closely related to mobility: those who emigrate experience downward mobility prior to their exit from the formal labor force.

Recent efforts to understand outmigration have significantly improved our understanding of immigrants’ earning trajectories, but they still had several important limitations. First, they
have used a retrospective rather than prospective method in identifying immigrants’ mobility and attrition, which leads to an underrepresentation of short-term immigrants and those who move back-and-forth between the U.S. and a different country. To the best of our knowledge, past studies (with the exception of Akee and Jones 2019) have only been able to observe immigrants after they have been in the U.S. labor market for years (or even decades), and inquire about their earning histories retrospectively. Since many immigrants already experience emigration only a few years after their initial entry into the labor market, this retrospective approach misses out on many individuals and can only make indirect corrections of that (Lubotsky 2007). Second, they have mostly neglected the heterogeneity in immigrants’ earning trajectories by country of origin. As we will later argue in this article, immigrants’ country of origin not only signals the amount of human capital they bring but is also telling about the historical and political context in which they migrated. Consequently, paying attention to variations by country of origin allows a much more nuanced understanding of the mobility, stagnation and attrition in immigrants’ earning trajectories. Third, past research has mostly considered one type of attrition from the labor force: permanent emigration. In fact, most studies have assumed permanent out-migration to be the sole reason that individuals disappear from their data (Akee and Jones 2019; Rho and Sanders 2018). In reality, however, temporary emigration is also highly common among foreign-born workers (Lubotsky 2007); and just like native-born individuals, foreign-born individuals can experience non-employment and early retirement due to many reasons (Pryor and Schaffer 2000).

This study sets out to be one of the very first that use prospective data to understand foreign-born workers’ earning trajectories and their various types of attrition from the formal labor force. Specifically, we study the population of foreign-born men who entered the labor
force in 1978 and follow them from their first year in the U.S. to their retirement age. In doing so, we pay specific attention to heterogeneities by immigrants’ country of origin.

Background

Immigrant Earnings: Mobility and Attrition

Since the Immigration Act of 1965, the immigrant population in the U.S. has experienced significant growth in both absolute numbers and as a share of the total population (Camarota and Zeigler 2016). While there are diverse mechanisms behind migration behaviors, post-1965 immigrants often moved to the U.S. in hope of better earnings, especially in the 1970s and 80s (Garip 2012). Since then, many studies have attempted to characterize the degree to which immigrants experience earnings growth as they work in the U.S. labor market.

Table 1 summarizes some of the most cited studies on immigrant earnings in the U.S. context. Efforts to understand U.S. immigrants’ earnings patterns first took place in the late 70s and early 80s. Using the 1970 census, Chiswick (1978, 1982) found that although immigrants arrive in the U.S. with lower earnings than the native-born, their self-reported earnings catch up after them being in the U.S. for 10 to 15 years, and even exceed that of the U.S.-born after 15 years. Since the data were from a single-year cross-sectional sample, the underlying assumption of Chiswick’s statements was that the initial earnings and earnings trajectory of later cohorts would be identical to that of earlier cohorts. This assumption turned out to be far from the reality, as Borjas (1985) soon showed using both the 1970 and 1980 censuses: later cohorts of immigrants start with substantially lower initial earnings than earlier cohorts. Borjas’ study

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1 We also intentionally include studies that used different types of data to highlight the analytical differences that arise from data.
stresses that single cross-sectional studies greatly overestimated immigrants’ earnings growth within cohorts, and again overestimated immigrants’ growth relative to the U.S-born.

While cross-sectional studies provided groundbreaking understanding of immigrants’ earnings progress, they face an important challenge: individuals are lost between censuses, and if being lost is correlated with earnings, then estimates of immigrant earnings are upwardly biased. This issue can only be understood and quantified using longitudinal data, and better measured when earnings are recorded rather than self-reported. Such data only became available relatively recently through the Social Security Administration. The SSA has annual records of all individuals’ earnings in the formal labor force up to the taxable maximum. While the SSA earnings records have the advantage of being complete, there are very few variables in the data, allowing little room for multivariate analyses. Therefore, a common practice has been to link the SSA data with a large survey, such as the Health and Retirement Study (HRS) and the Current Population Survey (CPS). For example, Hu (2000) used linked data from the HRS and SSA earnings records and showed that estimates of immigrants’ earnings growth using multiple censuses were upwardly biased. Lubotsky (2007) used linked data from the SIPP, the CPS and SSA data, and estimated that research based on cross-sectional data overestimate the speed of immigrants’ earnings assimilation by about 50%. He found that according to longitudinal data, the immigrant-native gap in earnings closes by 10-15 percent by immigrants’ 20th year in the United States.

While using longitudinal data reduces biases due to outmigration, it is not a magic solution to the problem of attrition: individuals who are followed longitudinally can still experience temporary and permanent exits from the labor force. In order to identify clean trajectories, a common practice is to include only individuals who had non-zero earnings
throughout the period of observation (Duleep & Dowhan, 2002), or exclude those that had less than 5 years of earnings above a certain dollar amount (Villarreal and Tamborini 2018).

In fact, even without intention restrictions of the study sample researchers have automatically chosen to focus only on long-term immigrants by using SSA data linked with survey data. The earliest wave of the HRS was collected in the early 90s; the earliest wave of the CPS that collected information on migration was in 1994 (Duleep and Dowhan 2002; Lubotsky 2007); and the typical waves of the SIPP used for data linking are 1990, 1991, 1993, 1994, 2004, and 2008 (Lubotsky 2007; Villarreal and Tamborini 2018). All individuals would have to be present in the U.S. in these years to be in the linked data, even though their earnings records, often traced back to the 1950s and 1960s, are used to estimate the extent and speed of assimilation. This means that the probability of capturing short-term immigrants is much lower than that of capturing long-term immigrants, the probability of capturing immigrants who move in and out of the U.S. is much lower than that of capturing immigrants who consistently work in the U.S., and the probability of capturing any immigrant who worked in the U.S. and left before the survey year is zero. In other words, sampling in previous research has strongly favored long-term immigrants who are consistently in the United States.

[Table 1 about here]

Past studies have made a few plausible points defending their analytical decision. From a policy perspective, long-term immigrants are the ones that stay in the U.S. and become parents of second-generation immigrants; they have a more long-term presence in the U.S. economy, and therefore make a more consistent contribution. From a methodological perspective, focusing only on immigrants who have continuous earnings allows the identification of clean trajectories. However, if the ultimate goal in estimating immigrants’ earnings progression is to see whether
immigrants fulfill their expectations, then eliminating a population who potentially left the labor force due to low earnings would leave only the relatively successful cases. While the earnings trajectories of the selected individuals are correctly estimated, the estimates still deviate from the whole population of immigrants who ever came to the United States. Recent work on health and aging has found that the “average trajectory” of individuals’ health does not match the reality of how individuals health unfolds (Engelman and Jackson 2017), and that simply leaving it to statistic models to treat missing can still lead to biases in estimates (Jackson, Engelman, and Bandeen-Roche 2017). A similar argument can be made in the case of earnings progression: the “average trajectory” of individuals’ earnings may not represent the reality of immigrants’ earnings progression, and simply leaving out some individuals that are out of the labor force does not return bias-free estimates. Recently, a few researchers have argued that the only direct way to fully understand mobility and attrition is to use prospective data that track immigrants as they enter the U.S. labor force (Akee and Jones 2019; Dustmann and Görlach 2015).

“Attrition”, however, is an umbrella term in itself: it can be permanent or temporary, and the person leaving the labor force may or may not still be in the country.

We know a relatively large amount about immigrants’ emigration: it is well-documented that immigrants tend to leave the country following relatively unsuccessful careers (Van Hook and Zhang 2011; Lindstrom and Massey 1994; Reagan and Olsen 2000), and that economic opportunities in immigrants’ region of origin can also influence their decisions to stay (Lindstrom 1996). Educational attainment, both low and high, can be a predictor of emigration (Borjas and Bratsberg 1996; Reagan and Olsen 2000); so can poor health (Markides and Eschbach 2005; Turra and Elo 2008) and a lack of network in the local community (Borjas and Bratsberg 1996; DaVanzo 1983; Van Hook et al. 2006; Reagan and Olsen 2000). Most studies
do not distinct between temporary and permanent emigration. In reality, however, most migrants make multiple moves in between the host country, their home country, and (occasionally) a third country before settling down (Treas and Gubernskaya 2015). It is unclear whether or not the same factors can predict temporary and permanent emigration, and how each of them is related to immigrants’ earnings.

Little is known about immigrants’ pure attrition from the labor force (without emigrating from the U.S.). Specifically, foreign-born workers may exit the formal labor force if they become not employed but remain in the U.S., become retired, or if they start to work “off the books”. Existing research reveals little about how these types of exits may be related to immigrants’ earnings.

*The role of country of origin*

To fully understand immigrants’ economic integration in the U.S., it is important to consider the factors that may predict their progress. While immigrants’ educational attainment, occupation, race/ethnicity can all play a role (Akresh 2008; Hu 2000; Villarreal and Tamborini 2018), their country of origin can predict these factors and contains other important information, such as the cost of migration (Borjas 1983; Duleep and Dowhan 2008; Jasso and Rosenzweig 1986). Immigrants’ initial earnings differ largely by country of origin (Duleep and Dowhan 2008). The economic conditions of origin countries and immigrants’ travelling costs can also be influential on immigrants’ earnings in the U.S. (Jasso and Rosenzweig 1986). Since initial earnings are inversely correlated with earnings growth, country of origin is also an important predictor of the speed of earnings growth (Duleep and Regets 1996). Consistent with this, the impact of country of origin on immigrants’ dollar earnings diminishes as immigrants stay in the
Patterns of emigration also vary largely by country of origin. U.S. immigrants are more likely to return to rich countries and to countries that are closer to the United States (Borjas and Bratsberg 1996; Jasso and Rosenzweig 1982).

However, I am unaware of any research that explicitly examined immigrants’ long-term earnings progression by country of origin. Previous research, often focusing on heterogeneity by cohort (Borjas 1985; Duleep and Dowhan 2002; Lubotsky 2007), by age at migration (Toussaint-Comeau 2006), by education (Villarreal and Tamborini 2018), and visa status (Akresh 2008; Cortes 2004) often highlighted that country of origin can also be an important predictor, but there are not enough observations of immigrants from each country.

Country of origin contains much information about the socioeconomic status of immigrants, which can explain their earnings in the U.S. Compared with native-born Whites, Cuban and Mexican immigrants have lower educational attainment and household income on average. Among Asian immigrants, country of origin matters greatly: while immigrants from East Asia and parts of South and Southeast Asia (China, South Korea, Japan, India, the Philippines) have higher levels of educational attainment and household income than native-born Whites, Cambodian, Laotian, Hmong, Vietnamese, and West Asian immigrants have educational and income levels lower than those of Whites and comparable to those of Cuban immigrants (Harris, Jamison, and Trujillo 2008). It is well-established that there is selection in the migration process: immigrants are often healthier and socioeconomically advantaged compared with those who stay in their countries of origin (Chiswick, Lee, and Miller 2008; Riosmena, Wong, and Palloni 2013). The strength of such selection also depends on the specific country that immigrants come from. Mexican immigrants experience health selection to a lesser degree than immigrants from most other countries, whereas West European immigrants experience the
strongest health selection (Akresh and Frank 2008). In a study of immigrants from 31 countries/regions who migrated to the U.S. between the 1960s and 1990s, Feliciano (2005) found that positive education selection was the weakest among Mexican immigrants, followed by immigrants from Portugal and Italy; immigrants from Iran, Hungary, India, and Haiti were the most selected on education, meaning that they had much higher educational attainment than those who remained in their sending countries. As a result of the different characteristics of immigrants from different countries, they arrive in the U.S. with varied levels of human capital, and may in turn experience varied levels of earnings growth in the U.S. labor market (Chiswick and Miller 2009).

Country of origin matters greatly to immigrants’ economic trajectories also because immigrants from around the world face different levels of obstacle to social integration. Studies have found that the economic success of foreign-born populations in the U.S. society can depend on the degree to which they are socially accepted, which is closely related to the relationship between the U.S. and the sending countries (Portes and Rumbaut 2001, 2006).

Traditional assimilation studies, including most early studies on immigrants’ earnings, implicitly assumed that all immigrants to the U.S. would eventually catch up to the native-born and join the middle class. Such theories were strongly challenged by immigrants’ highly heterogeneous characteristics and the different challenges they face. Segmented assimilation theorists appropriately stated that while labor immigrants, predominantly from South and Central America, may stay in lower tiers of the stratification hierarchy, highly skilled immigrants from Asia and Europe may experience substantial mobility (Alba and Nee 1997; Portes and Zhou 1993). This speaks directly to the potential disparities that may exist among foreign-born individuals as they live and work in the U.S., but previous research on the topic has mostly
focused on the experience of second-generation immigrant children (Portes, Fernandez-Kelly, and Haller 2005; Zhou 1997). Much less is known about assimilation patterns within the first generation and how foreign-born individuals’ economic success is related to their countries of origin. The present study serves to fill this gap. In addition, it extends the current theory and asks: is there segmented attrition, in addition to segmented assimilation? Given that assimilation and attrition are closely related, one would expect the answer to be yes.

History -- it’s often said -- is written by the winners. In a similar way, longitudinal analyses often tell the tale of survivors. Here, we follow the trajectories of those who came to the US in 1978 to understand their diverse paths of employment, earning, and departures from the labor force or country.

Data and Methods

Study Population

Our data come from the Social Security Administration (SSA), whose records provide a more accurate description of formal sector employment status and earnings than survey-based self-reports (Kim and Tamborini 2014). We focus on the cohort of foreign-born men aged 26-40 who obtained a social security numbers (SSN) in 1978 and went on to work in the formal labor market. Our analyses track earnings beginning in 1979 because those who gained a SSN in 1978 did so at various times throughout the year, rendering 1979 their first complete year in the U.S. labor market. While a total of 100,500 foreign-born men aged 26-40 gained a SSN in 1978, we exclude those (n=20,387) who had zero earnings\(^2\) starting in 1979 in all of the quinquennial

\(^2\) There are many reasons why an individual may have zero earnings after gaining an SSN. Some individuals might have gained an SSN in 1978, worked in the U.S. for some months, and left the country before 1979. Some were deceased; some were or became disabled; some (about 4% of the population) may be working in occupations not
years for a total analytic sample of n=80,113 foreign born men. To draw comparisons between the foreign- and the native-born, we also include 215,614 similarly aged U.S.-born men in this study. These data are from the Continuous Work History Sample (CWHS), which is a 1 percent random sample of the U.S. population with SSNs.

1978 provides a useful starting point for two reasons. First, beginning in 1978, SSA records include data on all annual earnings, expanding beyond prior records that comprised only the subset of quarterly earnings covered by the Social Security Program. Second, by following our cohort from 1978 to 2017 we track them from an age when most would have been likely to complete their education through the prime working years and up to 2017, when even the youngest members of the cohort (born in 1952) would be at least 65 and thus likely close to the end of their working life. 65 also marks the age of Medicare eligibility for U.S. citizens and permanent residents who have resided in the U.S. for at least five continuous years and qualify for Social Security benefits. Ascertainning our cohort members’ Medicare enrollment statuses in 2017 allowed us to distinguish those who were residing in the U.S. in 2017 from those who may have emigrated.

Due to the data available to use, our analysis is limited to men. This is consistent with prior research on immigrants’ earning (e.g., Borjas 1985, 1995, 2015; Lubotsky 2007; villarreal & Tamborini 2018) and reflects the difficulty of accounting for the differential selection into employment among native and foreign-born women.

Having a complete cohort of foreign-born males who received a SSN in 1978 also allows us to examine the degree to which labor force participation and earning progression vary across

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covered by the SSA (see Duleep and Dowhan 2002); some have income from a non-employment source; some worked “off the books;” and a few could have obtained two SSNs and were working under the other SSN.

3 Of these 20,387 individuals, a total of 15,580 individuals (or 76%) had no earnings in any of the years.
immigrants’ countries of origin. Table 2 lists the top 20 sending countries for our cohort, along with the number and proportion of individuals the cohort. Together, individuals from the top 20 countries consist of 70% of the entire cohort of foreign-born men who gained an SSN in 1978.

[Table 2 about here]

Classifications

Since earnings vary substantially over the life course, all individuals are divided into three groups by age in 1978: 26-30, 31-35, and 36-40. Starting in 1979, their earnings are categorized into six exhaustive categories: three earning tertiles, temporary exits from the formal labor force, permanent exits from the formal labor force, and likely emigration. This allows us to display trends and calculate transition probabilities.

Earning tertiles: To facilitate comparisons of earning trends and transitions between immigrants and the U.S.-born and between immigrant sub-groups, we categorize individuals’ earnings into tertiles (bottom, middle, and top), calculated based on the age-specific earnings for all U.S. men in a given year. We employ tertiles rather than other percentiles both for reasons of parsimony and because the SSA earning measure is capped (or top-censored) at the taxable maximum, which is typically near or below the fourth quartile on the earnings distribution.

Exits: To distinguish non-employment from low earnings, individuals with zero dollars of earnings in any particular year are not assigned to a tertile. coded differently. If an individual has zero dollars of earnings in a particular year, but non-zero earnings in a later year, then the person is coded as having a temporary exit from the U.S. formal labor force in that year. Temporary exit thus captures temporary out-migration from the U.S. or temporary non-employment that is followed by a return to the formal labor force.
If, alternatively, an individual has zero dollars of earnings in a particular year, and zero earnings in all following years, their classification is determined by whether their status was known to the SSA in 2017. Known status includes the following: enrolled in Medicare; denied social security benefits; died; no qualification for Medicare; and previously entitled to benefits (details available upon request). Some of these individuals may be incarcerated (Eberstadt 2017). All individuals without earnings whose status is known to the SSA in 2017 were coded as having experienced a permanent exit from the labor force. Deaths are not listed as a separate category because while the SSA knows about some deaths (especially after 65), it does not have a complete record of deaths (Hill and Rosenwaike 2001).

If an individual has permanently exited the labor force in a particular year, but the SSA had no record of their status in 2017, they are coded as having likely emigrated from the United States. It is possible that some individuals who did not emigrate from the U.S. are also included in this category: particularly those who gained an SSN, worked legally, and then started working off-the-books. Therefore, this paper likely overstates the scope of emigration. Since most undocumented immigrants in the U.S. are from Mexico (Bean, Telles, and Lowell 1987), however, the number for immigrants from all other countries/areas should be less affected.

Approach

Our key aim is to understand immigrants’ long-term earnings integration in the United States while directly taking into account both temporary and permanent exits from the formal U.S. labor market. Specifically, we describe the share of foreign-born individuals in different earnings states over time, and examine the relationship between earnings levels and the probability of subsequent transitions among tertiles and exits from the labor market.
All possible transitions between the six earnings states are shown in Figure 1. Transitions between bottom, middle, top tertile earnings and temporary earnings are always possible, while permanent exit and emigration are absorbing states, from which subsequent transitions are impossible.

[Figure 1 about here]

We begin by summarizing the average number of years that individuals in this immigrant cohort were employed (adding across the three tertiles), and in states of temporary and permanent exits from the labor market. We then compared the trends over time and across countries of origin.

In the interest of parsimony, we display results only for the youngest group (those aged 26-30 in 1978). However, the patterns of the 31-35 and 36-40 groups are very similar to those of the 26-30 group and are available upon request.

**Results**

*Exits from the Formal Labor Market*

As may be expected, the 1979 immigration cohort’s starting earnings distribution was skewed to the bottom, with 57-59% of the men in the bottom tertile, and less than half as many individual in the middle and top tertiles (Table 3). Differences across age groups are small, though a somewhat larger proportion of older immigrants are in the top earning tertile relative to their younger counterparts. The proportion of foreign-born men temporarily out of the labor force in 1979 was approximately 67% higher than that of their U.S.-born counterparts.

[Table 3 about here]
Subsequent temporary exits from the formal labor force appear to be closely related to earnings. Figure 2 shows that among both immigrants and the U.S.-born, those in the bottom tertile are more likely to temporarily leave the formal labor market relative to those in the middle and top tertiles. This could be because those with the lowest earnings are more likely to hold precarious jobs and experience greater risks of unemployment and non-employment. Those in the middle and top tertiles have nearly identical patterns of temporary exits. Furthermore, while the patterns among those in the bottom tertile are similar by nativity, immigrants in the middle and top tertile are overall more likely to experience temporary exits than their U.S.-born counterparts, particularly in the first 15 years after arrival and less so later on. For U.S.-born men, the gap in temporary exits between those in the top and bottom tertile narrows considerably by the 35th year, or around the end of individuals’ careers. For immigrant men, the gap between the lower and upper tertiles is narrower upon arrival, widens somewhat in mid-career, and narrows again by the 35th year to the same level as among the U.S.-born.

In summary, while individuals of all earning tertiles are more likely to temporarily exit the labor force at the beginning of their careers than later on, foreign-born men with low earnings are the most likely to experience temporary exits. At the same time, the nativity gap is most notable for those in higher earning tertiles in the early years.

Permanent exits, like their temporary counterparts, are also associated with individuals’ earnings, nativity, and time in the labor force (Figure 3). For the most part, permanent exits from the U.S. formal labor force increase with time and are more common among those in the bottom earnings tertile. This is consistent with expectations, as the lowest earners may be exposed to a set of socioeconomic disadvantages, putting them at higher risks of non-employment, disability,
or death. There are, however, some differences by nativity. U.S.-born men have monotonically increasing probabilities of permanently leaving the labor force over time; this is also true for foreign-born men in the middle and bottom tertiles. For immigrants with high earnings, however, permanent exits are relatively high at both the beginning and the end of the observation period. For the U.S.-born, the rate of permanent labor force exits following low earnings is somewhat higher than among the foreign-born, and the probability of permanently leaving the formal U.S. labor force decreases with earnings. Among the foreign-born, differences in the probability of permanent exit by earnings are less pronounced, and indeed, during the first 10 years after arrival, the likelihood of permanent exit is highest among the top tertile of earners, though the difference is small (about 4%).

[Figure 3 about here]

Figure 4 displays the proportion of immigrants (likely) emigrating by their earnings tertile over time. Consistent with our expectations, the likelihood of emigration is nearly zero for all U.S.-born earners (Schachter 2006). Those in the top and bottom tertile are equally likely to permanently out-migrate within five years of their arrival in the U.S. Later on, however, emigrants are more likely to come from the lowest tertile, with those in the middle and top tertile having essentially identical low probabilities of emigration after their tenth year in the U.S.

[Figure 4 about here]

**Immigrants’ earnings progression**

Comparing the earnings progression of U.S.-born and foreign-born men between 1979 and 2017 reveals the complexity that underlies the common narrative of earning assimilation. The right panel in figure 5 shows that the relative share of U.S.-born men in the three earnings tertiles remained relatively constant over time, though the overall share of individuals with any
earnings (or in temporary exit) declined as the proportion of individuals permanently exiting the formal labor force expanded, reaching approximately 40% by the end of the observation period.

[Figure 5 about here]

The left hand panel of figure 5 shows that, as expected, foreign-born individuals enter the U.S. labor force in a disadvantageous earning position relative to the U.S.-born: about 60% had bottom tertile earnings at the beginning of the observation period, while middle and top tertile earners combined accounted for only approximately 20%. If immigrants indeed experience earnings assimilation and catch up with the U.S.-born over time, one would expect to see the share of individuals in the middle and top tertiles increase over time, rendering the full distribution increasingly similar to that of the U.S.-born.

For the 1978 cohort of immigrant men, however, such earning assimilation is only part of the full story. While the share of individuals in the bottom tertile decreased over time and reached 33% between five and ten years after arrival, the share of individuals in the middle and top tertiles increased slightly from 28% to 33% in the first five years and remained roughly steady after that. The share of individuals experiencing temporary exits declined from a high of 18% to 3% over time while the share of immigrants experiencing permanent exits increased slowly over time, accelerating as individuals approached standard retirement age. Notably, permanent exists accounted for 30% of the cohort after 35 years, approximately 10% less than the proportion of permanent exists among the U.S.-born. The share of foreign-born workers who likely emigrated from the U.S. increased dramatically in the first decade, and leveled off at approximately 20% of the cohort. Due to higher rates of emigration and temporary exits from the labor force, the total proportion of individuals with earnings was higher among the native
born. By the time that foreign-born workers had a profile that included even shares in each earning tertile, only half of the cohort was still working.

Does country of origin matter?

To what extent do patterns of earning assimilation and attrition vary across immigrants from different origins? Figure 6 displays the average number of years immigrants spent being employed (i.e. having non-zero earnings) versus being temporarily and permanently out of the formal labor force, and being permanently out of the country. The average number of years foreign-born men from the 1978 immigration cohort were employed ranged from 11.8 years (Japanese immigrants) to 28.3 years (Indian immigrants). Temporary exits from the formal labor force accounted for the most time among those migrating from Dominican Republic (6.4 years) and Mexico (5.1 years). Permanent exits from the formal labor force are more common among the U.S.-born than among immigrants: on average, foreign-born men spend about 3.6 years out of the labor force, compared with 5.2 years for the native-born. In fact, only three immigrant populations spent more years permanently out of the labor force than the U.S.-born: those from Japan, Portugal, and Dominican Republic.

[Figure 6 about here]

The distribution of earnings and labor force exits are likewise very heterogeneous across regions of origin (see Figure 7 and Table 4). One set of origin groups includes “high earners, early leavers.” Less than 30% of this population arrived with earnings in the bottom tertile, and more than 30% of the population arrived with earnings in the top tertile. In other words, many of these workers landed in the U.S. labor force already at the top of the economic ladder. Their stay in the U.S. tended to be relatively short-term, as many had permanently emigrated by the end of the fifth year. By the end of the 35-year observation period, less than 70% were still in the
United States. Perhaps not surprisingly, these individuals were mostly from high income countries, including Germany, Canada, the United Kingdom, and Japan.

[Table 4 and Figure 7 about here]

Other foreign-born workers have completely different trajectories than the high-earning individuals in Group 1. Two other groups of foreign-born workers begin with relatively low earnings upon arrival: about 70% of them had initial earnings in the bottom tertile, and barely any had initial earnings in the top tertile. However, the two groups displayed very different earning progressions. Those in Group 2 experienced stagnation in their earnings. Over time, the share of individuals in the top and middle tertiles remained relatively steady, while the share of individuals in the bottom tertile declined as a growing number of individuals left the labor force permanently. Group 2 is also distinguished by having the highest levels of temporary exits of all four groups. Individuals in this group were from three countries that are geographically close to the United States: Dominican Republic, Mexico, and Haiti.

Individuals in Group 3 appear similar to their Group 2 upon arrival, but display high upward mobility. The share of individuals in the middle and top tertiles expanded from 5-7% to 40% over time, with especially strong increases between the fifth and the 20th year after arrival. At the same time, there is also considerable emigration: about 20% of the population had permanently left the U.S. by the fifth year. By the time individuals were aged 62-66, only less than three-fourth of the immigrants were still in the U.S. Overall, Group 3 presents the most optimistic picture of immigrant assimilation, much like a typical imagination of the American Dream: with persistence, those at the bottom of the earnings distribution can move up and become part of the middle (or even upper) class. There are only two countries in this group: Iran and Nigeria.
Finally, Group 4 includes individuals who begin at lower earnings levels (40-50% in the bottom tertile upon arrival; those from China being the only exception) and experience moderate levels of upward mobility. There was some expansion in the share of individuals in the middle and top tertiles, but not as dramatic as it was for those in Group 3. Another major characteristic of individuals in this group is that their permanent exits from the U.S. labor force are rather delayed: by the 20th year, at least 70% were still active in the formal labor force. This is especially pronounced in the cases of men from India, where three in four members of the 1978 cohort were still in the labor force in 2017. Over 90% of the individuals from India, Russia (the U.S.S.R. at the time), the Philippines, Jamaica, and China were still in the U.S. by the end of the observation period.

Three immigrant populations did not fit the patterns described above: those from Italy, Poland, and Taiwan. Foreign-born men from Italy and Poland displayed patterns similar to each other, where individuals arrived with varied earning levels, did not display clear patterns of upward mobility, and experienced early exits from the labor force. Those from Taiwan presented a rather distinct case: one in four immigrants were in temporary exit at the beginning of the observation, suggesting that although they gained an SSN in 1978, they did not start working in the labor force until later, at which point they saw relatively rapid mobility.

Discussion

Immigrants of varied origins vary both in their starting earning profile and in their subsequent earning trajectories. Statistics covering the full population of foreign-born men entering the U.S. in 1978 (Figure 5) turn out to vary substantially from the particular cases of immigrants from any country of origin. In fact, the top five origins of immigrants -- Mexico,
Iran, India, Taiwan, and Japan, who make up for 35% of all men in the cohort -- are in five distinct groups when it comes to earnings progression patterns (Figure 7). Some foreign-born workers appear to have come from economically developed countries to pursue short-term but, on average, well remunerating employment in the U.S. (e.g. those from Britain and Japan), while others worked for longer at jobs with lower compensation (e.g. those from the Philippines). Some foreign-born workers experience moderate economic mobility on average (e.g. Egyptians, Russians), some enjoy great success (Iranians and Nigerians), while others experience earning stagnation as they strive to reach the middle class (e.g. Haitians).

While immigrants from Mexico and the Caribbean tend to be in and out of the U.S. labor force, those from further away (e.g. India and the Philippines) tend to stick around once they have made the move. Similar to prior studies (e.g. Borjas and Bratsberg 1996; Duleep 1994, Lubotsky 2007), we find that for members of the 1978 immigration cohort, the probability of emigration was highest during the first five years after arrival. About one in seven immigrant men in the top and bottom tertile, and about one in ten men in the middle tertile, have left by the fifth year. This is much lower than previously estimated (Borjas and Bratsberg 1996), likely because temporary exits are counted separately from permanent emigration in this analyses. The probability of emigration sharply decreases with time; after being in the U.S. for 20 years, the probability of leaving becomes very close to zero. Given the emphasis of prior studies on samples of immigrants who stayed in the U.S. for at least a decade, those from Canada, Japan, Germany and Poland have likely been underrepresented.

It is important to reemphasize that the “likely emigration” category may include individuals who did not actually leave the U.S. It may, for example, include immigrants who came to the U.S. on a visa and became undocumented through visa overstay. However, the
number of individuals who transitioned into undocumented status should be small in our particular sample. During the late 1970s, the majority of undocumented immigrants in the U.S. are originally from Mexico (Bean et al. 1987), and Mexican immigrants take up 17% of the population of the 1978 migration cohort of men. Among these Mexican immigrants, we consider approximately 20% to have permanently emigrated from the U.S. the end of the observation period. Even if all 20% had in fact overstayed their visas, they would account for only 3% of those we presumed to have emigrated.

In previous work on immigrants’ earnings, exits from the labor force (emigration in particular) have been considered as a source of bias. A common practice has been to leave out a fraction of the population, intentionally or unintentionally, and study only those who consistently remained in the U.S. labor force for a few decades. This research shows that leaving out part of the population can result in leaving out immigrants with lower earnings (Figure 2, 3 and 4), and immigrants from certain countries/areas of origin (Figure 6). When exits from the labor force are taken into account, the story of immigrants’ earnings growth becomes more complex: while some indeed stay and thrive, there is also a substantial subset who leave (Figure 5). Accounting for temporary and permanent labor market exits highlights the challenges inherent in translating hopes for economic integration into reality.

This study has several limitations. Due to the nature of SSA earnings records, we cannot account for some important factors, such as race/ethnicity, educational attainment, and occupation, which have been previously shown to influence earning levels (Hu 2000; Lubotsky 2007; Villarreal and Tamborini 2018), and we observe only inter-tertile changes in individuals’ earnings. Relatedly, our population does not include foreign-born women. In this, it is similar to prior research on immigrant earnings, which has largely excluded women from the analysis to
avoid the complications stemming from immigrant women’s’ selective labor force participation (Duleep and Dowhan 2002; Lubotsky 2007; Villarreal and Tamborini 2018). Our focus on men stems entirely from the constraints of data availability, and we look forward to future research that can fill this gap in our understanding of the experience of foreign-born women in the U.S., and particularly their integration into the labor force. Balancing the lack of detailed demographic, social, and economic variables is our access to longitudinal earnings data on a complete cohort of foreign-born men. These data which allowed us to account for different types of departures from the labor force, and, for the first time, consider detailed differences in immigrants’ earnings by country of origin.

This study has focused on the case of foreign-born men in 1978, a cohort for which previous research has found clear signs of earnings assimilation (Hu 2000; Lubotsky 2007). There are several reasons why I may fail to replicate evidence of earnings. Most importantly, however, my results are different because many individuals omitted from previous studies were intentionally retained in my analysis: short-term workers and workers that go in and out of the labor force. Longitudinal studies of immigrant earnings tend to yield more conservative estimates of immigrants’ earnings growth than cross-sectional ones; this study shows that when we truly follow all foreign-born individuals who ever worked in the U.S., there may be even less evidence of substantial earnings growth. The story, however, is actually much more complex: the U.S. immigrant population is a mix of individuals from various origins, with various starting points, and completely different progressions over time. Scholars and policy makers should keep in mind that “the average immigrant” fails to represent any specific immigrant in reality.
References:


Figure 1. Possible transitions between six earnings states
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>Census PUMS</td>
<td>Census PUMS</td>
<td>SSA earnings records linked to CPS</td>
<td>SSA earnings records linked to CPS and SIPP</td>
<td>Individual tax records linked to SIPP</td>
<td>SSA earnings records and Master Beneficiary Records</td>
</tr>
<tr>
<td>Nature of data</td>
<td>Single cross-sectional on a sample</td>
<td>Repeated cross-sectional on samples</td>
<td>Longitudinal data on a sample</td>
<td>Longitudinal data on a sample</td>
<td>Longitudinal data on a sample</td>
<td>Longitudinal data on the complete population of foreign born SSN recipients in 1979</td>
</tr>
<tr>
<td>Sample inclusion criteria</td>
<td>/</td>
<td>/</td>
<td>Those who were formally employed for ten consecutive years after arrival and are still in the U.S. in 1994</td>
<td>Those who are still in the U.S. in 1990, 1991, or 1994</td>
<td>Those who had at least five years of earnings above $5,000 and are still in the U.S. in 2004 or 2008</td>
<td>Those who gained an SSN in 1979 who had any earnings in the formal labor force at any time</td>
</tr>
<tr>
<td>Methods</td>
<td>Ordinary least squares regression</td>
<td>Ordinary least squares regression</td>
<td>Ordinary least squares regression</td>
<td>Powell’s semiparametric censored least absolute deviation estimator</td>
<td>Ordinary Least Squares Regression</td>
<td>Multistate</td>
</tr>
<tr>
<td>Limitations</td>
<td>Return migration bias and stationary assumption due to single cross-sectional data</td>
<td>Return migration bias due to cross-sectional data</td>
<td>Return migration bias due to sample restriction and matching</td>
<td>Return migration bias due to matching (with some correction of the bias)</td>
<td>Return migration bias due to sample restriction and matching (with some correction of the bias)</td>
<td>Prospective population data avoids previous limitations</td>
</tr>
<tr>
<td>Finding</td>
<td>Immigrants overtake the earnings of the natives within 10-15 years after immigration</td>
<td>Single cross-sectional studies overestimate immigrants’ earnings growth by 20 percent in some cohorts</td>
<td>Immigrant cohorts show higher earnings growth than do natives</td>
<td>Immigrant earnings grow by 10-15 percent relative to the earnings of native-born workers during the first 20 years after arrival</td>
<td>Black and Hispanic immigrants experience smaller earnings growth than White and Asian immigrants</td>
<td>The number of immigrants with low earnings decreases as a result of increasing number of immigrants absent</td>
</tr>
</tbody>
</table>
Table 2. Population sizes of immigrant men from the top 20 sending countries/areas in 1978

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>13260</td>
<td>16.6%</td>
</tr>
<tr>
<td>Iran</td>
<td>3687</td>
<td>4.6%</td>
</tr>
<tr>
<td>India</td>
<td>3646</td>
<td>4.6%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2264</td>
<td>2.8%</td>
</tr>
<tr>
<td>Japan</td>
<td>3229</td>
<td>4.0%</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>2752</td>
<td>3.4%</td>
</tr>
<tr>
<td>The Philippines</td>
<td>3436</td>
<td>4.3%</td>
</tr>
<tr>
<td>South Korea</td>
<td>3380</td>
<td>4.2%</td>
</tr>
<tr>
<td>The U.K.</td>
<td>3166</td>
<td>4.0%</td>
</tr>
<tr>
<td>China</td>
<td>2101</td>
<td>2.6%</td>
</tr>
<tr>
<td>Poland</td>
<td>2292</td>
<td>2.9%</td>
</tr>
<tr>
<td>Haiti</td>
<td>1988</td>
<td>2.5%</td>
</tr>
<tr>
<td>Canada</td>
<td>2069</td>
<td>2.6%</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1867</td>
<td>2.3%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>1093</td>
<td>1.4%</td>
</tr>
<tr>
<td>The U.S.S.R.</td>
<td>1860</td>
<td>2.3%</td>
</tr>
<tr>
<td>Portugal</td>
<td>1306</td>
<td>1.6%</td>
</tr>
<tr>
<td>Egypt</td>
<td>938</td>
<td>1.2%</td>
</tr>
<tr>
<td>Italy</td>
<td>983</td>
<td>1.2%</td>
</tr>
<tr>
<td>Germany</td>
<td>972</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other origins</td>
<td>23824</td>
<td>29.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80113</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: Social Security Administration.
Table 3. 1979 earning status for the population of foreign-born men who received a social security numbers in 1978 and an age-matched sample of U.S.-born men.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial earnings tertile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Tertile</td>
<td>0.57</td>
<td>0.58</td>
<td>0.59</td>
<td>0.30</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>Middle Tertile</td>
<td>0.18</td>
<td>0.14</td>
<td>0.12</td>
<td>0.30</td>
<td>0.30</td>
<td>0.31</td>
</tr>
<tr>
<td>Top Tertile</td>
<td>0.10</td>
<td>0.13</td>
<td>0.14</td>
<td>0.31</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td>Temporary Exit</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Permanent Exit</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emigration/Unknown</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N</td>
<td>41,680</td>
<td>23,899</td>
<td>14,534</td>
<td>86,913</td>
<td>72,362</td>
<td>56,339</td>
</tr>
</tbody>
</table>

*Source: Social Security Administration.*
Figure 2. Probability of temporarily exiting the labor force over time, foreign-born and U.S.-born men

Figure 3. Probability of permanently exiting the labor force over time, foreign-born and U.S.-born men
Figure 4. Probability of (likely) emigrating permanently over time, foreign-born and U.S.-born men
Figure 5. Share of foreign-born and U.S.-born men in employment and earning states 1979-2017
Figure 6. Average years of employment, temporary exit, and permanent exit among the foreign-born 1978 cohort, by Country of Origin

<table>
<thead>
<tr>
<th>Country</th>
<th>Employed</th>
<th>Temporary Exit</th>
<th>Permanent Exit</th>
<th>Emigration/Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>The Philippines</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>All U.S.-born</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Russia</td>
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<tr>
<td>Taiwan</td>
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<tr>
<td>Jamaica</td>
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<tr>
<td>Portugal</td>
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<tr>
<td>Egypt</td>
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<tr>
<td>Haiti</td>
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<tr>
<td>Iran</td>
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<td></td>
</tr>
<tr>
<td>South Korea</td>
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</tr>
<tr>
<td>Mexico</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>All foreign-born</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td></td>
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<td></td>
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<tr>
<td>The U.K.</td>
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<tr>
<td>Dominican R.</td>
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<tr>
<td>Italy</td>
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<td>Poland</td>
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<tr>
<td>Canada</td>
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<tr>
<td>Germany</td>
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<td></td>
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</tr>
<tr>
<td>Japan</td>
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</tr>
</tbody>
</table>

Years: 0, 5, 10, 15, 20, 25, 30, 35
Figure 7. Share of foreign-born and U.S.-born men in employment and earning states, by country of origin 1979-2017

Group 1

Group 2
Ungrouped

[Graphs showing data for Italy, Poland, and Taiwan]
### Table 4. Basic description of the four groups in Figure 7

<table>
<thead>
<tr>
<th>Group</th>
<th>% Bottom tertile upon arrival</th>
<th>% Top tertile upon arrival</th>
<th>% Emigrated by fifth year</th>
<th>Upward mobility?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>30% or below</td>
<td>30% or above</td>
<td>20% or above</td>
<td>Low</td>
</tr>
<tr>
<td>Group 2</td>
<td>60% or above</td>
<td>3% or below</td>
<td>5% or less</td>
<td>Low</td>
</tr>
<tr>
<td>Group 3</td>
<td>65% or above</td>
<td>Almost none</td>
<td>20% or above</td>
<td>Very high</td>
</tr>
<tr>
<td>Group 4</td>
<td>40-50%</td>
<td>About 10%</td>
<td>10% or less</td>
<td>Moderate</td>
</tr>
</tbody>
</table>