Analysis of Boston's Foreign-Born Labor Force: Past, Present and Future

Prepared for

Boston Mayor's Office of Workforce Development
and
Boston Mayor's Office for Immigrant Advancement

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James Jennings, PhD
With
Lisette DeSouza, PhD
Ashley E. Harding
Kendall G. Johnson
Catalina Tang Yan

Acknowledgements

This study was planned and framed by a set of queries aimed at exploring the economic characteristics and contributions of foreign-born workers in Boston and Suffolk County. The report was prepared by Dr. James Jennings, assisted by co-authors Dr. Lisette DeSouza, Ashley E. Harding, Catalina Tang Yan and Kendall Johnson. Dr. Gia Barboza, Northeastern University and Dr. Michael Liu, Research Associate at the Asian-American Institute, University of Massachusetts Boston, provided input regarding some of the analysis and presentation of the Public Use Microdata Sample (PUMS) data.

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Preface

This Preface summarizes the Report's general findings and themes. Six recommendations are proposed based on the data collected and analyzed for the study. Explanations and greater detail about these summaries are provided throughout the report.

General Findings and Themes

- Foreign-born workers, as a large component of the current workforce, represent a defense against a potential shrinking economy and growth stagnation on the part of the native-born workforce.

- Foreign-born workers make significant payments in property and other taxes to local and state government, comparable to native-born workers; their personal income and wages generates considerable market demand in the largest and fastest growing industry areas; they represent a key workforce resource for specific occupations and industries; they pursue entrepreneurial opportunities at rates slightly higher than native-born workers; and, as is the case with native-born homeowners they too pay considerable amounts of money into the local economy in the form of mortgages and home equity loans. But even in industries that pay relatively low wages, foreign-born workers make enormous contributions in household and consumer demand in terms of absolute dollars.

- As is the case with native-born workers there are clear gender gaps of wages paid across industries; but there are also concentrations of female workers, and especially foreign-born female workers, in lower-paying occupations.
- The foreign-born worker sector is *widely diverse* in terms of individuals having both high and low workforce skill sets. Foreign-born workers also have varying residential patterns in the Boston metropolitan region. This is associated with significant ancestry and ethnic differences among the foreign-born population. These differences also include varying economic and occupational experiences, as well as schooling levels and education.
- Foreign-born workers in low skilled occupations represent a significant presence of workers that if diminished, could trigger economic uncertainty for some industries: construction; health aids; hospitality; and transportation.
- The government assisted benefits that foreign-born workers participate in, are no more 'expensive' compared to native-born workers. And foreign-born workers equally subsidize these programs through tax contributions and payments to local government, as well as making investments in home ownership, mortgages and equity loans.

- Opportunities for naturalization of foreign-born youth and adults is important to expand the economic contributions of foreign-born workers.
- The entrepreneurial contributions of foreign-born workers are significant; and women entrepreneurs have a strong presence among foreign-born entrepreneurs.
- Foreign-born workers who both live and work in Boston and Suffolk County are more burdened than native-born workers along several economic dimensions: housing expenses (rent-burdened); extreme overcrowding (housing) as compared to native-born workers; lack of quality educational opportunities in both primary education and continuing professional advancement.

- Though overlooked in many civic and policy discussions about the foreign-born population and its workers, the Black and/or African American communities in Boston have a rich history and presence of foreign-born persons; these communities are the ‘oldest’ in terms of presence of foreign-born persons and it has a relatively high proportion of foreign-born persons who are citizens.

Recommendations

- The data in this report suggests that workforce strategies and outreach tools should be framed with ‘targeted’ approaches given the economic, residential, and educational differences within the overall population of foreign-born workers.

- The city and its public agencies should work with union and labor representatives to highlight the contributions of workers in low-skill and low-paying occupations. Workers in these sectors should have opportunities for education and occupational advancement.

- Foreign-born workers represent an integral component of Boston and Suffolk County’s economy; but they also are comprised of older workers. This suggests a heightened level of providing quality and comprehensive workforce training to youth, including those out-of-school and out-of-work, is warranted.

- Strategies and initiatives must be aimed at reducing gender gaps in wages, especially in lower-paying occupations where we see concentrations of foreign-born workers (primarily women of color).

- Support for English language acquisition connected to specific career opportunities and professional advancement and, towards increasing citizenship, represent important investments in a growing economy.

- Foreign-born workers do not dislodge native-born workers from low, or high-skill occupations. The data also shows that in terms of social benefits, they are not more costly than native-born workers. Local and state government should continue to raise concerns about political narratives which scapegoat immigrants along these dimensions.

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Tables and Charts

I: The Foreign-Born Worker in Boston and Suffolk County, Massachusetts: Background and Summary of Emerging Themes[2]

Foreign-born workers have consistently made a range of long-lasting contributions toward the health of Boston and Suffolk County's economies for decades. The impact of foreign-born workers spans various industries, many of which would have faced labor shortages in their sector had it not been for the support of foreign-born laborers. But foreign-born workers also act as consumers in these industries and have helped maintain healthy levels of household demands for hundreds of businesses and industries. It should not be overlooked, that foreign-born workers are also taxpayers feeding the budgets of their local and state government. They also provide a strong entrepreneurial foundation in many neighborhoods by starting businesses and micro-enterprises that, in turn, expand both a very localized and citywide employment base.

A series of reports published by the Boston Planning and Development Agency have documented the extent to which the foreign-born population is linked to the well-being and future of Boston. One report highlights the economic contributions of foreign-born persons from the Dominican Republic have generated expenditures over $200 million dollars in 2014; in this same year persons from Vietnam contributed more than $150 million dollars in expenditures. There are many other examples pertaining to other groups within the foreign-born population in Boston and Suffolk County.[3] Despite these economic influences, the current political climate inhibits a broad and accurate public understanding of intricately and economically intertwined and dependent relationship that foreign-born workers have with native-born workers throughout our communities.

There are several myths and misrepresentations associated with foreign-born workers, and immigrants in general, that have become part of a divisive political and civic discourse. One pretense is that foreign-born workers take jobs away from long-time residents; another is that they are a burden and not paying taxes or making contributions to the overall economy, yet still enjoying the social benefits of hard-working and long-time residents. Pundits who perpetuate these untruths are quick to claim that not all immigrants reflect these presumed realities, but these attributes are traditionally prescribed to those foreign-born workers who are undocumented, or who arrived in the United States contra entry laws. However, these same analysts seem too easily forget, or do not bother to mention, that without the presence of foreign-born workers, local and state economies in many places throughout the nation would fall into economic anemia.

A recent study by Frederick Treyz and Peter Evangelakis, "Immigration and United States Economic Growth" shows that if immigration were prohibited, the U.S. economy would stagnate over the next few decades and Massachusetts would be among the biggest economic losers. They suggest that, "immigration is a key contributor to long-term labor force growth, and a substantial change in the current rate of immigration will have significant long-term macroeconomic consequences for the U.S." (Treyz and Evangelakis, 134).[4] Tables throughout this study (see Tables 42, 45, 47, 52 and 55) show that this is certainly the case for Massachusetts. There are industries projected for rapid and unprecedented growth that would not be achieved without the reliance on foreign-born workers.

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[2] This section is based on literature which responds to the following queries: Query 1: *What have been the historical contributions of the foreign-born population on the national economy? Are there implications for Boston and Suffolk County?* Query 2: *How is the foreign-born population an asset or resource for the contemporary and future U.S. economy? Are there implications for Boston and Suffolk County?* Query 6: *Generally, how has the foreign-born population changed and impacted Boston's labor force and economy over time based on the germane literature?*

[3] *Imagine All The People Vietnamese*, Boston Redevelopment Authority, (2016).

[4] Frederick Treyz and Peter Evangelakis, "Immigration and United States Economic Growth" *Business Economics*, 2018: 134.

A package of related questions has emerged both nationally and locally regarding the historical and contemporary contributions of foreign-born workers. These questions were recently highlighted and studied by a panel of members from the National Academies of Science, Engineering and Medicine:

> One set of headline questions concerns the economy, specifically jobs and wages: To what extent do the skills brought to market by immigrants complement those of native-born workers, thereby improving their prospects; and to what extent do immigrants displace native workers in the labor market or lower their wages? How does immigration contribute to vibrancy in construction, agriculture, high tech, and other sectors? What is the role of immigration in driving productivity gains and long-term economic growth? Other questions arise about taxes and public spending: What are the fiscal impacts of immigration on state, local, and federal governments- do immigrants cost more than they contribute in taxes? How do impacts change when traced over the life cycle of immigrants and their children? How does their impact on public finances compare with that of the native-born population? To what extent is the sustainability of programs such as Social Security and Medicare affected by immigration and immigration policy?[5]

These issues are important, in part, due to the large number of immigrants today in the United States. The Bureau of Labor Statistics reported that the US foreign-born population was 16.9% of the nation's total population in 2016.[6] The percentage of foreign-born persons in Massachusetts was 18.3% during the same period.[7] And based on the American Community Survey 2012 – 2016, Boston has a considerably higher proportion of foreign-born persons, at 28.4%.[8]

Immigration has been a driving force for population growth and diversity in Boston and throughout the nation. As noted in the publication above, "Immigration is driving the increase in population diversity…about two-thirds of all Hispanics and 9 in 10 Asian and Pacific Islanders are either foreign-born or children of immigrants. Since 1970 there has been an important but much smaller increase in the African American population of immigrants and the children of immigrants."[9] The rapidly growing racial and ethnic diversity of Boston and Suffolk County's native and foreign-born population is evolving much faster than many other states and major cities.[10]

A recent report by the Boston Planning and Development Agency (BPDA) shows that the foreign-born population in Boston has grown considerably since 1970.[11] The foreign-born population also represents a sizable proportion of the population in the surrounding Suffolk County communities: Chelsea, Revere, and Winchester, although they work primarily in Boston. Suffolk County is also home to 28.8% of the immigrant workforce.

Based on the data collected and reviewed by the Study Team this impact is so strong that using a narrative focusing on the contributions of foreign-born workers is conceptually incomplete, in a sense. This sector has made and continues to have major labor and economic impacts that are closely tied to the growth and health of the local economy. Perhaps a more appropriate narrative involves seeing foreign-

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[5] National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press: 2. https://doi.org/10.17226/23550.
[6] "Foreign-Born Workers: Labor Force Characteristics." *Bureau of Labor Statistics, https://www.bls.gov/news.release/forbrn.toc.htm* –
[7] *Current Population Survey*, https://www.census.gov/programs-surveys/cps.html
[8] See, A. Lima, "The Importance of Immigrants to Boston's Continued Prosperity" Understanding Boston: Boston Planning & Development Agency, 2017; and Osterman, Paul, Kimball, William, & Riordan, Christine "Boston's Immigrants: An Essential Component of a Strong Economy," 2017.
[9] National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press: 2. https://doi.org/10.17226/23550.
[10] Nationally, for example, 42,194,354 foreign persons were counted in the American Community Survey 2012 – 2016 5 Year Estimates, representing approximately 13.2% of the total U.S. population; slightly less than half are naturalized citizens.
[11] BPDA Research Division, *Historical Trends in Boston's Neighborhoods Since 1950* (December 2017).

born workers as integral to the local and regional economies, or another description might be "demographic and economic footprint" as used by Trezy and Evangelakis.[12] They represent large numbers of workers in a range of industries and generate an impressive labor income. They fill entrepreneurial niches in certain industries, and they represent a huge consumer base which, in part, leads to market demand, and stronger markets.[13]

The context above, along with the data collected, points to the following themes and findings:

- Foreign-born workers, as a large component of the current workforce, represent a defense against a potential shrinking economy and growth stagnation on the part of the native-born workforce.

- Foreign-born workers make significant payments in property and other taxes to local and state government, comparable to native-born workers; their personal income and wages generates considerable market demand in the largest and fastest growing industry areas; they represent a key workforce resource for specific occupations and industries; they pursue entrepreneurial opportunities at rates slightly higher than native-born workers; and, as is the case with native-born homeowners they too pay considerable amounts of money into the local economy in the form of mortgages and home equity loans. But even in industries that pay relatively low wages, foreign-born workers make enormous contributions in household and consumer demand in terms of absolute dollars.

- As is the case with native-born workers there are clear gender gaps of wages paid across industries; but there are also concentrations of female workers, and especially foreign-born female workers, in lower-paying occupations.
- The foreign-born worker sector is *widely diverse* in terms of individuals having both high and low workforce skill sets. Foreign-born workers also have varying residential patterns in the Boston metropolitan region. This is associated with significant ancestry and ethnic differences among the foreign-born population. These differences also include varying economic and occupational experiences, as well as schooling levels and education.
- Foreign-born workers in low skilled occupations represent a significant presence of workers that if diminished, could trigger economic uncertainty for some industries: construction; health aids; hospitality; and transportation.
- The government assisted benefits that foreign-born workers participate in, are no more 'expensive' compared to native-born workers. And foreign-born workers equally subsidize these programs through tax contributions and payments to local government, as well as making investments in home ownership, mortgages and equity loans.

[12] Trezy and Evangelakis, op cit.
[13] In a study published by the Fiscal Policy Institute, under its Immigration Research Initiative, it was reported that "[Foreign-born entrepreneurs employ 4.7 million workers and garnered $776 billion in sales; Nationally, 18% of small business owners in the United States are foreign-born; and Over the past two decades, between 1990 and 2010, the number of small business owners grew by 1.8 million, from 3.1 to 4.9 million; foreign-born employers made up 30% of that growth.]; see "Immigrant Small Business Owners – A Significant and Growing Part of the Economy" A Report From the Fiscal Policy Institute's Immigration Research Initiative (June 2012)

- Opportunities for naturalization of foreign-born youth and adults is important to expand the economic contributions of foreign-born workers.
- The entrepreneurial contributions of foreign-born workers are significant; and women entrepreneurs have a strong presence among foreign-born entrepreneurs.
- Foreign-born workers who both live and work in Boston and Suffolk County are more burdened than native-born workers along several economic dimensions: income and wages; housing expenses (rent-burdened); extreme overcrowding (housing) as compared to native-born workers; lack of quality educational opportunities in both primary education and continuing professional advancement.
- Though overlooked in many civic and policy discussions about the foreign-born population and its workers in Boston and Suffolk County, and Massachusetts, the Black and/or African American communities have a rich history and presence of foreign-born persons; in Boston, these communities are the ‘oldest’ in terms of presence of foreign-born persons and it has a relatively high proportion of foreign-born persons who are citizens.

II: Profile of the Foreign-born Workers in Boston and Suffolk County: Select Social and Economic Characteristics[14]

In Section II, we include tables and charts focused on the foreign-born population and foreign-born workers, both individually and collectively, organized by the categories: *demography; age; citizenship; language*; *education; housing; disability;* and *poverty*. While this section focuses on foreign-born workers, information about the overall foreign-born population is also provided as context. Data is also presented for both Boston and Suffolk County.

Demography

There are more than one million foreign-born persons in Massachusetts, or 15.7% of the total population, and slightly more than half (52.2%) of this population are naturalized U.S. citizens. (See Table 1 and Table 2). Table 3 shows that the proportion of the population which is foreign-born has been steadily growing in Suffolk County. The following chart also shows that, without immigration, Suffolk County's population growth would have remained stagnant or even declined since the 1990s.

Table 1: Total Population by Nativity, Massachusetts

Total Population	*6,742,143*	100%
Native	5,680,682	84.26%
Foreign	1,061,461	15.74%

Source: American Community Survey 2012-2016

Table 2: Nativity and Citizenship in Massachusetts

Total:	*6,742,143*	
U.S. citizen, born in the United States	5,496,313	
U.S. citizen, born in Puerto Rico or U.S. Island Areas	122,086	
U.S. citizen, born abroad of American parent(s)	62,283	
Foreign-Born	1,061,461	15.7%
U.S. citizen by naturalization	*554,227*	*52.2%*
Not a U.S. citizen	*507,234*	*47.8%*

Source: American Community Survey 2012-2016

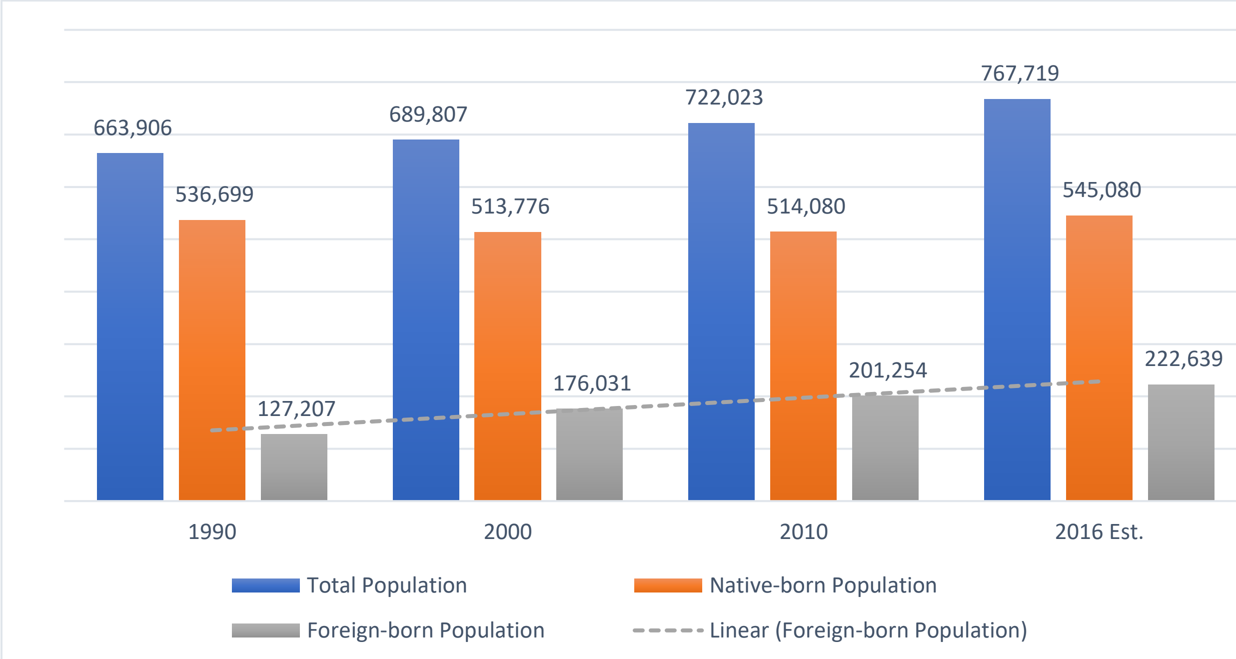
Table 3: Total Population by Nativity 1990, 2000, 2010 and 2016 Estimates, Suffolk County

	Total Population	Native-Born Population	Foreign-Born Population	% Foreign-Born Population
1990	*663,906*	536,699	127,207	19.2%
2000	*689,807*	513,776	176,031	25.5%
2010	*722,023*	514,080	201,254	27.9%*
2016 Est.	*767,719*	545,080	222,639	29.0%

Source: Decennial Census 1990, 2000, 2010; Population Estimates Suffolk County 2016
* American Community Survey 2009 - 2013

[14] This section responds to study Query 7: *What are the current characteristics of the foreign-born population related to the local labor force, including age, sex, race/ethnicity, educational attainment, labor force participation rate, region of origin, unemployment, occupation, industry, class of worker, earnings by occupation, and language characteristics?*

Chart 1: Total Population by Nativity 1990, 2000, 2010 and 2016 Estimates, Suffolk County



There are significant differences in the proportion of foreign-born persons in the cities and town which comprise Suffolk County. For example, Chelsea has the highest proportion of foreign-born persons (45%), followed by Revere (36%), Boston (28%) and Winthrop (17%). Slightly more than half (52.5%) of all foreign-born persons in Boston are not U.S. citizens. However, the foreign-born population, including workers, is not monolithic but spans across different racial and ethnic groups; and the latter reflect differences in economic status, occupations, and education, and preference in neighborhood residency. It is interesting to note, for example the largest foreign-born worker contingent by ancestry in Boston are Dominicans; but in Chelsea it is Salvadorans, and Columbians in Revere; the latter city also boasts a large proportion of its foreign-born population as African.

Table 4: Nativity, Naturalization in Suffolk County, Cities

	Boston	Chelsea	Revere	Winthrop
Total Population	658,279	38,244	53,165	18,031
Foreign-Born	181,652	17,178	19,321	2,986
% Foreign-Born	28%	45%	36%	17%
U.S. citizen by naturalization	*47.5*	*28.7*	*48.7*	*47.8*
Not a U.S. citizen	*52.5%*	*71.3%*	*51.3%*	*52.2%*

Source: American Community Survey 2012 - 2016

Almost half (48.8%) of all foreign-born persons in Massachusetts reside in but two counties: Suffolk County and Middlesex County. But Nantucket County in the Cape Cod area, has the third largest proportion (17.6%) of the foreign-born population.

Table 5: Foreign-born Population by Counties in Massachusetts

	Total Persons	Native-Born	Foreign-Born	% Foreign-Born
Suffolk County	767,719	546,582	221,137	28.8%
Middlesex County	1,567,610	1,254,772	312,838	20.0%
Nantucket County	10,694	8,808	1,886	17.6%
Norfolk County	691,218	575,489	115,729	16.7%
Essex County	769,362	647,576	121,786	15.8%
Bristol County	554,868	486,795	68,073	12.3%
Worcester County	813,589	719,441	94,148	11.6%
Dukes County	17,137	15,539	1,598	9.3%
Hampden County	468,072	426,105	41,967	9.0%
Plymouth County	506,657	462,997	43,660	8.6%
Hampshire County	161,035	148,400	12,635	7.8%
Barnstable County	214,703	199,784	14,919	6.9%
Berkshire County	128,563	121,167	7,396	5.8%
Franklin County	70,916	67,227	3,689	5.2%
Total	6,742,143	5,680,682	1,061,461	15.7%

Source: American Community Survey 2012 – 2016

Approximately 22.0% of all foreign-born persons in Boston entered the U.S. after 2000 and about 27.6% entered between 2000 to 2009. In case of Chelsea, 42.1% of this population entered between 2000 and 2009.

Table 6: Period of Entry by Foreign-Born Population, Suffolk County

	Boston		Chelsea		Revere		Winthrop	
Total Foreign-Born Population	181,652		17,178		19,321		2,986	
Entered 2010 or later:								
Foreign-Born:	39,980	22.0%	2,195	12.8%	3,330	17.2%	616	20.6%
Naturalized U.S. citizen	*6.7%*		*6.9%*		*11.7%*		*0*	
Not a U.S. citizen	*93.3%*		*93.1%*		*88.3%*		*616*	
Entered 2000 to 2009:								
Foreign-Born:	50,073	27.6%	7,227	42.1%	6,035	31.2%	672	22.5%
Naturalized U.S. citizen	*36.8%*		*17.6%*		*41.5%*		*32.1%*	
Not a U.S. citizen	*63.2%*		*82.4%*		*58.5%*		*67.9%*	
Entered 1990 to 1999:								
Foreign-Born:	42,441	23.4%	4,255	24.8%	5,769	29.9%	659	22.1%
Naturalized U.S. citizen	*64.4%*		*31.5%*		*56.3%*		*51.3%*	
Not a U.S. citizen	*35.6%*		*68.5%*		*43.7%*		*48.7%*	
Entered before 1990:								
Foreign-Born:	49,158	27.1%	3,501	20.4%	4,187	21.7%	1,039	34.8%
Naturalized U.S. citizen	*77.0%*		*62.0%*		*78.1%*		*83.9%*	
Not a U.S. citizen	*23.0%*		*38.0%*		*21.9%*		*16.1%*	

Source: American Community Survey 2012 - 2016

A larger proportion of the Black foreign-born population immigrated in the 1980s. More of the foreign-born population by race for Whites and Asians immigrated primarily after 2000.

Table 7: Decade of Entry, Foreign-Born by Race, Boston

	Total Race	White Alone	Black or African American Alone	Asian Alone
Total Decade	100%	100%	100%	100%
Before 1950	0.5%	1.2%	0%	0.2%
1950 - 1959	1.2%	2.4%	0.5%	0.7%
1960 - 1969	3.6%	4.6%	4.2%	1.6%
1970 - 1979	7%	5.6%	10.4%	4.4%
1980 - 1989	14.8%	10.9%	19.5%	13.9%
1990 - 1999	23.3%	23.5%	21%	26.1%
2000 or later	49.5%	51.7%	44.4%	53.2%

Source: Public Use Microdata Sample 2012- 2016

There are major differences with the highest ranked ‘place of birth’ for the foreign-born population within Suffolk County by cities: in Boston, 10.3% of the foreign-born population is from the Dominican Republic; in Chelsea, 31.8% are from El Salvador; in Revere, 17.3% are from Columbia, and in Winthrop, 16.8% are from Brazil.

Table 8: Place of Birth for the Foreign-Born Population, Boston, Chelsea and Revere

	Boston*	Chelsea**	Revere***	Winthrop ****
Dominican Republic	10.3%	3.4%	3.0%	5.9%
China, excluding Hong Kong and Taiwan	9.7%		2.7%	
Haiti	8.9%	1.0%		
El Salvador	5.8%	31.8%	13.9%	8.4%
Vietnam	4.8%	1.0%		
Cabo Verde	4.4%	1.1%		
Jamaica	4.0%			
Colombia	3.6%	4.2%	17.3%	7.9%
India	2.3%			
Trinidad and Tobago	2.1%			
Guatemala	1.9%	11.4%	2.8%	1.8%
Brazil	1.8%	3.5%	7.0%	16.8%
Honduras	1.7%	20.3%	2.5%	3.5%
Ireland	1.7%			3.3%
Russia	1.6%			2.4%
Canada	1.4%			
Mexico	1.4%	3.3%	2.1%	1.2%
United Kingdom (incld. Crown Dependencies): (Winthrop excluding England and Scotland)	1.4%			1.7%
Korea	1.2%			1.5%
Italy	1.2%			
Nigeria	1.2%			
Barbados	1.0%			
Vietnam			2.1%	
Peru		1.4%	2.8%	
Other Central America		1.2%		
Nigeria			1.3%	
Morocco			10.1%	3.8%
Italy			3.8%	4.5%
Bosnia and Herzegovina			2.8%	1.3%
Other Northern Africa			2.0%	5.9%
Cambodia			2.7%	
Albania			2.5%	4.7%
India			1.3%	1.2%
England				2.2%
Egypt				2.5%
Germany				2.0%
Portugal				1.9%
France				1.2%
Spain				1.2%
Argentina				1.0%
Romani				1.1%

Source: American Community Survey 2012 - 2016
*This list accounts for 73.1% of all foreign-born persons in Boston;
**This list accounts for 84.0% of all foreign-born persons in Chelsea;
***This list accounts for 83.0% of all foreign-born persons in Revere;
****This list accounts for 92.0% of all foreign-born persons in Winthrop

In Boston almost half (47%) of all foreign-born persons who are naturalized citizens are from Latin America, followed by Asia (24.3%), Europe (15.0%), and Africa (12.5%). The proportion of not naturalized foreign-born persons from these areas is 50.8% from Latin America, 26.7% from Asia, and 9.1% from Africa. In Revere, 20.8% of all foreign-born persons are from Africa.

Table 9: Foreign-Born Population by Place of Birth and Citizenship Status, Suffolk County

	Boston		Chelsea		Revere		Winthrop	
Total Persons	658,279		38,244		53,165		18,031	
Foreign-Born	181,652		17,178		19,321		2,986	
Naturalized U.S. citizen	86,259	47.5%	4,931	28.7%	9,408	48.7%	1,426	47.8%
Europe	15.0%		10.4%		20.9%		46.5%	
Asia	24.3%		11.1%		14.0%		9.8%	
Africa	12.5%		13.2%		20.8%		7.4%	
Oceania	0.1%		0.0%		0.2%		0.0%	
Latin America	47.0%		65.1%		43.5%		35.9%	
Northern America	1.1%		0.3%		0.6%		0.4%	
Not a U.S. citizen	95,393	52.5%	12,247	71.3%	9,913	51.3%	1,560	52.2%
Europe	11.0%		1.9%		8.6%		18.4%	
Asia	26.7%		3.4%		12.6%		0.1%	
Africa	9.1%		1.7%		11.4%		18.1%	
Oceania	0.4%		0.0%		0.0%		0.0%	
Latin America	50.8%		92.9%		66.9%		59.7%	
Northern America	2.0%		0.1%		0.5%		3.7%	

Source: American Community Survey 2012 - 2016

More than a third (36%) of Latino immigrants in Boston come from the Dominican Republic and a fifth (21.2%) from and El Salvador.

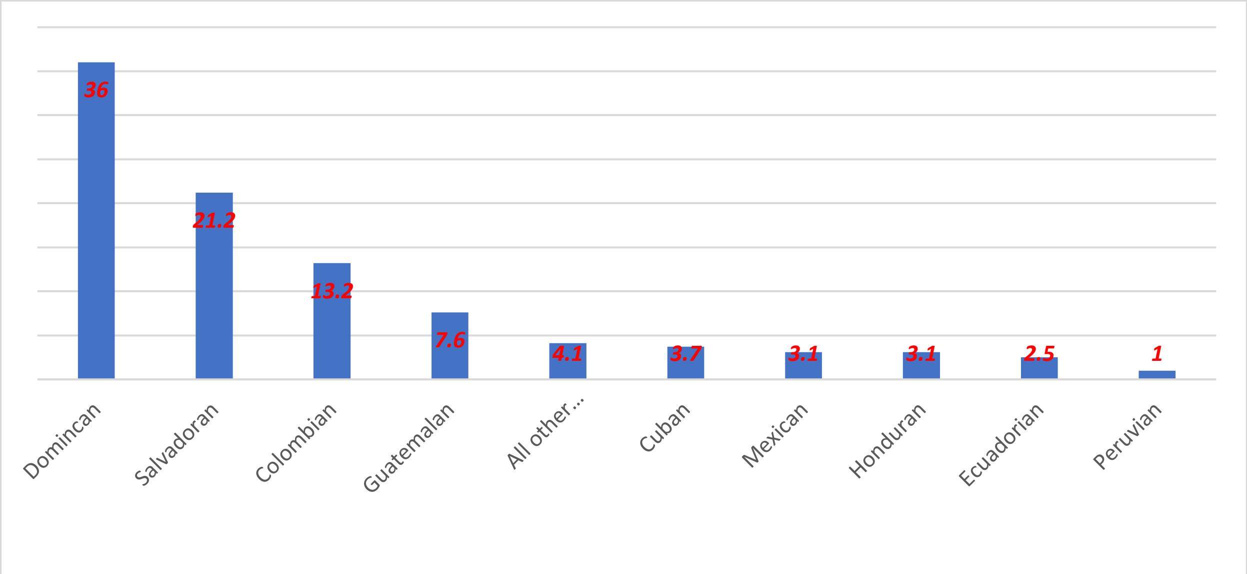
Table 10: Latino Foreign-Born Population by Ancestry, Boston*

Dominican	36%
Salvadoran	21.2%
Colombian	13.2%
Guatemalan	7.6%
All other Spanish/Hispanic/Latino	4.1%
Cuban	3.7%
Mexican	3.1%
Honduran	3.1%
Ecuadorian	2.5%
Peruvian	1%

Source: Public Use Microdata Sample 2012- 2016

*Only ancestries reporting 1% or greater proportion of all Latino foreign-born persons

Chart 2: Percentage of Latino Foreign-Born Population by Ancestry, Boston



In terms of overall fertility rates foreign-born women have a slightly lower fertility rate (7.2%) than native-born women (8.3%). Black native-born women have a much higher birth rate (9.8%) than Black women who are foreign-born (3.3%). But White Alone women who are foreign-born have a higher fertility rate (13.2%) than native White Alone women (10.4%).[15]

Native-born Latinas reflect a fertility rate of 8.3%, and a Latina foreign-born rate of 7.2%, but there is a wide range in fertility rates by Latina ancestry.[16]

Table 11: Women 15 Years and Over, Who Gave Birth last year, Boston

	Total Fertility %	Yes	No
Total Women	*100*	*7.8%*	*92.2%*
Native	100	8.3%	91.7%
Foreign-Born	100	7.2%	92.8%
White Alone	100	11.6%	88.4%
Native	100	10.4%	89.6%
Foreign-Born	100	13.2%	86.8%
Black or African American Alone	100	7.3%	92.7%
Native	100	9.8%	90.2%
Foreign-Born	100	3.3%	96.7%
Total Latina	100	7.8%	92.2%
Native	100	8.3%	91.7%
Foreign-Born	100	7.2%	92.8%

Source: Public Use Microdata Sample 2012- 2016

[15] Note that White alone is a racial category and could include Latinas; this may affect the fertility rates for this group.
[16] For example, while foreign-born Dominican women reported a rate of 3.2%, the fertility rate of native-born Dominican women was 8%; while Salvadoran women who are foreign-born reported a fertility rate of 6.3%, this compared to 12.3% for native-born Salvadoran women, based on Public Use Microdata Sample 2012-2016 data for Boston.

More of the foreign-born population is married than the native population, about 41.1% and 23.7% respectively; but they have a higher divorce rate at 14.1% compared to 8.8% for native-born persons.

Table 12: Nativity and Marital Status, Boston

	Total	Native-Born	Foreign-Born
Marital Status			
Population 15 years and over	*567,127*	*391,223*	*175,904*
Never married	56.3%	64.0%	39.3%
Now married, except separated	29.1%	23.7%	41.1%
Divorced or separated	10.4%	8.8%	14.1%
Widowed	4.1%	3.5%	5.6%

Source: American Fact Finder, American Community Survey 2012 - 2016

Foreign-born households reflect a higher proportion (40.2%) of married-couple families than native-born households (31.9%). The average family size is larger for foreign-born households (3.39 persons) than it is for native-born families (2.99 persons).

Table13: Household Type by Nativity, Average HH Size, Average Family Size, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized Citizen	Foreign-Born; Not a U.S. Citizen
Household Type					
In married-couple family	34.2%	31.9%	40.2%	44.1%	36.7%
In other households	58.5%	59.5%	55.7%	53.4%	57.8%
Average household size	2.35	2.17	2.75	2.74	2.77
Average family size	3.15	2.99	3.39	3.43	3.34

Source: American Fact Finder, American Community Survey 2012 - 2016

Age

The median age for all foreign-born persons in Boston, for both male (40.1 years) and female (42.7 years) is significantly higher than native-born males (28.5 years) and native-born females (28.9 years). This pattern is reflected in Chelsea and Revere; the median ages of foreign-born persons and native-born persons are similar in Winthrop.

Table 14: Median Age by Nativity and Sex, Suffolk County Cities

Native-Born	Male	Female
Boston	28.5	28.9
Chelsea	23.1	25.7
Revere	34.3	41.6
Winthrop Town	42.7	43.5
Foreign-Born		
Boston	40.1	42.7
Chelsea	37.4	37.4
Revere	39.4	40.9
Winthrop Town	42.3	44.5

Source: American Community Survey 2012 - 2016

Foreign-born persons who are naturalized U.S. citizens tend to be older in terms of median age compared to foreign-born persons who are not U.S. citizens.

Table 15: Median Age, Nativity, Sex, and Naturalization, Suffolk County Cities

	Boston	Chelsea	Revere	Winthrop
Foreign-Born:	41.1	37.4	40.1	43.3
Male	40.1	37.4	39.4	42.3
Female	42.7	37.4	40.9	44.5
Naturalized U.S. citizen:	*50.0*	*46.2*	*44.1*	*53.8*
Male	49.8	47.9	43.3	49.9
Female	50.1	45.3	45.6	54.9
Not a U.S. citizen:	*34.0*	*35.1*	*35.4*	*35.4*
Male	33.3	35.1	35.0	35.2
Female	35.2	35.0	36.5	36.3

Source: American Community Survey 2012 - 2016

For both Black males and females under 18 years of age the proportion of foreign-born persons across the state of Massachusetts (9% and 10.1% respectively) is relatively low; this is similarly the case with the Latino statewide population (7% and 7.6% respectively). The White population under 18 years of age has a very low proportion of foreign-born persons among males (1.7%) and females (1.7%).

When age categories under 18 years of age, or over 18 years of age are considered, the Asian population 18 years of age and over shows that 79.7% of all Asian males, and 80.9% of all Asian females are foreign-born persons. Blacks and Latinos have a comparable proportion of foreign-born persons in this age category, across the state.

Table 16: Nativity, Race/Ethnicity and Age, Massachusetts

	Black		Asian		White Non-Latino		Latino	
	489,233		*411,736*		*4,970,011*		*731,739*	
Male	236,467		196,089		2,405,036		362,756	
Under 18 years	*65,136*		*43,107*		*454,816*		*119,218*	
Native-Born	59,269	91.0%	35,033	81.3%	447,232	98.3%	110,855	93.0%
Foreign-Born:	5,867	9.0%	8,074	18.7%	7,584	1.7%	8,363	7.0%
Naturalized U.S. citizen	1,896		2,728		2,356		2,265	
Not a U.S. citizen	3,971		5,346		5,228		6,098	
18 years and over:	*171,331*		*152,982*		*1,950,220*		*243,538*	
Native-Born	98,804	57.7%	30,982	20.3%	1,785,069	91.5%	135,250	55.5%
Foreign-Born:	72,527	42.3%	122,000	79.7%	165,151	8.5%	108,288	44.5%
Naturalized U.S. citizen	38,839		63,709		98,489		39,679	
Not a U.S. citizen	33,688		58,291		66,662		68,609	
Female:	252,766		215,647		2,564,975		368,983	
Under 18 years:	*61,602*		*43,383*		*433,685*		*114,537*	
Native-Born	55,350	89.9%	34,369	79.2%	426,502	98.3%	105,806	92.4%
Foreign-Born:	6,252	10.1%	9,014	20.8%	7,183	1.7%	8,731	7.6%
Naturalized U.S. citizen	2,226		4,041		2,078		2,033	
Not a U.S. citizen	4,026		4,973		5,105		6,698	
18 years and over:	*191,164*		*172,264*		*2,131,290*		*254,446*	
Native-Born	107,450	56.2%	32,969	19.1%	1,956,223	91.8%	146,989	57.8%
Foreign-Born:	83,714	43.8%	139,295	80.9%	175,067	8.2%	107,457	42.2%
Naturalized U.S. citizen	49,463		74,518		109,000		51,195	
Not a U.S. citizen	34,251		64,777		66,067		56,262	

Source: American Community Survey 2012 - 2016

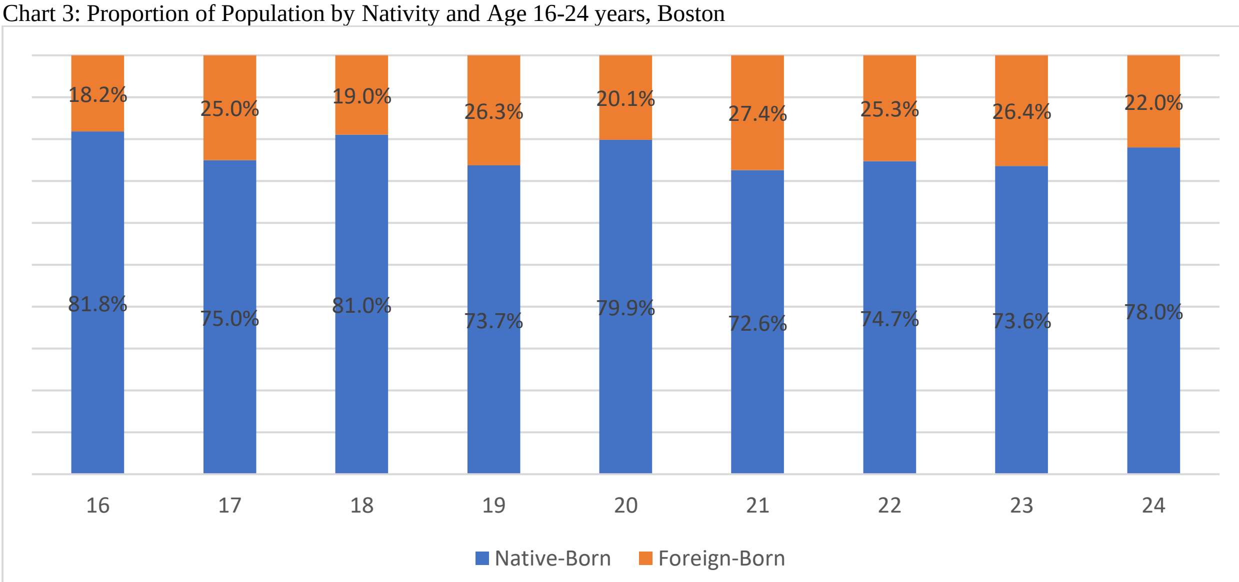
Boston, in comparison to other cities in Suffolk County, has a higher proportion of foreign-born persons who are 60 years or older (18.3% for males, and 22.9% for females) (Table 17). The following chart indicates that approximately between a fifth and a quarter of all persons in the ages 16-24 are foreign born in Boston.

Table 17: Sex by Age for the Foreign-Born Population, Suffolk County Cities

	Boston		Chelsea		Revere		Winthrop Town	
Total Persons	*181,652*		*17,178*		*19,321*		*2,986*	
Male:	86,687		9,677		10,453		1,348	
Under 10 years	1,499	1.7%	137	1.4%	57	0.5%	32	2.4%
10 to 19 years	5,589	6.4%	481	5.0%	339	3.2%	14	1.0%
20 to 29 years	18,464	21.3%	1,856	19.2%	1,853	17.7%	164	12.2%
30 to 39 years	17,503	20.2%	2,960	30.6%	3,118	29.8%	436	32.3%
40 to 49 years	14,704	17.0%	2,166	22.4%	2,210	21.1%	281	20.8%
50 to 59 years	13,032	15.0%	1,347	13.9%	1,681	16.1%	255	18.9%
60 to 69 years	8,408	9.7%	481	5.0%	732	7.0%	124	9.2%
70 years and over	7,488	8.6%	249	2.6%	463	4.4%	42	3.1%
Female:	94,965		7,501		8,868		1,638	
Under 10 years	1,389	1.5%	137	1.8%	96	1.1%	32	2.0%
10 to 19 years	5,845	6.2%	278	3.7%	307	3.5%	19	1.2%
20 to 29 years	16,539	17.4%	1,776	23.7%	1,461	16.5%	203	12.4%
30 to 39 years	19,366	20.4%	2,174	29.0%	2,388	26.9%	366	22.3%
40 to 49 years	15,316	16.1%	1,439	19.2%	1,685	19.0%	275	16.8%
50 to 59 years	14,789	15.6%	868	11.6%	1,279	14.4%	460	28.1%
60 to 69 years	9,868	10.4%	489	6.5%	1,074	12.1%	98	6.0%
70 years and over	11,853	12.5%	340	4.5%	578	6.5%	185	11.3%

Source: American Community Survey 2012 - 2016

Chart 3: Proportion of Population by Nativity and Age 16-24 years, Boston



Source: Public Use Microdata Sample 2016

Relatively high proportions of foreign-born males and females under 18 years of age are not naturalized in Boston (79.4%) and Chelsea (90.8%).

Table 18: Persons 18 Years Under and Over, Nativity, Citizenship, and Sex, Suffolk County

	Boston		Chelsea		Revere		Winthrop Town	
Total Persons	*658,279*		*38,244*		*53,165*		*18,031*	
Males Under 18 years	54,992		4,900		5,546		1,707	
Native-Born	50,372	91.6%	4,376	89.3%	5,253	94.7%	1,661	97.3%
Foreign-Born	4,620	8.4%	524	10.7%	293	5.3%	46	2.7%
Naturalized U.S. citizen	*20.6%*		*9.2%*		*53.9%*			
Not a U.S. citizen	*79.4%*		*90.8%*		*46.1%*			
Males 18 years and over	261,017		14,638		21,925		6,589	
Native-Born	178,950	68.6%	5,485	37.5%	11,765	53.7%	5,287	80.2%
Foreign-Born	82,067	31.4%	9,153	62.5%	10,160	46.3%	1,302	19.8%
Naturalized U.S. citizen	*44.6%*		*27.3%*		*49.5%*		*50.0%*	
Not a U.S. citizen	*55.4%*		*72.7%*		*50.5%*		*50.0%*	
Females Under 18 years	53,947		4,894		4,517		1,783	
Native-Born	49,580	91.9%	4,520	92.4%	4,213	93.3%	1,741	97.6%
Foreign-Born	4,367	8.1%	374	7.6%	304	6.7%	42	2.4%
Naturalized U.S. citizen	*28.4%*		*29.4%*		*32.9%*		*0.0%*	
Not a U.S. citizen	*71.6%*		*70.6%*		*67.1%*		*100.0%*	
Females 18 years and over	288,323		13,812		21,177		7,952	
Native-Born	197,725	68.6%	6,685	48.4%	12,613	59.6%	6,356	79.9%
Foreign-Born	90,598	31.4%	7,127	51.6%	8,564	40.4%	1,596	20.1%
Naturalized U.S. citizen	*52.4%*		*32.0%*		*48.1%*		*48.6%*	
Not a U.S. citizen	*47.6%*		*68.0%*		*51.9%*		*51.4%*	

Source: American Community Survey 2012 - 2016

The foreign-born population tends to be older than the native-born population in terms of median age. The media age for the former was reported at 41 years, compared to the latter at 28.7 years. The next table also shows differences between the median age for naturalized, and not naturalized foreign born persons.

Table 19: Median Age, Nativity and Naturalization, Boston

	Total	Native	Foreign-born	Foreign-Born; Naturalized citizen	Foreign-Born; Not a U.S. citizen
Median age (years)	31.7	28.7	41.1	50.0	34.0

Source: American Fact Finder, American Community Survey 2012 – 2016

Language

A significant proportion of the foreign-born population (63.2%) speaks English well or very well, in Boston. This aggregate rate, however, obscures differences related to date of entry, age, and naturalization.

Table 20: Ability to Speak English by Nativity, Boston

	Total Nativity	Native-Born	Foreign-Born
Total English	100%	100%	100%
Very Well	53.6	81.4	37.5
Well	20.5	11.6	25.7
Not Well	17.6	5.3	24.7
Not At All	8.3	1.7	12.1

Source: Public Use Microdata Sample 2012 - 2016

Table 21 (based on the ACS) shows that more foreign-born youth who are naturalized speak English very well (71.7%), this is in comparison to their counterparts (foreign-born youth) who are not citizens (48.9 %). There are also more naturalized adults who speak English very well (39.9%), as compared to adults who are not citizens (20.8%).

Table 21: Language Spoken at Home and Ability to Speak English by Citizenship, Boston

Naturalized U.S. citizen	5 to 17 years:	18 years and over:
Speaks English Only	29.8%	24.1%
Speaks Spanish:		
Speaks English Very Well	71.77%	39.92%
Speak English Less Than Very Well	28.23%	60.08%
Speak Other Languages:		
Speak English Very Well	77.70%	40.18%
Speak English Less Than Very Well	22.30%	59.82%
Not a U.S. citizen	5 to 17 years:	18 years and over:
Speaks English Only	7.7%	15.0%
Speaks Spanish:		
Speaks English Very Well	48.99%	20.85%
Speak English Less Than Very Well	51.01%	79.15%
Speak Other Languages:		
Speak English Very Well	56.18%	43.71%
Speak English Less Than Very Well	43.82%	56.29%

Source: American Community Survey 2012 - 2016

While almost two thirds (65.1%) of the foreign-born population entering the U.S. in the year 2000 or later reported the ability to speak English, “Very Well” (39.9%) or “Well” (25.2%), about a third (35.0%) of foreign-born persons with this same date of entry reported their ability to speak English as “Not Well” (21.7%), or “Not at all” (13.3%).

Table 22: Ability to Speak English, by Foreign-born, Decade of Entry, Boston

	Total English	Very well	Well	Not well	Not at all
Total DECADE					
Foreign born	100	37.5%	25.7%	24.7%	12.1%
Before 1950					
Foreign born	100	49.7%	13.3%	8.5%	28.5%
1950 - 1959					
Foreign born	100	40.7%	31.8%	21.4%	6.2%
1960 - 1969					
Foreign born	100	39.5%	20.4%	33%	7.1%
1970 - 1979					
Foreign born	100	32.8%	31.3%	24.6%	11.3%
1980 - 1989					
Foreign born	100	32.2%	27.7%	28.8%	11.3%
1990 - 1999					
Foreign born	100	36.1%	24.8%	28.5%	10.6%
2000 or later					
Foreign born	100	39.9%	25.2%	21.7%	13.3%

Source: Public Use Microdata Sample 2012 - 2016

Table 23 shows that among foreign-born persons 16 years and over, approximately two-thirds report the ability to speak English, “Very Well” or “Well”, but again, more than a third (36.0%) report “Not Well”, or “Not at all”.

Table 23: Ability to Speak English by Foreign-born Persons, 16 years and Over, Boston

Total (100%)	Very Well	Well	Not Well	Not At All
	36.9%	25.7%	25.1%	12.3%

Source: Public Use Microdata Sample 2012 - 2016

Table 24 shows that among the unemployed, native-born workers speak English very well (82.6%) to a much higher degree than foreign born workers (37.6%). Among the employed, only 38.9% of foreign-born workers speak English Very Well compared to 80.8% of native-born workers.

Table 24: Employment Status, Nativity and Ability to Speak English, Boston

	Total ENG	Very well	Well	Not well	Not at all
Total ESR	100	49.5	23	17.3	10.2
Native	100	77.6	14.2	6.3	1.9
Foreign born	100	37.2	26.9	22.1	13.9
Civilian employed, at work	100	51.5	24.1	15.4	9
Native	100	80.8	15.2	3.3	0.8
Foreign born	100	38.9	28	20.5	12.5
Civilian employed, with a job but not at work	100	48.2	25.7	21.1	5
Native	100	94.7	5.3	0	0
Foreign born	100	10.2	42.3	38.4	9.2
Unemployed	100	58	28.3	12.8	0.8
Native	100	82.6	15	2.4	0
Foreign born	100	37.4	39.6	21.5	1.5
Not in Labor Force	100	44.1	19.8	21.5	14.6
Native	100	68.4	12.5	14.1	5
Foreign born	100	34.8	22.6	24.4	18.2

Source: Public Use Microdata Sample 2016

A breakdown of ability to speak English by select low-skill occupations with significantly high proportion of foreign-born workers shows a mixed picture. For example, the data for Nursing, Psychiatric and Home Health-Aids workers indicate that about 73% speak English "Very Well" (26%) or "Well" (47%); the figure for Food Preparation workers is 41%, and for Food Servers, non-restaurant it is 63%. However, for some other low-skill occupations this is reversed where 63% of Maids and Housekeeping Cleaners do not speak English "Well" (51%) or "Not At All"(12%); this is similar to that of Janitors and Building Cleaners where 65% do not speak English "Well", or "Not At All".

Table 25 Ability to Speak English by Select Low-Skilled Occupations with High Foreign-born Workers, Boston

	Total English (%)	Very Well	Well	Not Well	Not At All
	100	15%	29%	42%	14%
HLS-Nursing, Psychiatric, and Home Health Aides	100	26%	47%	23%	4%
Eat-Food Preparation Workers	100	17%	24%	37%	22%
Eat-Food Servers, Non-Restaurant	100	39%	24%	37%	0%
Eat- Dishwashers	100	0%	5%	32%	64%
Cleaning- Maids and Housekeeping Cleaners	100	15%	22%	51%	12%
Cleaning- Janitors and Building Cleaners*	100	9%	27%	50%	15%

Source: Public Use Microdata Sample 2012 - 2106

Education

Regardless of naturalization, the foreign-born population reflects higher participation in enrollment at the college or graduate school level than the native-born population; 51.7% of the native-born population have had some enrollment with college or graduate school compared to 73.5% for the foreign-born population. But, as will be shown later, these higher rates may reflect foreign-born workers who live outside of Boston.

Table 26: School Grade Level by Nativity and Citizenship, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized Citizen	Foreign-Born; Not a U.S. Citizen
School Enrollment					
Population 3 years and over enrolled in school	193,653	158,164	35,489	10,603	24,886
Nursery school, preschool	3.9%	4.8%	0.2%	0.1%	0.3%
Elementary school (grades K-8)	27.7%	31.3%	11.9%	9.0%	13.2%
High school (grades 9-12)	12.6%	12.2%	14.4%	16.7%	13.4%
College or graduate school	55.7%	51.7%	73.5%	74.3%	73.2%

Source: American Fact Finder, American Community Survey 2012 - 2016

Foreign-born persons (24.5%) have a higher percentage of completing high school or obtaining a GED compared to native-born persons (13.5%). There is a greater proportion (33.8%) of individuals who have a bachelor's or master's degree among native-born persons, compared to foreign-born persons (21.5%). But the latter group reports a higher proportion of doctoral degrees (3.1%) compared to native-born persons (1.7%).

Table 27: Education Attainment by Nativity and Sex, Boston

	Total	Native-Born Male	Native-Born Female	Total	Foreign-Born Male	Foreign-Born Female
Total Schooling	100%	100%	100%	100%	100%	100%
No schooling completed	3%	3.3%	2.7%	4.7%	4.3%	5%
Nursery school, preschool	1.5%	1.7%	1.4%	0.1%	0.1%	0.1%
Kindergarten	1.7%	1.7%	1.7%	0.3%	0.2%	0.3%
Grade 1	1.3%	1.5%	1%	0.4%	0.4%	0.4%
Grade 2	1.1%	1.2%	1.1%	0.8%	0.8%	0.8%
Grade 3	1.2%	1.1%	1.2%	1.2%	1.2%	1.2%
Grade 4	1.3%	1.4%	1.2%	1.6%	1.8%	1.4%
Grade 5	1.2%	1.2%	1.1%	2.1%	1.9%	2.3%
Grade 6	1.3%	1.3%	1.4%	2.7%	2.9%	2.6%
Grade 7	1.3%	1.4%	1.3%	2%	2.1%	1.9%
Grade 8	1.8%	1.9%	1.6%	2.7%	2.7%	2.7%
Grade 9	1.8%	1.8%	1.7%	2.5%	2.6%	2.4%
Grade 10	2%	2.2%	1.9%	2.5%	2.5%	2.4%
Grade 11	2.4%	2.6%	2.2%	2%	1.9%	2.2%
12th grade - no diploma	0.9%	1.1%	0.8%	2.8%	2.7%	2.8%
Regular high school diploma	13.5%	14.1%	13%	22.2%	22.8%	21.7%
GED or alternative credential	2%	2.3%	1.7%	2.3%	2.1%	2.5%
Some college, but less than 1 year	3.8%	3.6%	4%	3.1%	3.3%	2.9%
1 or more years of college credit, no degree	14.8%	14.7%	14.9%	12.9%	13%	12.7%
Associate's degree	3.3%	2.6%	4.1%	4.1%	3.3%	4.8%
Bachelor's degree	23.5%	23.5%	23.4%	14.2%	14%	14.3%
Master's degree	10.3%	8.7%	11.8%	7.3%	7%	7.6%
Professional degree beyond a bachelor's degree	3.3%	3.3%	3.2%	2.4%	2.4%	2.4%
Doctorate degree	1.7%	1.8%	1.6%	3.1%	3.9%	2.3%

Source: Public Use Microdata Sample 2012-2016

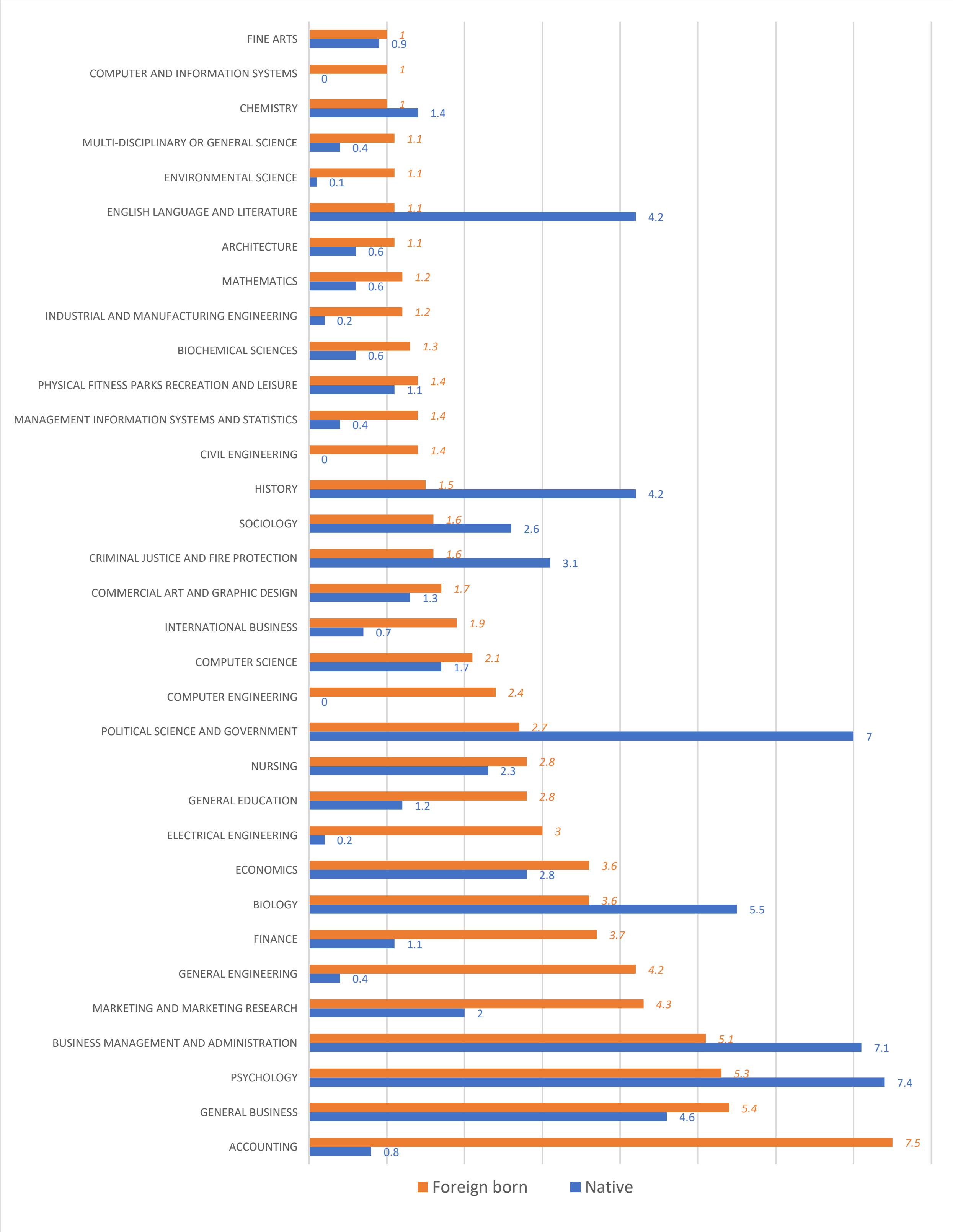
There are differences in field of degree by nativity among persons who have a bachelor's degree or higher. The foreign-born population has a greater distribution of degrees in the areas of accounting, engineering, and the sciences. They hold less a proportion of bachelor's degrees in in social sciences and humanities: psychology, political science, and history.

Table 28: Nativity and Field of Degree for Holders of bachelor's Degrees where Distribution Foreign-Born Selection of Degree of Field is at least 1% of all Fields, and Distribution Gap, Boston*

	Total Population	Native-born	Foreign-born	Distribution Gap
Field of Degree**	100%	100%	100%	
Biology	6.1%	5%	6.2%	1.2
Business Management and Administration	4.5%	2.6%	4.7%	2.1
General Business	4.3%	1.7%	4.5%	2.8
Economics	4.5%	5.6%	4.4%	-1.2
General Engineering	3.6%	0.7%	3.9%	3.2
Computer Science	3.5%	2.4%	3.6%	1.2
Psychology	3.9%	7.3%	3.6%	-3.7
Nursing	3.5%	2.2%	3.6%	1.4
Finance	3.2%	2.2%	3.3%	1.1
Accounting	3%	0.7%	3.2%	2.5
Electrical Engineering	2.7%	0.4%	3%	2.6
English Language and Literature	2.4%	4%	2.2%	-1.8
Political Science and Government	2.3%	5.2%	2.1%	-3.1
Biochemical Sciences	1.9%	0.8%	2%	1.2
Chemistry	1.9%	2%	1.9%	-0.1
General Education	1.9%	2.9%	1.8%	-1.1
Mechanical Engineering	1.8%	0.8%	1.8%	1
Physics	1.7%	0.4%	1.8%	1.4
Marketing and Marketing Research	1.8%	1.8%	1.8%	0
History	1.5%	3.2%	1.4%	-1.8
Computer Engineering	1.2%	0.6%	1.3%	0.7
Mathematics	1.2%	0.3%	1.3%	1
Pharmacy Pharmaceutical Sciences and Administration	1.2%	0.3%	1.3%	1
Civil Engineering	1.2%	0.3%	1.2%	0.9
Multi-Disciplinary or General Science	1.1%	0.3%	1.2%	0.9
Criminal Justice and Fire Protection	1.2%	1.3%	1.2%	-0.1
Architecture	1.1%	0.9%	1.1%	0.2
Sociology	1.1%	1.4%	1.1%	-0.3
Commercial Art and Graphic Design	1.1%	1.4%	1.1%	-0.3
Music	1%	1.7%	1%	-0.7

Source: Public Use Microdata Sample 2012 - 2106
*The gray rows indicate fields of degree where foreign-born persons hold one percentage point or higher than native-born persons.
* This table does not indicate where degrees were obtained on the part of foreign-born workers.

Chart 4: Nativity and Field of Degree for Holders of Bachelors' Degrees where Distribution Foreign-Born Selection of Degree of Field is at least 1% of all Fields, Boston



Since the period 2000, or later, foreign-born persons have held more advanced degrees (bachelors, masters and doctorates) than native-born persons.

Table 29: Education Attainment for Population 3 Years and Over, by Date of Entry, Boston

	1980 - 1989			1990 - 1999			2000 or Later		
	Total	Native-Born	Foreign-Born	Total	Native-Born	Foreign-Born	Total	Native-Born	Foreign-Born
Total School	100%	100%	100%	100%	100%	100%	100%	100%	100%
No schooling completed	4.6%	3.3%	4.8%	4.2%	1.6%	4.5%	4.6%	4.1%	4.7%
Nursery school, preschool	0.1%	0%	0.1%	0%	0%	0%	0.3%	1.7%	0.2%
Kindergarten	0.1%	0%	0.1%	0.2%	0.6%	0.1%	0.7%	2.4%	0.5%
Grade 1	0.3%	0.9%	0.2%	0.6%	0%	0.6%	0.5%	1.4%	0.4%
Grade 2	0.7%	0%	0.8%	0.5%	0%	0.5%	1%	2.1%	0.9%
Grade 3	1.1%	0.9%	1.1%	0.9%	0.5%	0.9%	1.4%	2.1%	1.3%
Grade 4	1.1%	1.3%	1.1%	0.7%	0%	0.8%	2.1%	4.2%	1.9%
Grade 5	2.2%	0%	2.4%	1.7%	1.1%	1.8%	1.9%	2.4%	1.8%
Grade 6	2.5%	2.9%	2.5%	2.4%	1.3%	2.5%	2.7%	3.3%	2.7%
Grade 7	1.9%	0.9%	2.1%	1.7%	2.2%	1.6%	2.3%	3.7%	2.2%
Grade 8	2.3%	3.1%	2.2%	2.5%	0.9%	2.7%	2.9%	4.6%	2.7%
Grade 9	2.8%	2.8%	2.8%	1.9%	3.3%	1.8%	3.3%	5.6%	3.1%
Grade 10	2.1%	2%	2.1%	3.1%	4.2%	2.9%	2.4%	3.3%	2.3%
Grade 11	1.4%	3.1%	1.2%	2.5%	3.9%	2.4%	2.4%	4.3%	2.2%
12th grade - No Diploma	3.1%	2.9%	3.1%	2.4%	0.9%	2.6%	2.2%	1.2%	2.3%
Regular High School Diploma	24.5%	20.8%	24.9%	21.7%	15.6%	22.4%	20.1%	14%	20.7%
GED or alternative-credential	4.1%	6.4%	3.9%	2.8%	3.6%	2.7%	1.3%	1.6%	1.3%
Some college, but less than 1 year	3.4%	2.1%	3.6%	2.7%	2%	2.8%	3.3%	5.2%	3.2%
1 or more years of college credit, no degree	12.4%	11.8%	12.5%	14.7%	26.3%	13.3%	13.5%	15.9%	13.3%
Associate's Degree	5%	2.8%	5.3%	5.9%	7.8%	5.7%	2.6%	2.8%	2.6%
Bachelor's degree	13.3%	19.3%	12.5%	15.8%	19.6%	15.4%	14.6%	9.9%	15.1%
Master's degree	6.4%	8%	6.2%	6.1%	3.4%	6.5%	8%	2.9%	8.4%
Professional degree beyond a bachelor's degree	2.3%	3.6%	2.1%	2.1%	1.2%	2.3%	2.4%	0.9%	2.6%
Doctorate degree	2.3%	1%	2.5%	2.7%	0.1%	3%	3.3%	0.4%	3.6%

Source: Public Use Microdata Sample 2012-2016

Housing

Approximately 31.2% (81,004 out of 259,324 owner-occupied units) of all occupied housing units in Boston are occupied by foreign-born persons. They have an ownership rate lower (28.4%) than that of native-born persons (37.5%). However, not counting foreign-born persons without citizenship means that the foreign-born homeownership rate (38.3%) is similar to native-born persons (37.5%).

In what could be some sign of overcrowding, foreign-born households show that 6.8% live in housing with 1.01 or more occupants per room; this rate is especially high for foreign-born persons who are not citizens (8.4%). The rate for native-born population is 1.6% of persons with 1.01 or more occupants per room.

Table 30: Nativity, Citizenship and Housing Tenure, Boston

	Total	Native-born	Foreign-born	Foreign-born; Naturalized citizen	Foreign-born; Not a U.S. citizen
Occupied housing units	259,324	178,320	81,004	46,078	34,926
Owner-occupied housing units	34.7%	37.5%	28.4%	38.3%	15.3%
Renter-occupied housing units	65.3%	62.5%	71.6%	61.7%	84.7%
1.01 or more occupants per room	3.2%	1.6%	6.8%	5.6%	8.4%

Source: American Fact Finder, American Community Survey 2012 - 2016

A significantly higher proportion of foreign-born persons (44.9%) who own homes spend 30 percent or more of their household income on gross rent, compared to native-born homeowners (28.8%). Among renters, the proportion paying this amount in rent is comparable between native-born and foreign-born households.

Table 31: Selected Monthly Owner Costs as a Percentage of Household Income in the Past 12 Months, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized citizen	Foreign-Born; Not a U.S. citizen
Owner-occupied housing units	89,882	66,908	22,974	17,628	5,346
Less than 30 percent	67.1%	71.2%	55.1%	56.7%	50.0%
30 percent or more	32.9%	28.8%	44.9%	43.3%	50.0%
Renter-occupied housing units	169,442	111,412	58,030	28,450	29,580
Gross Rent as A Percentage of Household Income in the Past 12 Months*					
Less than 30 percent	51.1%	52.0%	49.4%	50.2%	48.5%
30 percent or more	48.9%	48.0%	50.6%	49.8%	51.5%

Source: American Fact Finder, American Community Survey 2012 - 2016
*Gross rent, unlike ‘contract rent’ includes estimated costs of utilities.

Native-born (19.2%) and foreign-born (18.9%) homeowners are similar in terms of holding both a second mortgage and equity loan.

Table 32: Second Mortgage and Home Equity Loans by Nativity, Boston

	Native-Born %	Foreign-Born %
Yes, a second mortgage	2.8%	11.6%
Yes, a home equity loan	16.4%	7.3%
No	79.4%	77.5%
Both a second mortgage and a home equity loan	1.4%	3.6%

Source: Public Use Microdata Sample 2012 - 2016

Disabilities

Native and foreign-born persons have comparable rates of disabilities, though female foreign-born persons report a higher rate than all groups.[17] For all persons, native and foreign-born, who are between the ages of 16 and 65 years, *there is little difference in the reporting of disability* (Table 34). Although the reporting of 1 or more disabilities is similar by nativity, the foreign-born population reporting a disability also have higher rates of 'no health insurance coverage' (Table 35).

Table 33: Total Persons by Nativity and Disability, Boston

	Having a Disability	Not Having a Disability
Native	11.5%	88.5%
Male	10.8%	89.2%
Female	12.3%	87.7%
Foreign-born	12.6%	87.4%
Male	10.7%	89.3%
Female	14.3%	85.7%

Source: Public Use Microdata Sample 2012 - 2016

Chart 5: Total Persons by Nativity and Disability, Boston

[17] Disabilities can include: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty.

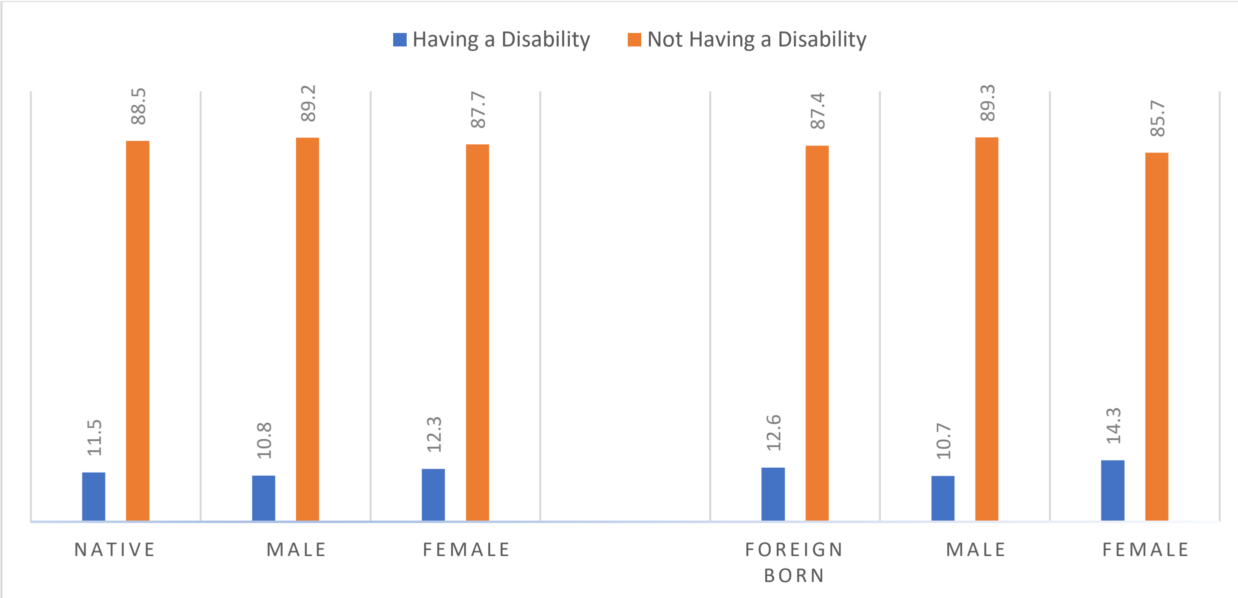


Table 34: Persons 16 to 65 Years by Nativity and Reporting Any Disability, Boston

Persons 16 to 65 Years	With a disability
Native	10.3%
Foreign born	9.4%

Source: Public Use Microdata Sample 2012 - 2016

Table 35: Nativity, Sex and Presence of Disability but No Health Insurance Coverage

	Disability but No Health Insurance Coverage
Native Male	9.5%
Native Female	7.6%
Foreign-born Male	11.4%
Foreign-born Female	11.8%

Source: Public Use Microdata Sample 2012 - 2016

Poverty

Almost one quarter (24.2%) of the foreign-born population lives below the poverty threshold; the poverty rate for native-born persons was reported at one fifth (19.9%). Poverty rates were significantly higher for foreign-born persons who are not U.S. citizens (29.9%).

Table 36: Poverty Status in the Past 12 Months, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized Citizen	Foreign-Born; Not a U.S. Citizen
Population for whom poverty status is determined	614,857	439,919	174,938	84,314	90,624
Below 100 percent of the poverty level	21.1%	19.9%	24.2%	18.2%	29.9%
100 to 199 percent of the poverty level	16.3%	14.6%	20.6%	19.8%	21.3%
At or above 200 percent of the poverty level	62.6%	65.6%	55.2%	62.1%	48.8%

Source: American Fact Finder, American Community Survey 2012 - 2016

While the poverty rate for native-born and foreign-born families headed by a female householder, with no husband present, were similar (34.5% and 32.5% respectively), there were larger differences with married-couple families: native-born families in this category reported a 3.0% poverty rate, compared to foreign-born families, at 12.1% (Table 37).

Table 37: Poverty Rates for Families for Whom Poverty Status Is Determined, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized citizen	Foreign-Born; Not a U.S. citizen
All families	16.7%	14.2%	20.4%	17.0%	25.4%
With related children of the householder under 18 years	25.8%	24.2%	27.8%	23.9%	32.9%
With related children of the householder under 5 years only	17.9%	17.2%	18.9%	16.6%	20.7%
Married-couple family	6.5%	3.0%	12.1%	9.1%	17.0%
With related children of the householder under 18 years	8.2%	3.6%	13.8%	10.1%	19.3%
With related children of the householder under 5 years only	4.4%	2.1%	9.0%	7.7%	10.0%
Female householder, no husband present, family	33.4%	32.5%	34.5%	29.8%	41.7%
With related children of the householder under 18 years	44.6%	44.2%	45.2%	40.3%	51.6%
With related children of the householder under 5 years only	44.0%	48.7%	37.2%	29.5%	44.1%

Source: American Fact Finder, American Community Survey 2012 - 2016

III: The Foreign-Born Worker in Boston and Suffolk County - Not just a 'Contribution,' but Integral to Growing Occupations and Industries[18]

This section highlights key labor force characteristics of foreign-born workers in Boston and Suffolk County. Six major economic contributions of foreign-born workers are identified:

- They are a large component of workforce representing a bulwark against shrinking or stagnant workforce
- They make payments in property and other taxes to local and state government, comparable to native-born workers
- Their personal income and wages generates considerable market demand in the largest and fastest growing industry areas
- They represent a key workforce resource for specific occupations and industries
- They pursue entrepreneurial opportunities at rates slightly higher than native-born workers
- As is the case with native-born homeowners they too pay considerable amounts of money into the local economy in the form of mortgages and home equity loans

[18] This section responds to Query 3: *What kinds of growing sectors would most benefit from a booming foreign-born population in Boston, Suffolk County?* Query 9: *What is the track record of contributions of the foreign-born population on the local economy and labor force? And, how is this discussion strengthened by a review of the kinds of jobs in Boston and Suffolk County where foreign-born workers are concentrated?* Query 10: *What types of occupations, and in which industries, is it clear that foreign-born workers represent a critical resource based on concentrations and class of worker data?* Query 11: *Are there certain skills or labor experiences associated with foreign-born workers that are particularly important for the local economy and labor force?* Query 12: *What are recent assessments of the contributions of the foreign-born labor force on Boston's Gross Domestic Product (GDP)?* Query13: *What are the low-skills jobs, and high skills jobs that are being impacted by foreign-born workers?* Query 14: *Are foreign-born workers a potential resource for occupations indicating growth and need for new labor over the next decade or so?* Query 15: *In terms of jobs with the greatest growth outlooks, what role might foreign-born workers contribute in meeting labor demands?* And, Query 18: *What does administrative data, such as "Citizenship/documentation status/Visa type (H1-B, etc.)" suggest in terms of patterns or trends regarding the foreign-born population, and what are implications in terms of Boston's labor force and workforce strategies?*

Labor Force Characteristics

A fact that helps to frame an understanding of the labor characteristics of the foreign-born workers, is the size and growth of the foreign-born population. At a very basic level they represent a significant component of the overall economy whether with high-skill, or low-skill occupations; its size serves as a bulwark again a shrinking or stagnant workforce. As indicated earlier, between 2000 and 2010 the native-born population hardly grew in Suffolk County, but the foreign-born population grew by more than 25,000 individuals. If the latter had not occurred, it would have been economically disastrous for this county since its workforce would have reflected stagnation in terms of population growth. Between 2010 and the current period based on population estimates for 2016, the native-born population was projected to grow by 8.8%, but did not surpass the projected growth rate for foreign-born persons at 10.6%.[19]

This is an observation emphasized in a recent study using the Boston Commuter Zone as the unit of analysis:

> Whereas immigrants account for 29% of the 25-64 year-old population, in 2015 they constituted substantially over half of the people moving into the region from out of state. And, even more striking, almost two thirds of these immigrants came directly from abroad (as opposed to first moving into another state and then coming here). Without doubt, the future growth of our region's workforce will depend heavily on an inflow of immigrants.[20]

The growth of foreign-born workers is important to meet future workforce needs: "The growth of the working age population in Mass as a whole depends heavily on the inflow of immigrants, and the majority of immigrants come to us directly from abroad."[21] Absent a significant foreign-born workforce in Boston, the region faces a potential crisis as warned in another report:

> Over the long run, demographic projections make it clear that the growth and composition of the Commonwealth's labor force will constrain the pace of future state economic growth. These demographics represent "headwinds" as do structural problems in the match between the needs of growing employers and the skills and experience of the workforce. The slowing of growth in payroll employment in Mass from 1.6 percent in 2016 to 1.2 percent during 2017 is a clear signal that labor supply is beginning to place downward pressure on our growth during a time when the Mass economy is arguably operating at or rapidly approaching full capacity.[22]

In another article in the journal cited above,

> "Massachusetts has an emerging labor force problem. At current and projected rates of change, the availability of qualified workers will increasingly constrain economic expansion. The state's population growth has always been relatively slow and is projected to grow even more slowly over the next 30 years. Consistent with that, the state's labor force growth will slow even faster, and for some future years is projected not to grow at all. Domestic migration could conceivably counter that slow growth scenario, but the state's record in that domain has been less than encouraging. Reaching back many years, net migration for Mass has been negative, with more people leaving the state than arriving from other states. During times of economic prosperity in Mass, net domestic migration has become less negative, but

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[19] See, Frederick Treyz and Peter Evangelakis, op cit.; Palgrave Macmillan; National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press: pp. 2. https://doi.org/10.17226/23550.

[20] Osterman, Paul, Kimball, William, & Riordan, Christine "Boston's Immigrants: An Essential Component of a Strong Economy,*"* 2017; These authors used Place of Work PUMA and Migration PUMA, to analyze the Boston Commuter Zone; these types of PUMAs are coded and bounded differently than the standard PUMAs.

[21] Ibid., p.8

[22] Nakosteen, Robert. "Notes from the Board," *Mass Benchmarks*, vol. 20, no. 1, 2018, pp.3.

has rarely broken into positive territory. Although international immigration has consistently added to the state's work force numbers, the projection of labor force growth still seems dire."[23]

This warning calls for strategies that ensure a growing and well-prepared workforce for Boston and Suffolk County.

Foreign-born workers in Boston currently show a high level (89.3%) of civilian employment as is the case with native-born workers (90.1%). But the foreign-born have a slightly higher rate of unemployment. However, a larger gap is evident when naturalization is considered as is the case in Table 39. While foreign-born workers who are citizens showed an unemployment rate of 7.5%, for workers who are not citizens the rate jumps to 9.5%.

Table 38: Nativity and Employment Status, Boston

	Total Nativity	Native-Born	Foreign-Born
Civilian Employed, At Work	89.9%	90.1%	89.3%
Civilian Employed, with a Job but Not At Work	1.8%	1.7%	2.1%
Unemployed	8.1%	8%	8.5%
Armed Forces, At Work	0.1%	0.2%	0%
Armed Forces, With a Job but Not at Work	0%	0%	0%

Source: Public Use Microdata Sample 2012 - 2016

Table 39: Employment Status, Foreign-born Workers by Naturalization Boston

	Total	U.S. citizen by naturalization	Not a citizen of the U.S.
Civilian employed, at work	89.3%	90.1%	88.6%
Civilian employed, with a job but not at work	2.1%	2.4%	1.9%
Unemployed	8.5%	7.5%	9.5%

Source: Public Use Microdata Sample 2012 - 2016

[23] Burke, Mary and Modestino, Alicia S., "Massachusetts' Tightening Labor Market: An Aging Workforce, Upscaled Job Requirements, and Other Significant Trends", *Mass Breakdowns, vol. 20, no. 1, 2018, pp. 27*.

The following Table shows the composition of foreign-born workers by naturalization for the categories, *Civilian Employed, At Work, Unemployed* and *Not in Labor Force*. Consistently, foreign-born persons who are not naturalized fare worse regarding unemployment, or not being in the labor force.

Table 40: Foreign-born Workers by Labor Characteristics and Naturalization, Boston

Civilian Employed, At Work	*100%*
U.S. Citizen by Naturalization	46.4%
Not a Citizen of the U.S.	53.6%
Unemployed	*100%*
U.S. Citizen by Naturalization	40.0%
Not a Citizen of the U.S.	60.0%
Not in Labor Force	*100%*
U.S. Citizen by Naturalization	42.3%
Not a Citizen of the U.S.	57.7%

Source: Public Use Microdata Sample 2016

As Tables 41 and 42 show foreign-born workers are characterized by slightly higher rates of those who worked in the last week of the year, and the total number of weeks worked. More foreign-born people in the labor force worked in the last week (73.2%) than native-born people (65.1%). While 69.1% of all native-born persons worked between 50 and 52 weeks in the last year, the figure for foreign-born workers was slightly higher at 71.5%

Table 41: Nativity, Worked Last Week, Boston

	Native-Born	Foreign-Born
N/A (not reported)	11.5%	6.3%
Worked	65.1%	73.2%
Did not work	23.4%	20.4%

Source: Public Use Microdata Sample 2012 - 2016

Table 42: Total Weeks Worked During Past 12 Months, Boston

	Native-Born	Male	Female	Foreign-Born	Male	Female
50 to 52 weeks worked during past 12 months	69.1%	72.3%	66.1%	71.5%	74.2%	68.7%
48 to 49 weeks worked during past 12 months	2.2%	2.3%	2.2%	1.9%	2.1%	1.6%
40 to 47 weeks worked during past 12 months	5.1%	4.1%	6.1%	4.2%	4.5%	4%
27 to 39 weeks worked during past 12 months	6.4%	5.2%	7.6%	5.8%	5.6%	5.9%
14 to 26 weeks worked during past 12 months	7.6%	7.5%	7.7%	5.9%	5.2%	6.5%
less than 14 weeks worked during past 12 months	9.5%	8.6%	10.4%	10.8%	8.4%	13.2%

Source: Public Use Microdata Sample 2012 - 2016

The role and impact of foreign-born entrepreneurs and small business owners has been documented in several reports published by think tanks such as the Fiscal Policy Institute, the Kaufmann Foundation, the Immigrant Learning Center and others.[24] The data in this study confirms that immigrant

[24] For one example, see The Kauffman Foundation's "State of Field" report at: https://www.kauffman.org/microsites/state-of-the-field/topics/background-of-entrepreneurs/demographics/immigration

entrepreneurs help to drive economic growth by creating demand for goods, paying taxes, and participating in the American workforce. In presentation to the The Boston Foundation's *Understanding Boston* series, it was reported that foreign-born workers "accounted for $25.9 billion in the Gross Domestic Product."[25] Also, immigrant-owned firms tend to be concentrated in industries which have lower paying jobs and less returns for the owner according to another study.[26]

Native-born workers show that 52.8% are mostly found in private, for profit businesses, compared to 64.1% of foreign born workers. The latter tend to have a much smaller presence working for local, state or federal governments compared to native-born workers. However, more foreign-born people are self-employed (incorporated and non-incorporated businesses) – 9% compared to native-born workers at 4.4%. Foreign-born women have considerably higher rates of entrepreneurship when compared to native-born women.

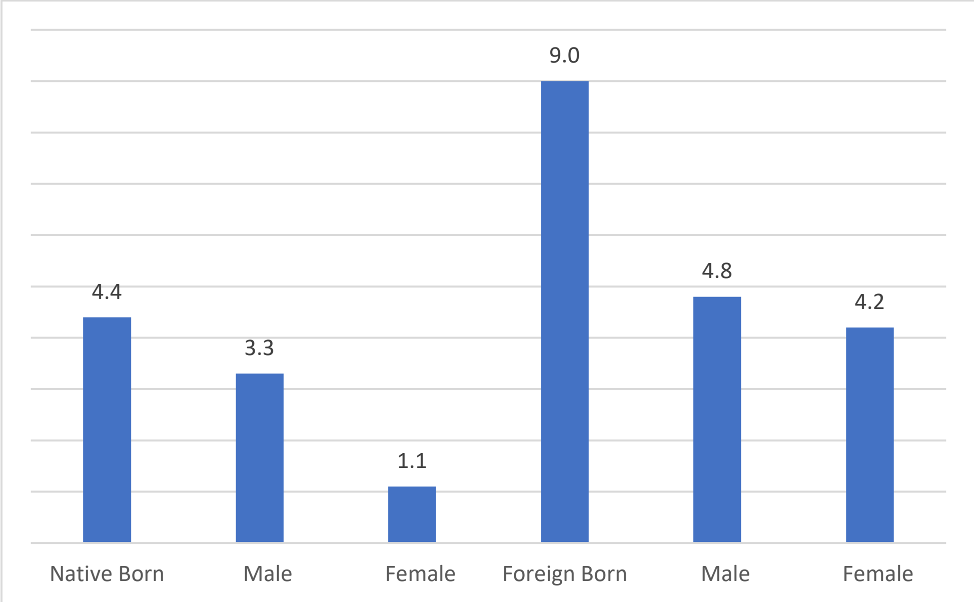
Table 43: Class of Worker by Nativity and Sex, Boston

	Total Nativity (100%)	Native-Born (100%)	Foreign-Born (100%)
Employee of a private for-profit company or business, or of an individual, for wages, salary, or commissions	*63.3%*	*52.8%*	*64.1%*
Male	33.2%	30.2%	33.5%
Female	30%	22.6%	30.6%
Employee of a private not-for-profit, tax-exempt, or charitable organization	*15.7%*	*20.1%*	*15.3%*
Male	5.6%	7.7%	5.4%
Female	10.1%	12.4%	9.9%
Local government employee (city, county, etc.)	*4.5%*	*10%*	*4%*
Male	2.6%	3.3%	2.5%
Female	1.9%	6.7%	1.5%
State government employee	*4.1%*	*6.2%*	*3.9%*
Male	2%	3%	1.9%
Female	2.1%	3.2%	2%
Federal government employee	*1.6%*	*3%*	*1.5%*
Male	1.1%	0.8%	1.1%
Female	0.5%	2.2%	0.4%
Self-employed in own not incorporated business, professional practice, or farm	*5.7%*	*4.4%*	*5.8%*
Male	2.6%	3.3%	2.6%
Female	3.1%	1.1%	3.2%
Self-employed in own incorporated business, professional practice or farm	*2.9%*	*0%*	*3.2%*
Male	2%	0%	2.2%
Female	0.9%	0%	1%
Working without pay in family business or farm	*0.8%*	*1.3%*	*0.7%*
Male	0.6%	0.6%	0.6%
Female	0.1%	0.7%	0.1%
Unemployed and last worked 5 years ago or earlier or never worked	*1.5%*	*2.1%*	*1.5%*
Male	0.8%	1.8%	0.7%
Female	0.7%	0.3%	0.8%

Source: Public Use Microdata Sample 2012 – 2016

[25] Alvaro Lima, "The Importance of Immigrants to Boston's Continued Prosperity", Boston Planning and Development Agency (April 19, 2017).
[26] "City of Boston Small Business Plan" *City of Boston*, March 2016.

Chart 6: Percent All Workers by Nativity, Sex and Self-Employed*



* Can be self-employed in own incorporated, or not incorporated business, professional practice or farm

Foreign-born workers comprise a relatively large proportion of all self-employed workers who have incorporated businesses (38.7%) and non-incorporated businesses (28.7%).

Table 44: Class of Worker by Nativity and Composition of All Workers, Boston

		Total Native-Born	Total Foreign-Born
Class of Worker	100%	69.9%	30.1%
Employee of a private for-profit co. or bus., or of an individual, for wages, salary, commissions		67%	33%
Employee of a private not-for-profit, tax-exempt, or charitable organization		75.3%	24.7%
Local government employee (city, county, etc.)		86%	14%
State government employee		78.8%	21.2%
Federal government employee		83.9%	16.1%
Self-employed in own not incorporated business, professional practice, or farm		61.3%	38.7%
Self-employed in own incorporated business, professional practice or farm		71.3%	28.7%
Working without pay in family business or farm		61.8%	38.2%

Source: Public Use Microdata Sample 2012 - 2016

Table 45 shows how native-born entrepreneurs (incorporated and non-incorporated businesses) are distributed in the top 30 industries compared to the rate for foreign-born workers in these same industries. There are clear differences in how these groups are distributed throughout various industries. For example, there are relatively few foreign-born entrepreneurs who 'select' the real estate industry (3.2%), compared to native-born real estate entrepreneurs (18.2%). This is generally the case in some Professional Services industries such as Management, Scientific, and Technical Consulting Services, or Legal Services, where native-born entrepreneurs are concentrated compared to foreign-born entrepreneurs.

The industry distribution of foreign-born entrepreneurs shows preference in the construction industries (32.6%), as well as in Services-Private Households (28.3%). This group also has a greater distribution than native-born entrepreneurs in Transportation – Taxi and Limousine Service (5.2% compared to 4.6%); Professional Services – Computer Systems Design and Related Services (7.1% compared to 4.3%), and in Medical-Outpatient Care Centers (14.5% compared to 2.8%).

Table 45: Percent Distribution of Self-Employed Workers by Nativity for Top 30 Industries by Native-born Entrepreneurs, Boston

	Native-Born	Foreign-Born*
Fin-Real Estate	18.2%	3.2%
Prf-Management, Scientific, And Technical Consulting Services	17.9%	0%
Ent-Performing Arts, Spectator Sports, And Related Industries	12.4%	2.8%
Prf-Specialized Design Services	10.1%	2.2%
Prf-Legal Services	7.5%	0.6%
Ret-Miscellaneous Retail Stores	7.4%	2.2%
Prf-Services To Buildings And Dwellings, Ex Constr Cln	6.7%	2.4%
Fin-Securities, Commodities, Funds, Trusts, And Other Financial Investments	6.2%	0%
Srv-Beauty Salons	5.6%	2.7%
Med-Hospitals	5.5%	0%
Prf-Architectural, Engineering, And Related Services	5.3%	0%
Srv-Private Households	5%	28.3%
Med-Offices Of Other Health Practitioners	4.8%	0%
Trn-Taxi And Limousine Service	4.6%	5.2%
Prf-Other Professional, Scientific, And Technical Services	4.5%	0%
Prf-Scientific Research And Development Services	4.4%	0%
Mfg-Seafood And Other Miscellaneous Foods, N.E.C.	4.3%	0%
Prf-Computer Systems Design And Related Services	4.3%	7.1%
Edu-Other Schools And Instruction, And Educational Support Services	4.3%	12.2%
Con-Construction, Incl Cleaning During And Imm After	4.1%	32.6%
Ent-Other Amusement, Gambling, And Recreation Industries	3.3%	0.7%
Ret-Book Stores And News Dealers	3%	0%
Med-Outpatient Care Centers	2.8%	14.5%
Ret-Electronic Shopping	2.7%	0%
Inf-Periodical, Book, And Directory Publishers	2.6%	0%
Ret-Used Merchandise Stores	2.4%	0%
Trn-Truck Transportation	2.3%	0%
Med-Other Health Care Services	2.3%	0%
Inf-Telecommunications, Except Wired Telecommunications Carriers	2.1%	0%
Ret-Electronic Auctions	1.8%	0%
Agr-Crop Production	1.6%	0%

Source: Public Use Microdata Sample 2016

Foreign-born entrepreneurs comprise 30% or more of all entrepreneurs in some industries (Table 46). The latter includes industry sectors such as individual and family services; manufacturing; wholesale; specialty food stores; transportation services; restaurants; services to private households; medical sectors; accounting, and others where the foreign-born entrepreneur composition is 50% or more in Boston.

Table 46: Industries Where Foreign-born Entrepreneurs Comprise 30%, and 50% or More of All Entrepreneurs, Boston

Sca-Individual And Family Services	>50%
Mfg-Cut And Sew Apparel	>50%
Whl-Drugs, Sundries, And Chemical And Allied Products Merchant Wholesalers	>50%
Whl-Grocery And Related Product Merchant Wholesalers	>50%
Ret-Specialty Food Stores	>50%
Trn-Services Incidental To Transportation	>50%
Trn-Couriers And Messengers	>50%
Srv-Dry Cleaning And Laundry Services	>50%
Ret-Beer, Wine, And Liquor Stores	>50%
Med-Offices Of Optometrists	>50%
Sca-Child Day Care Services	>50%
Ent-Restaurants And Other Food Services	>50%
Con-Construction, Incl Cleaning During And Imm After	>50%
Edu-Colleges, Universities, And Professional Schools, Including Junior Colleges	>50%
Srv-Private Households	>50%
Med-Outpatient Care Centers	>50%
Med-Offices Of Dentists	>50%
Med-Offices Of Physicians	>50%
Prf-Advertising, Public Relations, And Related Services	>50%
Prf-Accounting, Tax Preparation, Bookkeeping, And Payroll Services	>50%
Edu-Other Schools And Instruction, And Educational Support Services	43%
Prf-Landscaping Services	41%
Trn-Taxi And Limousine Service	39%
Srv-Beauty Salons	34%
Prf-Computer Systems Design And Related Services	30%

Source: Public Use Microdata Sample 2016

Self-employed foreign-born workers generated almost 25% of all earnings of all self-employed workers, totaling for foreign-born workers (incorporated and non-incorporated businesses) approximately $299.6 million compared to $898 million for self-employed native-born workers.

Table 47: Class of Worker by Nativity, Sex, and Personal Earnings, Boston

	Average Personal Earnings	Aggregated Personal Earnings
Total Workers	$52,739	$22,141,204,630
Male	59,317	12,292,309,860
Female	46,327	9,848,894,770
Native	57,825	16,972,854,370
Male	64,313	9,263,395,590
Female	51,574	7,709,458,780
Foreign born	40,919	5,168,350,260
Male	47,930	3,028,914,270
Female	33,898	2,139,435,990
Self-employed in own not incorporated business, professional practice, or farm	36,960	667,861,960
Male	50,686	442,791,460
Female	24,113	225,070,500
Native	44,571	493,619,920
Male	59,211	341,472,320
Female	28,664	152,147,600
Foreign born	24,910	174,242,040
Male	34,126	101,319,140
Female	18,113	72,922,900
Self-employed in own incorporated business, professional practice or farm	88,317	529,814,680
Male	91,527	361,808,200
Female	82,115	168,006,480
Native	94,598	404,408,200
Male	100,634	285,097,200
Female	82,740	119,311,000
Foreign born	72,742	125,406,480
Male	68,492	76,711,000
Female	80,622	48,695,480

Source: Public Use Microdata Sample 2016

Occupations and Industries

Foreign-born workers are found in a range of occupations and industries but concentrated in ways that are different than native-born workers. Table 48 is organized by five major occupational categories. It shows that more than half (53.9%) of native-born workers are found in occupations that are part of "management, business, science, and arts occupations" compared to a third (33.8%) of all foreign-born workers in this same category. The proportion of all native-born-workers who are in the 'service occupations" (15%) is much smaller than is the case for foreign-born workers, where 34.6% of all such workers are in this category. This is also illustrated in the chart that follows Table 47.

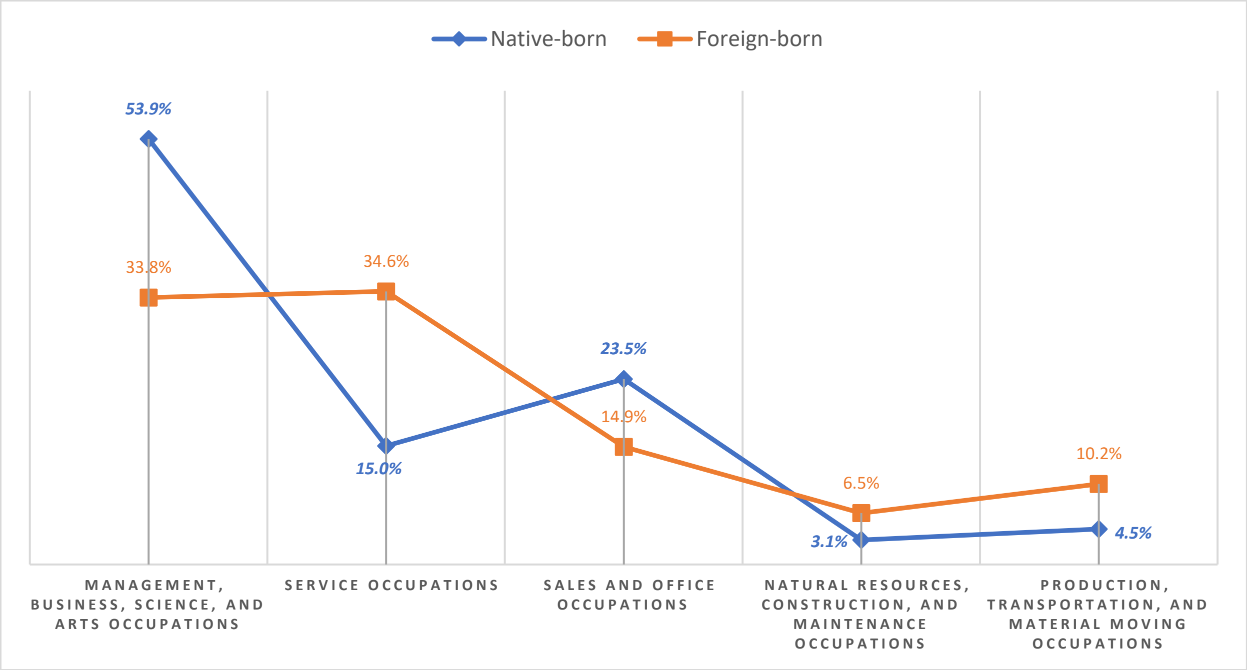
Table 48: Nativity, Naturalization and Occupations by Major Groups, Boston [27]

	Native-born	Foreign-born	Foreign-born; Naturalized U.S. citizen	Foreign-born; Not a U.S. citizen
Occupation				
Management, Business, Science, and Arts Occupations	53.9%	33.8%	35.6%	32.0%
Service Occupations	15.0%	34.6%	31.1%	37.9%
Sales and Office Occupations	23.5%	14.9%	16.8%	13.0%
Natural Resources, Construction, and Maintenance Occupations	3.1%	6.5%	5.9%	7.0%
Production, Transportation, and Material Moving Occupations	4.5%	10.2%	10.5%	10.0%

Source: American Fact Finder, American Community Survey 2012 - 2016

[27] The Standard Occupation Classification (SOC) groupings are organized differently in various reports; sometimes there is use of the six major groups: Management, Professional, and Related Occupations (major groups 11-29); - Service Occupations (major groups 31-39); Sales and Office Occupations (major groups 41-43); Natural Resources, Construction, and Maintenance Occupations (major groups 45-49); Production, Transportation, and Material Moving Occupations (major groups 51-53); Military Specific Occupations (major group 55). These major groups can be organized by 13 intermediate ones: 11-13 Management, Business, and Financial Occupations; 15-19 Computer, Engineering, and Science Occupations; 21-27 Education, Legal, Community Service, Arts, and Media Occupations; 29 Healthcare Practitioners and Technical Occupations; 31-39 Service Occupations; 41 Sales and Related Occupations; 43 Office and Administrative Support Occupations; 45 Farming, Fishing, and Forestry Occupations; 47 Construction and Extraction Occupations; 49 Installation, Maintenance, and Repair Occupations; 51 Production Occupations; 53 Transportation and Material Moving Occupations; 55 Military Specific Occupations; see, *2010 SOC User Guide*

Chart 7: Nativity, Naturalization and Occupations by Major Groups, Boston



The next table shows a more drilled down distribution by occupation categories. It continues to show varying distributions of occupations by nativity. Only 7.9% of all foreign-born workers are found in education, compared to 12.4% of all native-workers; but in the medical sector, 15.3% of all foreign-born workers are found in this sector, compared to 11.9% of all native-born workers. There are greater proportions of all foreign-born workers in Entertainment, Services, Construction, Wholesale and Individual and Family Services than is the case for the industry distribution of all native-born workers.

Table 49: Percent Distribution of Native-born and Foreign-born Workers by Industry, Boston

	% Distribution Native-Born	% Distribution Foreign-Born
Professional Services	18.5%	12.9%
Education	12.4%	7.9%
Medical	11.9%	15.3%
Entertainment	10.3%	17.8%
Finance	10%	5.2%
Retail	8.7%	7.2%
Administration	4.8%	1.5%
Services	4.3%	6.4%
Manufacturing	3.7%	4.5%
Transportation	3.1%	4.8%
Information	2.6%	1.3%
Individual and Family Services	2.6%	3.9%
Con-Construction, Incl Cleaning During and Imm After	2.5%	4.8%
Wholesale	1.8%	2.1%
Utilities	0.3%	0.6%

Source: Public Use Microdata Sample 2016

Table 50 shows more specificity regarding particular occupations and distribution of native-born and foreign-born workers. The latter tends to be concentrated in the cleaning occupations (10.6% of all foreign-born workers), Nursing, Psychiatric and Home Health Aides (4.5%), Cooks (3.9%), and Sales-Cashiers (2.4%). In the remaining categories, the foreign-born and native-born representation is about equal (within 1%).

Table 50: Nativity and Distribution of Workers by Specific Occupations, Boston*

	Native-Born Worker	Foreign-Born Worker
Cln-Janitors And Building Cleaners	1.1%	6.1%
Cln-Maids And Housekeeping Cleaners	0.4%	4.5%
Hls-Nursing, Psychiatric, And Home Health Aides	1.1%	4.3%
Eat-Cooks	0.9%	3.9%
Sal-Cashiers	2.3%	2.4%
Edu-Postsecondary Teachers	1.7%	2.2%
Prs-Childcare Workers	1.3%	2.1%
Mgr-Miscellaneous Managers, Including Funeral Service Managers And Postmasters And Mail Superintendents	2.9%	1.8%
Eat-Food Preparation Workers	0.6%	1.8%
Prs-Personal Care Aides	0.6%	1.6%
Eat-Waiters And Waitresses	1.9%	1.5%
Con-Construction Laborers	0.8%	1.5%
Med-Physicians And Surgeons	1.4%	1.3%
Med-Registered Nurses	1.6%	1.3%
Sal-Retail Salespersons	2.8%	1.3%
Off-Secretaries And Administrative Assistants	2.4%	1.3%
Fin-Accountants And Auditors	1.9%	1.2%
Sci-Medical Scientists, And Life Scientists, All Other *	0.4%	1.2%
Off-Customer Service Representatives	1.9%	1.2%
Trn-Driver/Sales Workers And Truck Drivers	0.8%	1.2%
Trn-Taxi Drivers And Chauffeurs	0.2%	1.2%
Trn-Laborers And Freight, Stock, And Material Movers, Hand	1.1%	1.1%
Cmm-Software Developers, Applications And Systems Software*	1%	1%

Source: Public Use Microdata Sample 2012 – 2016
* Only those occupations where the foreign-born distribution is 1% or greater is shown.

The tables above show *distribution*; Table 51 below, shows the *composition* of foreign-born workers in various industries. While the overall proportion of foreign-born workers is approximately 29.5% of all workers in Boston, they are highly concentrated in some occupations.

In the cleaning occupations they comprise an overwhelming majority (72.4%) of foreign-born workers. Foreign-born workers also are the majority of workers in Extraction Construction (61.6%), Production (51.6%), and nearly half in Nursing, Psychiatric and Home Health Aids (4.9%), and Eating, Cleaning/Grounds Maintenance and Transportation occupations all over 40% (surpasses the overall foreign-born composition of the labor force for Boston at 29%). Obviously, businesses relying on hiring workers for these kinds of occupations would face major problems if the presence of foreign-born workers were somehow reduced or discouraged from entering the Boston and Massachusetts labor markets. Given the current construction boom in Boston, a reduction in the foreign-born workforce could prove economically disastrous.

Table 51: Occupations by Foreign-Born Composition, Boston

	Foreign-Born % Composition
Cleaning	72.4%
Extraction Construction	61.6%
Production	51.6%
HLS (Nursing, Psychiatric, Home Health Aides)	49.9%
Construction	44.8%
Eating	43.8%
Cleaning-Grounds Maintenance	41.3%
Transportation	40.0%
Agricultural	37.7%
Personal Service	37.5%
Sciences	35.7%
RPR (Mechanics, Repairers)	35.1%
Medical	27.1%
Computer and Information, Software	24.2%
Office	21.9%
Education	21.4%
Management	20.6%
Engineering	20.6%
Sales	19.9%
Fin	18.6%
Entertainment	18.2%
PRT (Correctional Officers, Firefighters, Police)	16.7%
Business	16.4%
Counselors	16.1%

Source: Public Use Microdata Sample 2012-2016

Table 52, and the chart which follows, shows the foreign-born worker composition of occupations by gender. There are stark gender differences among foreign-born workers in their structure for various occupations.[28] In Engineering and Sciences foreign born males have a high composition (35.3%) compared to females (21.1%). Males are also prominent in the Production and Transportation occupations. Foreign-born women compose 43.1% of all workers in HLS (Nursing, Psychiatric, Home Health Aides, Health Support).

Table 52: Occupation, Foreign-Born Composition and Sex, Boston

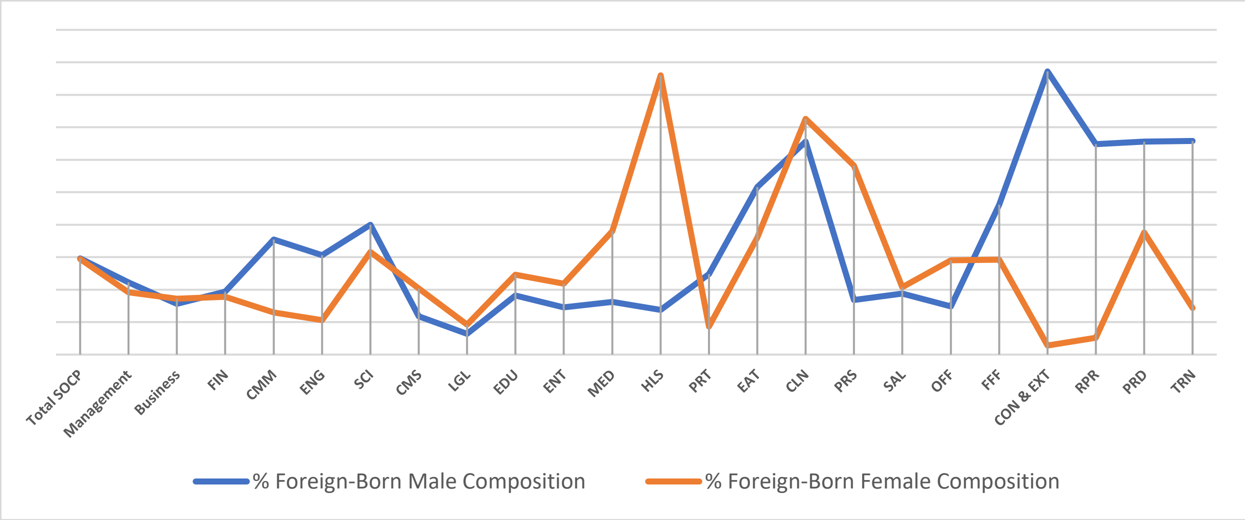
	% Foreign-Born Male Composition	% Foreign-Born Female Composition
Total Occupations*	14.8%	14.7%
Management	11.1%	9.6%
Business	7.8%	8.6%
Financial	9.7%	8.9%
Computer and Information	17.7%	6.5%
Engineering	15.3%	5.3%
Sciences	20.0%	15.8%
Counselors and Social Workers	5.9%	10.2%
Legal	3.2%	4.6%
Education	9.1%	12.3%
Entertainment	7.3%	10.9%
Medical	8.1%	19.0%
Nursing, Psychiatric, Home Health Aides	6.9%	43.0%
Protective Services	12.4%	4.3%
Eat	25.8%	18.0%
Cleaning	32.8%	36.3%
Professional Services	8.4%	29.1%
Sales	9.4%	10.4%
Office	7.4%	14.5%
Farming Fishing Forestry	23.1%	14.6%
Construction & Extraction	43.6%	1.4%
Repairing & Mechanics	32.4%	2.6%
Production and Operating Workers	32.8%	18.8%
Transportation	32.9%	7.2%

Source: Public Use Microdata Sample 2012 - 2016

* For detail listing of occupations under these general categories see Bureau of Labor Statistics, Occupational Employment Statistics, 2010 Standard Occupational Classification System; it should also be noted that the occupations listed here can include other 'sub-occupations'.

[28] Standard Occupation Classification (SOC) groupings are organized differently in various reports; sometimes there is use of the six major groups: Management, Professional, and Related Occupations (major groups 11-29); - Service Occupations (major groups 31-39); Sales and Office Occupations (major groups 41-43); Natural Resources, Construction, and Maintenance Occupations (major groups 45-49); Production, Transportation, and Material Moving Occupations (major groups 51-53); Military Specific Occupations (major group 55). These major groups can be organized by 13 intermediate ones: 11-13 Management, Business, and Financial Occupations; 15-19 Computer, Engineering, and Science Occupations; 21-27 Education, Legal, Community Service, Arts, and Media Occupations; 29 Healthcare Practitioners and Technical Occupations; 31-39 Service Occupations; 41 Sales and Related Occupations; 43 Office and Administrative Support Occupations; 45 Farming, Fishing, and Forestry Occupations; 47 Construction and Extraction Occupations; 49 Installation, Maintenance, and Repair Occupations; 51 Production Occupations; 53 Transportation and Material Moving Occupations; 55 Military Specific Occupations; see, *2010 SOC User Guide*

Chart 8: Occupation, Foreign-Born Composition and Sex, Boston



As stated earlier foreign-born workers are not monolithic but reflect differences by race, ethnicity, socio-economic status, residential patterns and gender. This is also the case with the composition and distribution of occupations held by these workers. Table 53 compares the distribution of occupations by native-born workers, foreign-born workers and highlights Black native-born and Black foreign-born workers. The table shows that except for nursing, psychiatric and home health care aides, and cleaning occupations (among the lowest-paying occupations), the occupational distribution among Blacks by nativity is similar.

Table 53: Nativity and Foreign-Born Occupation Distribution by Black Native-Born and Black Foreign-born Persons, Boston

	Total	% Native-Born Worker Distribution	% Foreign-Born Worker Distribution	Black Total %	% Black Native-Born Workers	% Black Foreign-Born-Workers
Total Occupations	100%	100%	100.0%	100%	100%	100.0
Hls-Nursing, Psychiatric, And Home Health Aides	2	1%	5%	6%	3%	11%
Cln-Maids And Housekeeping Cleaners	1	0%	4%	2%	1%	5%
Cln-Janitors And Building Cleaners	2	1%	4%	3%	2%	4%
Edu-Postsecondary Teachers	2	2%	3%	1%	1%	1%
Eat-Cooks	2	1%	3%	2%	2%	3%
Med-Registered Nurses	2	2%	2%	1%	1%	2%
Eat-Food Preparation Workers	1	1%	2%	1%	1%	2%
Prs-Childcare Workers	1	1%	2%	2%	2%	2%
Prs-Personal Care Aides	1	1%	2%	2%	1%	3%
Sal-Cashiers	2	2%	2%	4%	4%	3%
Fin-Accountants And Auditors	2	2%	1%	1%	1%	1%
Edu-Teacher Assistants	1	1%	1%	1%	1%	1%
Ent-Designers	1	1%	1%	0%	1%	0%
Med-Licensed Practical And Licensed Vocational Nurses	0	0%	1%	1%	0%	1%
Hls-Medical Assistants	0	0%	1%	1%	1%	1%
Prt-Security Guards And Gaming Surveillance Officers	1	1%	1%	3%	3%	2%
Eat-Chefs And Head Cooks	0	0%	1%	0%	0%	0%
Eat-Waiters And Waitresses	2	2%	1%	1%	1%	0%
Eat-Dishwashers	0	0%	1%	0%	0%	0%
Eat-Miscellaneous Food Preparation And Serving Related Workers, Including Dining Room And Cafeteria Attendants And Bartender Helpers	0	0%	1%	0%	0%	1%
Cln-Grounds Maintenance Workers	0	0%	1%	1%	1%	1%
Prs-Miscellaneous Personal Appearance Workers	0	0%	1%	0%	0%	0%
Sal-First-Line Supervisors Of Retail Sales Workers	1	1%	1%	1%	1%	1%
Sal-Retail Salespersons	2	3%	1%	2%	3%	1%
Off-First-Line Supervisors Of Office And Administrative Support Workers	1	1%	1%	1%	1%	1%
Off-Bookkeeping, Accounting, And Auditing Clerks	1	1%	1%	1%	1%	1%
Off-Customer Service Representatives	2	2%	1%	3%	3%	2%
Off-Receptionists And Information Clerks	1	1%	1%	1%	2%	1%
Off-Stock Clerks And Order Fillers	1	1%	1%	1%	1%	1%
Off-Secretaries And Administrative Assistants	2	2%	1%	3%	3%	2%
Off-Office Clerks, General	1	1%	1%	1%	2%	1%
Off-Miscellaneous Office And Administrative Support Workers, Including Desktop Publishers	1	1%	1%	1%	1%	1%
Con-Carpenters	0	0%	1%	1%	1%	1%
Con-Construction Laborers	1	1%	1%	1%	1%	1%
Con-Painters And Paperhangers	0	0%	1%	0%	0%	1%
Prd-Miscellaneous Assemblers And Fabricators	0	0%	1%	0%	0%	1%
Prd-Miscellaneous Production Workers, Including Semiconductor Processors	0	0%	1%	0%	0%	1%
Trn-Bus Drivers	0	0%	1%	1%	1%	1%
Trn-Driver/Sales Workers And Truck Drivers	1	1%	1%	2%	2%	1%
Trn-Taxi Drivers And Chauffeurs	0	0%	1%	1%	0%	2%
Trn-Laborers And Freight, Stock, And Material Movers, Hand	1	1%	1%	1%	2%	1%

Source: Public Use Microdata Sample 2012 – 2016

Foreign-born workers not only represent a huge part of the workforce in terms of the *occupations* they fill, but also in the *industries* in which they are found (Table 54). One industry with significant number of workers and that has been growing explosively (and will continue to grow based on the latest projections), is construction. Foreign-born workers comprise 40% of all workers in this industry. This is similar to other growing industries, especially the Medical (35.8%), Social Care (31.9%), and Transportation (39.1%) industries.

Table 54: Proportion of Foreign-Born Workers by Select Major NAICS Industries

	% Foreign-Born Workers
Administration	15.5%
Agriculture	40.2%
Construction	40.0%
Education	22.1%
Entertainment	38.0%
Finance	20.3%
Information	18.0%
Medical	35.8%
Manufacturing	42.3%
Professional	25.4%
Retail	23.9%
SCA	31.9%
Services	34.8%
Transportation	39.1%
Utilities	24.6%
Wholesale	27.0%

Source: Public Use Microdata Sample 2012 - 2106

Table 55 drills down into more specific industry sub-sectors.

Table 55: NAICS Industries where the Proportion of all Workers Who Are Foreign-born is Greater than 50%, Boston

	Proportion of all Workers who are Foreign-Born
Mfg-Fruit And Vegetable Preserving And Specialty Foods	92.5%
Mfg-Textile Product Mills, Except Carpet And Rug	89.8%
Mfg-Animal Slaughtering And Processing	82.2%
Prf-Services To Buildings And Dwellings, Ex Constr Cln	81.3%
Srv-Barber Shops	76.4%
Srv-Electronic And Precision Equipment Repair And Maintenance	73.9%
Ent-Bowling Centers	73.8%
Mfg-Not Specified Industries	73.1%
Trn-Taxi And Limousine Service	73.1%
Agr-Fishing, Hunting, And Trapping	72.5%
Mfg-Construction, And Mining And Oil And Gas Field Machinery	69.2%
Mfg-Cut And Sew Apparel	66.7%
Mfg-Metalworking Machinery	66.1%
Srv-Nail Salons And Other Personal Care Services	65.6%
Mfg-Motor Vehicles And Motor Vehicle Equipment	64.5%
Mfg-Nonferrous Metal, Except Aluminum, Production And Processing	64.3%
Med-Home Health Care Services	64.2%
Ret-Other Direct Selling Establishments	63.4%
Med-Nursing Care Facilities (Skilled Nursing Facilities)	61.2%
Mfg-Bakeries And Tortilla, Except Retail Bakeries	61.1%
Mfg-Machine Shops; Turned Products; Screws, Nuts And Bolts	60.9%
Mfg-Sugar And Confectionery Products	60%
Mfg-Plastics Products	59.2%
Ent-Traveler Accommodation	56.6%
Mfg-Iron And Steel Mills And Steel Products	56.1%
Mfg-Rubber Products, Except Tires	54.7%
Srv-Private Households	54.6%
Ret-Sewing, Needlework And Piece Goods Stores	54.1%
Mfg-Seafood And Other Miscellaneous Foods, N.E.C.	53.8%
Trn-Warehousing And Storage	53.3%
Mfg-Miscellaneous Manufacturing, N.E.C.	53.2%
Whl-Miscellaneous Nondurable Goods Merchant Wholesalers	52.8%
Whl-Furniture And Home Furnishing Merchant Wholesalers	52.5%
Srv-Personal And Household Goods Repair And Maintenance	51%
Mfg-Computer And Peripheral Equipment	50.9%
Mfg-Electronic Components And Products, N.E.C.	50.2%

Source: Public Use Microdata Sample 2012 – 2016

Foreign-born workers are concentrated in industries that generally project extreme growth in employment by 2024; faster than the projected state rate of 7.8% as reported by the Massachusetts Executive Office of Labor and Workforce Development and the Boston Workforce Development Area (WDA). Table 56 shows the industries projected to grow at the state rate or greater in terms of employment by 2024.

Table 56: Industry Projections for Boston WDA to 2024 and Industry Growth at State Rate or Greater, Boston WDA

	Employment 2014	Employment 2024	Change Level	% Change
Total All Industries	634,531	683,742	49,211	7.80%
Ambulatory Health Care Services	20,260	26,287	6,027	29.70%
Social Assistance	17,205	20,742	3,537	20.60%
Other Information Services	1,915	2,233	318	16.60%
Health Care and Social Assistance	128,389	149,540	21,151	16.50%
Non-store Retailers	2,601	3,006	405	15.60%
Support Activities for Transportation	2,813	3,201	388	13.80%
Hospitals	85,053	96,173	11,120	13.10%
Heavy and Civil Engineering Construction	1,599	1,778	179	11.20%
Merchant Wholesalers, Nondurable Goods	3,848	4,279	431	11.20%
Transit and Ground Passenger Transportation	1,961	2,180	219	11.20%
Religious, Grantmaking, Civic, Professional, and Similar Org	11,863	13,191	1,328	11.20%
Other Services (except Government)	21,973	24,105	2,132	9.70%
Accommodation, including Hotels and Motels	11,013	11,927	914	8.30%
Accommodation and Food Services	57,033	61,666	4,633	8.10%
Food Services and Drinking Places	46,020	49,739	3,719	8.10%
Specialty Trade Contractors	5,970	6,445	475	8.00%
Building Material and Garden Equipment and Supplies Dealers	1,000	1,080	80	8.00%
Truck Transportation	865	934	69	8.00%
Scenic and Sightseeing Transportation	980	1,058	78	8.00%
Securities, Commodity Contracts, and Other Financial Investment	30,736	33,180	2,444	8.00%
Professional, Scientific, and Technical Services	70,111	75,686	5,575	8.00%
Administrative and Support Services	28,102	30,337	2,235	8.00%
Nursing and Residential Care Facilities	5,871	6,338	467	8.00%
Personal and Laundry Services	7,704	8,317	613	8.00%
Utilities	1,787	1,929	142	7.90%
Construction	11,426	12,328	902	7.90%
Wholesale Electronic Markets and Agents and Brokers	1,473	1,590	117	7.90%
Couriers and Messengers	1,485	1,603	118	7.90%
Motion Picture and Sound Recording Industries	909	981	72	7.90%
Administrative and Support and Waste Management and Remediation	28,654	30,921	2,267	7.90%
Repair and Maintenance	1,574	1,699	125	7.90%
Private Households	832	898	66	7.90%

Source: Massachusetts Executive Office of Labor and Workforce Development, Boston WDA, https://www.mass.gov/orgs/labor-market-information

Table 57 shows the rate of change in employment levels between 2014 and 2024, and the educational requirements for occupations found in growing industries with at least 1,000 employees. Here, again, it is noted that many of the occupations with the highest growth rate are impacted by the presence of foreign-born workers.

Table 57: 2014-2024 Fastest growing Occupational Projections for Boston WDA by Employment Base of 1,000 Employees or More, Required Education for Entry and 2016 Average Wages

	Employment 2014	Employment 2024	Change Percent	Typical education needed for entry	2016 Average Annual OES Wage*
Management Analysts	10,060	11,665	16.0%	Bachelor's degree	$110,589
Cooks, Restaurant	4,857	5,663	16.6%	No formal educational credential	$29,994
Software Developers, Applications	4,880	5,657	15.9%	Bachelor's degree	$108,115
Market Research Analysts and Marketing Specialists	4,571	5,445	19.1%	Bachelor's degree	$77,061
Computer Systems Analysts	4,445	5,254	18.2%	Bachelor's degree	$95,813
Personal Care Aides	3,914	5,124	30.9%	No formal educational credential	$27,441
Personal Financial Advisors	4,000	4,828	20.7%	Bachelor's degree	$97,402
Home Health Aides	2,836	4,047	42.7%	No formal educational credential	$29,910
Health Specialties Teachers, Postsecondary	2,671	3,165	18.5%	Doctoral or professional degree	$138,094
Nurse Practitioners	1,969	2,547	29.4%	Master's degree	$130,384
Self-Enrichment Education Teachers	1,744	2,029	16.3%	High school diploma or equivalent	$43,736
Emergency Medical Technicians and Paramedics	1,624	1,998	23.0%	Postsecondary non-degree award	$37,418
Social and Community Service Managers	1,679	1,942	15.7%	Bachelors' degree	$72,989
Web Developers	1,344	1,681	25.1%	Associates' degree	$80,414
Physical Therapists	1,341	1,638	22.1%	Doctoral or professional degree	$86,834
Taxi Drivers and Chauffeurs	1,357	1,638	20.7%	No formal educational credential	$26,846
Preschool Teachers, Except Special Education	1,249	1,499	20.0%	Associate's degree	$36,042
Mental Health Counselors	1,143	1,348	17.9%	Master's degree	$45,150

Source: Massachusetts Executive Office of Labor and Workforce Development, Boston WDA, https://www.mass.gov/orgs/labor-market-information

* The Occupation Employment Statistics (OES) is a program administered by the Bureau of Labor Statistics to develop wage and employment estimates for occupations and specific industries.

The next table (Table 58) continues with the same storyline: some industries with the highest level of annual payroll change between 2010 and 2016 are those with relatively high proportions of foreign-born workers. This table, based on *U.S. County Business Patterns* for both these years, shows that the annual payroll in professional, scientific, and technical services rose from $5,359,292,000 (or $5.36 billion, rounded) to $8,906,116,000 (or $8.9 billion), 66.2% between 2010 and 2016. In transportation and warehousing, the annual payroll increase went from $819,823,000 to $1,311,425,000 or an increase of 60.0%. The construction industries realized a gain of 57.7%, from $708,000,000 in 2010 to $1,116,263,000 in 2016. These are industries heavily dependent on the presence of foreign-born workers.

Table 58: Number of Establishments, Percent Change in Employees and Annual Payroll, 2010 to 2016, Suffolk County

NAICS Industries	Number of establishments 2010*	Number of Establishments 2016*	Percent Change between 2010 and 2016	Paid employees for pay period 2010	Paid employees for pay period 2016	Percent Change between 2010 and 2016	Annual payroll ($1,000) 2010	Annual payroll ($1,000) 2016	Percent Change between 2010 and 2016
Wholesale trade	755	677	-10.3%	11,037	13,555	22.8%	769,768	1,347,194	75.0%
Professional, scientific, and technical services	3,017	3,338	10.6%	50,862	74,266	46.0%	5,359,292	8,906,116	66.2%
Transportation and warehousing	488	513	5.1%	16,952	20,827	22.9%	819,823	1,311,425	60.0%
Construction	837	952	13.7%	8,872	11,800	33.0%	708,000	1,116,263	57.7%
Information	521	578	10.9%	16,557	20,504	23.8%	1,331,836	2,091,366	57.0%
Accommodation and food services	2,364	2,601	10.0%	50,140	63,727	27.1%	1,217,512	1,757,248	44.3%
Management of companies and enterprises	173	183	5.8%	14,566	22,286	53.0%	1,443,162	1,986,409	37.6%
Retail trade	2,405	2,501	4.0%	30,157	36,281	20.3%	819,739	1,127,025	37.5%
Other services (except public administration)	2,318	2,398	3.5%	20,488	22,740	11.0%	743,922	1,015,136	36.5%
Real estate and rental and leasing	1,045	1,294	23.8%	10,792	12,982	20.3%	837,863	1,138,246	35.9%
Manufacturing	324	345	6.5%	9,688	10,504	8.4%	529,421	706,931	33.5%
Total for all sectors	19,525	21,204	8.6%	556,104	612,391	10.1%	39,422,039	51,556,573	30.8%
Finance and insurance	1,796	1,891	5.3%	87,124	72,492	-16.8%	12,660,951	15,490,158	22.3%
Arts, entertainment, and recreation	311	395	27.0%	10,707	12,959	21.0%	702,720	85,6241	21.8%
Educational services	348	416	19.5%	52,516	60,109	14.5%	1,983,295	2383,117	20.2%
Administrative and support and waste management and remediation services	957	1,105	15.5%	34,891	32,510	-6.8%	1,354,295	1,526,497	12.7%
Health care and social assistance	1,775	1,895	6.8%	129,045	123,222	-4.5%	7,967,937	8,607,854	8.0%

Source: Table based on U.S. County Business Patterns, Suffolk County 2010 and 2016
*Only establishments with at least 1 paid employee

Income and Earnings[29]

This section describes the income and earnings characteristics of native-born and foreign-born workers. Table 59 indicates that the median household income is significantly different for native-born ($66,967) and foreign-born households ($42,913). The latter represents 64.0% of the former. And Mean Earnings, Mean Social Security Income, Mean Supplemental Security income, Mean Public Assistance Income, and Mean Retirement Income are larger for native-born households.

Table 59: Income in the Past 12 Months, Boston*

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized Citizen	Foreign-Born; Not a U.S. Citizen
Households	259,324	178,320	81,004	46,078	34,926
With earnings	79.6%	80.3%	78.2%	75.7%	81.4%
Mean earnings (dollars)	$96,828	$107,199	$73,372	$77,678	$68,089
With Social Security income	20.0%	19.7%	20.5%	28.8%	9.4%
Mean Social Security income (dollars)	14,816	15,714	12,910	13,034	12,412
With Supplemental Security Income	8.2%	8.0%	8.6%	11.4%	4.9%
Mean Supplemental Security Income (dollars)	9,243	9,422	8,872	8,760	9,218
With cash public assistance income	3.8%	3.0%	5.4%	5.8%	4.8%
Mean cash public assistance income (dollars)	3,967	4,494	3,308	2,651	4,348
With retirement income	8.7%	9.7%	6.4%	9.2%	2.7%
Mean retirement income (dollars)	27,021	29,185	19,749	20,499	16,417
With Food Stamp/SNAP benefits	19.1%	15.7%	26.5%	29.8%	22.2%
Median Household income (dollars)	58,516	66,967	42,913	45,692	40,861
Average number of workers per household	1.28	1.26	1.33	1.29	1.39

Source: American Fact Finder, American Community Survey 2012 - 2016
*In 2016 Inflation-Adjusted Dollars

Median earnings for full-time, year-round workers also reflect a gap between native-born and foreign-born workers; however, more noticeably is the gender gap between native-born and foreign-born males and females. The table and chart below show that the median earnings gap is largest between native-born males ($65,142) and females ($56,636), compared to all foreign-born males ($42,772) and females ($40,360). The latter is impacted by lower earnings of foreign-born individuals who are not U.S. citizens.[30]

[29] The American Community Survey categorizes eight types of income: 1) wage or salary income; 2) self-employment income; 3) interest, dividends, net rental income, royalty income, or income from estates and trusts; 4) social security income; 5) supplemental security income (SSI); 6) public assistance income; 7) retirement, survivor, or disability income; and 8) all other income ("unemployment compensation, worker's compensation, Department of Veterans Affairs (VA) payments, alimony and child support, contributions received periodically from people not living in the household, military family allotments, and other kinds of periodic income other than earnings"). Also, household income and family income include persons 15 years and older; earnings include all wage and salary income and/or net income from self-employment, for people 16 years old and over; see American Community Survey and Puerto Rico Community Survey, 2016 Subject Definitions, https://www.census.gov/

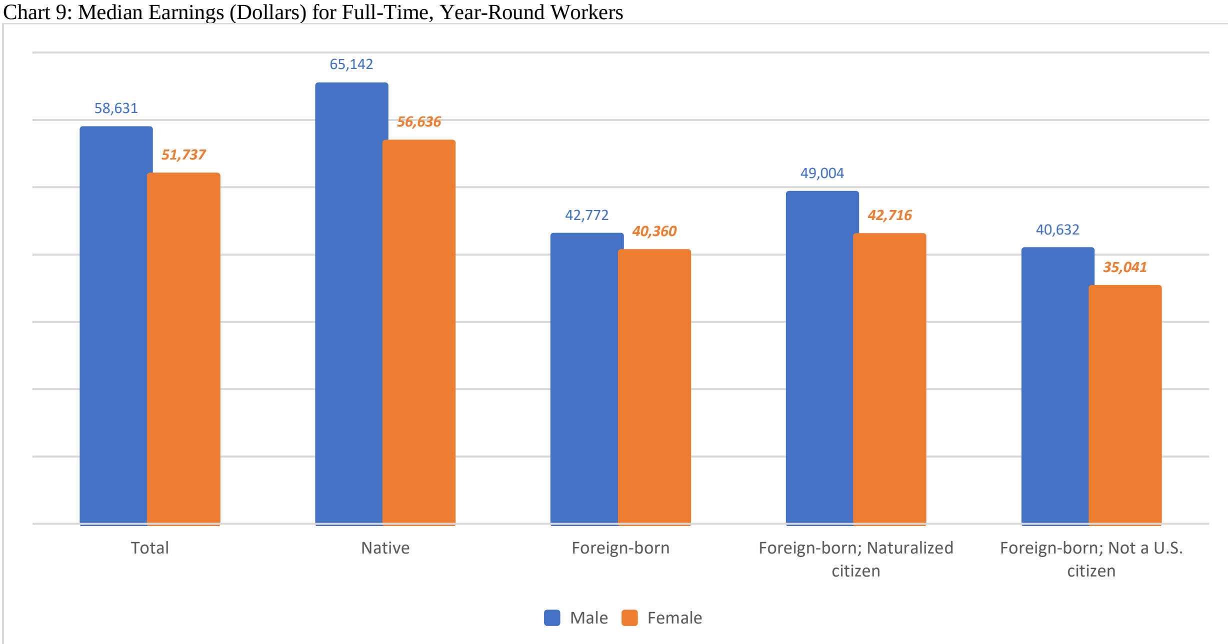
[30] Also see, Osterman et al., 2017 showing how this income disparity is exacerbated by education differences and by English language skills.

Table 60: Median Earnings (Dollars) for Full-Time, Year-Round Workers, Boston

	Total	Native-Born	Foreign-Born	Foreign-Born; Naturalized U.S. Citizen	Foreign-Born; Not a U.S. Citizen
Male	$58,631	$65,142	$42,772	$49,004	$40,632
Female	$51,737	$56,636	$40,360	$42,716	$35,041

Source: American Fact Finder, American Community Survey 2012 - 2016

Chart 9: Median Earnings (Dollars) for Full-Time, Year-Round Workers



In Suffolk County a higher proportion of all foreign-born households (13.5%) than native-born households (9.7%) report household incomes at $35,000 or lower.

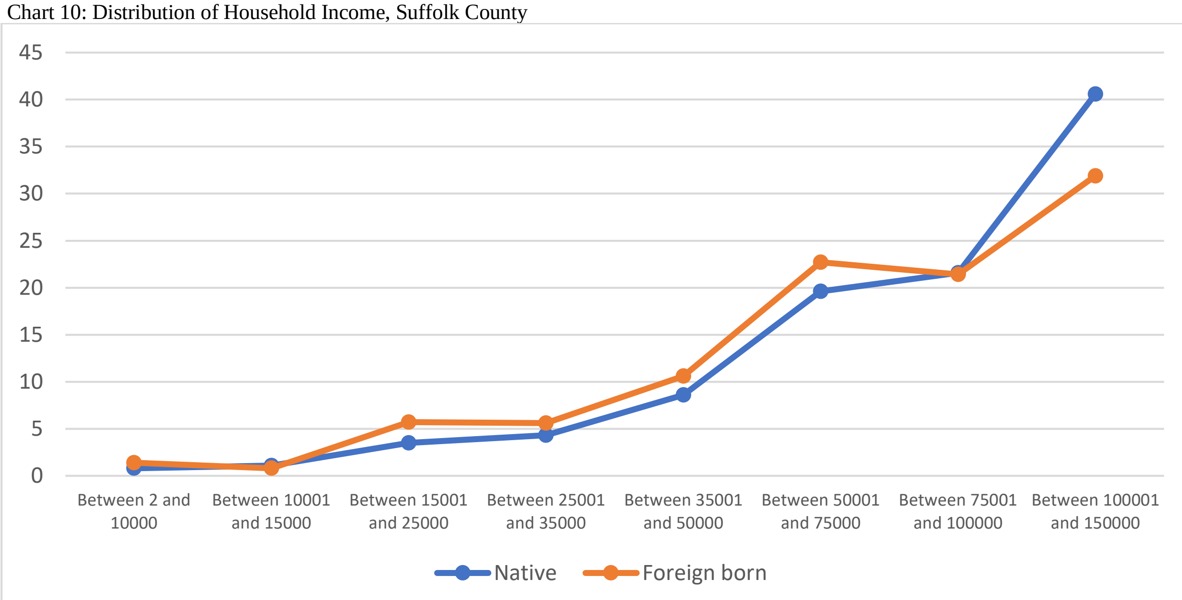
Table 61: Distribution of Household Income, Suffolk County*

	% Native-Born	% Foreign-Born
Between $2 and $10,000	0.8%	1.4%
Between 10001 and 15000	1.1%	0.8%
Between 15001 and 25000	3.5%	5.7%
Between 25001 and 35000	4.3%	5.6%
Between 35001 and 50000	8.6%	10.6%
Between 50001 and 75000	19.6%	22.7%
Between 75001 and 100000	21.6%	21.4%
Between 100001 and 150000	40.6%	31.9%

Source: Public Use Microdata Sample 2012 – 2016

*A few households in both categories did not have income, or lost income; these are not shown

Chart 10: Distribution of Household Income, Suffolk County



The total wages paid native born workers in Suffolk County was approximately $16.7 billion and $5.8 billion to foreign-born workers.

Table 62: Total Wages Paid Last 12 Months, by Nativity and Suffolk County

Suffolk County	$22,507,031,880	100%
Native Workers	$16,721,398,450	74.3%
Foreign-born Workers	$5,785,633,430	25.7%

Source: Public Use Microdata Sample 2012 – 2016

Table 63 indicates that workers born in the United States reported higher average income ($62,536) than foreign-born persons who are citizens ($48,431), and significantly higher than foreign-born persons who are not naturalized ($39,141).

Table 63: Average Personal Income and Total Personal Income by U.S. citizenship, Boston

	Average Personal Income	Weighted Total Personal Income
Total by Citizenry	$56,043	$23,528,234,200
Born in the U.S.	62,536	17,410,226,277
Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas	39,878	275,115,230
Born Abroad of American Parent(s)	43,686	359,009,000
U.S. Citizen by Naturalization	48,431	2,815,741,586
Not a Citizen of the U.S.	39,141	2,668,142,107

Source: Public Use Microdata Sample 2016

The next table shows average personal earnings for foreign-born workers (persons 16 years and older); those who are naturalized report average earnings at $44,830 compared to $52,739, or 85% of earnings for native-born persons. The number of foreign-born persons who are not citizens contributes to this gap; foreign-born persons who are not naturalized realize approximately 71.2% of the earnings realized by native-born workers.

Table 64: Personal Earnings by Nativity and Naturalization (PERNP) , Boston

	Total PERNP	Average PERNP	Weighted Total PERNP
Total CIT	419,827	$52,739	$22,141,214,170
Born in the U.S.	278,403	$58,768	$16,361,187,504
Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas	6,899	$39,059	$269,465,281
Born abroad of American parent(s)	8,218	$41,642	$342,212,312
U.S. citizen by naturalization	58,139	$44,830	$2,606,348,114
Not a citizen of the U.S.	68,168	$37,584	$2,561,998,845

Source: Public Use Microdata Sample 2016

There are major differences in average personal earnings by nativity when schooling levels are considered. Overall, the average personal earnings for foreign-born workers is lower ($40,879) than that of native-born workers ($54,108). But Table 65 shows that the overall figures obscures major differences by actual level of schooling. At lower levels of schooling the gaps of average personal earnings between these two types of workers are smaller, than at the higher levels of schooling, where they begin to increase with an Associate degree.

Table 65: Average Personal Earnings by Nativity for all School Levels

Total School	$50,256
Native-Born	$54,108
Foreign-Born	$40,879

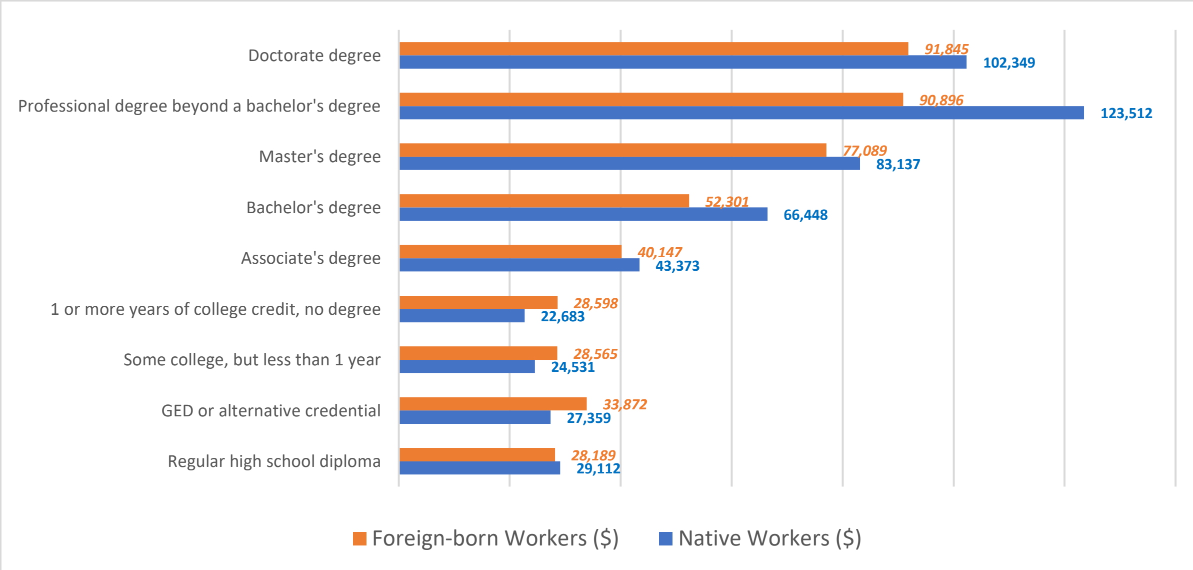
Source: Public Use Microdata Sample 2012 – 2016

Table 66: Average Personal Earnings by Education Attainment, Nativity, Boston

	Native-Born Workers ($)	Foreign-Born Workers ($)	Foreign-Born Percentage of Native-born Earnings
Regular high school diploma	$29,112	$28,189	96.8%
GED or alternative credential	27,359	33,872	1.2x
Some college, but less than 1 year	24,531	28,565	1.1x
1 or more years of college credit, no degree	22,683	28,598	1.3x
Associate's degree	43,373	40,147	92.5%
Bachelor's degree	66,448	52,301	78.7%
Master's degree	83,137	77,089	92.7%
Professional degree beyond a bachelor's degree	123,512	90,896	73.5%
Doctorate degree	102,349	91,845	89.7%

Source: Public Use Microdata Sample 2012 – 2016

Chart 11: Average Personal Earnings by Education Attainment, Nativity, Boston



The above figures include income and earnings for workers regardless of the industry in which they are found. Table 67 highlights industries by average wages paid and nativity.

Table 67: Average Wages Paid by Industry and Nativity, Boston

	Average Wages Paid	Native-born	Foreign-born
Mfg-Electric Lighting And Electrical Equipment Manufacturing, And Other Electrical Component Manufacturing, N.E.C.	$54,786.30	$23,374.30	$162,572.50
Med-Outpatient Care Centers	$60,582.60	$43,492.40	$149,631.60
Adm-Executive Offices And Legislative Bodies	$120,232.30	$115,711.60	$140,970.60
Edu-Business, Technical, And Trade Schools And Training	$95,184.80	$87,979.40	$130,394.30
Adm-Administration Of Human Resource Programs	$126,533.90	$127,702.30	$123,359.20
Mfg-Computer And Peripheral Equipment	$56,431.00	$38,750.00	$112,000.00
Edu-Colleges, Universities, And Professional Schools, Including Junior Colleges	$92,938.30	$93,031.70	$91,881.20
Ent-Museums, Art Galleries, Historical Sites, And Similar Institutions	$85,527.00	$84,890.20	$88,739.70
Inf-Motion Picture And Video Industries	$71,440.30	$42,300.00	$86,365.90
Med-Hospitals	$65,228.50	$52,289.20	$86,020.90
Inf-Software Publishers	$68,463.90	$47,896.00	$82,149.80
Ent-Performing Arts, Spectator Sports, And Related Industries	$84,141.80	$88,173.00	$80,201.90
Fin-Real Estate	$74,282.70	$73,945.30	$77,708.60
Mfg-Miscellaneous Fabricated Metal Products	$51,671.10	$48,110.80	$75,000.00

Source: Public Use Microdata Sample 2012 – 2016

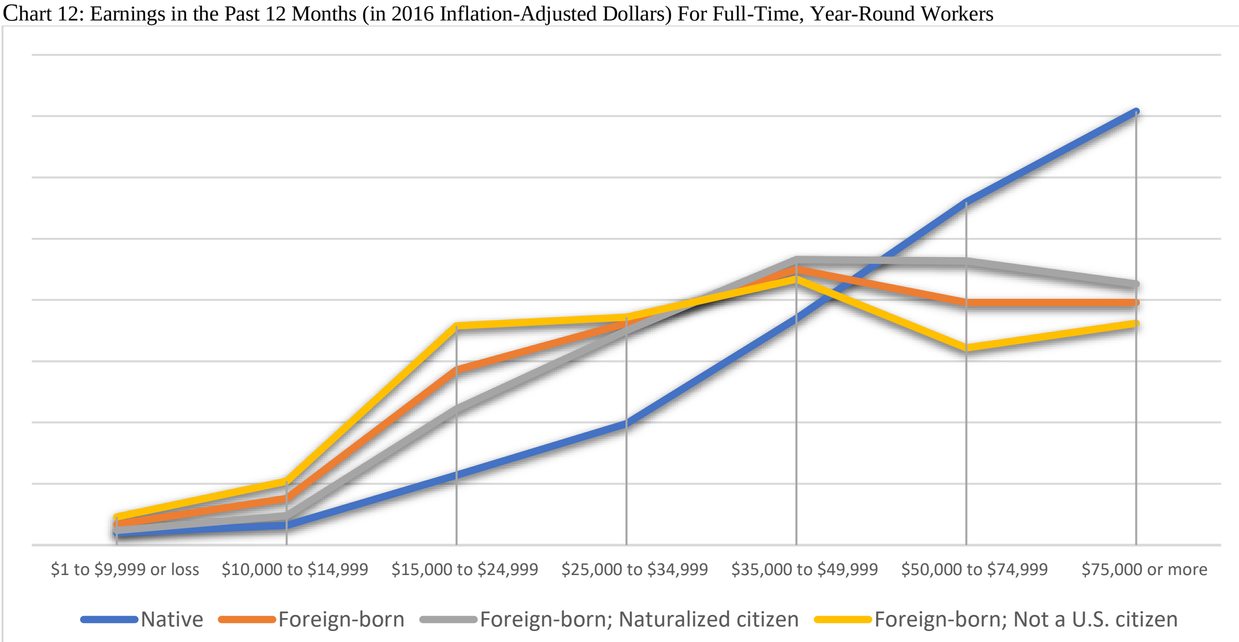
Table 68 shows that when isolating only full-time and year-round workers there is a greater proportion of native-born workers (63.4%) with earnings in the $50,000 or more range, compared to foreign-born workers (39.6%). Foreign-born persons who are not naturalized are found less frequently in this income range than those who are naturalized.

Table 68: Earnings in the Past 12 Months (in 2016 Inflation-Adjusted Dollars) For Full-Time, Year-Round Workers, Boston

	Total	Native-Born Workers	Foreign-Born Workers	Foreign-Born; Naturalized Citizen	Foreign-Born; Not a U.S. Citizen
Population 16 years and over with earnings	100%	100%	100%	100%	100%
$1 to $9,999 or loss	1.2%	1.0%	1.7%	1.2%	2.3%
$10,000 to $14,999	2.2%	1.6%	3.8%	2.4%	5.2%
$15,000 to $24,999	8.2%	5.7%	14.3%	11.1%	17.9%
$25,000 to $34,999	12.2%	9.9%	18.1%	17.5%	18.6%
$35,000 to $49,999	19.6%	18.5%	22.5%	23.3%	21.7%
$50,000 to $74,999	25.6%	28.0%	19.8%	23.2%	16.1%
$75,000 or more	30.9%	35.4%	19.8%	21.3%	18.1%

Source: American Fact Finder, American Community Survey 2012 - 2016

Chart 12: Earnings in the Past 12 Months (in 2016 Inflation-Adjusted Dollars) For Full-Time, Year-Round Workers



There are disparities in some of the economic experiences of foreign-born women compared to males; disparities also exist between native-born males and females. For example, Table 69 shows that 34% of all native-born males and 36% of all native-born females earned wages or salaries at $30,000 or less; but 41% of all foreign-born female workers were paid this amount, compared to 32% of foreign-born male workers.

Table 69: Wages or Salary Income Past 12 months Percent Distribution, Nativity and Sex, Boston

	Native-Born			Foreign-Born		
	Total	Male	Female	Total	Male	Female
Between $1 and $15000	17%	16%	17%	20%	15%	25%
Between 15001 and 30000	19%	18%	19%	16%	17%	16%
Between 30001 and 50000	22%	15%	27%	25%	28%	22%
Between 50001 and 75000	24%	25%	24%	17%	15%	20%
Between 75001 and 100000	9%	10%	8%	10%	10%	10%
Between 100001 and 150000	6%	9%	4%	7%	9%	5%
Between 150001 and 999999	4%	7%	1%	4%	7%	2%

Source: Public Use Microdata Sample 2012 – 2016

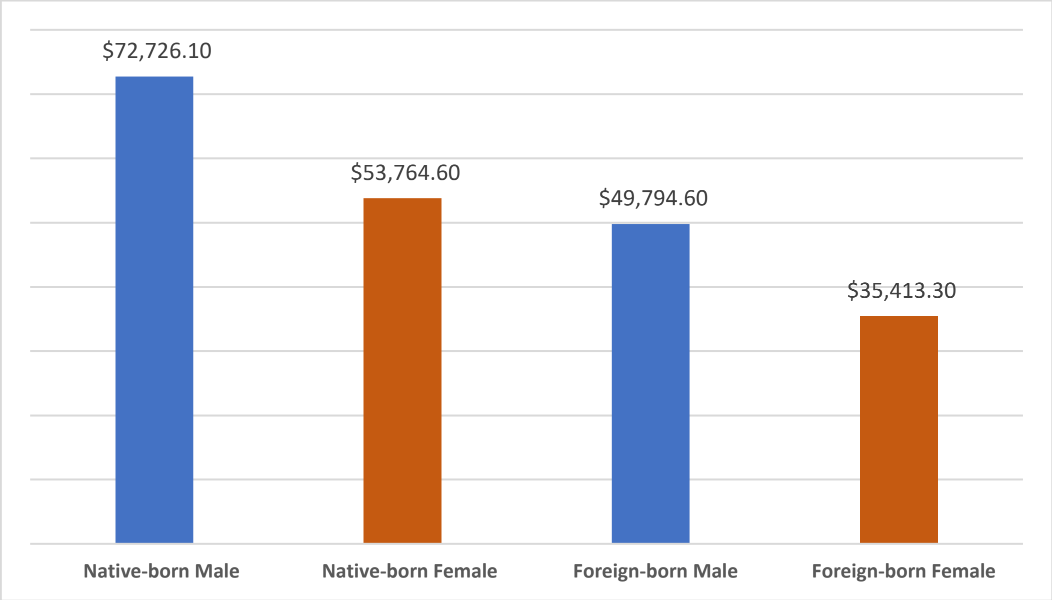
Average personal income and wages show that foreign-born workers earn less than native-born workers (Table 70), but, there is a clear gender hierarchy mostly reflected in much lower earnings (income and wages) on the part of foreign-born women. The following chart illustrates these differences in cluster columns.

Table 70: Average Personal Income by Nativity and Sex, Boston

Native-Born	$63,011.80
Male	$72,726.10
Female	$53,764.60
Foreign-Born	$42,341.80
Male	$49,794.60
Female	$35,413.30

Source: Public Use Microdata 2016

Chart 13: Average Personal Income by Nativity and Sex, Boston



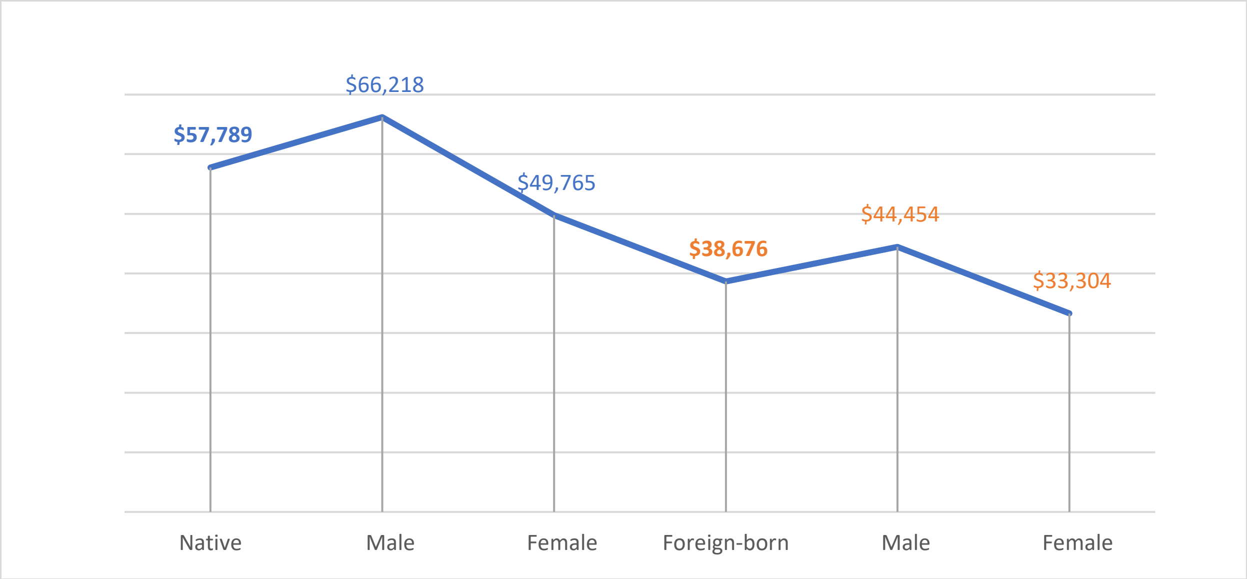
The table below reflects the average wages (versus average personal income) by nativity and differences between males and female workers

Table 71: Average Wages by Nativity and Sex, Boston

	Average Wages
Native-Born	$57,788
Male	66,217
Female	49,764
Foreign-Born	$38,675
Male	44,454
Female	33,304

Source: Public Use Microdata Sample 2016

Chart 14: Average Wages by Nativity and Sex, Boston



Source: Public Use Microdata Sample 2016

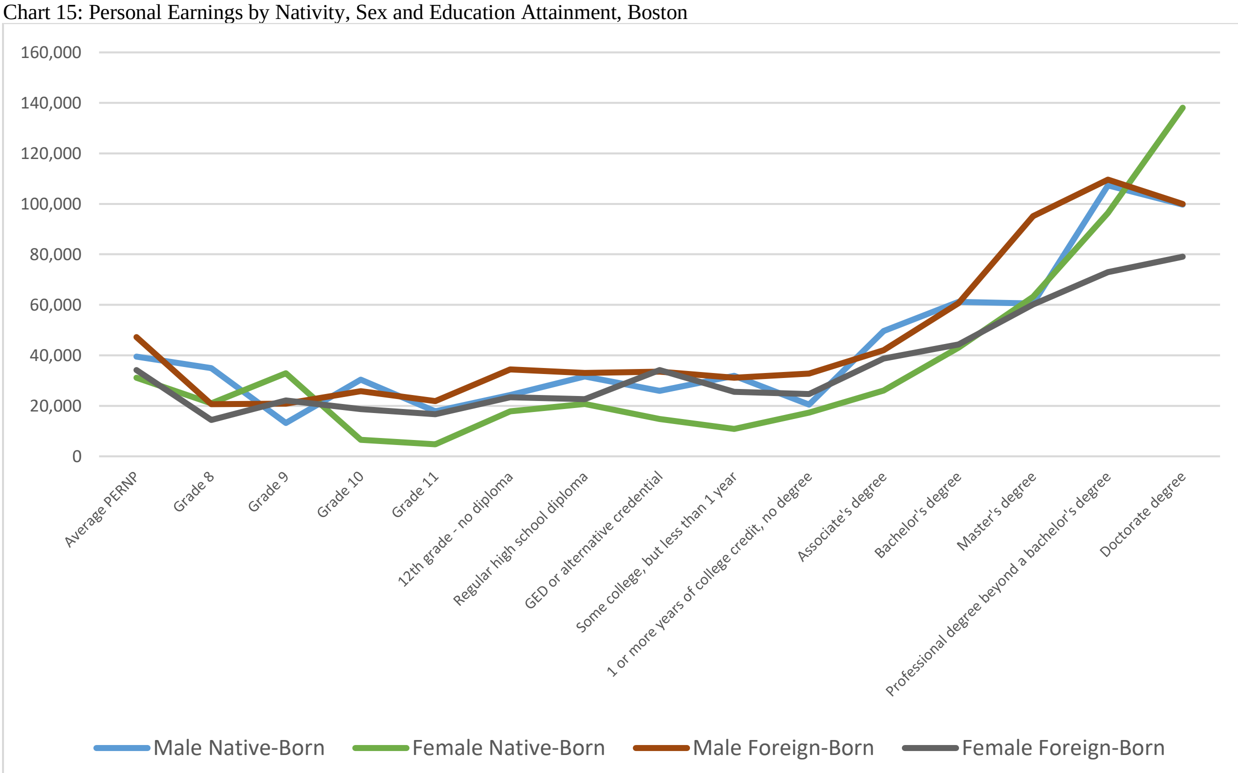
Wage disparities by gender remain evenly controlled for education. Table 72 and the chart that follows shows a consistent pattern of foreign-born women earning less than foreign-born men, but in some cases much lower than native-born women.

Table 72: Personal Earnings by Nativity, Sex and Education Attainment, Boston

	Total Native-Born	Male Native-Born	Female Native-Born	Total Foreign-Born	Male Foreign-Born	Female Foreign-Born
Average Personal Earnings	35,043	39,519	31,154	40,875	47,247	34,200
Grade 8	34,304	34,993	21,000	17,768	20,648	14,393
Grade 9	22,870	13,204	32,926	21,425	20,840	22,187
Grade 10	23,150	30,417	6,563	22,027	25,749	18,672
Grade 11	12,946	17,777	4,763	18,866	21,888	16,659
12th grade - no diploma	20,079	24,300	17,823	28,673	34,450	23,417
Regular high school diploma	26,095	31,680	20,750	28,189	33,040	22,653
GED or alternative credential	19,866	25,961	14,779	33,872	33,477	34,179
Some college, but less than 1 year	20,716	31,903	10,871	28,565	31,076	25,542
1 or more years of college credit, no degree	18,738	20,459	17,352	28,598	32,797	24,608
Associate's degree	33,058	49,660	26,070	40,147	42,007	38,753
Bachelor's degree	50,594	61,225	43,043	52,301	60,654	44,285
Master's degree	62,407	60,563	63,219	77,089	95,086	60,205
Professional degree beyond a bachelor's degree	103,106	107,324	96,429	90,896	109,603	72,944
Doctorate degree	123,748	99,761	138,078	91,845	99,904	79,070

Source: Public Use Microdata Sample 2012 – 2016

Chart 15: Personal Earnings by Nativity, Sex and Education Attainment, Boston



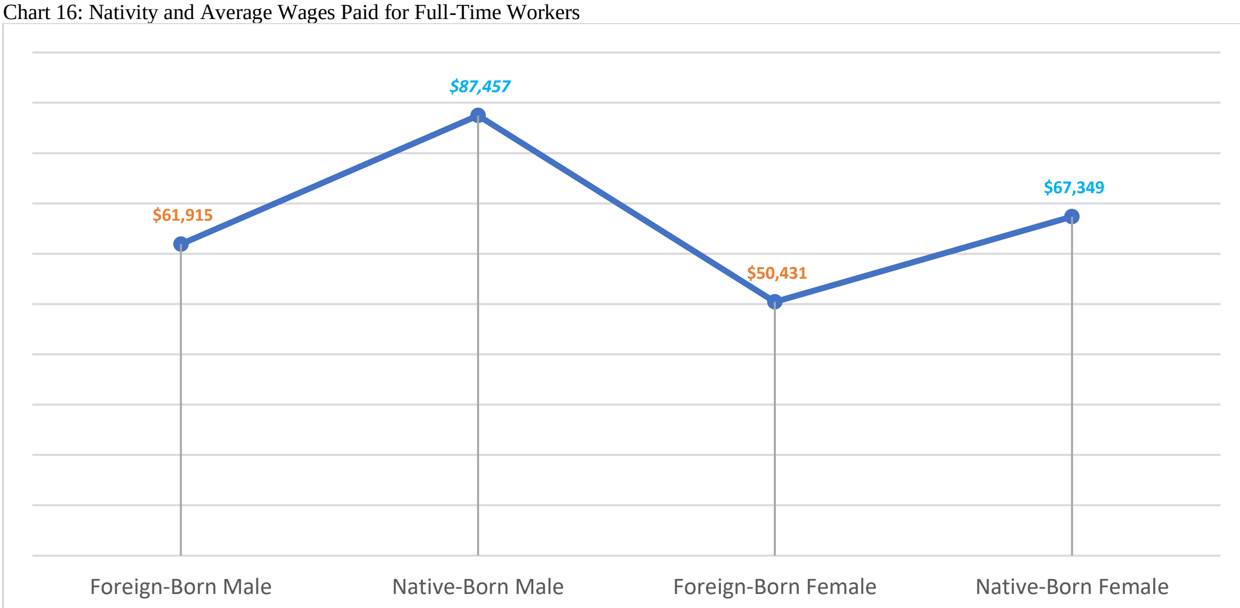
The next table shows average wages paid by nativity and sex but only for full-time workers (who worked 50 to 52 weeks in the last year and recorded at least 35 hours per week). Foreign-born male workers were paid 70.8% of native-born workers, and foreign-born women workers were paid 74.8% of the average wages paid to native-born women workers. The latter were paid 77% of what native-born workers were paid, and foreign-born women workers were paid 81.4% of what foreign-born male workers were paid.

Table 73: Nativity, Sex and Average Wages Paid for Full-Time Workers, Boston

Full-Time Workers	Average Wages Paid Last 12 Months
Foreign-Born Male	$ 61,915.00
Native-Born Male	$ 87,457.40
Foreign-Born Female	$ 50,431.30
Native-Born Female	$ 67,348.90

Source: Public Use Microdata Sample 2012 – 2016

Chart 16: Nativity and Average Wages Paid for Full-Time Workers



Foreign-born workers in Boston generated $5,168,350,260 in overall earnings; this represents 23.3% of all earnings ($22.1 billion). But Table 74 continues to show that foreign-born persons who are not naturalized earn less; this has implications for strategies or policies for increasing citizenship to enhance economic productivity. A report published by the Urban Institute, for example, concluded that immigrants who are eligible for citizenship, if they became naturalized citizens, would realize higher earnings by 8.9%, pointing to greater federal, state and local tax revenues.[31] Table 74: Citizenship, Sex and Average Income for Boston, depicts the same thing. However, the average incomes paid to foreign-born persons who are not naturalized is considerably lower.

[31] Enchautegui, M. and Giannarelli, L. *The Economic Impact of Naturalization on Immigrants and Cities*, The Urban Institute (2015).

Table 74: Citizenship, Sex and Average Earnings, Boston

	Average PERNP	Weighted total PERNP
Total Citizenry	$52,738.90	$22,141,204,630
Male	$59,317.20	$12,292,309,860
Female	$46,326.60	$9,848,894,770
Born in the U.S.	$58,768.00	$16,361,176,400
Male	$65,515.90	$8,959,817,270
Female	$52,252.90	$7,401,359,130
Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas	$39,058.60	$269,465,300
Male	$39,817.20	$155,048,200
Female	$38,075.60	$114,417,100
Born abroad of American Parent(s)	$41,641.80	$342,212,670
Male	$43,891.90	$148,530,120
Female	$40,066.70	$193,682,550
U.S. Citizen by Naturalization	*$44,829.60*	*$2,606,349,670*
Male	*$52,033.30*	*$1,418,375,140*
Female	*$38,470.70*	*$1,187,974,530*
Not a Citizen of the U.S.	*$37,583.60*	*$2,562,000,590*
Male	*$44,818.10*	*$1,610,539,130*
Female	*$29,518.20*	*$951,461,460*

Source: Public Use Microdata Sample 2016

Table 75: Average Personal Income by Nativity and Citizenship, Boston

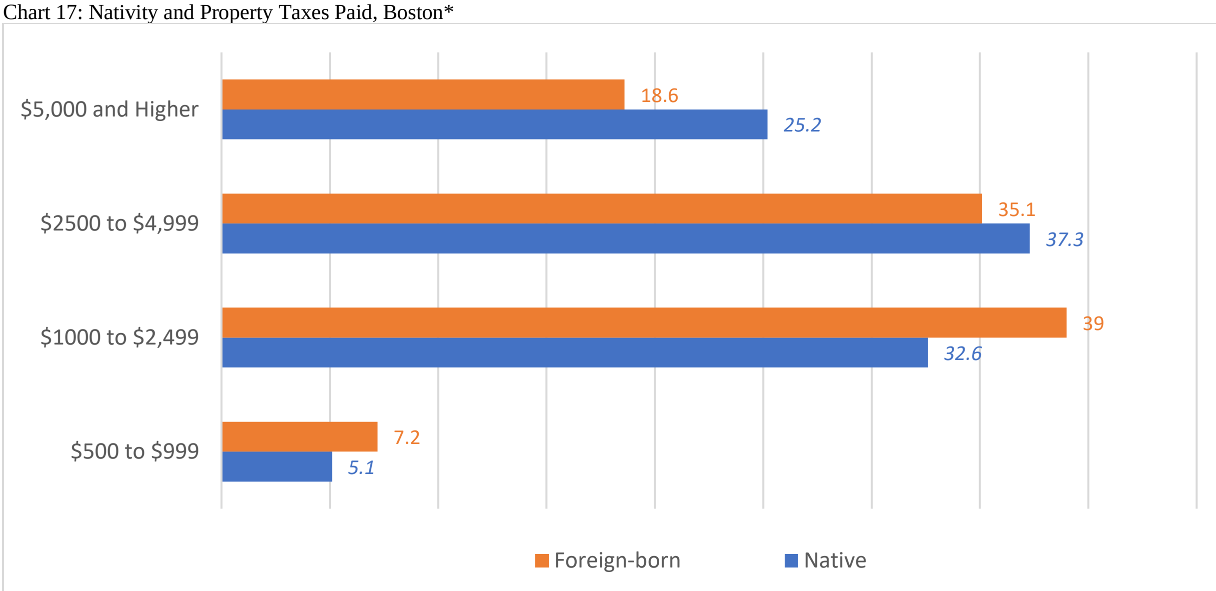
Average Personal Income	
Native-Born	$63,011
Male	72,726
Female	53,764
Foreign-Born	$42,341
Male	49,794
Female	35,413
U.S. citizen by naturalization	*$47,183*
Male	*53,063*
Female	*42,146*
Not a citizen of the U.S.	*$38,095*
Male	*47,147*
Female	*29,057*

Source: Public Use Microdata Sample 2016

Foreign-born workers are also consumers, of course. They make significant payments in a range of taxes, including state and local, and real estate. These taxes generate an enormous amount of household demand. According to the American Immigration Council foreign born persons in Mass have contributed billions of dollars in taxes. Foreign born persons led households in the state paid $6.5 billion in federal taxes and $3 billion in state and local taxes in 2014. Massachusetts residents in foreign-born-led households had $27.3 billion in spending power (after-tax income) in 2014.[32]

The next chart (based on PUMS 2012 – 2016) shows that in Boston approximately 18.6% of all foreign-born workers paid $5,000 or more in taxes (compared to 25.2% of native-born workers); 35.1% of all foreign-born workers compared to 37.3% of all native-born workers paid taxes in the range of $2,500 to $4,999. Approximately 46.2% of all foreign-born workers compared to 37.7% of all native-born workers reported tax payments between $500 and $2,499.

Chart 17: Nativity and Property Taxes Paid, Boston*



*Taxes include state, local and other real estate taxes

The above shows that millions of dollars are paid in property and real estate taxes by both native-born and foreign-born workers at similar ranges, except for those who pay very high taxes at $5,000 or more.

In addition to paying a range of taxes, foreign-born workers generate household and market demand contributing significantly to the local economic productivity. Foreign-born workers reported more than $5 billion dollars of personal income in Boston, representing 23.3% ($5,483,883,693) of all personal income ($23,528,234,200), as illustrated in Table 74. Personal income and earnings translate into

[32] "Immigrants in Massachusetts," *American Immigration Council*, 2017.

consumer expenditures.[33] And this can generate demand for a range of services and products in interconnected industries.[34]

Data collected by IMPLAN was utilized to build tables showing *proximate* market demand generated by all households and foreign-born households. IMPLAN calculated the household commodity demand for all industries in Suffolk County for 2016.[35] The proportion of foreign-born households among all households at the income levels used by IMPLAN was calculated and this breakdown was used to obtain an appropriation of household commodity demand generated by industry sectors.[36] (Table 76). IMPLAN software was used to calculate the household commodity demand associated with foreign-born households by various industry sectors. Table 77 only shows the results for households with incomes below $35,000 to emphasize that even at this level, billions of dollars are generated by foreign-born workers as workers and consumers.

Table 76: Foreign-born Households by Household Income Distribution, Suffolk County

	Proportion of Foreign-born Households
$10,000 or less	39%*
$10,000 to $15,000	25%
$15,000 to $25,000	40%
$25,000 to $35,000	36%
$35,000 to $50,000	33%
$50,000 to $75,000	34%
$75,000 to $100,000	30%
$100,000 to $150,000	27%
$150,000 or more	18%

Source: Public Use Microdata Sample 2012 - 2016
*At this household income level, 39% of all households are Foreign-born; overall, foreign-born workers comprise 27% of all workers in Suffolk County.

[33] A more precise relationship between personal income and consumer expenditures would require looking at taxes paid, but also remittances that are made by foreign-born workers. Also see, Johnson, James H. and Appold, Stephen J., "Demographic and Economic Impacts of International Migration to North Carolina," *UNC Kenan-Flagler Business School*, April 2014, pp.18.
[34] It is important to note that "Determining the net cost or benefit of a demographic…to state and local finances is a multifaceted and complex effort. It also is fraught with potential oversights and sometimes questionable assumptions. Studies conducted elsewhere of net public costs or benefits of immigrants on states have often resulted in conflicting analysis, depending on the assumptions and models used." See, Johnson and Appold, pp. 29.
[35] IMPLAN utilizes the following sources to employment and labor income and demand: Bureau of Labor Statistics, Quarterly Census of Employment and Wages (CEW); Census Bureau's County Business Patterns (CBP); Bureau of Economic Analysis (BEA) Regional Economic Accounts (REA); Annual Survey of Manufacturers; as well as other related sources. See, *U.S. Data Methods and Sources*, IMPLAN Knowledge Base, "IMPLAN Source Data for Employment and Labor Income," www.implan.com
[36] Based on IMPLAN calculations household demand refers to the total goods and services generated based on wages, income paid to households by various industries.

Table 77: Household Demand by Industry, Nativity and HH Income Less than $35,000*

Industry	Households LT10k ($)	39% of All HH are Foreign-Born	Households 10-15k ($)	25% of All HH are Foreign-Born	Households 15-25k ($)	40% of All HH are Foreign-Born	Households 25-35k ($)	36% of All HH are Foreign-Born
Hospital services	371,572,357	144,913,219	247,475,235	61,868,809	119,607,414	47,842,966	119,281,921	429,415
Real estate buying and selling, leas...	268,146,637	104,577,188	201,771,698	50,442,925	119,127,098	47,650,839	119,218,910	429,188
Imputed rental services of owner-occ...	190,532,867	74,307,818	203,485,397	50,871,349	143,180,481	57,272,192	167,216,873	601,981
Wholesale trade distribution service...	107,758,728	42,025,904	103,180,130	25,795,033	69,506,432	27,802,573	72,633,301	261,480
Junior colleges, colleges, universities	87,749,420	34,222,274	43,469,006	10,867,252	19,371,058	7,748,423	26,453,323	95,232
Limited-service restaurant services	74,762,955	29,157,552	66,444,801	16,611,200	45,995,823	18,398,329	48,772,118	175,580
Pharmaceuticals	65,465,759	25,531,646	84,851,265	21,212,816	47,687,767	19,075,107	49,553,127	178,391
Insurance	61,666,126	24,049,789	66,052,063	16,513,016	44,231,430	17,692,572	47,158,764	169,772
Offices of physicians	60,646,622	23,652,183	95,390,747	23,847,687	54,200,676	21,680,270	58,724,762	211,409
Nursing and community care services	57,330,204	22,358,780	153,766,327	38,441,582	58,365,639	23,346,256	15,279,690	55,007
Electricity transmission and distribution	51,260,998	19,991,789	47,402,512	11,850,628	28,673,021	11,469,208	28,945,076	104,202
Retail services – Non-store retailers	51,207,157	19,970,791	49,777,679	12,444,420	33,678,501	13,471,400	35,147,110	126,530
Wired telecommunications	47,967,995	18,707,518	46,633,408	11,658,352	31,523,739	12,609,496	33,370,804	120,135
Wireless telecommunications (except ...	47,578,785	18,555,726	47,502,754	11,875,689	33,927,887	13,571,155	35,446,579	127,608
Retail services - General merchandise	46,996,906	18,328,793	45,684,959	11,421,240	30,909,456	12,363,782	32,257,317	116,126
Full-service restaurant services	44,110,577	17,203,125	39,202,820	9,800,705	27,137,802	10,855,121	28,775,831	103,593
Retail services - Food and beverage ...	43,296,288	16,885,552	42,087,646	10,521,912	28,475,592	11,390,237	29,717,319	106,982
Legal services	35,423,515	13,815,171	12,736,220	3,184,055	8,065,812	3,226,325	15,938,170	57,377
Monetary authorities and depository ...	34,185,928	13,332,512	46,207,447	11,551,862	36,564,659	14,625,864	31,152,779	112,150
Retail services - Motor vehicle and ...	34,026,386	13,270,291	33,076,523	8,269,131	22,378,860	8,951,544	23,354,729	84,077
Other financial investment services	27,607,515	10,766,931	37,315,731	9,328,933	29,528,509	11,811,404	25,158,037	90,569
Outpatient care centers	26,414,143	10,301,516	37,780,613	9,445,153	21,104,153	8,441,661	25,155,539	90,560
Automotive repair and maintenance, e...	26,164,301	10,204,077	29,416,954	7,354,239	21,699,905	8,679,962	23,168,715	83,407
Funds, trusts, and other financial s...	25,584,288	9,977,872	34,581,032	8,645,258	27,364,498	10,945,799	23,314,318	83,932

Source: Calculated by author with IMPLAN software and data, 2016
* The table is organized by only the top 25 Industries for column, “Households LT 10k ($).

The Foreign-Born Worker Who Commutes to Suffolk County

The following discussion identifies some differences between foreign-born workers who commute to work in Suffolk County, but live outside of the county. There are significant differences between foreign-born workers who commute to Suffolk County for work, and those foreign-born workers who both live and work in Boston, and Suffolk County. For example:

- About one fifth (22.6%) of all workers who commute into Suffolk County are foreign-born
- An overwhelming majority (85%) of foreign-born workers commuting into Suffolk County claim Asia and Europe as their Place of Birth; this is higher than that for foreign-born workers from these places who live in Suffolk County (66%)
- There are major ancestry differences in the foreign-born population in Suffolk County and places outside; for instance, the Brazilian population is mostly concentrated outside of Suffolk County, as is the case with Indians (India) and China (do you mean Chinese?)(excluding Hong Kong and

Taiwan). People from Honduras, Trinidad-Tobago, Jamaica and the Dominican Republic are mostly concentrated inside of Suffolk County. People from El Salvador, Other East Africa, Vietnam, and Haiti are also concentrated in Suffolk County but to a lesser degree compared to the last grouping

- A majority (85%) report the ability to speak English very well, or well; this is higher than foreign-born workers who both live and work in Suffolk County (66%)

- There are considerably more holders of BA degrees or higher among foreign-born workers commuting to Suffolk County than those who live and work in Suffolk County

- More than half (57.3%) of foreign-born workers commuting to Suffolk County are Naturalized Citizens; this is reversed for foreign-born workers living in Suffolk County where the majority (55%) are not citizens

- Higher-skilled occupations held by foreign-born workers in Boston tend to be held by those who live outside of the city and Suffolk County

The table below (Table 78) shows all workers, both foreign-born and native-born, in terms of their county of residence and county of work. The table shows that a significant number of workers do not reside in the county in which they work. This is unlike the counties of Nantucket, Berkshire and Suffolk where a majority of workers also reside in counties in which they work.

Table 78: All Workers by Place of Residence and Working Outside County Residence, Massachusetts

Counties in Massachusetts	Total:	Living in a Place:	Worked in Place of Residence	% Worked in Place of Residence	Worked Outside Place of Residence	Perc Worked Outside Place of Residence	Not Living in a Place
Barnstable	101,171	70,279	20,640	29.4%	49,639	71%	30,892
Berkshire	62,119	34,656	19,662	56.7%	14,994	43%	27,463
Bristol	266,778	155,275	50,718	32.7%	104,557	67%	111,503
Dukes	8,227	1,366	450	32.9%	916	67%	6,861
Essex	382,711	308,449	86,959	28.2%	221,490	72%	74,262
Franklin	36,408	15,545	5,775	37.2%	9,770	63%	20,863
Hampden	210,668	169,216	62,770	37.1%	106,446	63%	41,452
Hampshire	81,188	43,652	15,286	35.0%	28,366	65%	37,536
Middlesex	832,827	611,261	146,189	23.9%	465,072	76%	221,566
Nantucket	6,165	4,975	4,307	86.6%	668	13%	1,190
Norfolk	353,547	256,214	50,917	19.9%	205,297	80%	97,333
Plymouth	252,517	105,989	23,401	22.1%	82,588	78%	146,528
Suffolk	403,630	403,630	248,156	61.5%	155,474	39%	0
Worcester	401,840	199,518	75,567	37.9%	123,951	62%	202,322

Source: American Community Survey 2012-2016

The next table (Table 79) shows the proportion of foreign born workers in each of the state's POWPUMAs.[37] There are a few places where the overall proportion of foreign-born workers significantly exceeds that for the state (19%) but are also higher than Boston's proportion (30%). The following chart, also based on POWPUMA 2012 – 2016, shows areas in Massachusetts where the proportion of foreign-born workers is 25% or greater.

[37] See Appendix B for a visualization of PUMA and POWPUMA boundaries in Massachusetts.

Table 79: Proportion of Workers Who are Foreign-born by PUMAs in Massachusetts

	Total Workers	Native-Born	Foreign -Born	Foreign -Born %
	3,257,986	2,639,698	618,288	19.0%
Berkshire County--Pittsfield City PUMA	58,597	54,166	4,431	7.6%
Franklin & Hampshire (North) Counties PUMA,	59,563	53,763	5,800	9.7%
Worcester County (Central)--Worcester City PUMA,	80,690	59,034	21,656	26.8%
Worcester County (Northeast)--Leominster, Fitchburg & Gardner Cities PUMA;	55,923	49,598	6,325	11.3%
Worcester County (West Central) PUMA,	61,539	57,167	4,372	7.1%
Worcester County (East Central) PUMA,	59,461	47,787	11,674	19.6%
Worcester County (South) PUMA,	74,196	69,449	4,747	6.4%
Worcester & Middlesex Counties (Outside Leominster, Fitchburg & Gardner Cities) PUMA;	51,427	48,348	3,079	6.0%
Middlesex County (Outside Lowell City) PUMA,	56,282	50,290	5,992	10.6%
Middlesex County (Far Northeast)--Lowell City PUMA,	48,142	32,582	15,560	32.3%
Middlesex County--Waltham City, Lexington, Burlington, Bedford & Lincoln Towns PUMA;	71,463	50,723	20,740	29.0%
Middlesex County (South)--Framingham Town, Marlborough City & Natick Town PUMA;	79,411	55,223	24,188	30.5%
Middlesex County--Watertown Town City, Arlington, Belmont & Winchester Towns PUMA;	67,944	52,644	15,300	22.5%
Middlesex County (East)--Cambridge City PUMA,	61,176	43,677	17,499	28.6%
Middlesex County (East)--Somerville & Everett Cities PUMA,	72,777	47,917	24,860	34.2%
Middlesex County (East)--Malden & Medford Cities PUMA,	62,215	39,733	22,482	36.1%
Essex County (Northwest)--Lawrence, Haverhill & Methuen Town Cities PUMA;	79,989	56,206	23,783	29.7%
Essex County (Central)--Amesbury Town City PUMA,	52,296	48,399	3,897	7.5%
Essex County (East)--Salem, Beverly, Gloucester & Newburyport Cities PUMA;	101,492	92,220	9,272	9.1%
Essex County (South)--Lynn City, Swampscott & Nahant Towns PUMA;	52,404	32,116	20,288	38.7%
Peabody City, Danvers, Reading, North Reading & Lynnfield Towns PUMA;	67,230	58,887	8,343	12.4%
Billerica, Andover, Tewksbury & Wilmington Towns PUMA;	66,916	57,993	8,923	13.3%
Middlesex (West Central) & Worcester (East) Counties PUMA,	59,730	49,396	10,334	17.3%
Hampden (West & East) & Hampshire (South) Counties--Northampton City PUMA,	72,185	68,093	4,092	5.7%
Hampden County (Central)--Springfield City PUMA,	52,273	45,214	7,059	13.5%
Hampden County (West of Springfield City)--Westfield & Holyoke Cities PUMA,	61,378	55,135	6,243	10.2%
Hampden County (East of Springfield City)--Chicopee City PUMA,	55,616	50,543	5,073	9.1%
Middlesex (Far Southwest), Norfolk (Northwest) & Worcester (Far East) Counties PUMA;	61,085	52,361	8,724	14.3%
Woburn, Melrose Cities, Saugus, Wakefield & Stoneham Towns PUMA;	77,282	65,832	11,450	14.8%
Boston City--Allston, Brighton & Fenway PUMA;	57,253	44,545	12,708	22.2%
Boston City--Back Bay, Beacon Hill, Charlestown, East Boston, Central & South End	91,113	61,158	29,955	32.9%
Boston City--Dorchester & South Boston PUMA,	66,071	46,241	19,830	30.0%
Boston City--Mattapan & Roxbury PUMA,	56,976	34,435	22,541	39.6%
Boston City--Hyde Park, Jamaica Plain, Roslindale & West Roxbury PUMA;	70,729	52,925	17,804	25.2%
Suffolk County (North)--Revere, Chelsea & Winthrop Town Cities PUMA;	55,599	28,540	27,059	48.7%
Middlesex (Southeast) & Norfolk (Northeast) Counties--Newton City & Brookline Town	74,591	55,255	19,336	25.9%
Norfolk (Northeast) & Middlesex (Southeast) Counties (West of Boston City) PUMA,	49,845	40,489	9,356	18.8%
Norfolk County (Southwest)--Greater Franklin Town City PUMA,	64,034	57,017	7,017	11.0%
Norfolk County (Central)--Randolph, Norwood, Dedham, Canton & Holbrook Towns	60,102	45,191	14,911	24.8%
Norfolk County (Northeast)--Quincy City & Milton Town PUMA,	63,796	44,044	19,752	31.0%
Weymouth Town, Braintree Town Cities, Hingham, Hull & Cohasset Towns PUMA;	66,364	58,144	8,220	12.4%
Plymouth & Norfolk Counties--Brockton City, Stoughton & Avon Towns PUMA;	59,671	39,481	20,190	33.8%
Attleboro City, North Attleborough, Swansea, Seekonk, Rehoboth & Plainville Towns	51,032	46,736	4,296	8.4%
Bristol (Outside New Bedford City) & Plymouth (South) Counties PUMA,	48,750	44,402	4,348	8.9%
Bristol County (Central)--Fall River City & Somerset Town PUMA,	38,038	30,804	7,234	19.0%
Bristol County--Taunton City, Mansfield, Norton, Raynam, Dighton & Berkley Towns	60,879	55,346	5,533	9.1%
Bristol County (South)--New Bedford City & Fairhaven Town PUMA,	47,236	36,403	10,833	22.9%
Barnstable County (West)--Inner Cape Cod Towns & Barnstable Town City PUMA,	61,766	56,183	5,583	9.0%
Barnstable (East), Dukes & Nantucket Counties--Outer Cape Cod Towns PUMA;	51,239	45,407	5,832	11.4%
Plymouth & Bristol Counties (Outside Brockton City) PUMA,	61,544	57,465	4,079	6.6%
Plymouth County (Central) PUMA,	56,167	53,944	2,223	4.0%
Plymouth County (East)--Plymouth, Marshfield, Scituate, Duxbury & Kingston Towns	64,509	61,047	3,462	5.4%

Source: POWPUMA 2012 – 2016

Chart 18: Proportion of Workers Who are Foreign-born by POWPUMAs in Massachusetts

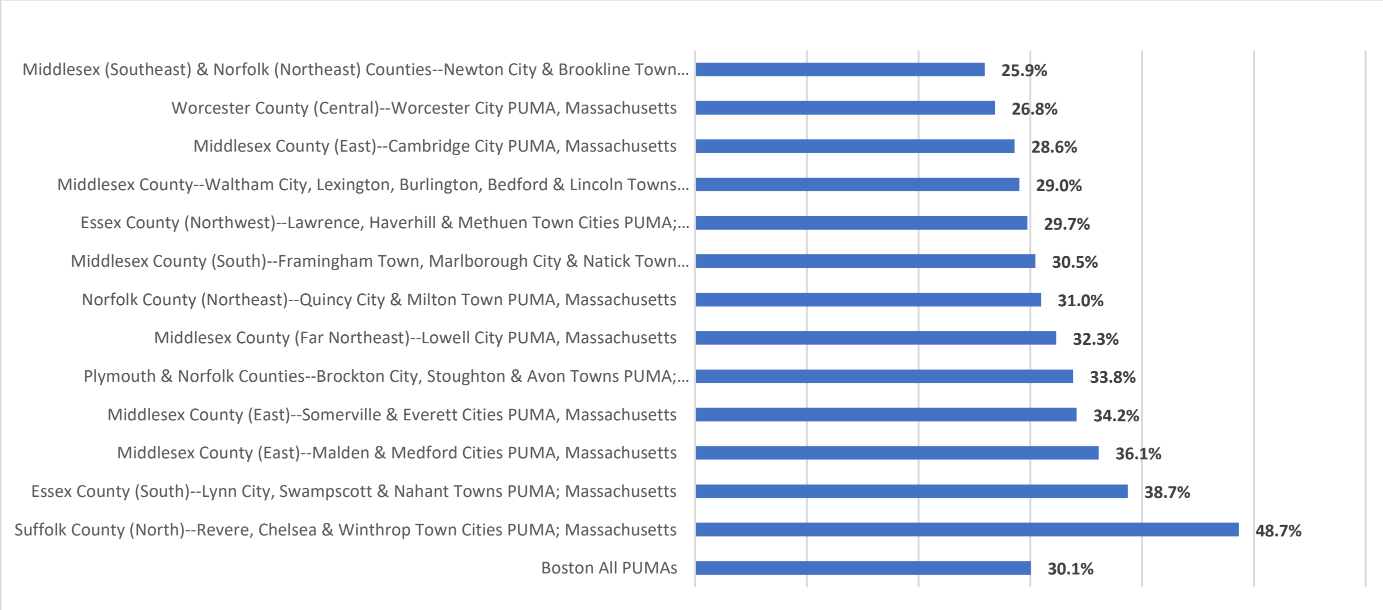


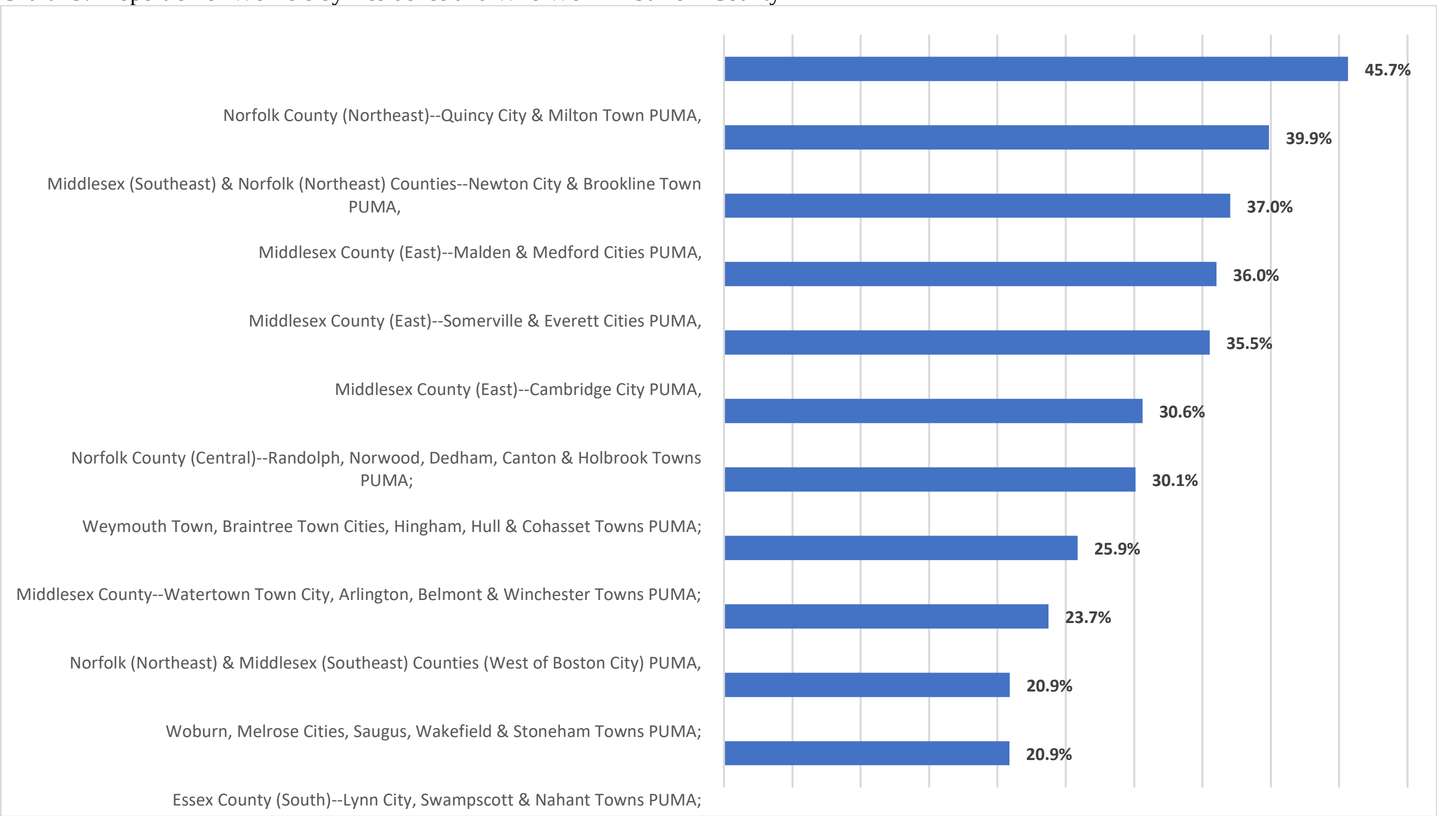
Table 80 shows the proportion of all workers who work in the Suffolk County but reside out the county. This is followed by a chart showing places that 'send' 20% or more of their workers into Suffolk County jobs. More than half (54.5%) of all foreign-born workers residing in the Norfolk County (Central) and Norfolk County (Northeast)--Quincy City & Milton Town PUMA, worked in Suffolk County. This was followed by Middlesex (Southeast) & Norfolk (Northeast) Counties--Newton City & Brookline Town PUMA (44.4%); Middlesex County (East)--Malden & Medford Cities PUMA (38.8%); Middlesex County (East)--Somerville & Everett Cities PUMA (34.2%); Middlesex County (East)--Cambridge City PUMA (32.5%); and 30.5% of foreign-born workers living in Norfolk County (Central)--Randolph, Norwood, Dedham, Canton & Holbrook Towns POWPUMA work in Suffolk County.

Table 80: Proportion of Workers by POWPUMA Residence and Who Work in Suffolk County

	Workers by Residence	Workers Who Work in Suffolk County	
	3,184,430	647,121	
Berkshire County--Pittsfield City PUMA,	56,310	91	0.2%
Franklin & Hampshire (North) Counties PUMA,	54,420	283	0.5%
Boston City--Back Bay, Beacon Hill, Charlestown, East Boston, Central & South End PUMA;	88,428	67,305	76.1%
Boston City--Dorchester & South Boston PUMA,	72,719	55,126	75.8%
Boston City--Mattapan & Roxbury PUMA,	55,970	41,947	74.9%
Suffolk County (North)--Revere, Chelsea & Winthrop Town Cities PUMA;	55,994	38,261	68.3%
Boston City--Hyde Park, Jamaica Plain, Roslindale & West Roxbury PUMA;	71,432	47,660	66.7%
Boston City--Allston, Brighton & Fenway PUMA;	52,929	34,863	65.9%
Norfolk County (Northeast)--Quincy City & Milton Town PUMA,	60,082	27,431	45.7%
Middlesex (Southeast) & Norfolk (Northeast) Counties--Newton City & Brookline Town PUMA,	70,947	28,289	39.9%
Middlesex County (East)--Malden & Medford Cities PUMA,	61,371	22,722	37.0%
Middlesex County (East)--Somerville & Everett Cities PUMA,	78,875	28,407	36.0%
Middlesex County (East)--Cambridge City PUMA,	57,190	20,318	35.5%
Norfolk County (Central)--Randolph, Norwood, Dedham, Canton & Holbrook Towns PUMA;	56,116	17,176	30.6%
Weymouth Town, Braintree Town Cities, Hingham, Hull & Cohasset Towns PUMA;	65,596	19,738	30.1%
Middlesex County--Watertown Town City, Arlington, Belmont & Winchester Towns PUMA;	66,320	17,154	25.9%
Norfolk (Northeast) & Middlesex (Southeast) Counties (West of Boston City) PUMA,	45,248	10,741	23.7%
Woburn, Melrose Cities, Saugus, Wakefield & Stoneham Towns PUMA;	74,492	15,574	20.9%
Essex County (South)--Lynn City, Swampscott & Nahant Towns PUMA;	52,100	10,879	20.9%
Norfolk County (Southwest)--Greater Franklin Town City PUMA,	61,143	11,164	18.3%
Plymouth & Norfolk Counties--Brockton City, Stoughton & Avon Towns PUMA;	58,325	8,991	15.4%
Peabody City, Danvers, Reading, North Reading & Lynnfield Towns PUMA;	64,157	9,819	15.3%
Essex County (East)--Salem, Beverly, Gloucester & Newburyport Cities PUMA;	95,844	13,818	14.4%
Middlesex County--Waltham City, Lexington, Burlington, Bedford & Lincoln Towns PUMA;	71,392	9,733	13.6%
Middlesex (Far Southwest), Norfolk (Northwest) & Worcester (Far East) Counties PUMA;	58,962	7,984	13.5%
Plymouth & Bristol Counties (Outside Brockton City) PUMA,	60,674	8,132	13.4%
Plymouth County (East)--Plymouth, Marshfield, Scituate, Duxbury & Kingston Towns PUMA;	64,588	8,265	12.8%
Billerica, Andover, Tewksbury & Wilmington Towns PUMA;	65,308	7,439	11.4%
Middlesex County (South)--Framingham Town, Marlborough City & Natick Town PUMA;	77,284	7,385	9.6%
Essex County (Central)--Amesbury Town City PUMA,	50,707	4,682	9.2%
Middlesex (West Central) & Worcester (East) Counties PUMA,	57,760	5,284	9.1%
Plymouth County (Central) PUMA,	60,228	5,115	8.5%
Bristol County--Taunton City, Mansfield, Norton, Raynam, Dighton & Berkley Towns PUMA;	60,458	4,089	6.8%
Worcester County (East Central) PUMA,	60,346	3,840	6.4%
Essex County (Northwest)--Lawrence, Haverhill & Methuen Town Cities PUMA;	76,882	4,625	6.0%
Middlesex County (Outside Lowell City) PUMA,	56,259	3,240	5.8%
Attleboro City, North Attleborough, Swansea, Seekonk, Rehoboth & Plainville Towns PUMA;	53,428	2,938	5.5%
Middlesex County (Far Northeast)--Lowell City PUMA,	50,277	2,290	4.6%
Bristol (Outside New Bedford City) & Plymouth (South) Counties PUMA,	46,909	1,823	3.9%
Worcester & Middlesex Counties (Outside Leominster, Fitchburg & Gardner Cities) PUMA;	51,333	1,632	3.2%
Bristol County (South)--New Bedford City & Fairhaven Town PUMA,	43,996	1,396	3.2%
Worcester County (Northeast)--Leominster, Fitchburg & Gardner Cities PUMA;	56,005	1,721	3.1%
Bristol County (Central)--Fall River City & Somerset Town PUMA,	37,750	796	2.1%
Worcester County (South) PUMA,	74,453	1,564	2.1%
Barnstable County (West)--Inner Cape Cod Towns & Barnstable Town City PUMA,	56,454	1,141	2.0%
Barnstable (East), Dukes & Nantucket Counties--Outer Cape Cod Towns PUMA;	43,460	870	2.0%
Worcester County (Central)--Worcester City PUMA,	81,447	1,488	1.8%
Worcester County (West Central) PUMA,	55,303	898	1.6%
Hampden County (West of Springfield City)--Westfield & Holyoke Cities PUMA,	59,931	394	0.7%
Hampden (West & East) & Hampshire (South) Counties--Northampton City PUMA,	68,564	409	0.6%
Hampden County (Central)--Springfield City PUMA,	55,380	113	0.2%
Hampden County (East of Springfield City)--Chicopee City PUMA,	52,884	78	0.1%

Source: POWPUMA 2012- 2016

Chart 19: Proportion of Workers by Residence and Who Work in Suffolk County



The tables above and the next one indicates that a significant number of workers, including foreign-born workers, comprise major streams of people who commute to Suffolk County for work, but do not live there. Foreign-born workers who commute into Suffolk County represent 22.3% of all workers commuting into this county.[38]

[38] This is based on POWPUMA 2012 – 2016 where the total number of workers living in any county but working in Suffolk County was approximately 633,174, where the foreign-born represented 26.8% or 170,207 workers; however, after Boston and other places in Suffolk County are subtracted from this statewide list, the figure drops to 22.3%.

Table 81: Workers by Nativity and POWPUMA Residence, with Work in Suffolk County

Place of Work PUMA by Foreign-born Workers in Different Residence	Total Workers	Foreign-Born Workers in Residence	Total Who Work in 03300 POWPUMA - Boston-Chelsea-Revere	Foreign-Born	% Foreign-Born Workers
	3,360,410	670,759	664,545	187,668	28.0%
Attleboro City, North Attleborough, Swansea, Seekonk, Rehoboth & Plainville Towns	56,271	5,608	2,938	0	
Barnstable (East), Dukes & Nantucket Counties--Outer Cape Cod Towns	52,402	5,196	870	99	1.9%
Barnstable County (West)--Inner Cape Cod Towns & Barnstable Town City	61,544	6,167	1,141	75	1.2%
Berkshire County--Pittsfield City	60,547	4,538	102	82	1.8%
Billerica, Andover, Tewksbury & Wilmington Towns	67,665	11,232	7,557	1,148	10.2%
Boston City--Allston, Brighton & Fenway	55,639	13,812	36,989	8,860	64.1%
Boston City--Back Bay, Beacon Hill, Charlestown, East Boston, Central & South End	91,085	29,010	69,853	22,483	77.5%
Boston City--Dorchester & South Boston	75,637	25,190	57,110	19,106	75.8%
Boston City--Hyde Park, Jamaica Plain, Roslindale & West Roxbury	74,911	20,135	50,113	13,098	65.1%
Boston City--Mattapan & Roxbury	57,178	23,880	42,998	17,166	71.9%
Bristol (Outside New Bedford City) & Plymouth (South) Counties	51,096	4,504	1,823	0	0.0%
Bristol County (Central)--Fall River City & Somerset Town	39,427	8,624	796	381	4.4%
Bristol County (South)--New Bedford City & Fairhaven Town	46,554	10,889	1,396	362	3.3%
Bristol County--Taunton City, Mansfield, Norton, Raynam, Dighton & Berkley Towns	62,040	4,986	4,089	316	6.3%
Essex County (Central)--Amesbury Town City	53,464	4,478	4,744	413	9.2%
Essex County (East)--Salem, Beverly, Gloucester & Newburyport Cities	102,563	8,564	14,136	1,178	13.8%
Essex County (Northwest)--Lawrence, Haverhill & Methuen Town Cities	79,741	26,088	4,769	1,270	4.9%
Essex County (South)--Lynn City, Swampscott & Nahant Towns	54,535	21,201	11,320	3,831	18.1%
Franklin & Hampshire (North) Counties	59,573	5,750	283	0	0.0%
Hampden (West & East) & Hampshire (South) Counties--Northampton City	73,872	4,606	409	156	3.4%
Hampden County (Central)--Springfield City	57,737	7,246	113	113	1.6%
Hampden County (East of Springfield City)--Chicopee City	55,418	5,092	78	0	0.0%
Hampden County (West of Springfield City)--Westfield & Holyoke Cities	63,146	4,537	394	0	0.0%
Middlesex (Far Southwest), Norfolk (Northwest) & Worcester (Far East) Counties	63,731	10,015	8,372	1,288	12.9%
Middlesex (Southeast) & Norfolk (Northeast) Counties--Newton City & Brookline Town	76,217	20,630	28,694	9,157	44.4%
Middlesex (West Central) & Worcester (East) Counties	62,097	12,298	5,379	537	4.4%
Middlesex County (East)--Cambridge City	60,014	18,728	20,577	6,089	32.5%
Middlesex County (East)--Malden & Medford Cities	63,619	22,052	22,722	8,563	38.8%
Middlesex County (East)--Somerville & Everett Cities	81,833	27,407	28,680	9,364	34.2%
Middlesex County (Far Northeast)--Lowell City	52,980	17,880	2,290	268	1.5%
Middlesex County (Outside Lowell City)	58,631	7,893	3,274	862	10.9%
Middlesex County (South)--Framingham Town, Marlborough City & Natick Town	82,589	27,085	7,682	2,366	8.7%
Middlesex County--Waltham City, Lexington, Burlington, Bedford & Lincoln Towns	76,358	24,086	10,205	2,651	11.0%
Middlesex County--Watertown Town City, Arlington, Belmont & Winchester Towns	71,244	17,606	17,774	3,703	21.0%
Norfolk (Northeast) & Middlesex (Southeast) Counties (West of Boston City)	49,603	9,096	10,935	1,869	20.5%
Norfolk County (Central)--Randolph, Norwood, Dedham, Canton & Holbrook Towns	58,030	15,308	17,695	4,666	30.5%
Norfolk County (Northeast)--Quincy City & Milton Town	62,282	20,486	27,495	11,171	54.5%
Norfolk County (Southwest)--Greater Franklin Town City	63,303	7,855	11,297	2,388	30.4%
Peabody City, Danvers, Reading, North Reading & Lynnfield Towns	68,379	9,000	10,043	1,399	15.5%
Plymouth & Bristol Counties (Outside Brockton City)	62,026	4,254	8,132	434	10.2%
Plymouth & Norfolk Counties--Brockton City, Stoughton & Avon Towns	60,950	23,518	9,021	3,381	14.4%
Plymouth County (Central)	63,323	3,583	5,405	459	12.8%
Plymouth County (East)--Plymouth, Marshfield, Scituate, Duxbury & Kingston Towns	68,202	2,871	8,409	304	10.6%
Suffolk County (North)--Revere, Chelsea & Winthrop Town Cities	58,258	30,058	39,559	19,986	66.5%

Weymouth Town, Braintree Town Cities, Hingham, Hull & Cohasset Towns	67,741	8,577	19,963	3,062	35.7%
Woburn, Melrose Cities, Saugus, Wakefield & Stoneham Towns	78,048	14,406	15,574	2,327	16.2%
Worcester & Middlesex Counties (Outside Leominster, Fitchburg & Gardner Cities)	55,292	3,086	1,632	34	1.1%
Worcester County (Central)--Worcester City	85,147	20,756	1,488	293	1.4%
Worcester County (East Central)	63,529	13,745	3,945	716	5.2%
Worcester County (Northeast)--Leominster, Fitchburg & Gardner Cities	58,822	8,365	1,721	194	2.3%
Worcester County (South)	78,134	4,267	1,663	0	0.0%
Worcester County (West Central)	57,983	4,515	898	0	0.0%

Source: Public Use Microdata Sample 2016

As stated earlier this study has identified some labor force characteristics that are different between foreign-born workers who reside outside of Suffolk County, but commute to the county for employment, versus those foreign-born workers who both live and work in Boston and Suffolk County. For instance, the overwhelming majority (75.2%) of foreign-born workers commuting into Suffolk County claim Asia and Europe as their "Place of Birth"; this is significantly higher than that for foreign-born workers from these places who live in Suffolk County (55.3%).

Table 82: Foreign-born Workers Residing and non-Residing in Suffolk County by Place of Birth

	Foreign-born Workers in Suffolk County Not Residing in Same County	Foreign-born Workers Who Reside and Work in Suffolk County
Latin America	14.5%	28.7%
Asia	50.1%	34.6%
Europe	25.1%	20.7%
Africa	6.9%	11.6%
Northern America	2.9%	3.8%
Oceania and at Sea	0.6%	0.0%

Source: POWPUMA 2012 - 2016

The four maps in Appendix C show that there are major ancestry differences associated with residential location among foreign-born *populations.* For example, the first map shows that the Brazilian population is mostly concentrated outside of Suffolk County, as is the case with persons from India and China (excluding Hong Kong and Taiwan) – in the latter case, other than Chinatown. The national origin groups found to be concentrated inside of Suffolk County and Boston, in particular, are Haitians, West Indians, Vietnamese and Cape Verdeans. Persons from Honduras, Trinidad-Tobago, and the Dominican Republic are mostly concentrated inside of Suffolk County, including Chelsea.

More than half (57.3%) of foreign-born workers commuting to Suffolk County are naturalized citizens; this is reversed for foreign-born workers living in Suffolk County where the majority (55%) are not citizens. The proportion of households reporting the presence of persons under 18 years is also lower (50%) for foreign-born workers who commute to Suffolk County than foreign-born workers who both live and work in Suffolk County (71.8%).

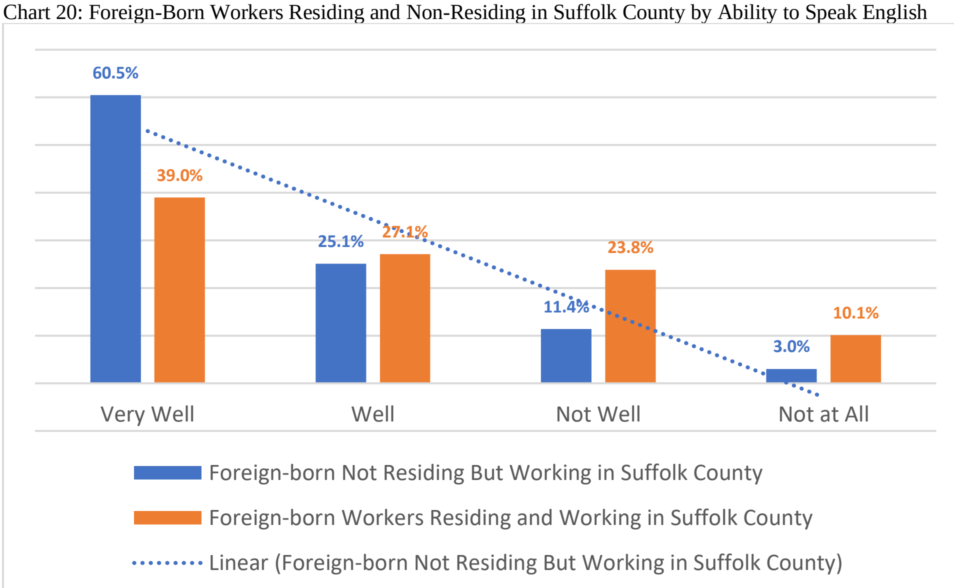
The majority (85.6%) of foreign-born workers who work in, but do not reside in Suffolk County report the ability to speak English very well, or well; this is also significantly higher than foreign-born workers who both live and work in Suffolk County (66.1%). The majority (60.5%) of foreign-born workers who do not reside, but work in Suffolk County, report speaking English "Very Well", compared to only 39% of foreign-born workers who reside and work in Suffolk County as shown in the next table and chart.

Table 83: Foreign-Born Workers Residing and non-Residing in Suffolk County by Ability to Speak English

	Foreign-Born Not Residing but Working in Suffolk County	Foreign-Born Workers Residing and Working in Suffolk County
Very Well	60.5%	39.0%
Well	25.1%	27.1%
Not Well	11.4%	23.8%
Not at All	3.0%	10.1%

Source: POWPUMA 2012 - 2016

Chart 20: Foreign-Born Workers Residing and Non-Residing in Suffolk County by Ability to Speak English



Foreign-born workers who commute to Suffolk County reflect higher educational attainment. They hold approximately twice as many bachelor's degrees and advanced degrees (approximately 45,279) than is the case for foreign-born workers who reside and work in Boston (26,077). Foreign-born workers with a bachelor's or higher in the Sciences or Engineering and who commute to Boston and Suffolk County for employment represent 14.7% of all such workers. But they comprise almost two thirds (65.4%) of all foreign-born workers employed in Boston and Suffolk County. In other words, foreign-born workers who both live and work in Boston and Suffolk County have considerably lower levels of education than counterparts who do not live in these places.

Generally attaining higher education levels for foreign-born workers who do not reside in, but work in Boston and Suffolk County, is associated with the occupational distribution for both groups. For example, foreign-born workers who commute to Boston and Suffolk County represent 19.4% of all workers in Management, Finance or Business occupations and who commute to these places. But as the next table shows they represent 62.4% of all foreign-born workers in Boston and Suffolk County in these occupations.

In medical occupations foreign-born workers who commute to Boston and Suffolk County for employment represent 20.3% of all such workers commuting to this place. They also represent more than half (56.4%) of all foreign-born workers in Medical occupations in Boston and Suffolk County. This dynamic is more pronounced in Computer, Engineering and Sciences occupations, where foreign-born workers commuting to Suffolk represent 36.2% of all workers in this category, but 79.2% of all foreign-born workers in Suffolk County who work in these occupations. In both the legal and education fields foreign-born workers who commute to Boston and Suffolk County represent 15.6% of all similar workers commuting to this place. But they hold almost half (49.6%) of all foreign-born workers in these occupations in Boston and Suffolk regardless of residence.

Interestingly the above scenario changes for occupations requiring little education or lower skills levels. Most workers who commute into Boston and Suffolk County to work in cleaning occupations are foreign-born (76.7%); but they only represent 27.3% of all foreign-born workers in these places. The bulk of the labor force that is foreign-born and have cleaning occupations, in other words, live in Boston and Suffolk County. In the eating/restaurant industry, another category with many jobs requiring little education or no skills, foreign-born workers who commute to Boston and Suffolk County represent only 32.5% of all foreign-born workers in this occupational sector in these places. As is the case with the cleaning occupations, it is foreign-born workers residing in Boston and Suffolk County who represent a major part of this labor force.

Table 84: Foreign-born Workers Who Commute to Suffolk County by High and Low Skill Occupations, and their Proportion of all Foreign-born Workers in Suffolk County

Higher Skilled Occupations	Proportion of all Foreign-born Workers in Suffolk County
Management, Finance and Business	62.4%
Medical	56.4
Computer, Engineering and Sciences	79.2
Legal and Education	49.6
Lower Skilled Occupations	
Cleaning	27.3
Eating	32.5

Source: Public Use Microdata Sample 2016

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IV: The Foreign-Born Worker in Boston and Suffolk County - Not a Threat to Native Workers[39]

There is a national debate and controversy about immigration that sometimes feeds a local narrative suggesting that foreign-born workers represent an economic threat to native-born workers. Based on a review of literature, as well as data collected for this study, it can be concluded that this narrative is not an accurate depiction of Boston's workforce. Foreign-born workers are creating job insecurity for native-born workers. In fact, they are helping to generate considerable economic productivity which benefits everyone. The argument that foreign-born workers particularly hurt native-born Black American workers is also weak, at least in Boston and Suffolk County, when considering the foreign-born presence in the Black community, as well as varying skill levels among foreign-born workers. A related argument discussed below is that foreign-born persons 'cost' the government more, and thereby take social benefit resources from others, or are supported by the taxes paid by native-born workers. This section first briefly summarizes national findings regarding this proposition and then presents some local data for Boston and Suffolk County suggesting otherwise.

The National Debate

Whether or not foreign-born workers present an employment threat to native-born workers is a topic that is very researched and represents an intense political debate:

> "…it matters a great deal whether immigrant workers are substitutes for or complements to native-born workers. The terms refer to how employers use workers in the production of goods and services. If native workers are indistinguishable in this process from immigrants – if they are substitutes- it follows that a large influx of immigrant labor may hurt native's earnings prospects. But if natives and immigrants fulfill different roles in the production process, they may play complementary roles, and it is less likely that the supply shock in one group will hurt the other group, and it may in fact help them."[40]

Another report notes:

> "The consequences of immigration for individuals already established in a receiving country, particularly those involving wage and employment prospects, are a long- standing concern to a range of stakeholders. The headline questions are: Do immigrants take jobs away from natives; do they lower the wages of natives? Do immigrants complement native-born workers or are they more often substitutes? What occupational niches do immigrants fill for the benefit of the rest of the economy? What is the role of immigrants in driving productivity change and long-term economic growth? And what is their role in contributing to vibrancy in construction, agriculture, high tech, and other economic sectors?" [41]

This same report also states that researchers have not uniformly answered these kinds of questions:

> "Several studies have found a positive impact of skilled immigration on the wages and employment of both college educated and noncollege-educated natives. Such findings are consistent with the view that skilled immigrants are often complementary to native-born workers, especially those who are skilled; that spillovers of wage-enhancing knowledge

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[39] This section is based on two study Queries: 4- *Are foreign-born workers 'complements' or 'substitutes for the native-born labor force in Boston, Suffolk County?* And, 5- *What is the relationship between the presence of foreign-born workers and wages in Boston, Suffolk County?*

[40] Shierholz, Heidi. "Immigration and Wages Methodological Advancements Confirm Modest Gains for Native Workers," *Economic Policy Institute*, 4 February 2010, pp.3.

[41] National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press: pp. 2. https://doi.org/10.17226/23550, pp. 24.

and skills occurs as a result of interactions among workers; and that skilled immigrants innovate sufficiently to raise overall productivity. However, other studies examining the earnings or productivity prevailing in narrowly defined fields find that high-skilled immigration can have adverse effects on the wages or productivity of natives working in those fields." [42]

According to George J. Borjas, one of the most prominent economists who has studied these kinds of research questions, if the supply of foreign-born workers goes up, it is possible "the price that firms have to pay to hire workers goes down."[43] But since the local and regional economy is continuing to grow impressively, there seems less likelihood that foreign-born workers are dampening wages for native born workers. This context was described recently by the Federal Reserve Bank of Boston, "In 2017, economic conditions continued to improve in both New England and the United States along several indicators. Payroll employment increased, home prices rose, and inflation remained modest…"[44] This blog report points to the construction *supersector*, [author's italics] with a strong presence of foreign-born workers, which not only led the region in growth, but also the national average for construction. If not for the presence of foreign-born workers, would the construction sector be a 'supersector' - probably not.

Yet another example showing the relationship between job growth and the supply of workers and business crisis is found in New York City. A *New York Times* article, "A Fast-Food Problem: Where Have All the Teenagers Gone?" (2018) indicated that "since 2010, fast-food jobs have grown nearly twice as fast as employment over all, contributing to economic recovery. But rapid growth has created problems."[45] One problem is that teenagers seeking education and schooling reduce the labor supply. Foreign-born workers become crucial for this industry, especially at a time when unemployment is relatively low.[46] Restaurants and hospitality are also a fast-growing industry in Boston and Suffolk County, and it is highly dependent on a foreign-born workforce.[47] The absence of foreign-born workers is creating a crisis in Cape Cod where hospitality and leisure industries have been raising concerns about this matter. Some businesses may have to close due to inability to attract foreign-born workers.[48]

There is much consensus that *overall*, but especially in growing markets, that foreign-born workers are sorely needed and generally do not impact negatively on native-born workers. Based on a study using Current Population Survey data for the period 1994 – 2007 it was concluded: "In the ongoing debate on immigration, there is broad agreement among academic economists that it has a small but positive impact on the wages of native-born workers *overall*: although new immigrant workers add to the labor supply, they also consume goods and services, which creates more jobs."[49]

A similar point is made by Daniel Griswold in a commentary based on a review of several research studies, *Immigration Doesn't Hurt Native-Born Workers:*

The large majority of Americans have no reason to fear losing their job to an immigrant. Immigrants typically fill niches in the labor market at the high end and low end of the skill spectrum, from farm workers and dishwashers to

[42] Ibid., p. 6
[43] Borjas, George J. "Yes, Immigration Hurts American Workers," *Politico,* Sept/Oct. 2016,.
[44] "New England Economic Indicators," Federal Reserve Bank of Boston, 2018, pp.1.
[45] Abrams, Rachel, and Gebeloff, Robert. "A Fast-Food Problem: Where Have All the Teenagers Gone?," *The New York Times*, 3 May 2018.
[46] Abrams, Rachel, and Gebeloff, Robert. "A Fast-Food Problem: Where Have All the Teenagers Gone?" *The New York Times*, 3 May 2018.
[47] See, James Jennings, et al., *Immigrant Entrepreneurs Creating Jobs and Strengthening the U.S. Economy in Growing Industries: Transportation, Food and Building Services with a Regional View of Mass, New York and Pennsylvania and a Focus on the Green Economy*. Malden, The Immigrant Learning Center, 2013.
[48] Johnson, Katie. "Desperation Setting in as Cape Employers Look to Puerto Rico for Seasonal Workers," *The Boston Globe*, 24 May 2018.
[49] Shierholz, Heidi. "Immigration and Wages Methodological Advancements Confirm Modest Gains for Native Workers," *Economic Policy Institute*, 4 February 2010, pp.1.

computer scientists and physics professors. Of course, Americans perform those jobs as well, but not in sufficient numbers needed to meet demand during years of normal growth. [50]

In the national debate and questions mentioned above, reference has been made to the potential negative impacts of foreign-born workers on Black workers. This study, however, cannot delve into the massive popular and scholarly literature on this topic. We can state that a review and analysis of some data suggests that foreign-born workers are complements and not substitutes for workers in Black communities in Boston. As stated earlier foreign-born workers are not monolithic but reflect intra-group differences including racial and ethnic characteristics. This is also the case with the composition and distribution of occupations held by these workers.

The Boston Case

Data reported earlier contradicts the proposal that foreign-born workers hurt the jobs prospects of native-born workers. Much of the debate around this issue has been associated with the impact of foreign-born workers on Black workers in urban areas and especially in low-skilled occupations. Data in this report does not support this charge for low skilled or high skilled foreign-born workers. In terms of occupations requiring higher levels of education, for example, foreign-born workers who commute to Boston and Suffolk County have relatively higher levels of education. Foreign-born workers commuting into Suffolk County tend to have degrees in the areas of science, engineering, computers and the medical professions to a higher extent than is the case with native-born workers.

Another part of the narrative is that immigration is harmful to Black Americans and other low-income or working-class populations is that they cost the taxpayers in terms of accessing public benefits. The data in this report does not bear this out in Boston. The foreign-born population does not represent a government ‘burden’ in terms of public benefits such as public assistance, Medicare, and Medicaid. The proportion of these public benefits tapped by the foreign-born population is similar, or slightly less than is the case for the native-born population. According to data reported in Public Use Microdata Sample 2012–2016, for instance, 95% of the native-born population do not receive public assistance, compared to 97% of the foreign-born population.

Table 85: Nativity and Public Assistance Received, Boston

	Percentage No Public assistance
Native-Born	95%
Foreign-Born	97%

Source: Public Use Microdata Sample 2012-2016

For the decade 2000 and later, 47.3% of native-born persons who are low income, or have a disability received Medicaid, medical assistance or some other kind of government assistance. This compares to 37.1% for foreign-born persons (Table 86). Table 87 indicates that in terms of receiving Medicare in 2000 or later, again, the foreign-born rate was lower (6%) than it was for native-born persons (10%). In terms of public health coverage for the decade 2000 or later, 51% of all native-born persons received such coverage compared to 39% of all foreign-born persons (Table 88).

[50] Griswold, Daniel. “Immigration Doesn’t Hurt Native-Born Workers,” *The Cato Institute*, 9 April 2011

Table 86: Medicare Received, Nativity and Decade of Entry, Boston

HINS3 Medicare	Yes	No
Native-Born	17%	83%
1970 - 1979	12%	88%
1980 - 1989	16%	84%
1990 - 1999	9%	91%
2000 or later	10%	90%
Foreign-born	16%	84%
1970 - 1979	40%	60%
1980 - 1989	21%	79%
1990 - 1999	15%	85%
2000 or later	6%	94%

Source: Public Use Microdata Sample 2012 - 2016

Table 87: Nativity, Public Health Coverage by Decade of Entry, Boston

	With	Without
Native-Born	51%	49%
1970 - 1979	53%	47%
1980 - 1989	47%	53%
1990 - 1999	42%	58%
2000 or later	51%	49%
Foreign-Born	45%	55%
1970 - 1979	56%	44%
1980 - 1989	46%	54%
1990 - 1999	45%	55%
2000 or later	39%	61%

Source: Public Use Microdata Sample 2012 - 2016

The above myths impact the local economy, negatively. Economic contributions of foreign-born workers are impacted by certain immigration policies and related politics that see immigrants as not contributing. The current political debate about the DACA program, for example, impacts directly Boston's economy. Undocumented youth who are enrolled in or eligible for DACA pay roughly $2 billion each year in state and local taxes. Young people eligible for DACA pay 8.9% of their income in state and local taxes—nearly the same as the 9.4% paid by the middle 20% of taxpayers. Creating a path to citizenship for DACA-eligible youth would increase their state and local tax payments by $505 million—for a total of $2.53 billion a year. Ending DACA would decrease state and local revenue by roughly $800 million per year.[51]

[51] Ewing, Walter. "DACA Beneficiaries Pay Billions in Taxes." *American Immigration Council*, 28 Apr. 2017.

V: The Foreign-Born Worker – Recommendations for Enhancing Impacts[52]

There are six general recommendations emerging from the data collected and analyzed for this Report, as well as the brief literature review. These include:

1) The data in this report suggests that workforce strategies and outreach tools should be framed with 'targeted' approaches given the economic, residential, and educational differences within the overall population of foreign-born workers.

The data in this report shows that the foreign-born population is not uniform along several dimensions; it shows differences in terms of race and ethnicity/ancestry, decade of entry, occupational experiences, residential patterns and other variables. The sector includes workers who are paid very low wages and those receiving relatively high wages; some are concentrated in occupations requiring low skills and others in high skill occupations. This should not be overlooked in the design and expansion of workforce strategies. One study shows that some foreign-born workers have very high educational attainment, others have relatively low levels of educational exposure.[53] And, we also know that these differences in schooling levels reflects racial and ancestry differences in some cases. Some groups of foreign born workers have much higher levels of schooling than Latino or Black foreign-born workers who tend to have the lower-paying jobs.[54] Such differences should not be overlooked in the design of strategies, especially related to outreach.

2) The city and its public agencies should work with union and labor representatives to highlight the contributions of workers in low-skill, but critical occupations.

Of course, the attraction of highly skilled workers is fundamental for a growing economy. Utilization of HB-1 visas represents an effective tool to attract workers who play a fundamental role in the areas of science, technology, medicine and public health.[55] But foreign-born workers in low skill

[52] This section responds to the following Study Queries: Query 16- *What are strategies or policies that can serve to enhance the contributions of the foreign-born labor force to the local economy? What might be obstacles to such strategies and policies? And, strategies that are not potentially divisive or overlook the role of other workers, and reflect Boston's focus on racial and ethnic equity*; Query 21- *How can we take better advantage of our growing foreign-born population as a resource to meet labor force needs?* Query 17- *Which residents are being served (in/out of Boston)? Query 18- What might be more equitable funding strategies (if some key voices believe this is not currently the status quo, and given job demands in Boston) for Boston's growing foreign-born population?* Query 19- *How can the City enhance the tapping of assets represented by its growing foreign-born population, but in ways that do not increase tensions with long-time residents (native or foreign-born, by the way)? - who is being served by Boston's workforce programs? are any groups being left out?* Query 22- *How can bridges be built and sustained between the foreign-born population and long-time residents?* And, Query 20- *How can government resources be distributed equitably, and based on what criteria?*

[53] See, Osterman, Kimball, & Riordan, 2017.

[54] Also see, Alvaro Lima, "High-skilled Immigrants in the Mass Civilian Labor Force: U.S./Foreign Degrees" Boston Redevelopment Authority (April 2014).

[55] Each April a computer-generated lottery issues 85,000 temporary high-skilled visas; however, over the past five years an average of 212,000 petitions were approved each year. In 2016, 345,262 H-1B petitions were approved including 230,759 for continuing workers. There is an increasing demand for uncapped visas which has been driven by the delays employers face in getting a green card for their H-1B workers. Indian H-1B workers, who face average waits of nine to 11 years depending on the green-card category, are particularly affected. Some research suggests that employers are a large catalyst and have strong lobbying power to increase the visas permitted for workers in their organization and state. Over the past few years, trends show that there are deep pockets of foreign-born workers from India, China and Africa that fuel the tech industry and are bolstering the economy of a cluster of states. And, employers have been a primary driver in expediting, and circumventing pre-existing limitations, approval for their employees H-1B petitions. In 2017, almost one-third of all approved H-1B petitions were awarded

occupations and earning very low wages are as important for a vibrant economy. This is highlighted in a recent report by the Massachusetts Providers' Council. The report states that "As the foreign-born population continues to grow in Massachusetts, employers across industries will [be] increasingly relying on these workers to meet their workforce needs. However, employing this population does not come without challenges."

The authors of *Who Will Care*… cite other reports documenting some of these challenges. They note a "recent Urban Institute report, *Engaging Employers in Immigrant Integration* (2015): 'Many immigrants have low levels of education, limited English language proficiency, compromised immigration status, and difficulties validating credentials gained abroad. Such characteristics hinder their productivity and prevent employers from taking full advantage of their employees' talents.'"[56] The human services sector is in critical need of both, new workers and well-trained workers: "…the human services industry could greatly benefit from strategic efforts to integrate this population into its workforce. However, the ability to engage in such an effort will rely on the availability of new immigrants, which is intrinsically tied to immigration policy, and state-level support to provide new immigrants with the supports they need to gain employment."[57]

Greater acknowledgement of workers in these kinds of occupations encourages a point of view which sees workers as assets, contributing to civic and economic life, rather than expenses.[58] In turn, this could facilitate greater support for expanding career counseling or opportunities for job mobility where workers can earn higher pay for themselves and their families.

3) Foreign-born workers represent an integral component of Boston and Suffolk County's economy; but they also are comprised of older workers. This suggests a heightened level of providing quality and comprehensive workforce training to youth, including those out-of-school and out-of-work.

Greater attention regarding preparing youth for the unfolding and future workforce is a tool to ensure workforce needs are met as foreign-born workers in some occupations and industries continue to age and become older than native-born workers. But the native-born population is not experiencing adequate growth to meet future workforce needs. Here, disconnected and out-of-school youth can represent a potential workforce to fill workforce needs in some areas, but industry-specific certification should not be limited to low-skill occupations.

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to 20 companies, even as 40,645 firms were approved to sponsor H-1B visas that year. These firms have a competitive advantage to recruit and retain foreign-born high skilled workers while paying less money for the same roles as they would for a US citizen. Workers at H-1B dependent employers in the top 20 earned an average $82,788 in fiscal 2017, as compared to $110,511 for H-1B workers in top firms that are not dependent. And 27% of H-1B workers in the dependent firms had a master's degree or higher, as compared to 55% working for employers who are not H-1B dependent. See, Gelatt, S. P., Julia. (2018, March 27). Evolution of the H-1B: Latest Trends in a Program on the Brink of Reform. Retrieved May 16, 2018, from https://www.migrationpolicy.org/research/evolution-h-1b-latest-trends-program-brink-reform; Ruiz, Neil G. "Key Facts about the U.S. H-1B Visa Program." *Pew Research Center*, 27 Apr. 2017.

[56] Enchautegui, María E. "Engaging Employers in Immigrant Integration." Urban Institute, August 2015.

[57] Ibid.

[58] This approach is consistent with a recent publication of the Federal Reserve Bank of Philadelphia, *Investing in America's Workforce: Report on Workforce Development Needs and Opportunities*: "Classify Workers as Assets Not Expenses: Reclassifying employees as assets to be invested in, as opposed to a line item labor cost to be reduced, offers a shift in perspective that may encourage employers to improve job quality and make direct investments in skills training and professional development." See, St. Clair, Noelle. "Investing in America's Workforce: Report on Workforce Development Needs and Opportunities," Federal Reserve Bank of Philadelphia, 2017.

4) Strategies and initiatives must be aimed at reducing gender gaps in wages, especially in lower-paying occupations where we see concentrations of foreign-born workers (primarily women of color).

This should be addressed by ensuring that wage discrimination is prohibited and monitored. There should be penalties for employers who represent a threat to the city's economic well-being in this manner. Wage discrimination is not only a problem for female workers in low-paying occupations, but also impacts hundreds of families in the city. Elected officials should seek to ensure that workers are paid sustainable wages, but also continue to challenge practices which violate workers' rights including wage theft or unhealthy work environments.

There should also be an expansion of career and education paths for women in low-paying occupations. Given Boston's Office of Workforce Development's track record in brokering relationships between government, employers, higher education, and community organizations, it is ideal as a trigger for such expansion. This agency is also positioned to ensure that these kinds of services are targeted to various sub-groups -and differing needs- in the overall category, "foreign born workers."

5) Provide support for English language acquisition connected to specific career opportunities and professional advancement and, towards increasing citizenship.

Studies document that English language skills can lead to better employment outcomes in terms of job quality and for attaining citizenship and also associated with better jobs. Ideally, language skills should be connected strongly to specific career advancement and professional development.[59] The teaching of language skills within a context of career advance will especially assist workers in low-skill occupations, paying low wages. The data we collected shows that there are some foreign-born workers in low-skill occupations who report speaking English Very Well, or Well. For example, home health care aids report relatively high rates of ability to speak English Very Well, or Well. In this particular situation, as noted in other reports, supports for *improving* language skills should be tied to opportunities for career advancement.[60]

6) Foreign-born workers do not dislodge native-born workers from low, or high-skill occupations. The data also shows that in terms of social benefits, they are not more costly than native-born workers. Local and state government should continue to raise concerns about political narratives which scapegoat immigrants along these dimensions.

Strategies and initiatives can be aimed at ensuring that bridges between immigrants and long-time residents, especially in communities of color are strengthened. There are some initiatives working to build bridges between immigrants and long-time residents, especially in communities of color, but perhaps not connected to workforce programs. Workforce and job training strategies and programs should be encouraged to become more aggressive in paying attention to this issue, especially given Boston's emerging demography.

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[59] See, BPDA, 2017; P. Osterman et al., 2107; A. Lima, "Language Skill Requirements in the Labor Market," *Boston Redevelopment Authority*, 2007.

[60] See Soricone, et al., The Boston Foundation (2011); and, *Workforce Innovation and Opportunity Act (WIOA) Mass Combined State Plan* Commonwealth of Massachusetts, 2016-2020.

Appendix A: Key Study Queries and Methodological Note

The sponsoring public agencies asked Dr. James Jennings and the research team to answer 22 queries aimed at understanding better the composition of foreign-born workers and to learn about their contributions to Boston's economy. The 22 queries are covered under one, or more of the report's sections. Each section in the report begins with a footnote listing the queries that are being addressed. The study queries include:

1. What have been the historical contributions of the foreign-born population on the national economy? Are there implications for Boston and Suffolk County?
2. How is the foreign-born population an asset or resource for the contemporary and future U.S. economy? Are there implications for Boston and Suffolk County?
3. What kinds of growing sectors would most benefit from a growing foreign-born population in Boston and Suffolk County?
4. Are foreign-born workers 'complements' or 'substitutes' for the native-born labor force in Boston, Suffolk County?
5. What is the relationship between the presence of foreign-born workers and wages in Boston and Suffolk County?
6. Generally, how has the foreign-born population changed and impacted Boston's labor force and economy over time based on the germane literature?
7. What are the current characteristics of the foreign-born population related to the local labor force, including age, sex, race/ethnicity, educational attainment, labor force participation rate, region of origin, unemployment, occupation, industry, class of worker, earnings by occupation, and language characteristics?
8. What does administrative data, such as "Citizenship/documentation status/Visa type (H1-B, etc.)" suggest in terms of patterns or trends regarding the foreign-born population, and what are implications in terms of Boston's labor force and workforce strategies?
9. What is the track record of contributions of the foreign-born population on the local economy and labor force? And, how is this discussion strengthened by a review of the kinds of jobs in Boston and Suffolk County where foreign-born workers are concentrated?
10. As noted in an earlier bullet above, what types of occupations, and in which industries, is it clear that foreign-born workers represent a critical resource based on concentrations and class of worker data?
11. Are there certain skills or labor experiences associated with foreign-born workers that are particularly important for the local economy and labor force?
12. What are recent assessments of the contributions of the foreign-born labor force on Boston's Gross Domestic Product?
13. What are the low-skills jobs, and high skills jobs that are being impacted by foreign-born workers?
14. Are foreign-born workers a potential resource for occupations indicating growth and need for new labor over the next decade or so?
15. In terms of jobs with the greatest growth outlooks, what role might foreign-born workers contribute in meeting labor demands?
16. What are strategies or policies that can serve to enhance the contributions of the foreign-born labor force to the local economy? What might be obstacles to such strategies and policies? What are strategies that are not potentially divisive or overlook the role of other workers and reflect Boston's focus on racial and ethnic equity?
17. Which residents are being served (in/out of Boston)?
18. What might be a more equitable funding strategies (if some key voices believe this is not currently the status quo, and given job demands in Boston) for Boston's growing foreign-born population?
19. How can the City enhance the tapping of assets represented by its growing foreign-born population, but in ways that do not increase tensions with long-time residents (native or foreign-born, by the way)? - who is being served by Boston's workforce programs? are any groups being left out?
20. How can government resources be distributed equitably, and based on what criteria?
21. How can we take better advantage of our growing foreign-born population as a resource to meet labor force needs?
22. How can bridges be built and sustained between the foreign-born population and long-time residents?

To facilitate data collection and information based on the study queries they were organized under the following sections and key questions:

I: The Foreign-Born Worker in Boston and Suffolk County, Massachusetts: An Introductory Overview

II: Profile of the Foreign-Born Population and Foreign-Born Workers: Select Social Characteristics (*define the foreign-born workforce in Suffolk County; where individuals work, and identify the sectors and occupations; and catalogue income and wages contributions associated with each sector*)

III: The Foreign-Born Worker in Boston and Suffolk County - Not just a Contribution' but Integral to the Economy: Labor Force Characteristics and Economic (*classify the socio-economic demographics, race and ethnicity, and other variables associated with this sector; identify if the sector is an economic anchor for Boston and Suffolk County; identify how foreign-born workers who live and work in Boston and Suffolk County are similar or different to those who workers who live outside these areas*)

IV: The Foreign-Born Worker in Boston and Suffolk County - Not a Threat to Native Workers (*show how native-born workers compliment this sector versus being a threat*)

V: The Foreign-Born Worker - Strategies for Enhancing Economic Impacts for All (*delineate the economic strategies that can contribute to positively exploiting the integral role that foreign-born workers play in Boston and Suffolk County economies*).[61]

The queries are answered based on the collection and analysis of census and administrative data germane to the Boston, Suffolk County, and Massachusetts. It is also based on reviews of select literature describing economic developments and contributions associated with foreign-born workers. The methodology included census data from the 2010 decennial census; American Community Survey 2012–2016 5 Year Estimates; Public Use Microdata Sample for 2016 (PUMS), and the 2012-2016 5 Year Estimates; Place of Work PUMAs (POWMA); the Bureau of Labor Statistics; Quarterly Census of Employment and Wages; Current Population Survey; economic data collected for Suffolk County by IMPLAN, a nationally-recognized econometric planning company. To obtain the most recent PUMS data, the database for 2016 was referenced; the PUMS 2012–2016 was used as a five-year average to obtain slightly more reliable survey data.[62]

The literature review included select scholarly publications but is also based on local agency reports from the Massachusetts Executive Office of Labor and Workforce Development (EOLWD); Boston Planning and Development Agency (BPDA); and other publications from a range of foundations to think tanks involved with immigration. The literature was organized as an annotated bibliography (see Appendix D). In April 2018 an informal online survey of workforce organizations was conducted using *Guidestar.* The purpose of the short survey was to ascertain the extent in which mission statements explicitly or indirectly indicate serving foreign-born workers in Boston and Suffolk County.

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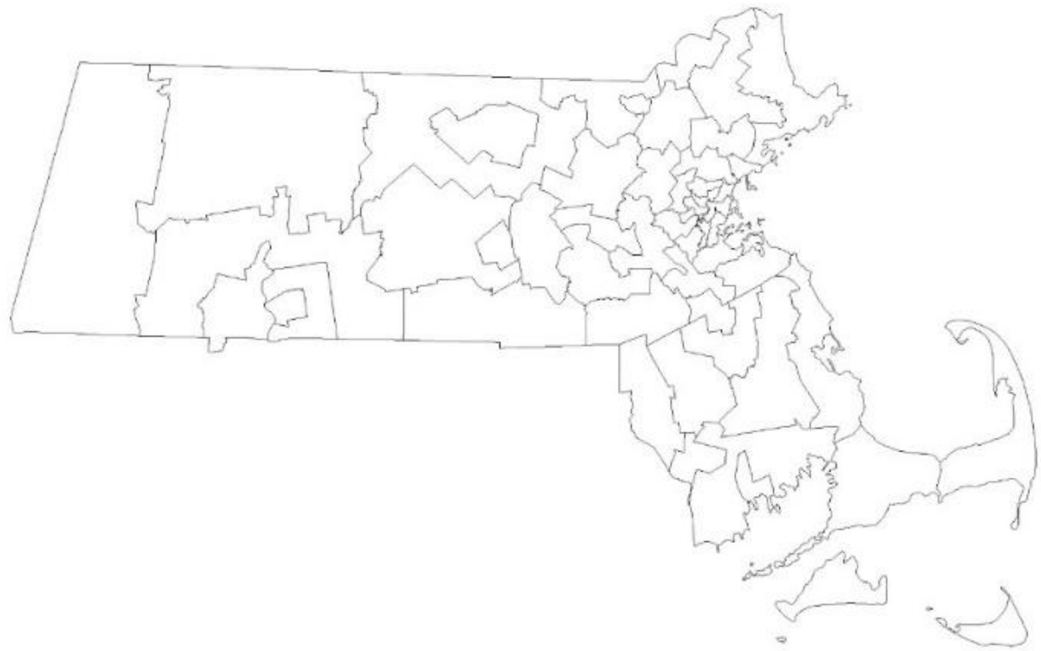
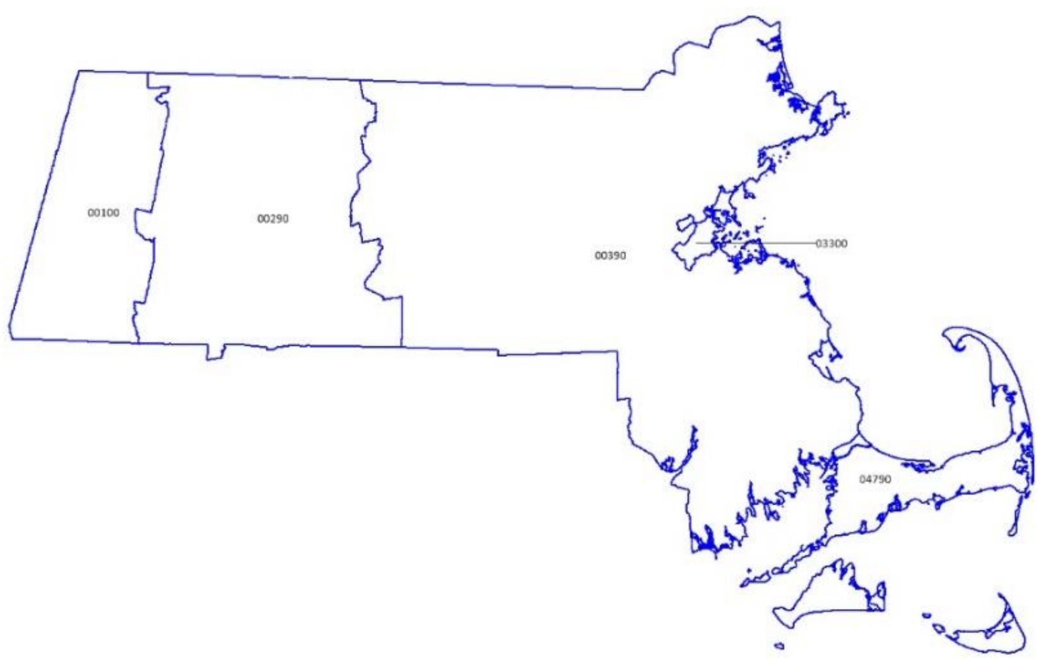
[61] The open-ended questions are based on four specific Study Queries: 18- *What might be more equitable funding strategies (if some key voices believe this is not currently the status quo, and given job demands in Boston) for Boston's growing foreign-born population?* 19- *How can the City enhance the tapping of assets represented by its growing foreign-born population, but in ways that do not increase tensions with long-time residents (native or foreign-born, by the way)? - Who is being served by Boston's workforce programs? Are any groups being left out?* 20- *How can government resources be distributed equitably, and based on what criteria?* 21- *How can we take better advantage of our growing foreign-born population as a resource to meet labor force needs?* and, 22- *How can bridges be built and sustained between the foreign-born population and long-time residents?* This section also includes a brief discussion pertaining to Query 8: *What does administrative data, such as citizenship/documentation status/Visa type (H1-B, etc.) suggest in terms of patterns or trends regarding the foreign-born population, and what are implications in terms of Boston's labor force and workforce strategies?*

[62] Throughout this report estimates reported by ACS – PUMS may differ slightly from those reported on American FactFinder: "The American Community Survey (ACS) Public Use Microdata Sample (PUMS) files are intended to allow data users to conduct custom analyses when the desired estimates are not already available in American FactFinder (AFF). If users attempt to recreate AFF tables with PUMS files, the estimates generated will be slightly different from the pretabulated estimates. These differences reflect that the PUMS files include only about two-thirds of the cases that were used to produce estimates on AFF. The Census Bureau also makes additional modifications to the PUMS files to protect the confidentiality of respondents. These modifications can include, for example, the "top-coding" of continuous variables with outlying values (such as income or transportation time) and the reduction of category availability for variables with hundreds of categories (such as ancestry or birthplace). These changes can also cause PUMS estimates to differ slightly from those in AFF." See, *Why don't the American Community Survey (ACS) Public Use Microdata Sample (PUMS) file estimates match American FactFinder (AFF) estimates*? at https://ask.census.gov/

Appendix B: PUMA and POWPUMA Boundaries

There are 52 PUMAs in Massachusetts as shown in the following map. The boundaries pertaining to Boston and Suffolk County (03300 – 03306) were utilized for most of the data in this report when using PUMS. For some information related to the place of work for native-born and foreign-born workers, POWPUMA boundaries were utilized; there are five such POWPUMAs in Mass, where 0390 is the largest. The POWPUMA boundaries for Massachusetts are shown in the second map.

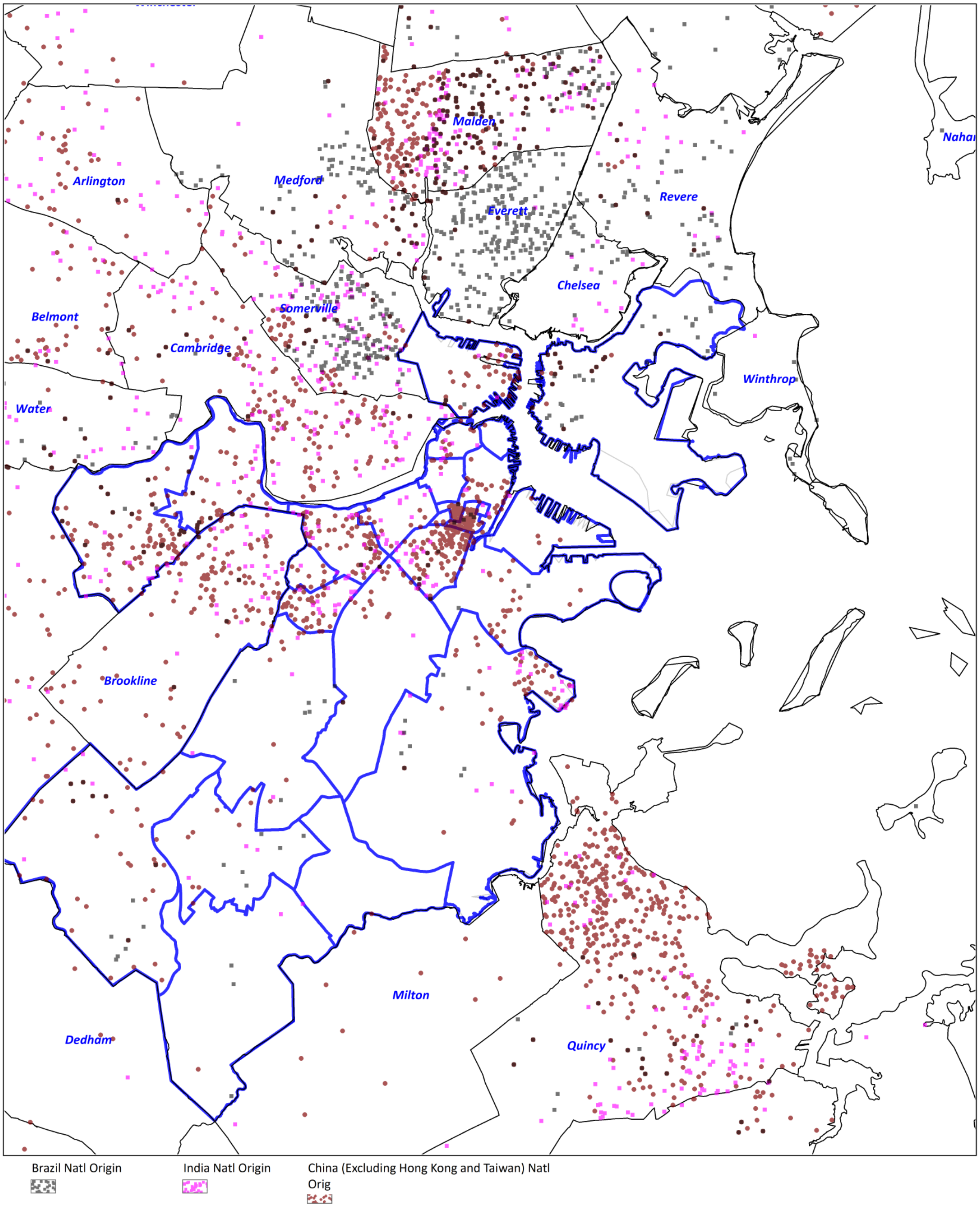



00100
00290
00390
03300
04790

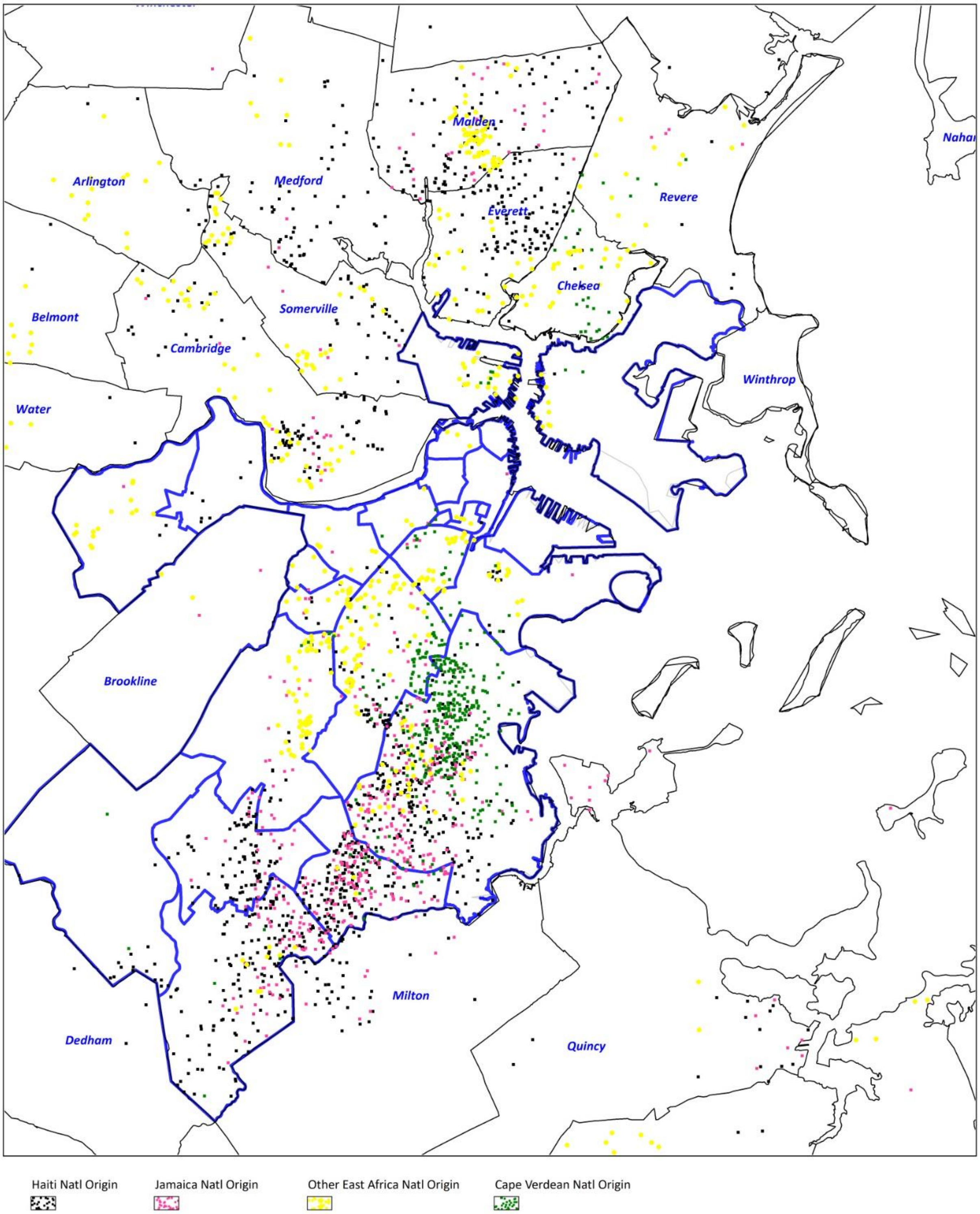
Appendix C: Spatial Concentrations of Persons by National Origins in Boston, Suffolk County and Boston Metropolitan Area[63]

[63] The data in these maps are based on the ACS 2009 – 2013 and ACS 2011 – 2015.

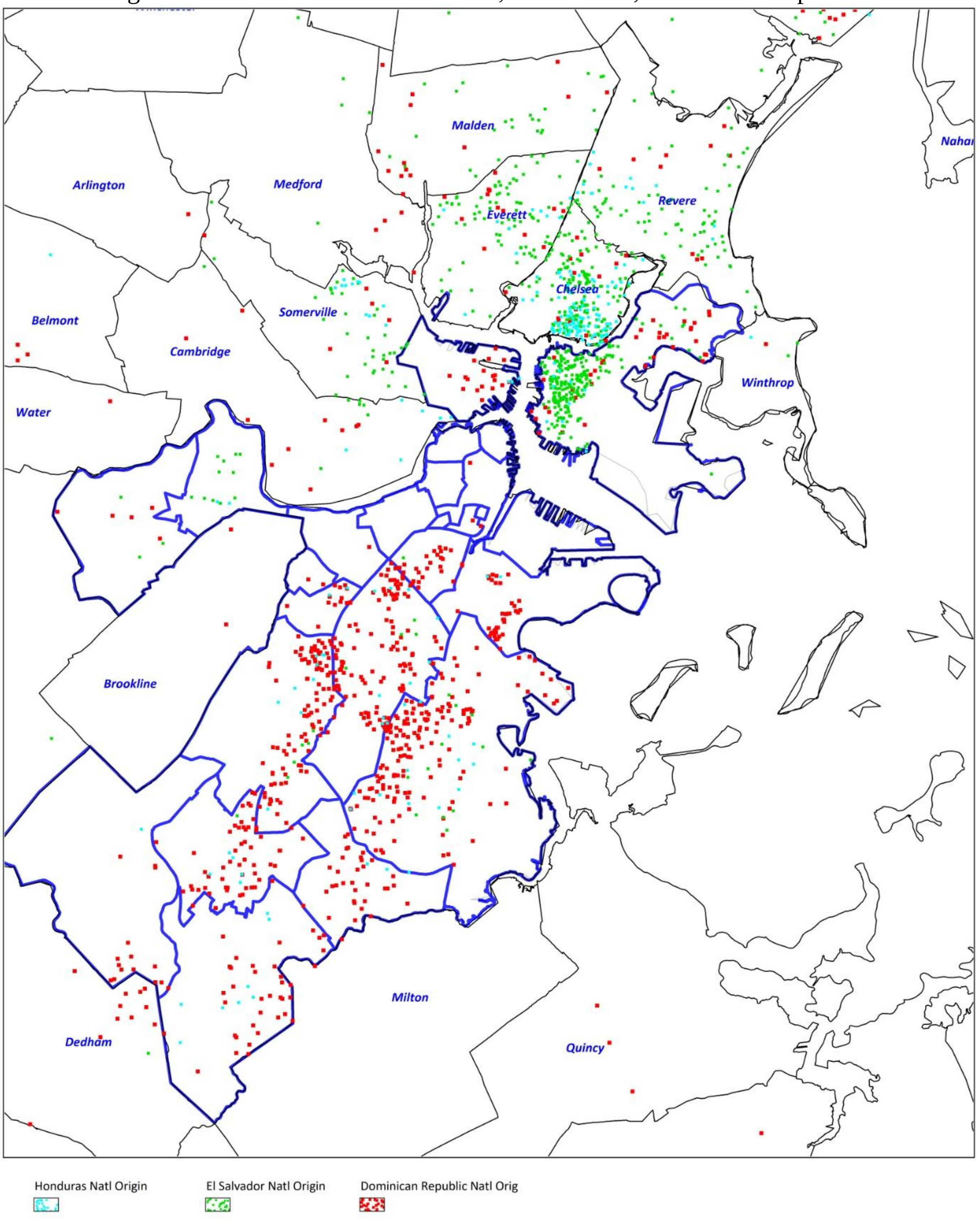
National Origin Residential Patterns: Brazil, China (excluding Hong Kong and Taiwan), India



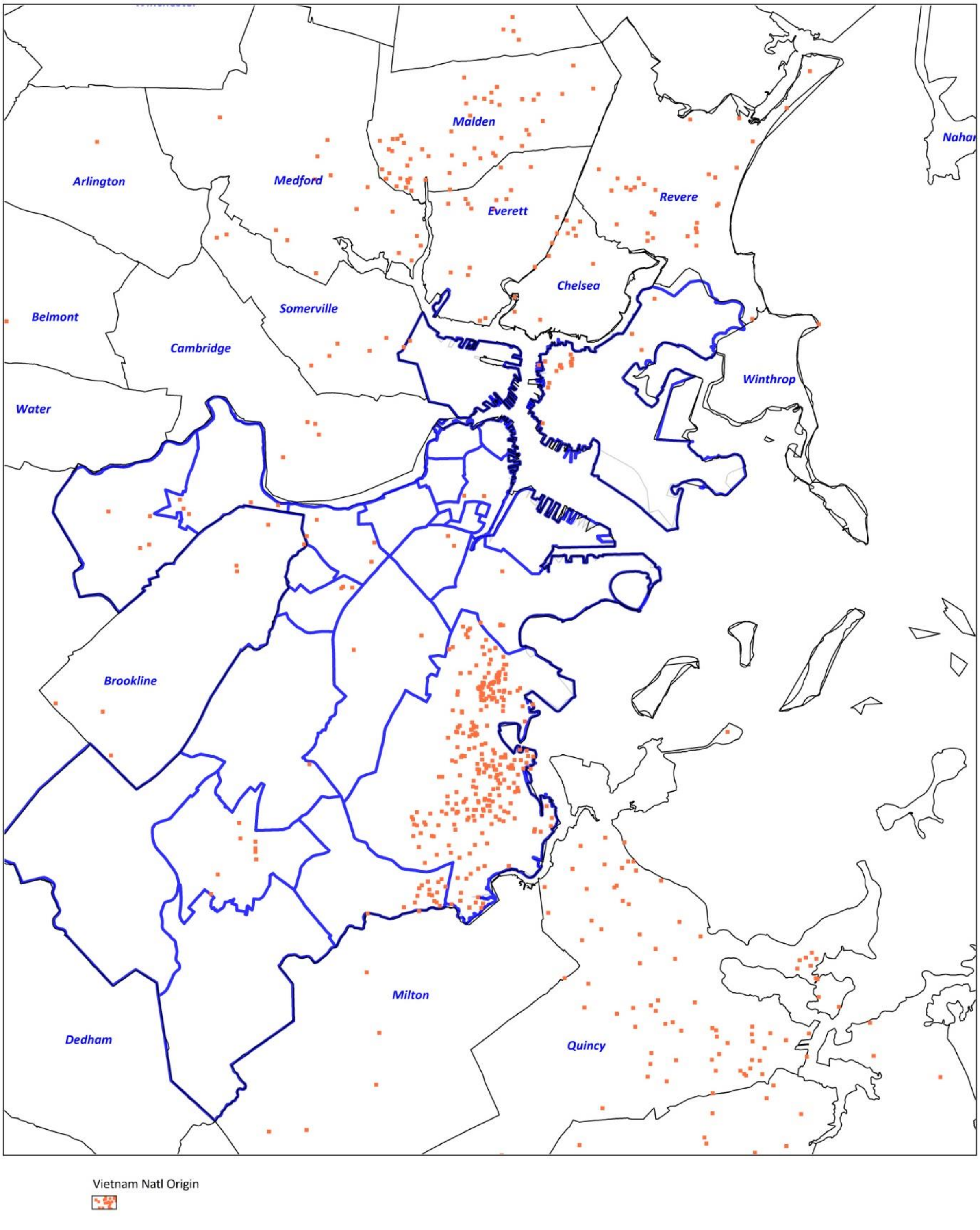
National Origin Residential Patterns: Haiti, Jamaica, East African, Cape Verdean



National Origins Residential Patterns: Honduras, El Salvador, Dominican Republic



National Origin Residential Pattern: Vietnamese



Appendix D: The Foreign-Born Worker in Boston - An Annotated Bibliography

The literature search focused on recent documents from agencies and foundations, think-tank publications and a few journals that have reported information about foreign-born workers in Boston and Massachusetts. It did not include a systematic search of academic references, although some were used to highlight certain ideas or information relevant to Boston and Suffolk County. To gather key documents germane to these queries an online search was conducted using key words and phrases such as ‘foreign-born workers’, ‘economic impact’, ‘DACA economic impact’, ‘H-1B visa’, ‘Boston’, ‘Mass’, and ‘immigration policy’ during March through May 2018. The studies that are included here have direct or indirect relevance to understanding the status, impact and challenges related to foreign-born workers in Boston and Suffolk County. In addition to the latter government and research reports the Study Team reviewed publications produced by the following public agencies for local information: Executive Office of Labor and Workforce Development (EOLWD); Boston Planning and Development Agency; U.S. General Accounting Office; Bureau of Labor Statistics and its *Monthly Labor Review;* Boston Mayor’s Office of Workforce Development; Federal Reserve Bank of Boston; United States Department of Labor (USDOL); and the Massachusetts Department of Unemployment Assistance and Department of Economic Research.

Anderson, S. (2014). *The Increasing Importance of Immigrants to Science and Engineering in America*. Arlington, VA: National Foundation for American Policy. doi:http://nfap.com/wp-content/uploads/2014/06/NFAP-Policy-Brief.Increasing-Importance-of-Immigrants-in-Science-and-Engineering.June-2014.pdf

The importance of immigrant entrepreneurs to American innovation and the U.S. economy has increased dramatically over the past 40 years. Between 2006 and 2012, 33% of companies with venture backing that became publicly traded had at least one immigrant founder. Looking to the next generation of publicly traded companies, particularly in the technology sector, foreign-born persons have started nearly half of America’s 50 top venture-funded companies.

Bergson-Shilcock, A., & Witte, J., Ph.D. (2015). *Steps To Success: Integrating Immigrant Professionals in the U.S.*(Rep.). New York, NY: World Education Services.

This study analyzed factors that have influenced foreign-born persons’ professional success. Its’ findings show that English skills, social capital, and U.S. workplace acculturation, as well as where one’s higher education was obtained, were all strongly correlated with economic and professional achievement. Approximately one-third of foreign-born respondents (31%) had achieved earnings success ($30,000 and/or $50,000 salaries), 28% had achieved skills success, and 22% had attained professional success. Three crucial components of success include but are not limited to the network and social capital of an individual; English language skills and proficiency; and developing an educational background in the United States.

Blau, F. D., & Mackie, C. D. (2016). *The economic and fiscal consequences of immigration*. Washington, D.C.: National Academies Press. doi:http://www.nap.edu/23550

The literature on employment impacts finds little evidence that immigration significantly affects the overall employment levels of native-born workers. While there is supporting evidence that recent immigrants reduce the employment rate of prior immigrants, suggesting a higher degree of substitutability between new and prior immigrants than between new immigrants and natives. This report estimates that the total annual fiscal impact of first-generation adults and their dependents, averaged across 2011-13, is a cost of $57.4 billion, while second and third-plus generation adults create a benefit of $30.5 billion and $223.8 billion, respectively.

Borjas, G. J. (n.d.). *Immigration and the Effects on the U.S. Labor Market (1960-2000)*(Rep.). Retrieved from https://wdr.doleta.gov/research/FullText_Documents/Immigration and the Effects on the U.S. Labor Market 1960_2000 Report.pdf

Report outlines that the resurgence of large-scale immigration has increased the size of the immigration surplus in recent decades, from almost $1 billion annually in 1960 to about $21.5 billion annually by 2000. Although the immigration surplus is marginal, immigration causes substantial wealth redistribution between native and foreign-born workers. Their model predicted that by 2000, immigration would reduce the total earnings accruing to native workers by about 2.8% of GDP and increase the income accruing to native employers by 3.1% of GDP. It was estimated that net economic benefits from immigration would be relatively small, approximately $20 billion per year.

Borges-Mendez, Ramon; Jennings, James; Friedman, Donna H.; Hutson, Malo; and Roberts, Teresa Eliot, "Immigrant Workers in the Mass Health Care Industry: A Report on Status and Future Prospects" (2009). *Center for Social Policy Publications*. Paper 1. http://scholarworks.umb.edu/csp_pubs/1

In 2005, health care was the largest employment sector in the state with almost half a million workers, and the health sector made $29 billion in sales through 19,158 establishments. Foreign-born health care workers have filled vacancies across the spectrum of health care with concentrations at both the high-skilled and low-skilled ends of the spectrum. In that same year, foreign-born medical scientists were more than half of all workers in this occupational category followed by pharmacists at 40%, physician assistants at 28%, and physicians/surgeons at 28%. The Mass Division of Unemployment Assistance projected 49,000 job openings between 2000 and 2010 for "Health Diagnosing and Treating Practitioners" that include 23,480 new jobs.

Boston's Immigrant Labor Force Socio-Economic Characteristics and Economic Integration(Rep.). (2018). Boston, MA: Boston Planning & Development Agency Research Division.

As the foreign-born population has grown as a share of the total population from 26% in 2000 compared to 27% in 2014, the foreign-born labor force has also grown proportionately as a share of the resident labor force. Over 110,000 of Boston's resident labor force participants are foreign-born, or almost 30% of the city's resident labor force. This is an increase of 1.7 percentage points from 2000. Boston's resident foreign-born labor force is more likely than the resident native-born labor force to be male (52% v. 49%), and older (median age of 39 v. 31). The foreign-born resident labor force is less likely than the native born to have a bachelor's degree (30% v. 53%).

The foreign-born resident labor force is more likely to be Hispanic or non-White – only 17% are non-Hispanic Whites, compared to 66% for the native-born resident labor force.

Brannon, I. (2017, January 18). The Economic and Fiscal Impact of Repealing DACA. Retrieved April 5, 2018, from http://www.cato.org/blog/economic-fiscal-impact-repealing-daca

Amendments and revisions to the DACA program could adversely affect the US economy by $280 billion, in the event the Trump Administration deports the nearly one million undocumented individuals who qualified for the program. The fiscal implications of immediately deporting the approximately 750,000 people currently in the DACA program estimate $60 billion to the federal government, along with a $280 billion reduction in economic growth over the next decade.

Capps, R., Fix, M., & Zong, J. (2017). *The Education and Work Profiles of the DACA Population* (pp. 1-17, Rep.). Washington, DC: Migration Policy Institute. doi:https://www.migrationpolicy.org/research/education-and-work-profiles-daca-population

The DACA program has led to occupational movement from manual and outdoors employment toward more formal, service-oriented work. The dual work-and-college track for one-fourth of the DACA-eligible population should lead to better jobs as their academic credentials rise. Yet both of these trajectories would be largely reversed if the program is terminated.

City of Boston: Small Business Plan(Rep.). (2016). Boston, MA: City of Boston. doi:https://www.cityofboston.gov/images_documents/160330 Boston Small Business Full Report - Web (144dpi)_tcm3-53060.pdf

Boston has a large and rapidly booming foreign-born population: 27% of city residents are immigrants from over 100 countries. Boston is also a multilingual city, with 36% of households speaking a language other than English at home. foreign-born entrepreneurs have made important contributions across economic sectors, but industry representation diverges from native-owned firms. Foreign-born entrepreneurs traditionally have higher concentrations in sectors like human and food services which often create lower-paying jobs that do not provide a clear path to wealth creation for the owner.

Clifford, R. (n.d.). Demand for H-1B Visas in New England: An Analysis of Employer Requests for Highly Skilled Guest Workers (1st ed., Vol. 14, Rep.).

New England has the most highly educated and skilled immigrant workforce in the United States. The H-1B visa serves as an entry route for many highly skilled guest workers into the U.S. labor market by allowing employers to temporarily employ foreign workers in specialty occupations. Employers and policy makers have strong arguments in favor of increasing visas for highly skilled foreign-born workers to accommodate the need that organizations have in the STEM fields. The argument against increasing the number of H-1B visas is based primarily on research that finds the program is used to employ foreign-born workers at lower wages than their American counterparts and is heavily used by outsourcing firms to facilitate the transfer of jobs to less costly destinations.

Delvin, S. (2017, October 9). End of DACA Spells Trouble for Economy. *The Observer*. Retrieved April 5, 2018, from http://observer.com/2017/10/economic-effects-of-daca-are-460-billion-per-year/

The purchasing power of DACA recipients continues to increase. Data shows that 16%of respondents purchased their first home after receiving DACA. Among respondents 25 years and older, this percentage rises by 8 percentage points to 24%. Additionally, 72% of the top 25 Fortune 500 companies employ DACA recipients; these companies account for $2.8 trillion in annual revenue. Ending DACA would also bring losses of $39.3 billion to Social Security and Medicare over the next 10 years.

Enchautegui, M., & Giannarelli, L. (2015). *The Economic Impact of Naturalization on Immigrants and Cities*. New York, NY: The Urban Institute. doi:https://www.urban.org/sites/default/files/publication/76241/2000549-The-Economic-Impact-of-Naturalization-on-Immigrants-and-Cities.pdf

This report is based on data collected from 21 cities using the American Community Survey. Through their findings they discovered that immigrants who are eligible, and if they became naturalization citizens, their earnings would increase 8.9%, and combined earnings for the 21cities would increase $5.7 billion. Federal, state, and city tax revenue would increase $2 billion. Expenditures in government benefits would decline $34 million in New York City and increase $4 million in San Francisco. With an additional $789 million in taxes for New York City and $90 million for San Francisco, the net fiscal impact of naturalization on these two cities is overwhelmingly positive.

Enwemeka, Z., Fujiwara, D., & Khalid, A. (2017, March 16). What the Data Tell Us About H-1B Visas In Mass. Retrieved April 5, 2018, from http://www.wbur.org/bostonomix/2017/03/16/h-1b-visa-explainer

An overwhelming majority of H-1B visas go to young people from India. In fiscal year 2015, 71% of all the H-1B applications approved were for workers between the ages of 25 and 34, and the median salary in 2015 was $79,000. In Mass, employers are primarily hiring programmers, software engineers, consultants and analysts, according to data from the U.S. Labor Department.

Entrepreneurship: How immigration plays a critical role. (n.d.). Retrieved April 5, 2018, from https://www.newamericaneconomy.org/issues/entrepreneurship/

Firms owned by new Americans provide millions of jobs for U.S. workers and generate billions of dollars in annual income. In 2014, foreign-born persons entrepreneurs made up 20.6% of all U.S. entrepreneurs, despite representing just 13.2% of the population overall. Foreign born persons start more than 25% of all businesses in seven of the eight sectors that the U.S. Bureau of Labor Statistics expects to grow the fastest over the next decade.

Examining the Contributions of the DACA-Eligible Population in Key States. (2017, November 6). Retrieved April 5, 2018, from https://research.newamericaneconomy.org/report/examining-the-contributions-of-the-daca-eligible-population-in-key-states

In 2015, 90% of the 1.3 million DACA-eligible individuals, age 16 and above, were actively employed. This population earned $19.9 billion in income and contributed roughly $3.0 billion in taxes that year. They also formed businesses at higher rates than similarly aged U.S.-born workers, with almost 38,000 working as self-employed entrepreneurs. And approximately 8,000 DACA recipients in Mass contribute about $24 million annually in state and local taxes, the lawsuit stated.

Immigrants in Mass. (2017). Washington, DC: American Immigration Council.

Foreign born persons in Mass have contributed billions of dollars in taxes. Foreign born persons led households in the state paid $6.5 billion in federal taxes and $3 billion in state and local taxes in 2014. Mass residents in foreign-born-led households had $27.3 billion in spending power (after-tax income) in 2014.

Hill, M., & Wiehe, M. (2017, April). *State & Local Tax Contributions of Young Undocumented Immigrants* (Rep.). doi:https://itep.org/wp-content/uploads/2017DACA.pdf

Undocumented youth who are enrolled in or eligible for DACA pay roughly $2 billion each year in state and local taxes. Young people eligible for DACA pay 8.9% of their income in state and local taxes—nearly the same as the 9.4% paid by the middle 20% of taxpayers. Creating a path to citizenship for DACA-eligible youth would increase their state and local tax payments by $505 million—for a total of $2.53 billion a year. Ending DACA would decrease state and local revenue by roughly $800 million per year.

Historical Trends in Boston Neighborhoods since the 1950s(Rep.). (n.d.). Retrieved from http://www.bostonplans.org/getattachment/89e8d5ee-e7a0-43a7-ab86-7f49a943eccb

Boston's population has grown and diversified exponentially in the past sixty years as evidenced by the explosion of non-White Hispanic consistent growth (in 2015 Boston was 54.5% Hispanic or non-White). And Boston's Asian population has grown from 1% to 9% of the city population since 1970, this growth is seen in community like Fenway and Downtown/Chinatown. While the foreign-born population has continued to grow, Boston's native-born population was in continual decline from 1950 through 2000.

Holgate, B., & McCormack, M. (2016). *Career Pathways to Quality Jobs in Construction, Hospitality, and Healthcare*(United States, Mayor's Office of Workforce Development). Boston, MA: Center for Social Policy, University of Mass Boston.

This report provides a description and recommendations for the career pathway model and a definition of a quality job:

- Government and philanthropic investments should focus on career pathways that lead to quality jobs.
- Engaging committed employers is key since they are an integral part of any career pathway.
- Develop diverse opportunities for foreign-born workers to become proficient in English, connect the hospitality career ladder to the community college system, and the create dedicated entry points for Boston residents who are low-wage workers along healthcare career pathways.

Imagine All The People Chinese (Rep.). (2016). doi:http://www.bostonplans.org/getattachment/ae742d2c-ae38-45ea-b7f9-6c1621ff9f8c

Foreign-born Chinese contribute to the Boston economy through generated total expenditures of $430 million in 2014. These annual expenditures contributed over $258 million to the regional product and generated $14 million in state and local taxes. In total, these expenditures supported 1,800 jobs in the Mass economy.14 The World Bank estimates that in 2014 Chinese remittances from the United States totaled $16.3 billion.

Imagine All The People Dominicans(Rep.). (2016). doi:http://www.bostonplans.org/getattachment/f2812291-6aa9-4fa1-9d0b-3f41354acaaa

Foreign-born Dominicans in Boston generated total expenditures of $206 million in 2014. These annual expenditures contributed over $152 million to the regional product and generated $7 million in state and local taxes. In total, these expenditures supported 1,100 jobs in the Massachusetts economy.

Imagine All The People Vietnamese(Rep.). (2016). doi:http://www.bostonplans.org/getattachment/5ae933eb-b4fe-4f1b-9f7d-8431ce120e1f

Foreign-born Vietnamese in Boston generated total expenditures of $172 million in 2014. These annual expenditures contributed over $103 million to the regional product and generated $5.6 million in state and local taxes. In total, these expenditures supported 745 jobs in the Mass economy.

Immigrant Small Business Owners: A Significant and Growing Part of the Economy(Rep.). (2012). Retrieved from http://www.fiscalpolicy.org/immigrant-small-business-owners-FPI-20120614.pdf

Foreign-born owned small businesses (firms with at least one and fewer than 100 people working) employed 4.7 million workers and garnered $776 billion in sales. Nationally, 18% of small business owners in the United States are foreign-born; leisure and hospitality (28% of small businesses) is the sector where foreign-born entrepreneurs make up the biggest share of small business owners. Within leisure and hospitality, foreign-born make up 43% of hotel and motel owners, and 37% of restaurant owners. Other types of businesses where foreign-born entrepreneurs are strongly overrepresented include taxi service firms (65%), dry cleaning and laundry services (54%), gas station owners (53%), and grocery store owners (49%). Over the past two decades, between 1990 and 2010, the number of small business owners grew by 1.8 million, from 3.1 to 4.9 million; foreign-born employers made up 30% of that growth.

Immigrants and the Economy Contribution of Immigrant Workers to the Country's 25 Largest Metropolitan Areas(Rep.). (2009). Retrieved from http://www.fiscalpolicy.org/ImmigrantsIn25MetroAreas_20091130.pdf

Immigrants contribute significantly to the U.S. economy. In the 25 largest metropolitan areas combined, immigrants made up 20% of the population and were responsible for 20% of the economic output. Together, these metro areas comprised 42% of the total population of the country, 66% of all immigrants, and half of the country's total Gross Domestic Product. Foreign-born persons traditionally work in jobs across the economic spectrum and are business owners as well. Immigrants accounted for 22% of all proprietors' earnings in the 25 largest metro areas- slightly higher than their share of the population. While the immigrant labor force brings many benefits to the U.S. economy, it also presents political, economic and social challenges. This is especially true in the context of an extremely polarized economy, relatively low unionization rates, weak enforcement of labor standards, and a broken immigration system.

Jennings, J. (2013), et al., *Immigrant Entrepreneurs Creating Jobs and Strengthening the U.S. Economy in Growing Industries: Transportation, Food and Building Services with a Regional View of Mass, New York and Pennsylvania and a Focus on the Green Economy*. The Immigrant Learning Center, Inc.: Malden, MA.

Foreign-born entrepreneurs have filled underserved niche markets in the United States. And entrepreneurs play an expanding role in new business formation that is strengthening the economy and creating jobs in local communities. Between 1990 and 2010, the number of small business owners grew from 3.1 to 4.9 million, and immigrants accounted for 30% of that growth. Additionally, immigrant-owned small businesses are firms employed 4.7 million people in 2007 which was 14% of all people employed by small business owners. And the largest number of immigrant small business owners are in the professional and business services sector followed by retail, educational and social services, and leisure and hospitality.

Jennings, J., Jordan-Zachery, J., Siqueira, C., Barboza, G. E., Lawrence, J., & Marion, M. (2010). *Impact of Immigrant Entrepreneurs and Workers in Leisure and Hospitality Businesses: Mass and New England*(Rep.). Malden, MA: The Immigrant Learning Center. doi:http://www.ilctr.org/wp-content/uploads/2011/08/Impact-of-Immigrant-Entrepreneurs-and-Workers-in-Leisure-and-Hospitality-Businesses-MA-and-NE-new.pdf

The entrepreneurship rate for foreign-born workers in the Leisure and Hospitality businesses is higher than for native-born workers. These foreign-born entrepreneurs are making an enormous and positive impact on local economies. In 2009, foreign-born persons owned businesses in the Hotel Accommodations sector which tend to be small employing 10 or fewer individuals. Foreign-born men own more leisure and hospitality businesses than immigrant women at 63% of the total market share. Foreign-born workers in Massachusetts comprise more than one-third of the total workforce in businesses associated with hotel and travel accommodations. They also represent nearly one-quarter of all workers in restaurants and businesses providing food services. Brazilian and Dominican foreign-born workers are the largest number of foreign-born workers in Massachusetts leisure and hospitality businesses.

Johnson, J. H., Jr., & Appold, S. J. (2014, April). *Demographic and Economic Impacts of International Migration to North Carolina*(Rep.). Retrieved http://www.kenan-flagler.unc.edu/~/media/Files/kenaninstitute/ImmigrantEconomicImpact.pdf

North Carolina's foreign-born workers are more likely to be in their prime working ages, more likely to be married and live in married households, and more likely to be employed in the industries and occupations that propelled North Carolina's economic growth over the past two decades. Immigrants have higher poverty rates than the native-born, but they are far more likely to be the working poor than the jobless poor; the latter connotes persons in poverty who are not in the labor force. Through their consumer purchasing power, foreign-born populations have had a profound impact on the state's economy creating an overall economic impact of $19.76 billion in 2010.

Johnston, K. (2017, May 17). MIT Study: Immigrants Vital to Boston's Economy. *The Boston Globe (Boston, MA)*. Retrieved May 2, 2018, from https://www.bostonglobe.com/business/2017/05/17/mit-study-immigrants-vital-boston-economy/l9PszENhVRsffVWvQVa1yO/story.html

The Greater Boston area's economy relies on immigrants much more heavily than the country as a whole. And with the city's unemployment rate at less than 4% and foreign-born workers providing nearly all the growth in the labor market in recent years, a continued stream of immigrant workers is essential for the local economy to thrive. In 2015, more than half the working-age people moving to the Boston area were immigrants. Following immigration reform in the 1960s, the number of foreign-born workers in the city tripled between 1980 and 2010, to 116,111, while the number of native-born workers grew by just 4%, to 246,735.

Kurtz, A. (2017, December 22). From H-1B Visas to DACA Dreamers: How to Protect Your Workers in 2018. Retrieved April 5, 2018, from https://www.inc.com/magazine/201802/annalyn-kurtz/hiring-foreign-workers-immigration.html

There are a multitude types of visas that grant temporary authorization but are not an instrument to permanent residency. Of these visas includes the H-1B, which is a common residency option for foreign-born workers in the tech industry; the H-2A, for agricultural workers; and the H-2B, often used for hospitality and tourism workers.

Lima, A. (2007). *Language Skill Requirements in the Labor Market* (613-1, Rep.). Boston, MA: Boston Redevelopment Authority.

Boston's workforce demands that most jobs require at least medium-low language skillset. It was projected that a majority of new jobs in the Greater Boston region by 2014 in the medium-high and high language skill categories were expected to grow at a faster rate than the medium-low and low categories. Together, these trends point to two main themes that must be addressed regarding foreign-born labor: evaluating the overall economic health of Greater Boston and the quality of life for residents in the region. While the Greater Boston region features a highly educated workforce overall, the retirement of the Baby Boomer generation makes improving the human capital characteristics of Greater Boston's low skilled workforce an important issue. As a result, enhancing the language skills of the LEP workforce through training programs, including English to Speakers of Other Languages (ESOL) course, needs to be focal point for the region.

Lima, A. (2014, April). *High-skilled Immigrants in the Mass Civilian Labor Force: U.S./Foreign Degrees*(Rep.). Retrieved http://www.bostonplans.org/getattachment/3f587b3a-f013-4dbd-98d4-59940e75b208

High-skilled foreign-born workers, regardless of where they obtained their degrees, are over-represented in the fields of Business, Humanities, Social Science and Communications. Among the high-skilled foreign-born workers with a foreign degree, both English Proficient and Limited English Proficient, the working population studied engineering, computers and mathematics.

Lima, A. (2017). *The Importance of Immigrants to Boston's Continued Prosperity* (Rep.). Boston, MA: Boston Planning & Development Agency. doi:http://www.bostonplans.org/getattachment/1eeaf05e-6505-4268-8ebc-6a3c6b16fdca

Foreign born persons contribute to Boston's economic growth holding 27% of jobs in Suffolk County, and foreign-born workers generated 24% of Suffolk County's economic output in 2015.

Lima, A., Lee, J., & Kim, C. (2015). *Boston by the Numbers 2015* (Rep.). Boston, MA: Boston Development Authority. doi:http://www.bostonplans.org/getattachment/1fd5864a-e7d2-4ebc-8d4a-a4b8411bf759

Foreign-born persons in Boston constituted 27% of the city's population of 656,051 in 2014. Foreign-born persons in Boston made $3.4 billion in total expenditures in 2014. These annual expenditures generated a gross regional product of $2.3 billion and contributed $116 million in state and local taxes. Their economic activity created 15,000 jobs in the local economy.

Lowell, B., Gelatt, J., & Batalova, J. (2006). *Immigrants and Labor Force Trends: The Future, Past, and Present*(17th ed., Insight, Rep.). Washington, DC: Migration Policy Institute.

Several factors have supported the growth and strong demand for foreign-born workers, and a continued steady growth is projected through 2030. First, foreign-born persons have a strong community and history in the country will likely create a demand for ongoing family reunification. Secondly, the latent demand for immigrant labor will grow stronger as the Baby Boomer generation moves into retirement and an aging population requires labor-intensive personal services. Finally, as globalization knits together international labor markets, this will ensure that US employers will continue to seek to employ foreign workers. New immigration is likely to contribute between one-third and one-half of the growth of the labor force through 2030.

Magaña - Salgado, J., & Wong, T. (2017, October). *Draining The Trust Funds: Ending DACA and the Consequences to Social Security and Medicare* (Rep.). doi:https://www.ilrc.org/sites/default/files/resources/2017-09-29_draining_the_trust_funds_final.pdf

The report concludes that the Administration's decision to end DACA will lead to $39.3 billion in losses to Social Security and Medicare contributions over ten years, half of which represents lost employee contributions and half employer contributions. Of these losses, $31.8 billion represents the decrease in Social Security contributions and $7.4 billion in Medicare contributions. Moreover, as both trust funds use contributions from today's workers to pay out current obligations, the reduction in contributions reduces the immediately available funds to pay today's U.S. citizen seniors and others currently eligible for these programs.

Mayor's Office of Workforce Development. (2016). *Boston's Workforce: An Assessment Of Labor Market Outcomes and Opportunities*. Boston, MA: Boston Redevelopment Authority Research Division. Retrieved from https://owd.boston.gov/wp-content/uploads/2016/03/2015-Office-of-Workforce-Development-Workforce-Report-Booklet_v1_r8_spreads.pdf

Foreign-born workers make up just under half (45.7%) of people with only a high school degree or equivalent. A key barrier for many immigrants is limited English language proficiency; among those with less than a high school degree, 63.8% have limited English proficiency. In order to address and remedy these areas of inequity, the Office of Workforce Development must work to make opportunities for economic advancement available to all residents.

Furthermore, the workforce development system will engage employers to understand their needs and connect residents to jobs across the industry spectrum.

Mass Workforce and Labor Area Review (Rep.). (2017). Boston, MA: Department of Unemployment Assistance Economic Research Office. doi:https://www.mass.gov/files/documents/2017/10/04/MA2016_Workforce and_Labor_Area_Review_0.pdf

The Commonwealth's working age population and labor force are growing but at a slower rate than jobs are increasing. In Massachusetts, the recent monthly work force participation rates are in the 66.1 to 66.7 range. In all of the workforce development areas, the unemployment rates have declined as more residents were employed and fewer were unemployed driving the unemployment rates down. The Boston (Metro North and Metro South/West) workforce areas remain stagnant with the number of job postings exceeding the number of unemployed residents actively seeking work.

New Americans on Long Island: A Vital Sixth of the Economy (Rep.). (2011). New York, NY: Fiscal Policy Institute.

Foreign-born workers comprise 16% of the population of Long Island, and account for 17% of total economic output. This is attributed to various socio-economic factors that impact both the growth and financial stability of the foreign-born population:

- Vast spectrum of employment opportunities: foreign-born workers are far more widely spread across the economic spectrum than is generally recognized.
- More than half (54%) of immigrants on Long Island work in white-collar jobs. And immigrants make up a larger share of entrepreneurs than their U.S. born counterparts.
- Nearly a quarter (22%) of all the small businesses located on Long Island are owned by foreign-born entrepreneurs.
- Of the 53,000 small businesses located on Long Island, 15,000 are owned by foreign-born worker, generating profits of $804 million, or 16%of all small business profits.

Ortega, F., Edwards, R., & Wolgin, P. (2017). *The Economic Benefits of Passing the Dream Act* (pp. 1-14, Rep.). Washington, DC: Center for American Progress. doi:https://cdn.americanprogress.org/content/uploads/2017/09/08121320/0091817_EconomicImpactsDreamAct-brief.pdf

Passing the Dream Act and placing all of the potentially immediately eligible workers on a path to legal status, would add a total of $22.7 billion annually to the U.S. gross domestic product (GDP). Because the gains from legalization grow each year, the cumulative increase in GDP over 10 years would be $281 billion. If even half of all workers who are immediately eligible for the Dream Act complete the educational requirements to move from conditional status to lawful permanent residency—as distinct from the military service or employment paths—the annual gains could be even higher, creating what we term an "education bump" and reaching as high as $728.4 billion cumulatively over a decade. Over a decade, this means the GDP gains from the Dream Act could be as high as a cumulative $400 billion. With the education bump, the gains could be as high as a cumulative $1 trillion.

Osterman, P., Kimball, W., & Riordan, C. (2017). *Boston's Immigrants: An Essential Component of a Strong Economy* (Rep.). Boston, MA: Jewish Vocational Service. doi:https://www.jvs-boston.org/wp-content/uploads/2017/11/Osterman-Report-Final.pdf.

Greater Boston's economy relies on foreign-born persons much more heavily than the country as a whole. And with the city's unemployment rate at less than 4% and foreign-born workers providing nearly all the growth in the labor market in recent years, a continued stream of immigrant workers is essential for the local economy to thrive. Despite the central role of immigrants in our workforce, significant challenges to fulfill the true potential of immigrants remain.

Power of the Purse: How Sub-Saharan Africans Contribute to the U.S. Economy (Rep.). (2018). New American Economy. doi:http://research.newamericaneconomy.org/wp-content/uploads/sites/2/2018/01/NAE_African_V6.pdf

African immigrants earned $55.1 billion in 2015. Their households paid $10.1 billion in federal taxes and $4.7 billion in state and local taxes – giving African immigrants an estimated spending power of more than $40.3 billion in 2015.

Schuster, L., & Vance, A. (2017, September 7). DACA, by the Numbers. Retrieved May 16, 2018, from http://www.bostonindicators.org/article-pages/2017/september/daca-by-the-numbers

In 2017, there were 7,934 people in Mass with DACA status, and approximately 80% live in the Boston area. This incubus of foreign-born DACA status individuals was driven by Governor Deval Patrick 2012 announcement that individuals who receive DACA status in the Commonwealth would also be eligible for in-state tuition at public community colleges and state universities. In Boston, Mayor Marty Walsh's Tuition Free Community College Plan, established in 2017, also provides access to students protected by DACA. The Mayor's Plan covers tuition and mandatory fees at Bunker Hill Community College, MassBay Community College and Roxbury Community College.

Soricone, L., Singh, N., Smith, C., Comings, J., Shields, K., Sacks, L., & Tull, A. (2011). *Breaking the Language Barrier: A Report on English Language Services in Greater Boston* (Rep.) (B. Hindley, Ed.). Boston, MA: The Boston Foundation.

There are 236,933 aged 16 or older (45% of total immigrants) Limited English Proficient (LEP) workers, making up 12% of the total population. Between 2006-2008, LEP foreign-born workers made up 17% of Greater Boston's labor force, up two percentage points from 2000, with 140,725 (42%) of the 335,212 employed immigrants being LEP. In 2000, an immigrant in Massachusetts who spoke only English earned $38,526 annually compared to an immigrant who did not speak English well, who earned just $14,221. Even among college educated immigrants, English proficiency can mean an additional $20,000 in annual earnings.

St. Clair, N. (2017). Investing in America's Workforce: Report on Workforce Development Needs and Opportunities (Rep.). Philadelphia, PA: Federal Reserve Bank of Philadelphia.

To gain insights into the regional aspects of improving workforce outcomes and investments, the community development departments at each of the Federal Reserve Banks organized listening sessions across the country during the first half of 2017. Those discussions illuminated the fact that a gap exists between the skills possessed by the local labor force and those demanded by employers. This skills gap was attributed to a variety of factors, including low levels of educational attainment and a stigma associated with alternative training and career paths. Several promising strategies were identified for expanding and diversifying the pipeline of skilled workers and connecting these workers with employers. These strategies include but are not limited to:

- Apprenticeships and Other Work-Based Training Models
- Increased Employer Training for Incumbent Workers to Foster Career Pathways and Create Access to Entry-Level Jobs
- Changes in Employer Behavior That Improve Job Access and Quality
- Invest in Core Programs That Prepare Workers for Jobs
- Invest in Workforce Intermediaries That Connect Workers to Jobs
- Invest in Early Childhood Education
- Create Financial Intermediaries

The Contributions of New Americans in Mass (Rep.). (2016). New York, NY: New American Economy. doi:http://research.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf

For every 1,000 foreign-born persons arrive in a given U.S. county, 46 manufacturing jobs are preserved that would otherwise not exist or have moved elsewhere. The more than 975,000 immigrants who were living in the state in 2010 were responsible for creating or preserving almost 45,000 manufacturing jobs.

The Effects of Immigration on the United States' Economy. (2016, January 27). Retrieved April 5, 2018, from http://budgetmodel.wharton.upenn.edu/issues/2016/1/27/the-effects-of-immigration-on-the-united-states-economy.

Economists generally agree that the effects of immigration on the U.S. economy are broadly positive. Foreign born persons, whether high- or low-skilled, documented or undocumented, are unlikely to replace native-born workers or reduce their wages over the long-term, though they may cause some short-term dislocations in labor markets. Immigration may actually have significant long-term benefits for the native-born, pushing them into higher-paying occupations and raising the overall pace of innovation and productivity growth.

The Impact of Immigrants in Mass. (2016). Boston, MA: Mass immigrant and refugee advocacy coalition. doi:https://www.masslegalservices.org/system/files/library/MIRA%201%20The%20Impact%20of%20Immigrants%20in%20MA%202016.pdf

21% of entrepreneurs in Massachusetts are foreign-born, employing 134,477 people. 58% of Fortune 500 businesses in Massachusetts were founded by foreign-born persons. Foreign born persons earned 15% of all income in Massachusetts and contributed around $4.5 billion in federal and $3 billion in local and State tax revenues. Through their individual wage contributions, foreign-born persons also paid about $4.6 billion into the Social Security and Medicare programs in 2016.

The National Academies of Sciences, Engineering, and Medicine. (2016, September 21). Immigration's Long-Term Impacts on Overall Wages and Employment of Native-born U.S. Workers Very Small, Although Low-Skilled Workers May Be Affected, New Report Finds; Impacts on Economic Growth Positive, While Effects on Government Budgets Mixed [Press release]. Retrieved April 5, 2018, from http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=23550

The economic impact of immigration, when measured over a 10-year period or more, is very small. However, in regard to fiscal impacts, first-generation immigrants are costlier to local and state government based on the expenditures of educating first generation students. Yet, the adult children of immigrants (second generation immigrants) are among the strongest economic and fiscal contributors in the U.S. population, contributing more in taxes than either their parents or the rest of the native-born population.

Toussaint, K. (2017, September 27). Boston-area companies help fund DACA renewals for local Dreamers. Retrieved from https://www.metro.us/news/local-news/boston/boston-companies-fund-daca-renewals

The Boston Foundation, a community foundation made up of more than 1,000 charitable funds, announced their partnership with several local companies to provide the funding to pay for the renewals of Boston-area DACA beneficiaries. Mass is home to about 19,000 Dreamers. Eastern Bank, Harvard Pilgrim Health Care and Arbella Insurance have provided up to $65,000 in initial funding to the Foundation for the effort. That money will help award grants to the local community organizations that are helping applicants during the renewal process.

Treyz, F. R., Stottlemyer, C., & Motamedi, R. (2013). Key Components of Immigration Reform: An Analysis of the Economic Effects of Creating a Pathway to Legal Status, Expanding High-Skilled Visas, & Reforming Lesser-Skilled Visas(Rep.). Retrieved from http://www.remi.com/wp-content/uploads/2017/10/50-Key-Components-of-Immigration-Reform.pdf

As a result of the H-1B program expansion, it was anticipated that employment will increase by 227,000 jobs by 2014, and would continue to expand, with a net increase of 1.3 million jobs by 2045. Gross domestic product would increase by $22 billion in 2014 and more than $158 billion by 2045. Employment and gross state product is estimated to increase for all states and in all years from 2014 to 2045 as a result of the H-1B program expansion.

United States. U.S. Citizenship and Immigration Services. US Department of Homeland Security. *Characteristics of H - 1B Specialty Occupation Workers* (Rep.). (n.d.). Washington, DC: U.S . Department of Homeland

Security. doi:https://www.uscis.gov/sites/default/files/files/nativedocuments/Characteristics_of_H-1B_Specialty_Occupation_Workers_FY17.pdf

The number of H-1B petitions filed increased 6% from 299,467 in 2013 to 318,824 in 2014. Yet the number of H-1B petitions approved increased 10% from 286,773 in 2013 to 315,857 in 2014. And 72% of H-1B petitions approved in 2014 were for workers between the ages of 25 and 34. Of that population, 45% of H-1B petitions approved in 2014 were for workers with a bachelor's degree, 43% had a master's degree, 8% had a doctorate, and 4% were for workers with a professional degree. And the median salary of beneficiaries of approved petitions increased from $72,000 for 2013 to $75,000 for 2014.

United States, United States Department of Labor, Workforce Development Board. (2016). *Workforce Innovation and Opportunity Act (WIOA) Mass Combined State Plan*. Boston, MA: Commonwealth of Mass.

In 2014, the six state New England region added $852.6 billion to the total value of goods and services produced by the nation, with Mass supplying 49.8% of the region's share. As of December 2015, there were 3.5 million jobs in the Mass economy. And Mass population is only growing due to the inflow of immigrants, which may not be able to replace the skill loss of the baby boomers. These trends signal the need to focus on three major challenges:

- Talent retention of the existing workforce, especially individuals with STEM-related credentials.
- Create career pathways for those individuals who are not currently in the workforce.
- Maximizing the existing labor force by accurately matching talent, training dollars, and new education and training options aligned with business demands.

Who Will Care? The Workforce Crisis In Human Services(Rep.). (2017). Retrieved from http://www.donahue.umassp.edu/documents/Providers_Council_-_Who_Will_Care_2017.pdf

Mass is well positioned to address its' workforce challenges through intentional job matching, continuous job training, and professional development. However, the state has yet to develop a comprehensive, coordinated effort to assist human services employers in meeting their workforce challenges. Employers are piecing staffing efforts together and are trying to meet increasing demands for services and state mandates. Nearly half of surveyed human services employers are targeting recent immigrants for recruitment, and 18% are actively recruiting foreign-born workers living outside the United States. But the ability to engage foreign-born workers will rely on the availability of new foreign-born persons, which is intrinsically tied to immigration policy, and state-level support to provide new immigrants with the supports they need to gain employment.

Wong, T. K., Rosas, G. M., Reyna, A., Rodriguez, I., O'Shea, P., Jawetz, T., & Wolgin, P. E. (2017, August 29). New Study of DACA Beneficiaries Shows Positive Economic and Educational Outcomes. Retrieved April 17, 2018, from https://www.americanprogress.org/issues/immigration/news/2016/10/18/146290/new-study-of-daca-beneficiaries-shows-positive-economic-and-educational-outcomes/

The survey also found that 12% of respondents purchased their first home after receiving DACA, at an average cost of $167,596. The broader positive economic impact of home purchases is well-documented and include the creation of jobs and the infusion of new spending in local economies.

Working for a Better Life: A Profile of Immigrants in the New York State Economy (Rep.). (2011). Retrieved from http://fiscalpolicy.org/wp-content/uploads/2011/06/FPI_ExecSumm_WorkingforaBetterLife.pdf

New York's foreign-born persons were responsible for $229 billion in economic output in New York State. Despite the common impression that immigrants work primarily in low-wage jobs, immigrants in New York State are entrepreneurs, managers, and workers in jobs at all levels of the economy, from the lowest-paid day laborers to the highest-paid investment bankers. Because immigrants are a very large part of the New York economy, getting the immigration equation right is linked directly to the state's economic success. Improving conditions for everyone in the low-wage labor market is an important factor—through such measures as strong labor law enforcement, training oriented toward building a career, and economic development strategies that encourage firms to create and maintain good jobs.