

The Economic Role of Philadelphia's Immigrants: Glossary and Methodology

Glossary

Comparison geographies: Philadelphia is benchmarked against nine comparable U.S. cities and their metro areas; six are “reemerging immigrant gateway” cities, as identified by the Brookings Institution: Baltimore; Denver; Minneapolis; Portland, Oregon; San Jose, California; and Seattle. Four are other cities in the Northeast: Baltimore (appears in both categories), Boston, New York, and Washington.

Continent of origin: The continent where an immigrant was born. This is used when identifying an immigrant’s general geographic origin, such as Asian or African.

Country of origin: The country where an immigrant was born. May be different from the country where the person resided before arriving in the United States.

F-1 visa: A nonimmigrant visa for those wishing to study in the U.S. at an accredited college, university, seminary, conservatory, academic high school, elementary school, or other academic institution or language training program. Most F-1 visa holders are eligible for optional practical training, a post-graduation extension enabling the person to take a job in the United States for two or three years, depending on the field.

First-generation American: An immigrant or foreign-born resident, regardless of legal status, who is the first in their family to reside in the United States or its territories, including Puerto Rico.

Green card: Officially known as a permanent resident card, it allows individuals to live and work permanently in the United States. It is issued on the basis of family unification, employment, political asylum, and other grounds—the most common being family, followed by employment.

H-1B visa: A nonimmigrant visa that allows U.S. employers to hire foreign workers in specialty occupations for three years, extendable to six. The number of visas is capped each year, and they are awarded on a lottery basis. H-1B is the favored visa to fill tech jobs.

Hispanic and Latino: Used interchangeably in this series, these terms refer to people who self-identify as Hispanic or Latino regardless of their birthplace, citizenship status, or race.

Immigrant and foreign-born: These terms, used interchangeably in this series, refer to people born as citizens of other countries who now live in the United States, regardless of their legal status as refugees, lawful residents, or some other category.

Naturalization: The process by which a permanent resident can become a U.S. citizen.

Second-generation American: A U.S.-born citizen with at least one parent who was an immigrant of any legal status.

Self-employed immigrant and immigrant entrepreneur: These terms, used interchangeably in this series, refer to foreign-born residents who are owners of private businesses.

U.S.-born: A person born as a U.S. citizen in the United States or its outlying territories, including Puerto Rico. In this series, data on U.S.-born citizens also includes people born in foreign countries who had U.S. citizenship at birth because one or both parents were U.S. citizens.

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Visa categories: U.S. law defines all visas as either “immigrant” or “nonimmigrant,” depending on the duration and purpose of the person’s presence in the United States. Immigrant visas are typically for permanent residence, and nonimmigrant visas are for temporary residence, including for study or work.

Methodology

Analysis: Immigrants’ Economic and Fiscal Role in Philadelphia

Share of workers by sector (Figure 1): Using American Community Survey (ACS) one-year estimates obtained from IPUMS USA, Pew cross-tabulated the number of employed civilian workers ages 16 and over by industry sectors, as defined by the North American Industry Classification System, for every comparison city and every year from 2010 to 2022. The percentage of civilian employed workers (20.3% in 2022 in Philadelphia) has a margin of error of plus or minus 1.7 percentage points. The share of workers in each industry sector is found by dividing foreign-born workers by total workers for each sector, with a margin of error ranging from plus or minus 0.9 percentage points to plus or minus 3.4 percentage points. The share of employment growth attributable to immigrants is found by subtracting the employment total in the latest year from the employment total in an earlier period, then dividing the foreign-born difference by the total difference.

Investing in homes: Using microdata of ACS one-year estimates from IPUMS USA, Pew cross-tabulated the variables for “ownership” (owned or rented home) and “citizenship” (citizen by birth or naturalization, or noncitizen born abroad) of occupants listed as either the head of household or that person’s spouse, excluding all other relatives in the household. This produced the number of owner-occupied homes where either the head of household or the spouse was an immigrant, although it excludes other relatives in the household who may have been immigrants. That figure then was divided by the total number of owner-occupied homes in each city in every year from 2010 to 2022. The resulting percentages have a margin of error of plus or minus 1.2 percentage points.

Investing in businesses: Using microdata of ACS five-year estimates from IPUMS USA, Pew cross-tabulated the variables for “class of worker” (person works for self or others) with “citizenship” (citizen by birth or naturalization, or noncitizen born abroad), “age” (16 and over), and “hours worked in previous week” (15 hours or more), the latter to focus on self-employed owners of legal working age operating their businesses more than part time and not as a hobby. The resulting figures for self-employed immigrants and U.S.-born individuals were divided by the number of self-employed individuals in each city in every year from 2010 to 2022. The percentages have a margin of error of plus or minus 1.2 percentage points.

Immigrant share of workers by sector (Figure 2): Using microdata of ACS one-year estimates from IPUMS USA, Pew cross-tabulated the number of individuals employed in the civilian labor force found in variable “empstat” by the industry sector of their job found in variable “ind” and their citizenship status found in the “citizen” variable for the years 2010 and 2022. Pew then divided the number of U.S.- and foreign-born workers in each sector by the total number of workers in each sector, to arrive at the U.S.- and foreign-born shares of workers. Insufficient data was found for analysis of the following sectors: management of companies; mining and quarrying and oil and gas extraction; agriculture, forestry, and fishing; and utilities.

Self-employed business owners by city (Figure 3): Using ACS one-year estimates Table S0501, Pew converted the percentages into nominal figures to find the number of workers self-employed at their own unincorporated businesses for all cities and all years from 2010 to 2022, then divided the number of self-

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employed immigrants by the total number of self-employed workers to find immigrants' share of the self-employed population. The margin of error is plus or minus 0.5 percentage points. For Baltimore and Minneapolis, which do not appear in the one-year estimates, Pew used the ACS five-year 2018-22 estimates obtained from IPUMS USA. The self-employed population in this article differs from the self-employed population in the fact sheet about entrepreneurs, where self-employment refers to owners of either incorporated or unincorporated businesses. See details below.

Median household income (Figure 4) and individual income: Using ACS one-year estimates Table S0501, Pew converted the percentages into nominal figures to find the number of immigrants at each income level. The margin of error on household incomes ranges from plus or minus \$1,700 for New York to plus or minus \$13,700 for Seattle, with Philadelphia at plus or minus \$4,670. For individuals earning \$75,000 or more, which is the top category provided by the U.S. Census Bureau, the margin of error on Philadelphia workers is plus or minus 2.8 percentage points.

Poverty: Using ACS one-year estimates Table S0501, Pew converted the percentages into nominal figures to find the number of immigrants at each poverty level for all cities and all years from 2010 to 2022. Then Pew divided the number of immigrants living in poverty by the total number of city residents living in poverty to find immigrants' share of Philadelphians living in poverty in each year. The margin of error on these figures is plus or minus 2.6 percentage points.

International students: Retention figures are based on analysis of annual data from the U.S. government's optional practical training (OPT) program from 2006 to 2017. Under the program, F-1 visa holders and their prospective employers can extend students' time in the United States by two to three years after their graduation, which makes OPT data useful for tracking where foreign students land their first U.S. jobs. Pew received the OPT data from Campus Philly (<https://campusphilly.org/about/annual-reports-research/>) and its research contractor Econsult Solutions Inc. (<https://econsultsolutions.com/>), which obtained the data following a Freedom of Information Act request. Using the OPT data, Econsult cross-matched applicants' university locations and subsequent job locations with county- and metro-level geographies. Pew used Econsult's analysis to view the 10 cities and metro areas covered by this report.

Local taxes: Using microdata of ACS five-year estimates from IPUMS USA, Pew cross-tabulated the variables "class of worker" (works for wages or works for self) and "citizenship" (citizen by birth or naturalization, or noncitizen born abroad) for all Philadelphia residents with each of the following ACS variables: "incinvst" captures an individual's income from interest, dividend, and rental property, which in Philadelphia would be taxable under the school income tax; "incwage" records the individual's wages and salary income, which would be subject to Philadelphia's wage tax; "incbufa" refers to an individual's personal income from profits of a business or farm, which would be taxable under Philadelphia's net profits tax on pass-through income from sole proprietorships or partnerships; "valueh" is the self-reported estimated value of the owner-occupied property where the head of household resides; and "proptx99" is the amount of property taxes paid on the household's property. In each operation, the amounts were summed for foreign- vs. U.S.-born individuals (or heads of household in the case of property), then those sums were divided by the sum of all incomes or home values to arrive at the percentages. The operation was done just for Philadelphia for the five-year period from 2018 to 2022. The results should be seen as broad, inexact approximations of the tax presumed due on each income source, not counting exemptions or unreported sources. The estimate also does not include income earned in Philadelphia by nonresidents, which is taxable in Philadelphia.

Fact Sheet: The Demographics of Immigrant Workers in Philadelphia

Age groups (Figure 1): Using microdata of ACS five-year estimates from IPUMS USA, Pew cross-tabulated “citizenship” with “age” and grouped the results in line with government definitions of allowable age of employment starting at age 16. Economists generally categorize people ages 25 to 54 as being of prime working age. Pew used the age groups 0-15, 16-24, 25-54, 55-64, and 65 and older.

Attributes by wage level (Table 1): Pew segmented the population into three categories using the following definitions: High-wage workers earned at least 20% above the citywide median wage; low-wage workers earned less than 20% below the median wage; and middle-wage workers earned plus or minus 20% of the median. To capture a wide variety of work situations for a representative and robust sample, Pew defined workers as individuals who worked at least 10 hours a week for 14 weeks or more in the year preceding the period when they were surveyed. This definition is broader than the Census Bureau definition of full-time, full-year workers. It conforms to research that the Massachusetts Institute of Technology used to create its Living Wage Calculator (<https://livingwage.mit.edu/>). Using microdata of ACS five-year estimates from IPUMS USA, Pew segmented all such workers by their individual personal wages or salaries (IPUMS variable “incwage”), then viewed characteristics of immigrants vs. U.S.-born workers within each category. Resulting percentages have an estimated margin of error ranging from plus or minus 4 percentage points to plus or minus 6 percentage points. A fuller description can be found at <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/04/whats-happening-with-philadelphias-middle-wage-jobs>.

Household income by origin (Figure 2): Pew used the U.S. Census Bureau’s definition of continental subregions found in its table B05006: Place of Birth for the Foreign-Born Population in the United States. Using microdata of ACS five-year estimates from IPUMS USA, Pew cross-tabulated individuals by “citizenship” and subregion of birth, then found their household income as reported by the head of household. Results with fewer than 30 responses were eliminated; each origin group has a different margin of error, which generally ranged from plus or minus \$1,000 to plus or minus \$4,000.

Fact Sheet: Who Are Philadelphia’s Immigrant Entrepreneurs?

Immigrant entrepreneurs: The ACS category of self-employed worker at a company owned by the worker forms the basis for Pew’s analysis of foreign- and U.S.-born entrepreneurs. Self-employment under U.S. corporate law technically applies only to sole proprietorships, partnerships, and other pass-through entities that are legally inseparable from their owners. That excludes corporations. As such, the ACS self-employment category misses an unknown number of owners or founders of corporations, which typically are larger in revenues and employment than sole proprietorships. In Philadelphia, 58% of businesses registered on the local tax rolls, on average over the 2017-21 period, were sole proprietorships or partnerships, meaning the ACS self-employment measurement likely captures a little over half of the city’s businesses. Nonetheless, the ACS data is the best option for viewing entrepreneurs’ personal attributes (nativity, educational attainment, language spoken, etc.) at the city level in the latest-available census data. No other comprehensive and current local data on immigrant entrepreneurs is available. Importantly, self-employment is a measure of individuals, not of their businesses, meaning nothing can be learned about their businesses’ gross receipts, payroll, number of establishments, etc., other than industry sector.

For all measurements of self-employed entrepreneurs, Pew adopts a methodology used by Magnus Lofstrom at the Cato Institute (<https://www.cato.org/sites/cato.org/files/serials/files/cato-journal/2017/9/cato-journal-v37n3-8.pdf>) and Robert Fairlie at the University of Southern California

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(<https://people.ucsc.edu/~rfairlie/papers/published/handbook%20chapter%20immigrant%20entrepreneurs%202015.pdf>), in which the universe of self-employed workers is narrowed to those who worked at least 15 hours a week in the year preceding the survey date. That eliminates respondents who worked for themselves as a hobby rather than an ongoing business. Pew further refines the measurement to include respondents whose business was a corporation (incorporated) to capture all entrepreneurial activity regardless of the corporate structure. The latter differs from the Census Bureau's practice of reassigning noncorporate owners to the wage-earner category, because technically workers at corporations are employees, not owners. (See "Class of Worker," U.S. Census Bureau, Nov. 20, 2021, <https://www.census.gov/topics/employment/industry-occupation/about/class-of-worker.html>.) Pew performed all these refinements using the Census Bureau's "class of worker—detailed" variable found in ACS microdata, five-year estimates, obtained from IPUMS USA.

Number of immigrant entrepreneurs: The figure of 21,000 immigrant entrepreneurs comes from ACS Table S0501. Pew considers nominal counts to be more reliable from such ACS tables than from ACS microdata, which has undergone suppression and masking to protect confidentiality and is mostly used in percentage form in this series. Table S0501 for 2018-22 lists the number of people self-employed at their own unincorporated businesses in Philadelphia as 14,882. To find the number of incorporated self-employed owners, Pew first computed the percentage of incorporated owners in the ACS microdata, then applied the same percentage to the ACS table data, which yielded a figure of 6,077 incorporated owners. That figure was added to 14,882 to arrive at 20,959, rounded up to 21,000.

Business sectors with immigrant owners (Figure 1): Using ACS microdata five-year estimates from IPUMS, Pew cross-tabulated the variables "class of worker," "citizenship," and "indnaics," the latter identifying the worker's industry sector according to the North American Industry Classification System. This allowed Pew to view the subsectors in which self-employed business owners worked. The "indnaics" variable, however, was blank for many records, forcing Pew to omit several categories for lack of sufficient data for categorization.

Education and entrepreneurship (Figure 2): Using ACS microdata five-year estimates from IPUMS, Pew cross-tabulated "citizenship" and "educational attainment," the latter grouped by those with a high-school diploma or less, some college or an associate degree, and a bachelor's degree or higher. The results were limited to individuals reported as self-employed under the "class of worker" variable.

Entrepreneurship rate (Table 1): Using ACS five-year estimates from IPUMS, Pew cross-tabulated "class of worker," "birthplace by country," and "citizenship" limited to foreign-born naturalized citizens and foreign-born noncitizens (i.e., immigrants). For each nationality, Pew divided the number of self-employed immigrants by the group's total population in Philadelphia to arrive at each group's entrepreneurship rate. Pew divided the group's self-employed population by the number of all self-employed immigrants in Philadelphia. And Pew divided the group's total population by the number of all immigrants in Philadelphia.