

**Immigrant Entrepreneurship and Job Creation in the United States:
A Historical Analysis and Future Projection Model**

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Abstract

Since the turn of the 21st century, the United States has experienced a drastic shift in the number and composition of immigrants entering its borders. Compared to native-born persons, immigrants are disproportionately more likely to become entrepreneurs and start small businesses. Entrepreneurship leads to greater financial gains and economic prosperity for immigrants and is also an important driver of job creation and community development around the United States. As a result of recent immigration restrictions and reduced movement due to the COVID-19 pandemic, there is concern about the long-term impact that decreased immigration will have on small business development and subsequent job creation. The aims of this paper are to: 1) conduct a historical trend analysis of immigrant entrepreneurship and job creation in the United States; and 2) develop projected estimates of immigrant entrepreneurship under alternative assumptions. Data were derived from the American Community Survey (ACS) linked to the United States Citizenship and Immigration Services (USCIS) database. Historical data was displayed graphically to visualize trends in key outcomes over time. Three projection models for entrepreneurship through the year 2031 were developed, with each model testing a different assumption regarding immigration. The first projection allows for a stable level of immigration, the second projection cuts immigration in half, and the third projection eliminates immigration entirely. With stable immigration, a projected 4,106,389 immigrant entrepreneurs will be in the United States in 2031, compared to 3,375,287 immigrant entrepreneurs if immigration is cut to zero. Given that the typical five-year-old firm employs an average of 17.43 people, this drop in entrepreneurship would eliminate 12,743,107 jobs in the United States within the next 10 years. The results shed light on the role of immigrant entrepreneurship in job creation during this decade. Policies that encourage and facilitate immigrant entrepreneurship,

particularly in industries and geographic areas hit hardest by the COVID-19 pandemic, promise to support economic recovery efforts.

Introduction

Immigrants are central to communities and economies across the United States. While immigrants contribute to the economy in varied ways, immigration entrepreneurship is a defining feature that is important to understand as it is tied to innovation, technology, and the creation of new jobs, all of which are key drivers of economic growth and recovery, particularly after major crises like the COVID-19 pandemic. While studies have examined certain characteristics of immigrant entrepreneurship, such as which immigrant groups are most likely to become entrepreneurs, little is known about historical trends in immigrant entrepreneurship and how changes in immigration policies will impact entrepreneurship, small business creation, and the job market in the near future. This paper examines both historical trends and future projections models related to immigrant entrepreneurship. This topic is particularly critical to examine at this time as immigration policies are in flux and the COVID-19 pandemic has impacted global economies and people's movement throughout the world.

Literature Review

Throughout the past several decades, the United States has experienced a drastic shift in the distribution of immigrants emigrating from different regions of the world. The changing demographics of immigrants has influenced the career paths immigrants pursue and their impact on the American economy. Since the 1990s, the United States has seen strong growth in the importance of Asia, Mexico and South and Central America as immigrant source regions. Simultaneously, the country has seen a decrease in the relative importance of immigrants from the UK and Ireland, Canada and Europe (Chiswick, 2004). The largest percentage of

undocumented immigrants in the United States are non-citizen Mexican immigrants (Wang, 2019).

There are several key indicators that help predict the areas in which an immigrant of a particular background will choose to reside upon entry to the United States. The six states with the highest immigrant populations are California, New York, Texas, Florida, New Jersey and Illinois (Chiswick, 2004). An immigrant's national origin plays a large role in determining the region where they will settle, as immigrants are more likely to immigrate to areas where a high immigrant population currently exists (Basso, 2020). Compared to the native-born population, immigrants are more likely to live in metropolitan cities, as the majority of ethnic enclaves are concentrated in those areas. Immigrants residing within these enclaves among other co-national are more likely to be self-employed (Lofstrom, 2002). Among American states, California hosts the greatest number of foreign-born, with 25% of the nation's foreign-born population residing within its border. New York, home to 14.5% of the United States' foreign-born population, is the top immigration metropolitan area (Lewis, 2015). The vast majority of Mexican immigrants, America's largest immigrant group, live in California, Arizona, New Mexico, and Texas, the four states bordering Mexico (Wang, 2019).

Entrepreneurship leads to greater financial gains and economic prosperity for immigrants compared to job roles in the formal job market. Immigrant entrepreneurs earn wages/salaries more consistent with those of their native counterparts. On average, immigrants begin their careers with lower incomes than their native counterparts and do not reach parity throughout their lifespan. However, the earnings of self-employed immigrants catch up to the earnings of wage/salary natives around age 30 and slightly exceed self-employed natives' earnings around age 40. There is no statistical difference in the lifetime earnings between immigrant

entrepreneurs and native entrepreneurs, while wage/salary immigrants earn around 15% less over their lifetimes compared to their native counterparts (Lofstrom, 2002).

The majority of small businesses owned by immigrants are heavily concentrated in a few key industries. Throughout the 1990s, many Silicon Valley immigrant engineers found they were unable to advance into managerial positions, causing many of them to leave and start their own technology businesses. The computer and electronic hardware manufacturing space was occupied by many Chinese-run firms, while Indian entrepreneurs were disproportionately represented in software and business services (Saxenian, 2000). Among self-employed Mexican immigrants, the top four most popular industries are construction, agriculture/mining/forestry, repair/personal services, and retail trade. Among all new self-employed entrants, around half of open businesses in the construction and agriculture/mining/forestry industries (Wang, 2019). Immigrant women are more likely to open small businesses with gendered business niches, such as nail salons, clothing stores, and hair braiding (Collier, 2011).

Immigrant entrepreneurs have distinct characteristics from immigrants working in the formal job market. Educational attainment, age, and English fluency differ between these two groups. Compared to wage/salary immigrants, immigrant entrepreneurs have greater English language fluency, higher levels of education, and are 5 to 6 years older, on average (Lofstrom, 2002). Immigrants who have resided in the United States for a longer period of time are more likely to experience greater economic success, including increased earnings, employment and occupational status (Chiswick, 2004). Location also plays a factor in immigrants becoming entrepreneurs, as immigrants who live in enclaves are more likely to become small business owners compared to their counterparts. Additionally, immigration greatly impacts the economic

incentives of natives, as many choose to direct their career path in ways that will maximize returns and minimize losses from immigration.

Immigrant share positively contributes to productivity within countries, due to innovations, benefits of diversity, and the adoption of new technology and capital to complement immigrant skills. When examining the internal mobility of immigrants and natives, foreign-born individuals are found to have a slightly lower mobility rate than natives. However, this finding does not hold true for immigrants who have lived in the United States less than ten years, as they have higher rates of residential mobility than natives. Age and education also play a role; foreign-born people under the age of 25 with a high school education or less have greater mobility than their native counterparts. Since the 1980s, the foreign-born population has been 2.5 times more responsive to relocate based on economic shocks (Basso, 2020).

Compared to natives, immigrants are more likely to become entrepreneurs because of their skill sets, formal job market pressures, and risk of enforcement actions. In 2005, immigrant women were 33.8% more likely to be self-employed than native-born American women (Collier, 2011). Following the attacks on September 11, 2001, non-citizen male Mexican immigrants were 40% more likely to become self-employed compared to less-educated white natives.

Undocumented immigrants have worse labor outcomes as a result of tightened immigrant policies, including decreased wages and employment rates. Demand for undocumented immigrants in the formal labor market has decreased, and firms often offer them lower wages due to increased risks. (Wang, 2019). Additionally, undocumented immigrants in the formal job market are more likely to face crackdowns and enforcement actions, which increases their risk of detection, job loss, and deportation. There are a number of additional theories that hypothesize why immigrants are more likely to become entrepreneurs than natives. First, the disadvantage

theory states that limited English skills discourage immigrants from entering the traditional labor market. Second, the middleman theory argues that many immigrants own small businesses in urban cities where they reside and are able to benefit from transnational networks. Finally, the network theory argues that immigrants' primary languages and community networks impact the way they operate their businesses (Collier, 2011).

The COVID-19 pandemic has had a disproportionately negative impact on small businesses owned by immigrants, compared to small businesses owned by natives. White-owned businesses experienced a percent drop in business activity from pre-COVID-19 levels of 11 percent. African-Americans, Latinx, and Asian-owned small businesses experienced even greater drops in their business activity, at 26 percent, 19 percent, and 21 percent, respectively. Had a greater proportion of female, black, and Latinx business owners operated in essential industries (similar to the native entrepreneur population), the decline of business owners in these groups would have been lower. Immigrant-owned small businesses experienced the second largest decrease in business activity among studied groups at 25 percent. Evaluating business operation between industries provides a telling narrative about the success or decline of small businesses among different demographic groups during the pandemic. "Essential industries" faced a 10 percent loss of business owners, compared to 25 percent for non-essential business owners. Most immigrant small business owners operate in non-essential industries that placed them at a greater risk for COVID-19-related shutdowns (Fairlie, 2020).

Micro and macro level factors impact whether immigrants return to their country of origin. Family stability plays a role in immigrant return, as immigrants whose spouse, children, and other family live in their host country have a higher likelihood of stabilization. Higher educational attainment has a positive effect on both economic status and occupational status

(Paparusso, 2017). As a result, immigrants who are better educated are less likely to return to their country of origin. The reduction of labor and financial stressors decreases the likelihood an immigrant will return to their home country. The number of years spent in the host country and age at the time of immigration are major factors influencing return migration. Immigrants who move to their host country at a younger age have greater success adapting to their new home (Lee, 2016). Those who have lived in their host country for a longer period of time are less likely to be discriminated against and more likely to have established a solid relationship with their host society (Dustmann, 2003). In the long-term, immigrants who are less socially and financially successful will have a greater likelihood to return home.

While these studies contributed to the advancement of knowledge about the United States immigrant community and provide evidence that supports the social and economic value of entrepreneurship, little is known about how immigrant entrepreneurship will evolve this decade in response to immigration policies, and how this might affect job creation in the United States and economic recovery post-COVID-19. To address these questions, this study will first examine historical trends in immigrant entrepreneurship and will then develop prediction models for immigrant entrepreneurship under three immigration assumptions and utilize outcomes of these models to estimate small business creation and associated employment. In doing so, this study will advance our understanding of how immigration policy impacts employment outcomes and provide data useful for both advocacy efforts and economic forecasting.

Methodology

This study uses data from the [American Community Survey](#) (ACS), available through the Integrated Public Use Microdata Series (IPUMS) database. These data, in conjunction with data from the [Yearbook of Immigration Statistics](#) from the United States Citizenship and Immigration Services (USCIS), were examined to create a historical trend analysis of immigrant entrepreneurship over the past two decades (between 2000-2019). Following this analysis, these data were used to build a projection model that estimates immigrant entrepreneurship and job creation under three different assumptions. This approach allows for a base understanding of recent immigrant entrepreneurship trends supplemented with themes and insights drawn from projection models that examine varied levels of immigration over the next ten years.

The ACS data provides information regarding an individual's citizenship status, including those who are American-born, born abroad of American parents, naturalized citizens and noncitizens. For the purposes of the analysis, individuals who were American-born and born abroad of American parents were combined into one group to analyze trends for those born with an American citizenship. Historical analysis graphics that do not display year used data merged from fiscal years 2000 to 2019 (Figures 7-11). The birthplace variable was used as a proxy for country of origin when examining new immigrant entrants to the United States by continent. Additionally, the ACS provided data about which individuals were self-employed or worked for a wage/salary.

The USCIS' Yearbooks of Immigration Statistics provides information about the various groups of immigrants entering the United States since the start of the 21st century, including naturalized persons, lawful permanent residents, and nonimmigrants. The combination of these data sources together provides a greater understanding of immigrant trends and how different

immigrant groups adapt to the United States and engage in the workforce throughout their stay. Stata was used to analyze these data and figures were produced in Microsoft Excel for the historical trend analysis.

In order to create an effective projection model for the next ten years, it was imperative to review trends and build models from the historical data available through the ACS and USCIS. First, the model for projected native-born self-employed persons was built for the years 2020-2031. To determine the projected number of native-born self-employed persons for this decade, the ratio of self-employed persons was calculated for each age between 16-94, as shown in Table 2. The ratio of self-employed persons was built using 2019 data, as it was the most recent year of data available. The number of self-employed persons was divided by total native-born persons, rather than the native-born labor force, to account for persons exiting the labor force (due to retirement and other factors).

In the first projected year of 2020, each age group would age by one year. For example, in the year 2019, there were 3,889,760 sixteen-year-olds in the United States. Given that an average 1.16% of these individuals would be self-employed, an estimated 44,973 self-employed sixteen-year-olds were in the United States. The individuals who were sixteen-year-olds in 2019 would become seventeen-year-olds in 2020, and as a result, the likelihood that they would be self-employed increased to 1.40% (Table 2). For the projected years of 2020-2031, the model added a new class of 3,889,760 sixteen-year-olds each year, based off 2019 numbers. This projection process was continued through the year 2031 and estimated the number of newly self-employed persons for each age group as they grow one year older year-after-year (Table 3). In order to account for deaths between each age group, the ratio of persons was multiplied by 2017

survival probabilities from the Centers for Disease Control and Prevention's (CDC) National Vital Statistics Reports.

Developing the projection models for self-employed immigrants followed a similar process to the one detailed above for self-employed natives. Rather than using age, the self-employment ratios were determined based on the number of years an immigrant had been living in the United States. The number of years in the United States increased year-over-year for each group as the model estimated projections for 2020-2031. For example, 1,341,551 new immigrants (years in United States = 1) entered the United States in 2019. On average, 4.20% of these individuals became self-employed. In the following year (2020), this group had been in the United States for two years, so the likelihood they are self-employed increases to 4.85% (Table 4).

For the projected years of 2020-2031, the model adds a group of 1,341,551 new immigrants each year, based off 2019 numbers. This projection process was continued through the year 2031 and determined the number of newly self-employed immigrants as they spent more years living in the United States. In order to account for both survival probability and the number of immigrants who leave the United States (to return home or move elsewhere), the ratio of immigrants who remained in the country was calculated for 2010-2019. For example, the number of immigrants in the United States for two years in 2011 was divided by the number of immigrants in the United States for one year in 2010 to determine the likelihood a new immigrant remained for a second year in the United States between 2010-2011. These ratios were calculated for each year and averaged over the nine-year period. These survival/emigration probabilities were then applied to each of the projected models.

In addition to the stable immigration model described above (that adds a new group of 1,341,551 immigrants for each projected year), two additional projection models were created to test different assumptions regarding immigration. The second projection cuts new immigration in half and allows only 1,944,880 new immigrants to enter the United States beginning in 2020. The third and final projection eliminates new immigration entirely (Table 5). As measured in 2018 by the United States Census Bureau's Annual Economic Surveys, there were 228,639 firms that were five years old in the United States, and they employed 3,985,247 workers. Therefore, the average five-year-old firm employed 17.43 people. This information was used to evaluate the impact of immigrant entrepreneurship on job creation in the United States in each respective projection models.

Useful Definitions

The United States Department of Homeland Security (DHS) defines an immigrant as a "person lawfully admitted for permanent residence in the United States." Aliens, or those individuals who are not a citizen or national of the United States, may follow one of two paths to become legal immigrants, depending on their residence at the time of application.

1. Aliens living abroad apply for an immigrant visa at a consular office of the Department of State. Once a visa is issued, they may enter the United States and become legal immigrants when they pass through the port of entry.
2. Aliens already living in the United States, including certain undocumented immigrants, temporary workers, foreign students, and refugees, file an application for adjustment of status (to legal permanent residence) with the Immigration and Naturalization Service (INS). At the time they apply for adjustment of status, they

may also apply for work permits. Adjustment of status applicants are granted legal permanent residence at the time their applications are approved. New legal immigrants are automatically authorized to work and should receive alien registration cards (also known as “green cards”) soon after becoming legal permanent residents.

As defined by DHS, a refugee is “a person outside his or her country of nationality who is unable or unwilling to return to his or her country of nationality because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion.” Refugees are required to apply for Lawful Permanent Resident status one year after being admitted. An asylee is defined as “a person who meets the definition of refugee and is already present in the United States or is seeking admission at a port of entry.” They may apply for green card status one year after their grant of asylum and are eligible for naturalization four years after becoming legal permanent residents.

The following historical analysis focuses on naturalized citizens, lawful permanent residents, and nonimmigrants. Naturalized citizens are foreign-born persons who have met all of the eligibility requirements to become American citizens and have completed the naturalization process to acquire citizenship. Lawful permanent residents are non-citizens who have been granted permanent authorization to live and work within the United States borders. Finally, nonimmigrants are foreign-born individuals who have permanent residence outside the United States but wish to be in the United States for a temporary period of time.

Data Limitations

While the USCIS provides data about the number of legal permanent residents admitted in a year, these data are not the same as the number of net migrants entering the United States. The reasons for the difference in counts include:

1. Immigrant adjustments are reported in the year the aliens adjust their status to lawful permanent residence and not in the year they migrate to the United States in a temporary or other (refugee or asylee) status.
2. Some migrants (such as parolees, refugees, and asylees) may never be counted as lawful permanent residents even though they reside permanently in the United States as they are not required to adjust to permanent resident status.
3. Information on emigration (aliens permanently departing the United States) and information on net illegal immigration is not available. The projection model that follows in this paper controls for emigration but this information is not available for the historical analysis.
4. Missing values were a problem for certain variables, particularly adjustment of status cases.

Additionally, return bias is a limitation of this research as immigrants who are less successful in adapting to the United States and finding work are more likely to return to their home country. This bias plays a major role in describing the success of particular immigrant groups and long-term patterns that may be observed in these data.

RESULTS

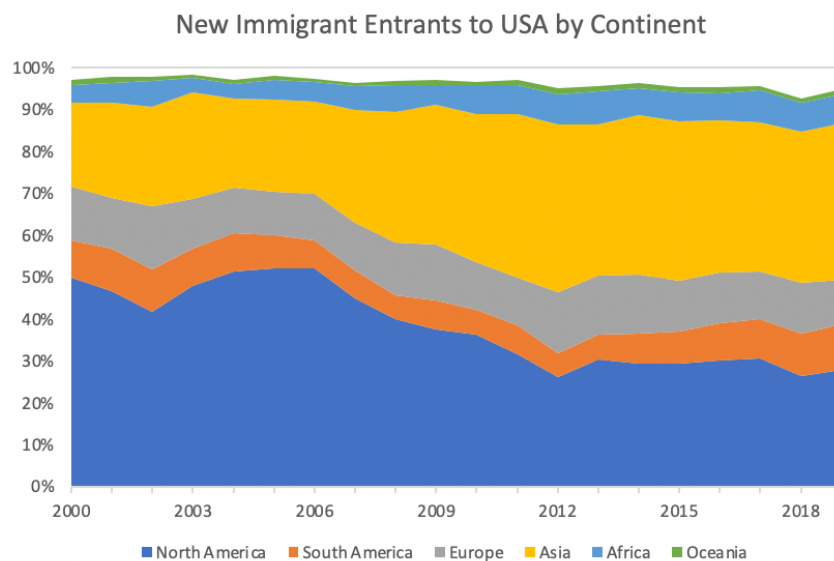
Historical Trend Analysis

The following section analyzes trends in immigrant entrepreneurship between the years 2000-2019. This historical trend analysis is divided into Distribution and Demographic Trends and Employment and Income Trends. It highlights the changing patterns in immigration over the past twenty years and which immigrant groups are more likely to pursue career paths as entrepreneurs.

Distributions and Demographic Trends

Figure 1

Ratio of New Immigrant Entrants to the United States by Continent of Origin: Fiscal Years 2000-2019

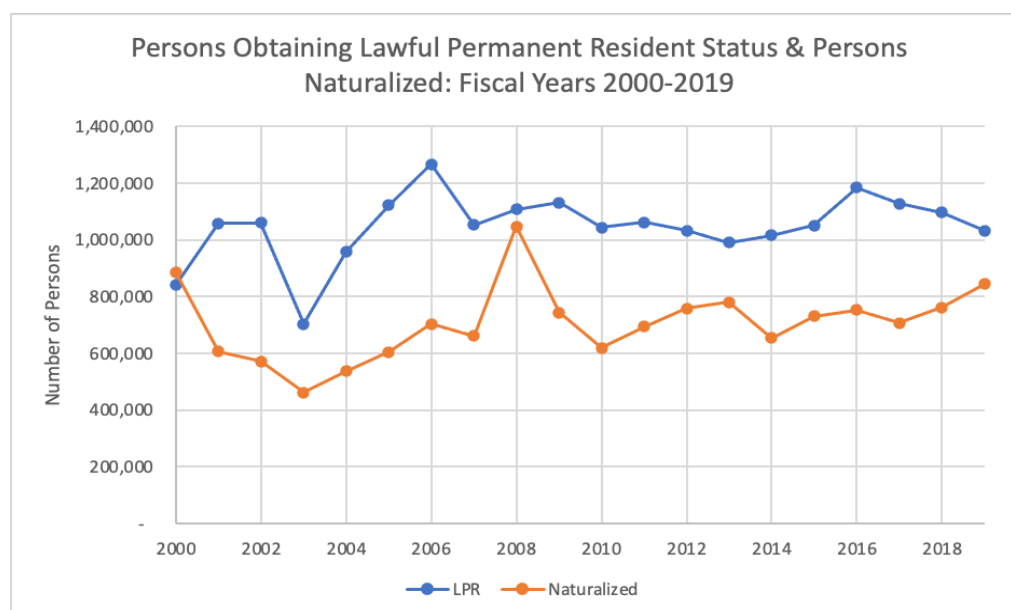


Data Source: American Community Survey

Since the turn of the 21st century, the ratio of immigrants entering the United States from different continents has changed. At the turn of the century, 50% of immigrants came from North America, 20% from Asia, 13% from Europe, 9% from South America, and 4% from Africa. In 2019, 28% of immigrants came from North America, 37% from Asia, 11% from Europe, 11% from South America, and 7% from Africa. Between 2000-2019, the United States experienced a slight increase in the ratio of immigrants from Africa and a major increase in the ratio of immigrants from Asia. The proportion from Asia peaked in 2012, as 40% of immigrants were from the continent. Subsequently, the ratio of immigrants from North America has declined, while the proportion of immigrants from South America and Europe has remained relatively constant.

Figure 2

The Number of Persons Obtaining Lawful Permanent Resident Status and Naturalization: Fiscal Years 2000-2019

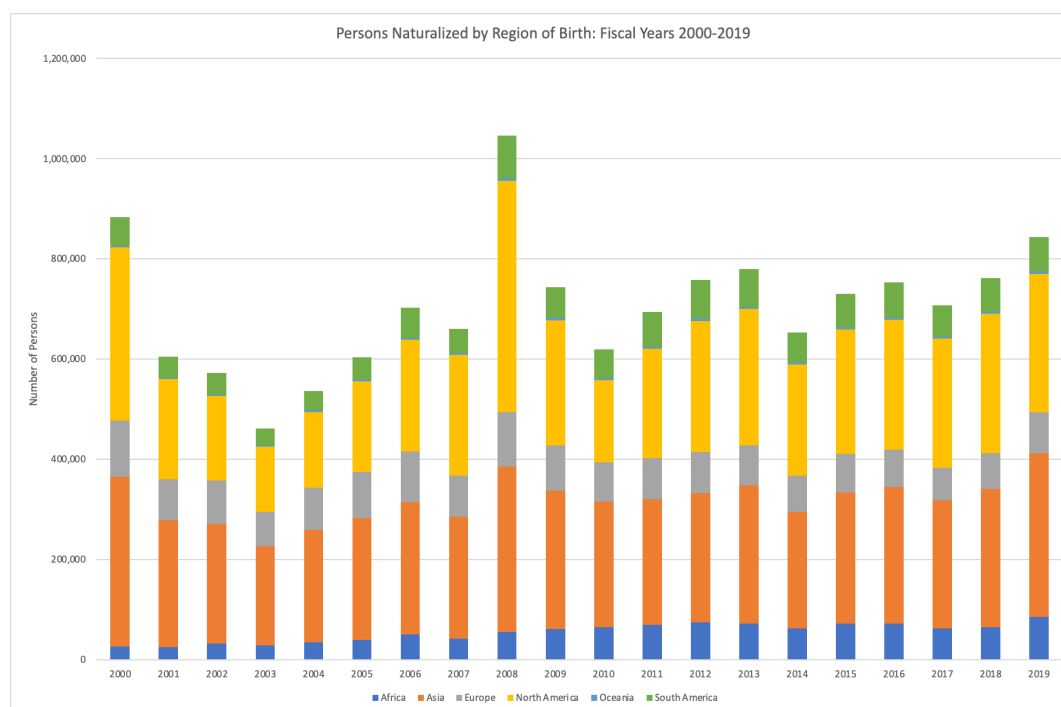


Data Source: United States Citizenship and Immigration Services

Between 2000 and 2019, the number of immigrants obtaining lawful permanent residency was consistently higher than the number of naturalized immigrants. The number of persons naturalized was lowest in 2003 and peaked in 2008. From 2011 to 2018, the number of naturalizations hovered between 650,000 and 780,000 per year. In 2019, the number of naturalizations reached 843,593. Similar to naturalizations, the number of persons obtaining lawful permanent resident (LPR) status was lowest in 2003. After 2003, the number of immigrants obtaining green cards climbed until it peaked in 2006. Since 2006, the number of green cards issued has fluctuated between 990,000 and 1,200,000 per year.

Figure 3

Persons Naturalized by Region of Birth: Fiscal Years 2000-2019

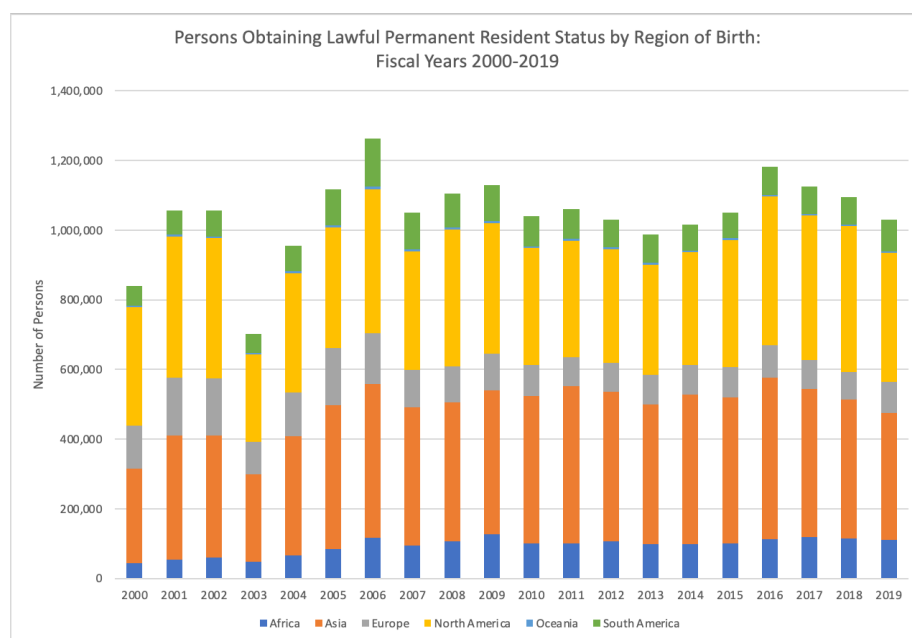


Data Source: United States Citizenship and Immigration Services

Among persons naturalized between 2000 to 2019, the greatest number of naturalizations occurred among immigrants from Asia and North America. Naturalizations among Asian persons reached its max in 2000 at 338,532 and reached its lowest point in 2003 at 196,972. Among persons from North America, naturalizations peaked in 2008 at 462,372 and bottomed at 130,551 in 2003. Among the remaining regions, Europe, South America, Africa, and Oceania provide the greatest to lowest number of naturalized immigrants, respectively. The total number of naturalizations has ranged from 462,435 to 1,046,539 per year since the turn of the century.

Figure 4

Persons Obtaining Lawful Permanent Resident Status by Region of Birth: Fiscal Years 2000-2019



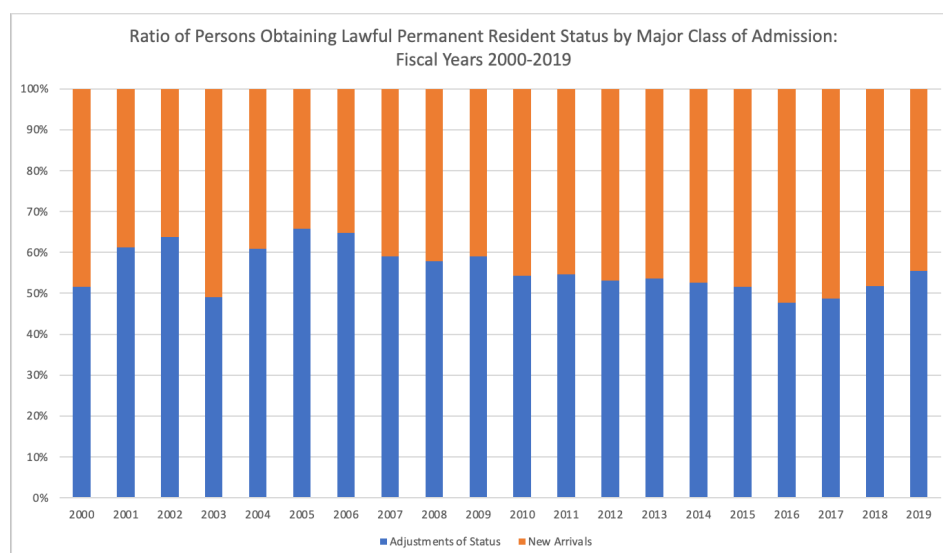
Data Source: United States Citizenship and Immigration Services

Among persons obtaining lawful permanent residence between 2000 to 2019, the greatest number of green cards were issued to immigrants from Asia and North America, similar to

naturalizations. The number of green cards obtained by Asian immigrants peaked in 2016 at 462,299 and bottomed in 2003 at 250,448. Among North American immigrants, the greatest number of green cards were obtained in 2016 at 427,293, while the least number of green cards were obtained in 2003 at 249,968. Over the past two decades, the number of lawful permanent resident statuses issued to persons from Africa has slowly climbed from 44,534 in 2000 to over 100,000 annually in the past several years. Between 2000 and 2019, the total number of green cards issued each year has hovered around 1,000,000 and ranged from 703,542 to 1,266,129.

Figure 5

Persons Obtaining Lawful Permanent Resident Status by Major Class of Admission: Fiscal Years 2000-2019



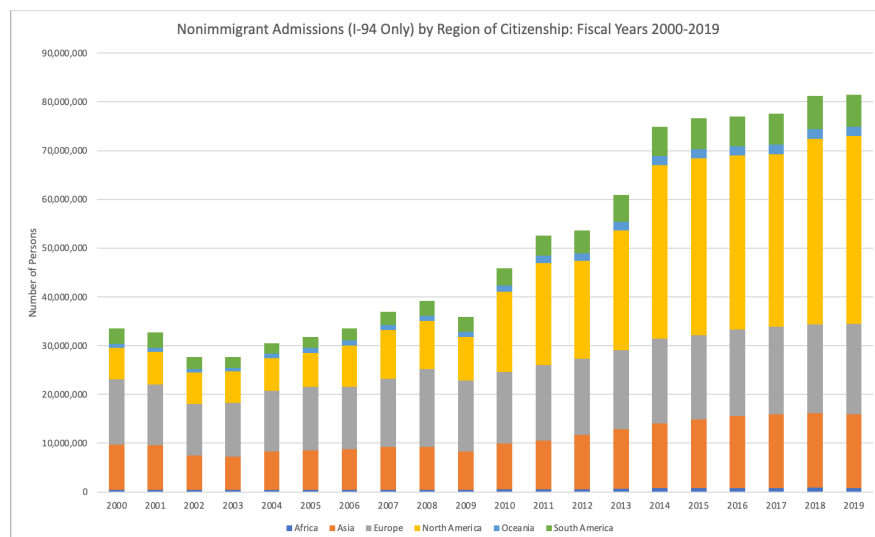
Data Source: United States Citizenship and Immigration Services

Immigrants obtain lawful permanent resident status as a new arrival or through an adjustment of status. Over the past 19 years, the majority of green cards issued each year have been through adjustments of status rather than new arrivals, with the exception of 2003, 2016,

and 2017. Since 2010, the ratio of green cards issued through adjustments of status has been between 48% and 55%.

Figure 6

Nonimmigrant Admission by Region of Citizenship: Fiscal Years 2000-2019



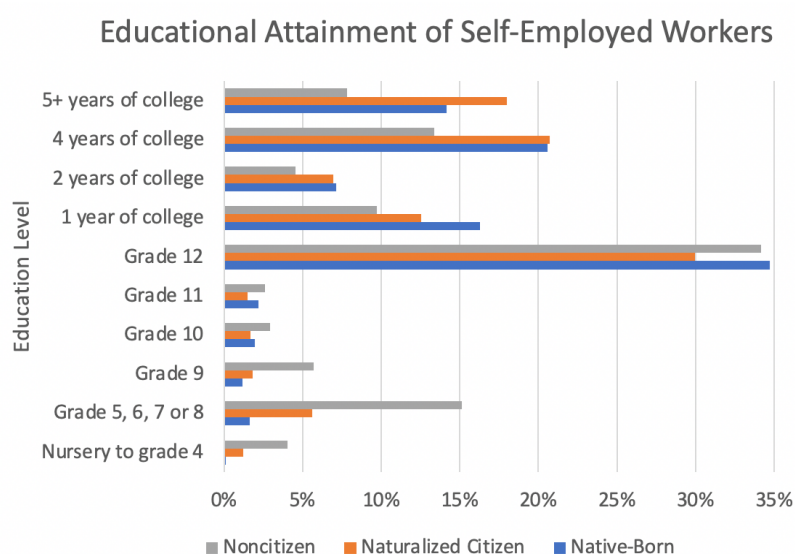
Data Source: United States Citizenship and Immigration Services

The number of nonimmigrants entering the United States has drastically increased over the past two decades. A total of 33,660,320 nonimmigrants were admitted in 2000, while 81,563,139 nonimmigrants were admitted in 2019. The number of nonimmigrants from every region of the world, including Africa, Asia, Europe, North America, Europe, North America, Oceania, and South America, has steadily increased since the turn of the century. The greatest influx of nonimmigrants has been from the continent of North America, as a result of rising immigration from Mexico. In 2000, 4,125,998 Mexican nonimmigrants entered the United States, compared to 21,412,174 in 2019.

Employment and Income Trends

Figure 7

Educational Attainment Comparisons for Native-Born, Naturalized, and Noncitizen Self-Employed Workers: Fiscal Years 2000-2019



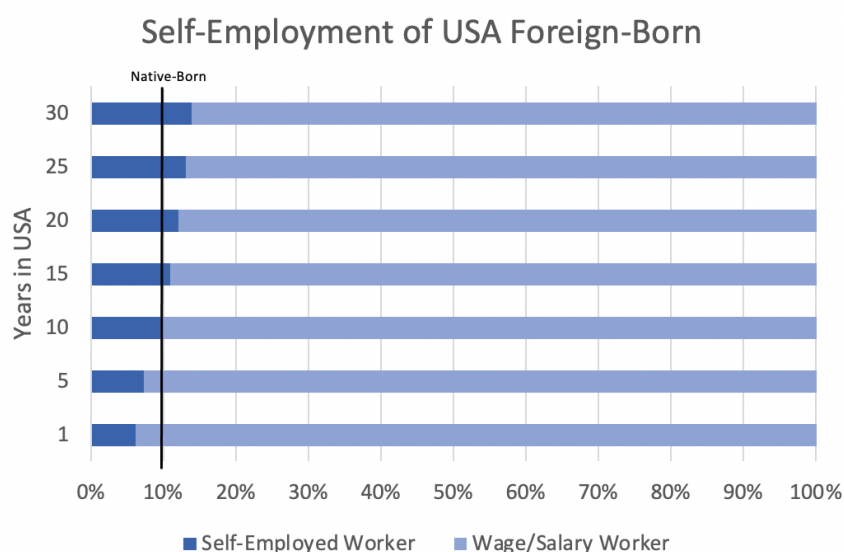
Data Source: American Community Survey

Among self-employed workers, educational attainment differs depending on the population's citizenship status. Self-employed workers with fewer years of schooling are more likely to be noncitizens, particularly among those who have completed a Grade 11 education or less. For example, 15% of self-employed noncitizens have completed Grade 5, 6, 7 or 8, compared to 6% of self-employed naturalized citizens and 2% of self-employed native-born workers. Conversely, self-employed workers with higher levels of education, particularly those who have completed some college or attained a college degree, are more likely to be native-born or naturalized citizens. For example, 21% of both self-employed native-born and naturalized citizens have completed 4 years of college, compared to only 13% of self-employed noncitizens. Among native-born, noncitizens, and naturalized citizens, the greatest portion of self-employed

workers in each group has completed through Grade 12, indicating they have received a high school diploma. The differences in educational attainment of each group may correlate to the industry in which they operate their businesses if, for example, self-employed noncitizens are more likely to work in lower-skilled industries than their native-born and naturalized citizen counterparts.

Figure 8

Self-Employment Among the Foreign-Born Population Based on Years Living in the United States: Fiscal Years 2000-2019



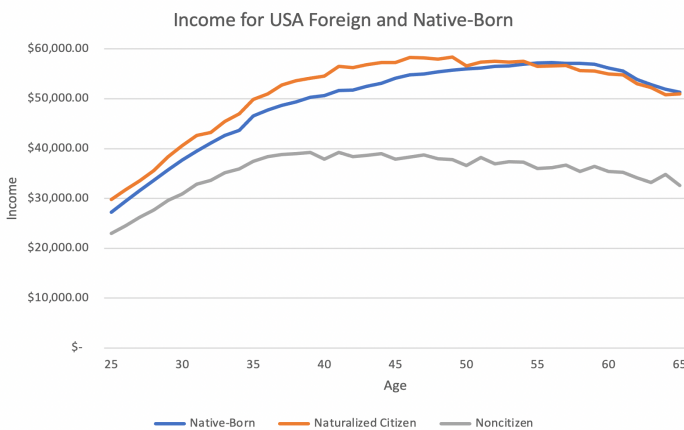
Data Source: American Community Survey

Upon reaching 11 years in the United States, foreign-born workers are more likely to be self-employed than native-born workers. On average, 10.39% of native-born workers are self-employed. Among foreign-born workers, there is a positive relationship between years in the United States and self-employment rates. Approximately 6.21% of new entrants are self-

employed, and among immigrant workers who have lived in the United States for 68 years, roughly one-quarter are self-employed.

Figure 9

Income Comparisons for Native-Born, Naturalized Citizens, and Noncitizens Based on Age:
Fiscal Years 2000-2019



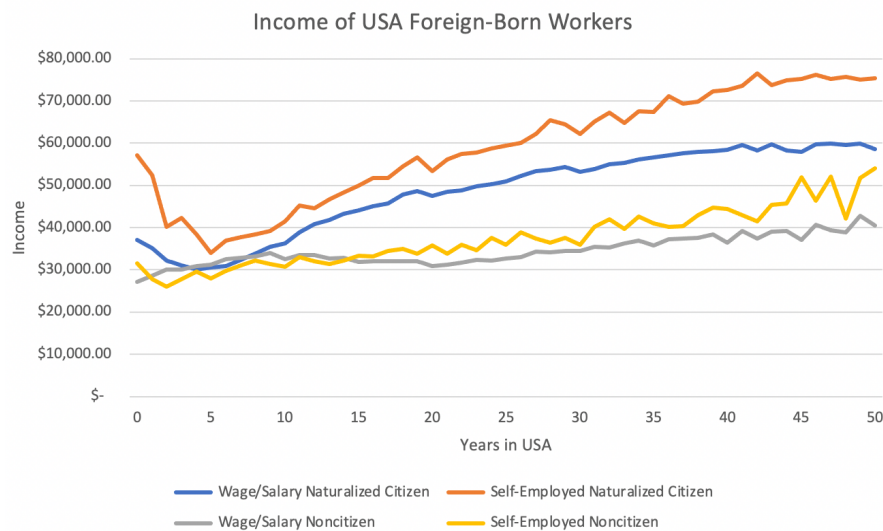
Data Source: American Community Survey

On average, native-born workers and naturalized citizens make higher incomes than noncitizens throughout their lifetime. At age 25, naturalized citizens begin their careers making an average income of \$29,824.45, earning slightly above the average for native-born workers of \$27,230.90. Noncitizens begin their careers earning an average income of \$22,960.25, which is \$4,270.65 below the average of native-born workers. Naturalized citizens maintain a higher income than native-born workers until age 55. After age 55, the income of native-born workers and naturalized citizens follows a similar trajectory, with native-born workers earning a slightly higher income until retirement age. At that age, native-born workers earn an average income of \$51,291.12, or \$304.15 more than the average for naturalized citizens of \$50,986.97. The income of noncitizens peaks earliest among the three groups at age 39, with an average of \$39,265.20.

The income of naturalized citizens peaks at age 46 at an average of \$58,287.74, and native-born workers' income peaks at age 56 with an average of \$57,269.65.

Figure 10

Income of United States Foreign-Born Workers Based on Class of Employment and Naturalization Status: Fiscal Years 2000-2019



Data Source: American Community Survey

Among foreign-born individuals working in the United States, data is collected on both naturalized citizens and noncitizens. Naturalized citizens make higher average incomes in both the self-employed and wage/salary groups compared to noncitizens. Among noncitizens and naturalized citizens, those who are self-employed make higher annual salaries, on average, than their wage/salary counterparts. Self-employed naturalized citizens consistently receive the highest incomes among foreign-born workers throughout the years they reside in the United States. Although this group experiences a decline in their income throughout the first five years, the trend reverses at year six and their income begins steadily increasing. After living for fourteen years in the United States, noncitizens who are self-employed begin making a

consistently higher income than their wage/salary counterparts. Among those who have lived 50 years in the United States, self-employed naturalized citizens have an average income of \$75,640.20, with wage/salary naturalized citizens at \$59,512.49, self-employed noncitizens at \$42,089.76, and wage/salary noncitizens at \$38,837.35. As immigrants live in the United States for longer periods of time, the income gap between wage/salary and self-employed workers widens. This suggests that immigrants who are self-employed will have greater financial prosperity throughout their lifetimes than those who are wage/salary workers.

Table 1

Industry Breakdown of Self-Employed Native-Born, Naturalized, and Noncitizen Workers:

Fiscal Years 2000-2019

Industry	Native-Born	Naturalized Citizen	Noncitizen
<i>Agriculture</i>	37%	25%	34%
<i>Wholesale Trade</i>	2%	3%	2%
<i>Retail Trade</i>	7%	10%	7%
<i>Transport & Utilities</i>	3%	6%	5%
<i>Information</i>	1%	1%	1%
<i>Finance</i>	7%	7%	3%
<i>Management Services</i>	18%	16%	17%
<i>Education & Health</i>	9%	12%	8%
<i>Entertainment & Food</i>	5%	8%	6%
<i>Other Services</i>	10%	13%	17%

Data Source: American Community Survey

Among all three groups of self-employed workers, the agriculture industry is most greatly represented. 37% of native-born self-employed workers work in agriculture, compared to 34% of noncitizens and 25% of naturalized citizens. The share of workers in the Wholesale Trade,

Information, and Management Services industries is similar across all three groups. Noncitizens are underrepresented in the Finance sector at 3%, as the share of naturalized citizens and native-born workers in this sector is 4 percentage points higher. On the other hand, self-employed noncitizens are overrepresented in the Other Services sector at 17%, compared to 13% for naturalized citizens and 10% for native-born workers.

Projection Models

The following projection models evaluate immigrant entrepreneurship for the next decade (2020-2031) under three different conditions: 1) a stable level of immigration, 2) immigration cut in half, and 3) immigration eliminated entirely. In order to understand the larger impact of immigrant entrepreneurship on small businesses in the United States, an additional model was built to project entrepreneurship among natives. The native entrepreneurship projection, in conjunction with the respective immigrant entrepreneurship projection, provides a more in-depth analysis of the impact immigrant entrepreneurs and small businesses have on job creation in the United States.

Beginning with the native projection model, Table 2 displays the positive relationship between age and the ratio of self-employed workers. The ratio of self-employed workers gradually increases between the ages of sixteen to fifty-eight and reaches its peak of 9.91% at age 58. After age 58, the ratio of self-employed workers slowly decreased as native-born persons neared retirement age.

Table 2

Ratio of Self-Employed Workers for Each Age Group Among Native-Born Persons

Age	% Self-Employed
16	1.16%
17	1.40%
18	1.99%
19	2.36%
20	2.24%
21	2.49%
22	2.62%
23	2.86%
24	3.01%
25	3.42%
26	4.05%
27	3.99%
28	4.34%
29	4.50%
30	5.06%
31	5.55%
32	6.29%
33	6.23%
34	6.59%
35	7.10%
36	7.42%
37	7.67%
38	7.88%
39	7.96%
40	8.43%
41	7.79%
42	8.40%
43	8.71%
44	8.88%

45	9.00%
46	8.99%
47	9.28%
48	9.05%
49	9.47%
50	9.87%
51	9.12%
52	9.80%
53	9.56%
54	9.56%
55	9.83%
56	9.83%
57	9.58%
58	9.91%
59	9.35%
60	9.86%
61	9.42%
62	9.58%
63	9.69%
64	9.89%
65	9.58%
66	9.51%
67	8.98%
68	8.79%
69	8.31%
70	7.59%
71	7.12%
72	6.71%
73	6.71%
74	5.88%

75	5.81%
76	5.12%
77	5.08%
78	4.40%
79	3.94%
80	3.72%
81	3.48%
82	2.92%
83	2.67%
84	2.57%

85	2.30%
86	2.02%
87	1.89%
88	1.50%
89	1.54%
90	1.21%
91	0.81%
92	1.24%
93	1.31%
94	0.99%

As displayed in Table 3, the total number of native-born self-employed persons is projected to increase each year between 2020-2031. In 2020, the projected number of native-born self-employed persons is 14,707,916. Throughout the next decade, roughly half a million new entrepreneurs will enter the workforce, resulting in 15,169,951 native-born self-employed persons by the year 2031.

Table 3

Number of Projected Native-Born Self-Employed Persons: Fiscal Years 2020-2031

Year	Native-Born Self-Employed Persons
<i>2020</i>	14,707,916
<i>2021</i>	14,775,649
<i>2022</i>	14,837,317
<i>2023</i>	14,893,327
<i>2024</i>	14,947,246

2025	14,990,899
2026	15,030,057
2027	15,065,665
2028	15,093,845
2029	15,124,632
2030	15,144,779
2031	15,169,951

Following the native projection model, the immigrant projection model was built using the number of years an immigrant has lived in the United States rather than age. Similar to the age variable, self-employment and years in the United States had a positive relationship. 4.20% of immigrants enter the United States and become entrepreneurs within their first year of residence. The ratio of self-employed immigrants gradually increases until it reaches its peak of 11.38% after 27 years in the United States, exceeding the ratio of self-employment among native persons of different ages. As persons grow older and reside in the country for longer periods of time, the ratio of self-employment slowly declines, as shown by Table 4.

Table 4

Ratio of Self-Employed Workers Among Immigrants Based on Years in the United States

Years in the United States	% Self-Employed
1	4.20%
2	4.85%
3	5.26%

4	5.22%
5	5.57%
6	5.89%
7	5.40%
8	6.52%

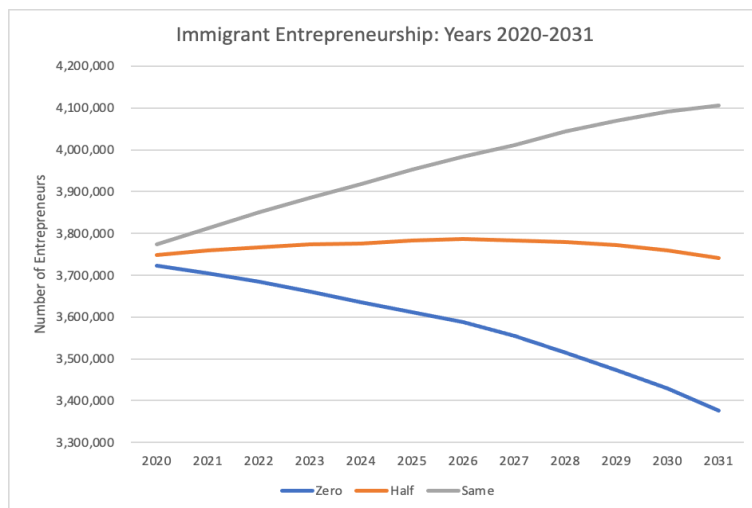
9	6.71%
10	7.09%
11	6.93%
12	7.49%
13	8.71%
14	8.64%
15	8.28%
16	9.72%
17	9.10%
18	9.87%
19	9.43%
20	10.44%
21	10.52%
22	11.10%
23	9.90%
24	10.20%
25	11.15%
26	10.30%
27	11.38%
28	10.36%
29	10.89%
30	11.24%
31	11.08%
32	10.08%
33	10.63%
34	10.57%
35	11.20%
36	11.06%
37	11.35%
38	11.05%

39	9.48%
40	10.37%
41	9.68%
42	10.79%
43	9.98%
44	8.57%
45	8.62%
46	9.28%
47	7.75%
48	8.67%
49	8.69%
50	7.76%
51	7.07%
52	7.32%
53	7.13%
54	7.61%
55	7.18%
56	6.12%
57	4.72%
58	7.21%
59	5.61%
60	5.14%
61	6.04%
62	6.03%
63	5.03%
64	5.57%
65	4.09%
66	5.80%
67	4.79%

Using the ratio of self-employment among immigrants displayed in Table 4, three different projection models were developed to analyze how changes in immigration would impact entrepreneurship and job creation in the United States. As displayed in Figure 11, there will be a positive trend in the number of entrepreneurs in the United States if 2019 immigration numbers are held constant throughout 2020-2031. Cutting immigration in half would result in a relatively steady number of entrepreneurs throughout the next decade, while eliminating immigration entirely would result in a drastic decrease in the number of immigrant entrepreneurs in the United States. As more time passes, the difference in immigrant entrepreneurs in the constant immigration model and no immigration model widens significantly. In the first projected year of 2020, these models differ by 51,434 immigrant entrepreneurs, whereas the models differ by 731,102 immigrant entrepreneurs in the final projected year of 2031.

Figure 11

Projected Number of Immigrant Entrepreneurs: Years 2020-2031



As shown in Table 5, cutting new immigration in half throughout 2020-2031 results in a net loss of 365,551 self-employed immigrants. Given that the average five-year-old firm employs an average of 17.43 people, this drop in entrepreneurship would eliminate 6,371,554 jobs in the United States within the next 10 years. Eliminating new immigration throughout 2020-2031 results in a net loss of 731,102 self-employed immigrants or 4.82% of the native-born entrepreneur population. The loss of these immigrant entrepreneurs would eliminate 12,743,107 jobs in the United States within the next 10 years.

Table 5

Number of Projected Self-Employed Immigrants Under Conditions of (1) No New Immigration, (2) New Immigration Cut in Half, and (3) New Immigration Held Constant: Fiscal Years 2020-2031

Year	(1)	(2)	(3)
2020	3,722,010	3,747,727	3,773,444
2021	3,703,979	3,758,347	3,812,716
2022	3,683,752	3,767,372	3,850,992
2023	3,660,843	3,773,164	3,885,485
2024	3,634,977	3,776,283	3,917,588
2025	3,611,367	3,782,118	3,952,869
2026	3,588,565	3,786,421	3,984,276
2027	3,554,308	3,782,731	4,011,154
2028	3,515,178	3,779,772	4,044,366
2029	3,473,384	3,771,706	4,070,028

2030	3,428,256	3,759,359	4,090,461
2031	3,375,287	3,740,838	4,106,389

The final portion of this projection model estimates job loss in the United States if immigration was eliminated entirely over the next decade. Using the difference in the number of immigrant entrepreneurs under the constant immigration and no new immigration models (displayed in Table 5), the number of lost immigrant entrepreneurs was calculated for the years 2020-2031. Based on data from the United States Census Bureau, the average five-year-old establishment employs 17.43 people. Multiplying the number of lost immigrant entrepreneurs by this value resulted in the lost jobs projection displayed in Table 6. The Employment, Civilian column displays the Congressional Budget Office's (CBO) employment estimates for people 16 and older for each of the corresponding years. The ratio of lost jobs and the CBO's employment estimates is displayed below and shows the percentage of lost jobs that would result if new immigration was eliminated. In the first projected year of 2020, 896,507 jobs would be lost without new immigrant entrepreneurs. By 2031, the compounding effect of no new immigrant entrepreneurs would result in the loss of 12,743,107 jobs, or 7.85% of the job market.

Table 6

Resulting Job Loss if No New Immigration Occurs: Fiscal Years 2020-2031

Year	Lost Jobs, No New Immigration	% Lost Jobs	Employment, Civilian
2020	896,507	0.61%	147,793,000
2021	1,895,286	1.24%	153,124,000
2022	2,914,988	1.87%	155,629,000

2023	3,915,512	2.49%	156,955,000
2024	4,925,908	3.11%	158,443,000
2025	5,952,380	3.72%	159,863,000
2026	6,897,244	4.29%	160,837,000
2027	7,962,822	4.94%	161,325,000
2028	9,223,743	5.71%	161,625,000
2029	10,399,504	6.42%	161,894,000
2030	11,542,238	7.12%	162,066,000
2031	12,743,107	7.85%	162,387,000

Data Source: Employment, Civilian Column from the Congressional Budget Office's February

2021 Report: [*An Overview of the Budget and Economic Outlook: 2021 to 2031*](#).

Conclusion

As evident by the data presented, immigrant entrepreneurship plays a critical role in the success of the immigrant community and will have a major hand in the health and recovery of the United States' job market over the next decade. Upon reaching 11 years in the United States, foreign-born workers are more likely to be self-employed than native-born workers. Given that small businesses collectively employ the most people, this finding supports economic policies and governmental programs to remedy the long-term effects that decreased immigration will have on small business development and subsequent job creation. Additionally, entrepreneurship leads to positive outcomes among the immigrant community, as immigrants who are self-employed are more likely to reach income parity with their native-born counterparts. Over the next decade, immigrant entrepreneurs will own businesses that create roughly 12,743,107 jobs, or 7.85% of the expected job market, in the United States. Policies that encourage and facilitate immigrant entrepreneurship, particularly in industries and geographic areas hit hardest by the COVID-19 pandemic, promise to support economic recovery efforts.

These findings are consistent with the literature that immigrant share positively contributes to productivity within countries, due to innovations and the adoption of new technology and capital. Previous research found that immigrant entrepreneurs have greater English language fluency, higher levels of education, and are 5 to 6 years older, on average, than their wage/salary counterparts. Compared to natives, immigrants are more likely to become entrepreneurs because of their skill sets, formal job market pressures, and risk of enforcement actions. This analysis supports and advances previous research by providing additional evidence about the role of immigrant entrepreneurship in the United States' economy across multiple sectors and time periods.

This study is not without weakness, as these data do not account for return bias (related to immigrants' return to their home country), and the number of jobs created by each immigrant entrepreneur is assumed to be the average number of people employed by a five-year-old firm. These limitations, however, are not expected to change the major findings of the study, or to detract from its strengths. These strengths include use of population-based and census data sets that offer data on all immigrants across multiple years (as opposed to convenience or other samples); an in-depth analysis of historical trends; and future projections of immigrant entrepreneurship under alternative assumptions.

Overall, this study makes a unique contribution by examining how immigrant entrepreneurship could potentially evolve this decade in response to immigration policies, and how this might affect job creation in the United States and economic recovery post-COVID-19. The findings are relevant to policymakers at the national, state and local levels, as well as to community leaders, seeking to energize businesses and industries devastated by the pandemic. Future research, as outlined below, could address additional questions related to this topic and provide further information to help decision-making at multiple levels.

Future Research

A number of future research directions are indicated by this analysis. Typically, historical data are the best predictors of future data because past trends continue to be valid into the future unless there is a major disruption. As a result of COVID-19, 2020 immigration patterns were drastically altered from past trends. Exploring if projections based off historical data hold true and accurately reflect actual entrepreneurship after this major disruption will be an interesting case study.

Second, future research may continue to examine other attributes that impact immigrant entrepreneurship, including states or regions in the United States where immigrant entrepreneurship has a greater impact and variations in immigrant entrepreneurship and associated outcomes by rural, suburban, and urban locations. Recent trends of internal migration from urban to suburban and rural areas, triggered by the COVID-19 pandemic, may impact the areas where immigrant entrepreneurs choose to live and operate their businesses.

A third area of potential research focuses on the extent to which the patterns and trends of immigrant entrepreneurs mirror or vary from native-born entrepreneurship trends. Native-born entrepreneurs tend to move to states that support entrepreneurship. Is the same true for immigrant entrepreneurship or do other factors have a larger impact on the decision-making of immigrant entrepreneurs? For example, does the region where immigrants enter the United States, or locations of enclaves play a defining role in where immigrant entrepreneurs choose to live and work?

A fourth area for future research is the influence of past immigration policy on immigrant entrepreneurship. This could be examined through the lens of different presidential administrations or eras of American history.

These and other research endeavors will answer important questions and provide relevant findings to advance our understanding of immigrant entrepreneurship and to inform policies at the federal and state levels that support small business creation and encourage economic recovery.

References

- Amior, Michael (2019). "The Contribution of Foreign Migration to Local Labor Market Adjustment." CEP Discussion Papers 1582.*
- Arias, Elizabeth, and Jiaquan Xu (2019). United States Life Tables, 2017. National Vital Statistics Reports.*
- Baizán, P. and A. González-Ferrer (2016). "What drives Senegalese migration to Europe? The role of economic restructuring, labor demand and the multiplier effect of networks", Demographic Research, 35(13): 339–380.*
- Banerjee, P. (2019). Subversive Self-Employment: Intersectionality and Self-Employment Among Dependent Visas Holders in the United States. American Behavioral Scientist, 63(2), 186–207.*
- Basso, Gaetano and Peri, Giovanni (2020). Internal Mobility: The Greater Responsiveness of Foreign-Born to Economic Conditions. Journal of Economic Perspectives, Volume 34, Number 3, 77–98.*
- "Business Dynamics Statistics: Establishment Age by Establishment Size: 1978-2018." United States Census Bureau.*
- Card, David (2001). "Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration." Journal of Labor Economics, 19(1): 22–64.*
- Chiswick, B. R., & Miller, P. W. (2004). Where immigrants settle in the United States. Journal of Comparative Policy Analysis: Research and Practice, 6(2), 185-197.*
- Collier, S. (2011). Negotiating Business, Negotiating Self: Crossing Cultural Borders in Bilingual Entrepreneurial Contexts. Journal of Language, Identity, and Education, 10(1), 1–21.*

- Dustmann, C. (2003). "Return Migration, Wage Differentials, and the Optimal Migration Duration", *European Economic Review*, 47(2): 353–369.
- Edo, Anthony, and Hillel Rapoport (2017). "Minimum Wages and the Labor Market Effects of Immigration." *CESifo Working Paper No. 6547*.
- Fairlie, Robert W. (2020), *The Impact of COVID-19 on Small Business Owners: Continued Losses and the Partial Rebound in May 2020*. National Bureau of Economic Research.
- "Frequently Asked Questions about Small Business." (2012). *Small Business Administration, SBA Office of Advocacy*.
- Huang, X., & Liu, C. Y. (2019). *Immigrant Entrepreneurship and Economic Development: A Local Policy Perspective*. *Journal of the American Planning Association*, 85(4), 564–584.
- Kight, Stef W. (2020). "Coronavirus Has Slammed the Door Shut on Highly Skilled Work Visas." *Axios*.
- Lee, H. (2016). "I was forced here: perceptions of agency in second generation 'return' migration to Tonga", *Journal of Ethnic and Migration Studies*, 42(15): 2564–2579.
- Lewis, E., and G. Peri. (2015). "Immigration and the Economy of Cities and Regions." *Handbook of Regional and Urban Economics, Volume 5*. Eds. Gilles Duranton, Vernon Henderson, and William Strange. Amsterdam: North-Holland.
- Lofstrom, M. (2002). *Labor market assimilation and the self-employment decision of immigrant entrepreneurs*. University of California, Irvine, School of Social Sciences, 3151 Social Science Plaza, *Journal of Population Economics*, 15(1), 83.
- McEvoy, Jemima (2021). "'We're In A Deep Hole': Yellen Warns Unemployment Will Stay Elevated For Years Without Stimulus." *Forbes, Forbes Magazine*.

- O'Neill, B. (2014). *Managing Labor Market Changes: Essential Skills for Entrepreneurs and Intrapreneurs*. *Journal of Family and Consumer Sciences*, 106(2), 9–15.
- Paparusso, A. and Ambrosetti, E. (2017), *To stay or to return? Return migration intentions of Moroccans in Italy*. *Int Migr*, 55: 137-155.
- “Research Data on Business Employment Dynamics by Age and Size.” (2020). *Business Employment Dynamics*, U.S. Bureau of Labor Statistics.
- Saxenian, A. (2000). *Silicon Valley’s new immigrant entrepreneurs*. Public Policy Institute of California.
- Shackleton, Robert (2021). “An Overview of the Economic Outlook: 2021 to 2031.” Congressional Budget Office.
- Table of Small Business Size Standards Matched to North American Industry Classification System Codes* (2012). U. S. Small Business Administration.
- “The Employment Situation — February 2021.” (2021). Bureau of Labor Statistics, U.S. Department of Labor.
- Wang, C. (2019). *Tightened Immigration Policies and the Self-Employment Dynamics of Mexican Immigrants*. *J. Pol. Anal. Manage.*, 38: 944-977.