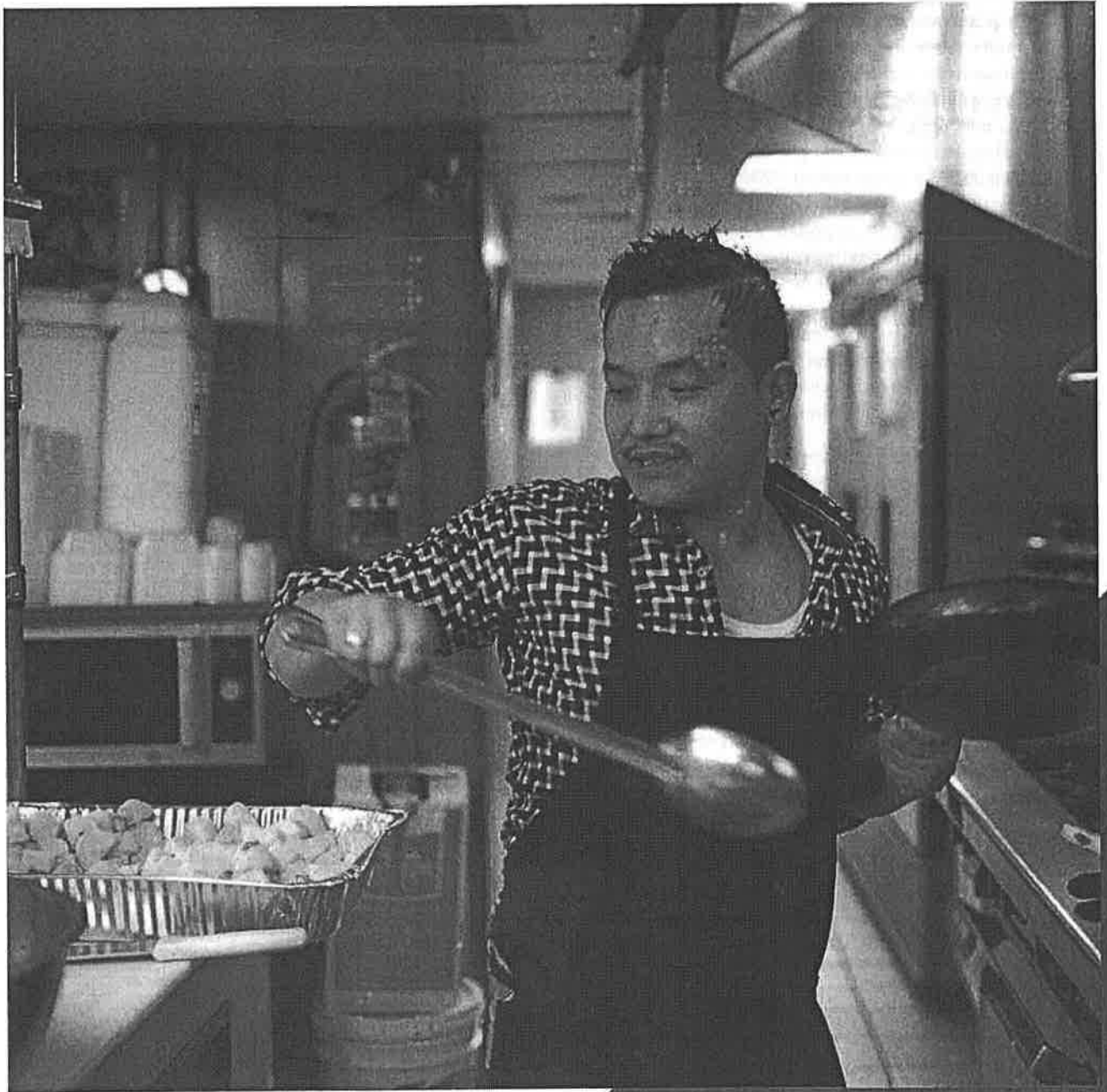


# From Struggle to Resilience

The Economic Impact of Refugees in America



# Executive Summary

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In recent months, few topics have been more debated and politically significant than the question of how to handle recent refugees. This is due in part to the size of the problem facing world leaders now. At the close of 2015, more than 65 million people were displaced from their homes by conflict and persecution—the highest such number in recent history.<sup>1</sup> When U.S. policymakers discuss how to confront this unprecedented challenge, they frequently focus on potential humanitarian obligations or public safety concerns. While both of these aspects of the debate are obviously important and relevant, they do not capture what many communities across the country see as the most enduring legacy of these American newcomers: Namely, the economic impact they make on the cities and towns they ultimately come to call home.

All across the country, stories abound of communities that have been reshaped by refugees in recent decades. In St. Louis, residents credit Bosnian refugees with opening restaurants, buying vacant homes, and turning around a South City neighborhood once ridden with crime.<sup>2</sup> In Minneapolis, Somali refugees have become such an integral part of the city's business and cultural landscape that one now represents the area in the state house.<sup>3</sup> And in Louisville, Kentucky, factory owners say they likely would not be in business if not for the ambitious refugees who come to them seeking work.<sup>4</sup> Such experiences highlight the very real—if underappreciated—way that refugees impact not only our society, but also the bottom lines of our main streets and local employers.

In this report, we explore this topic issue in greater detail, providing one of the few comprehensive analyses of how modern-day refugees are contributing to the U.S. economy overall. Using the 5-year 2015 American

Community Survey (ACS), we identify a pool of almost 2.3 million likely refugees based on their country of origin and year of arrival in the United States. This method is conservative in nature, but provides us with a large and representative picture of the 3.4 million refugees who arrived between 1975 and today. The results our work produces are clear. Refugees pay tens of billions of dollars in taxes each year. And in a country where immigrants have long been known to be as much as twice as likely as the U.S.-born to start businesses, refugees show a particular willingness to make such long-term investments in the country. They found companies, earn citizenship, and buy homes at notably high rates.

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*While refugee policy is often framed as a humanitarian or safety issue, it is often the **economic impact of refugees** that leaves the most enduring impression.*

This study provides insight into a small and often misunderstood segment of the foreign-born population. While much of the political rhetoric describes what refugees cost the United States in the first eight months of their stay—the short period when they receive government resettlement assistance—this report clearly demonstrates the strong upward trajectory experienced by many refugee families in the country long term. It also echoes what many county executives and community leaders from places as varied as Los Angeles to Lewiston, Maine have long said publicly: Rather than representing a drain on their communities, the high rate of labor force participation of refugees and their spirit of entrepreneurship are instead helping to sustain them.<sup>5</sup>

In the coming months, policymakers will likely have to make important decisions concerning the country's refugee program. Although recent pauses on refugee admissions have been overturned in the courts, in practice, the United States has seen the number of refugees admitted plummet in recent months.<sup>6</sup> Any debate surrounding this issue obviously should take into account any legitimate security concerns that exist. As this report makes clear, however, the economic argument for admitting refugees deserves recognition and consideration in serious policy debates as well.

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*Refugees show a particular willingness to make **long-term investments in the country**—they found companies, earn citizenship, and buy homes at notably high rates.*

PART II

# Earnings, Taxes, and Upward Mobility

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**T**his report looks at the contributions of refugees that have arrived in the country since the Second World War—the era when the United States first began accepting steady and significant numbers of refugees. Using ACS microdata, we isolate likely refugees by focusing on an individual’s year of arrival in the United States and his or her country of birth. We then compare our overall numbers with refugee arrival data from the Department of Homeland Security to determine which cases should be assigned “likely refugee” status. (More details on our analysis can be found in the appendix.) This allows us to capture large waves of refugees from countries like Somalia, Bosnia, or Syria. It inevitably, however, misses some that come from countries that send a large number of migrants to the United States via other legal channels. One prominent example of this is Iran. Although Iranian refugees have arrived in the United States at a relatively steady rate since the Iranian Revolution (1978-1979), the country’s long history of immigration to the United States means that refugees make up a small share of overall immigrant arrivals from that country each year. Therefore, aside from the years directly after the upheaval of the Iranian Revolution when the flow of Iranian refugees was high, we exclude Iranians.

While not fully comprehensive, this method nevertheless produces a large sample that we believe is representative of the overall refugee population in the country. The numbers in this report capture the experience and contributions of almost 2.3 million likely refugees. Since 1975, the country has accepted roughly 3.4 million. Even without the full population of refugees, however, we can see that they are making a large economic impact. In 2015, the likely refugees we

studied earned a collective \$77.2 billion in household income. They also contributed \$20.9 billion in taxes, including \$14.5 billion in federal taxes and \$6.4 billion in payments to state and local governments.

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*The almost 2.3M likely refugees in our sample held \$56.3B of spending power in 2015—roughly equal to the revenue generated by Lowe’s that year.*

One important measure of how a given group contributes to the country’s economy is the amount they spend each year as consumers. More than three out of every five U.S. jobs were in the service sector in 2014, according to the U.S. Bureau of Labor Statistics.<sup>10</sup> These jobs included positions in retail, healthcare, and hospitality—industries that each provided employment to more than 15 million Americans in 2014.<sup>11</sup> The

FIGURE 2: MEDIAN HOUSEHOLD INCOMES OF REFUGEES, BY YEARS IN THE UNITED STATES, 2015



Source: Author's analysis of American Community Survey, 2011-2016.

In several counties with particularly dense concentrations of refugees, the upward earnings trend was even steeper. For example, in Kings County, Washington, an area including Seattle refugees in the country five years or less had median household incomes of roughly \$21,000. The equivalent figure for those here for 25 years or longer was more than \$79,000. In Fairfax County, Virginia, the median income of likely refugee households jumps from \$28,500 to more than \$114,000 over the same time period. We show the figures for the cities and counties that have accepted the most refugees relative to the size of their overall population since 1975 in Figure 3.<sup>14</sup>

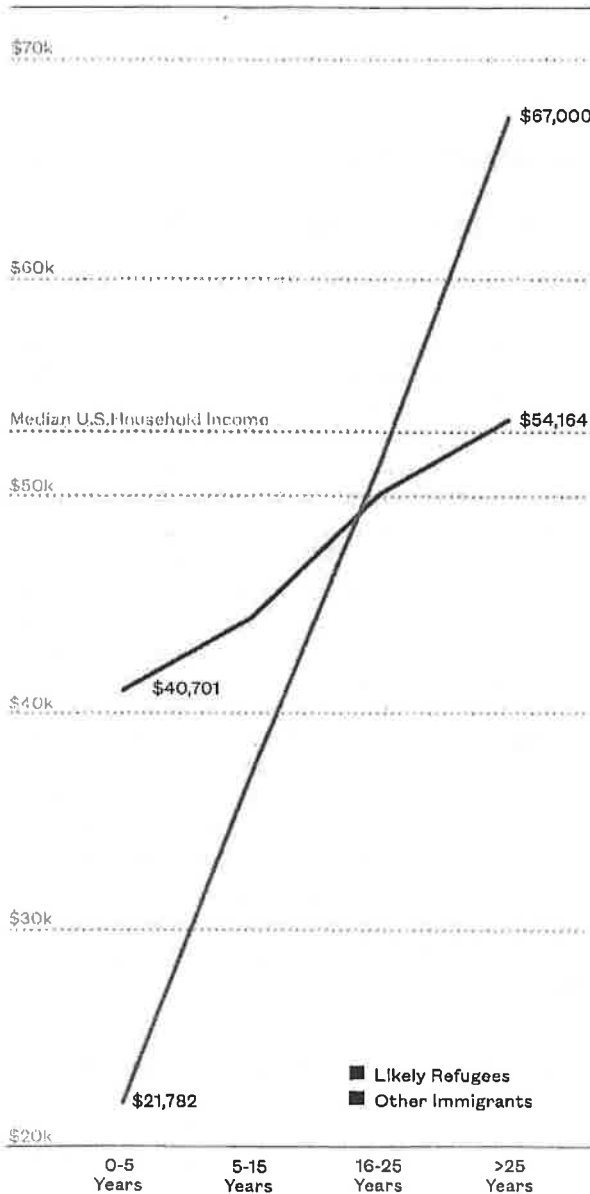
*While the economic contributions of refugees are impressive, their incredible degree of upward mobility truly stands out.*

The steep income trajectory of refugees gains additional meaning when we consider it next to other comparable groups. Non-refugee immigrants who have been here five years or less have median household incomes of \$40,700. That figure steadily increases as well, hitting more than \$53,000 for households led by immigrants that have been in the country at least 25 years. That means that the median household income of non-refugee immigrants grows by roughly 30 percent during that time period. In comparison, the median household income of refugees during that same timespan more than triples. (See Figure 4.)

Tashitaa Tufaa is one refugee who knows what it is like. Growing up in Ethiopia, he says he and his 13 brothers and sisters often dreamed of the United States. “It was such a powerful country in our minds,” Tufaa says, “a place where people were safe and achieving their dreams.” In 1992, at the age of 24, he was finally able to test his theory: Tashitaa was resettled to the United States as a political refugee, determined to build a life for himself in America.

The first years here were not easy. Although he had a college degree, the only job Tufaa could find initially was as a dishwasher—making just \$5.35 per hour. In the decade that followed, he took on multiple positions at once—putting in long hours as everything from a janitor to a taxi driver. In 2003, however, Tufaa decided to take on a new challenge. That year, he began going door-to-door, trying to convince hospitals and schools to let him—and his new, one-person company—transport

**FIGURE 4: REFUGEES EXPERIENCE PARTICULARLY RAPID GROWTH IN MEDIAN HOUSEHOLD INCOMES COMPARED TO OTHER GROUPS**



Source: Author's analysis of American Community Survey, 2011-2015.

needy patients or students in his taxicab. “Some people simply laughed at me,” he recalls, “but one person was willing to take a chance.” That person, a school district transportation director, agreed to let Tufaa drive three homeless students to school who did not fit in the regular bus schedule. Within three years, Tufaa’s firm, Metropolitan Transportation Network (MTN), was buying its own school buses—paying for them with cash upfront before vendors took the company seriously.

No one makes that mistake today. Tufaa’s firm is now one of the largest bus companies in Minnesota, and it employs roughly 400 people during the school year. His firm also generated \$15 million in revenue last year. Tufaa, meanwhile, is also busy mentoring other refugees, some in places as far off as Arizona, hoping to get into the transportation business and build their own wealth. “I wanted to pay back this society for all it has given me,” he says, “and I know so many other refugees and immigrants feel the same.”

*“I wanted to pay back this society for all it has given me,” Tufaa says, “and I know so many other refugees and immigrants feel the same.”*

the Russian invasion of Afghanistan, ultimately moving their family to the United States largely as political refugees. Although they were quite well off back home, the war quickly erased the family's wealth. "It was like a total reset when we came here," Mokhtarzada recalls. "Our family of six crammed into our grandparents' two-bedroom apartment when we first arrived in the States." He watched his parents turn that setback into something workable: They started a visa and passport procurement firm in their basement, which allowed them to build a comfortable life for their family in suburban Washington, D.C.

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*In 2015, refugee entrepreneurs generated **\$4.6B** in business income.*

This resourcefulness heavily shaped Mokhtarzada. As a kid, he dabbled in entrepreneurship, starting a lawn mowing business and a service that provided magic shows to kids' parties. But it was not until he got to college that he landed on his first truly big idea. Interning at a Web design firm at the start of the dotcom era, Mokhtarzada says, "I saw companies paying thousands of dollars for basic Websites that a 14-year-old could build. It was crazy." So, in 2001, Mokhtarzada and his brothers, Zeki and Idris, started Webs, the first major company that allowed users to easily design their own Websites for free using templates without obtrusive ads and popups.

Webs started small. The brothers bought a single server from a company that went bankrupt in the dotcom bust, stashed it in Zeki's closet, and had Idris, still in high school, write some of the initial code. But it grew quickly. By 2006, Webs had raised \$12 million dollars in venture

capital funding. By 2011, the company was bought by Vistaprint, the online marketing and printing firm, for \$117.5 million. By then, Webs had grown to roughly 60 employees. It had also produced roughly 50 million Websites.

Mokhtarzada says in some ways his story is not so different from the story of so many other American newcomers. "I don't think it's a coincidence that so many immigrants wind up becoming entrepreneurs," Mokhtarzada says, "When you come here, you have no network and fewer job options—so you make opportunities for yourself." But he credits his family's experience coming largely as refugees with giving him an extra push. "Our parents would always remind us to think about those who weren't able to leave Afghanistan, and be cognizant that we were immensely fortunate for the opportunity we had been given," he says. "We knew we had to do something with this opportunity—this lottery ticket—that we'd received."

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*"Our parents would always remind us about those who weren't able to leave Afghanistan," he says.*

*"We knew we had to do something with this opportunity that we'd received."*

settled in Bevo Mill, a section of the city once known for its high crime and near ghost-town status.<sup>21</sup> Today, Little Bosnia, as it is known, is home to many popular restaurants, bars, cafes, and specialty food shops owned by Bosnians.<sup>22</sup> Our data also shows that refugees make up more than one out of every 10 self-employed entrepreneurs in Alexandria, Virginia. In Garden Grove, California, a city roughly 30 minutes south of Los Angeles, they made up more than one out of every five self-employed workers.

Refugees who opt to be entrepreneurs are also considerably more likely than the U.S.-born—or

even other immigrants—to gravitate towards certain key industries. While only 6.2 percent of U.S.-born entrepreneurs open businesses in the tourism, hospitality, and recreation industry, a full 9.4 percent of entrepreneurs who are refugees do. That is significant, given that the travel and tourism industry directly or indirectly provided jobs to 15.8 million Americans in 2016.<sup>23</sup> Similarly, the refugees in our sample were more than three times as likely as U.S.-born entrepreneurs to have businesses in the transportation and warehousing industry. We show the four industries with the largest such gap between their appeal to refugee and U.S.-born entrepreneurs in Figure 7 below.

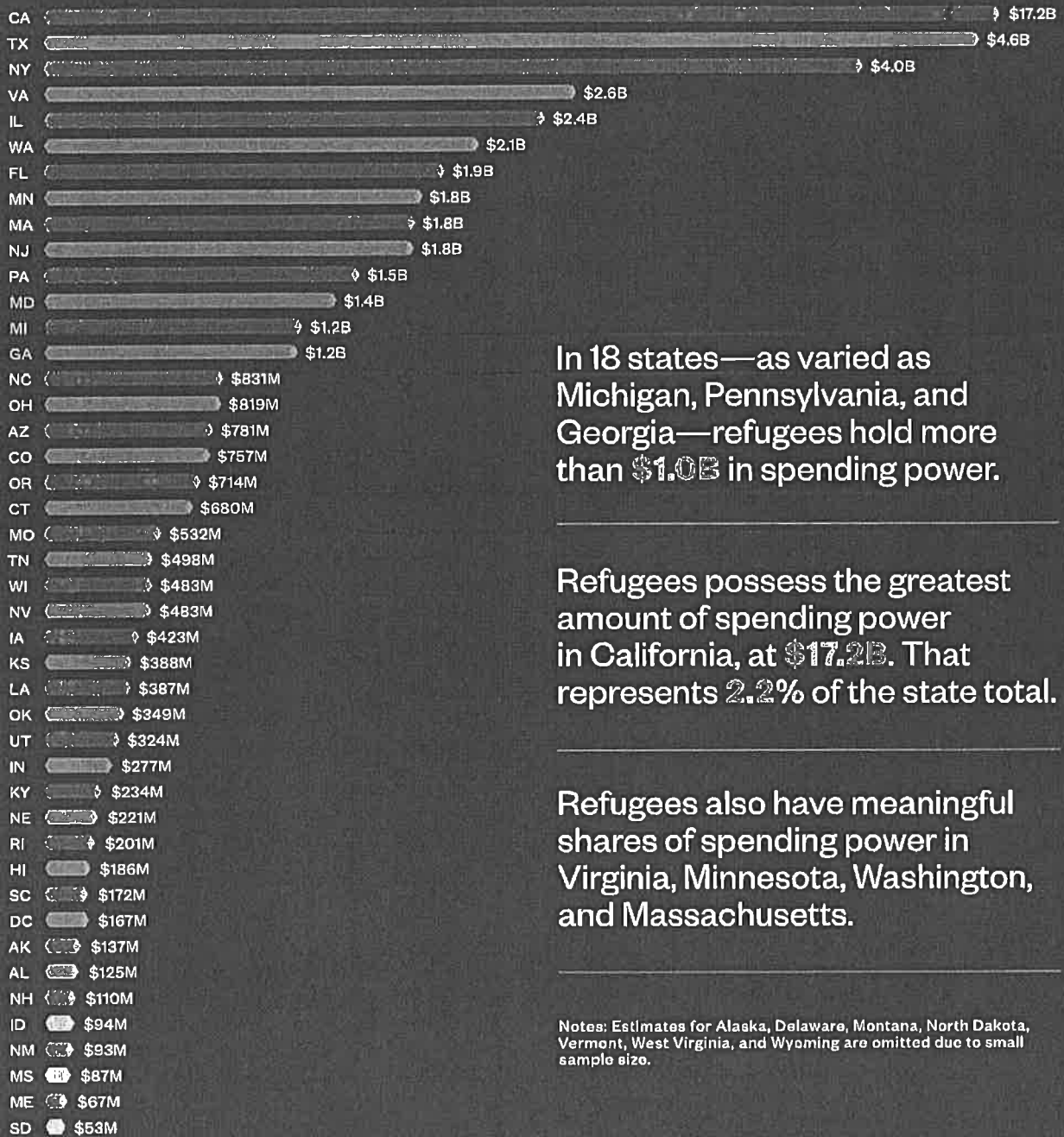
FIGURE 7: TOP INDUSTRIES THAT ATTRACT REFUGEE ENTREPRENEURS IN GREATER SHARES THAN U.S.-BORN, 2015

	Share of All Refugee Entrepreneurs	Share of All U.S.-born Entrepreneurs	How Much More Likely are Self-Employed Refugees to be in Field?
<b>Transportation</b>	<b>10.7%</b>	<b>3.4%</b>	<b>3.1x</b>
<b>General Services</b>	<b>26.1%</b>	<b>11.8%</b>	<b>2.2x</b>
<b>Tourism &amp; Hospitality</b>	<b>9.4%</b>	<b>6.2%</b>	<b>52.9%</b>
<b>Retail Trade</b>	<b>11.2%</b>	<b>7.6%</b>	<b>47.9%</b>

Source: Author's analysis of American Community Survey Data, 2011-2015.



FIGURE 8: SPENDING POWER OF REFUGEES, BY STATE, 2015



In 18 states—as varied as Michigan, Pennsylvania, and Georgia—refugees hold more than **\$1.0B** in spending power.

Refugees possess the greatest amount of spending power in California, at **\$17.2B**. That represents **2.2%** of the state total.

Refugees also have meaningful shares of spending power in Virginia, Minnesota, Washington, and Massachusetts.

Notes: Estimates for Alaska, Delaware, Montana, North Dakota, Vermont, West Virginia, and Wyoming are omitted due to small sample size.

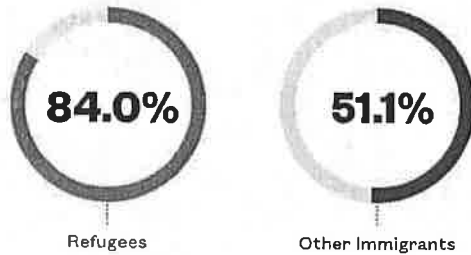
PART V

# Becoming American

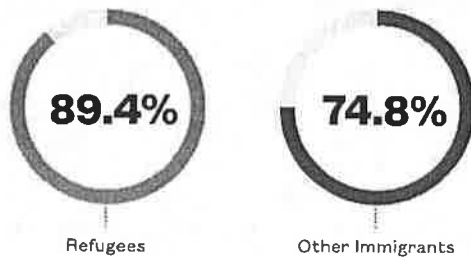
**B**ecause they have escaped dangerous situations back home, refugees are particularly motivated to move beyond the place they came from and become American. This phenomenon is demonstrated clearly in our data. Refugees who have been in the country for 16 to 25 years naturalize at particularly high rates. In 2015, 84.0 percent of likely refugees in the country that long had become citizens. The equivalent figure for non-refugee immigrants was just 51.1 percent. A similar pattern holds for refugees here for five to 15 years and more than 25 years as well, as is demonstrated below.

FIGURE 11: NATURALIZATION RATES OF REFUGEES AND OTHER IMMIGRANTS, BASED ON YEARS IN THE UNITED STATES, 2015

## 16-25 Years



## >25 Years



Source: Author's analysis of American Community Survey, 2011-2015.

Laying down long term roots in the United States is evident in other behaviors too. Refugee households, for instance, tend to have particularly high levels of home ownership. In 2015, 57.4 percent of households led by refugees—or close to 600,000 households in total—owned their homes. More impressively, more than one out of every seven households led by likely refugees owned their homes outright, without any outstanding liens or mortgages. The overall homeownership among the refugee population was higher than it was for other immigrants. In 2015, roughly half of households led by non-refugee immigrants owned their homes. While refugees came closer, both groups had somewhat lower home ownership rates than the U.S.-born population overall. (See Figure 12.)

Both homeownership and citizenship have important economic implications. Because citizenship allows immigrants to pursue a greater range of positions, including public and private sector jobs requiring a security clearance, it has been found to raise a person's annual wages. One study by researchers at the University of Southern California, for instance, pegged the size of that wage increase at eight to 11 percent.<sup>26</sup>

FIGURE 12: HOMEOWNERSHIP RATES OF REFUGEES AND OTHER POPULATION GROUPS, 2015

	Share of Households that Own their Home	Number of Home-Owning Households
Refugees	57.4%	596,969
Other Immigrants	50.6%	8,034,270
U.S.-Born	65.8%	65,824,875

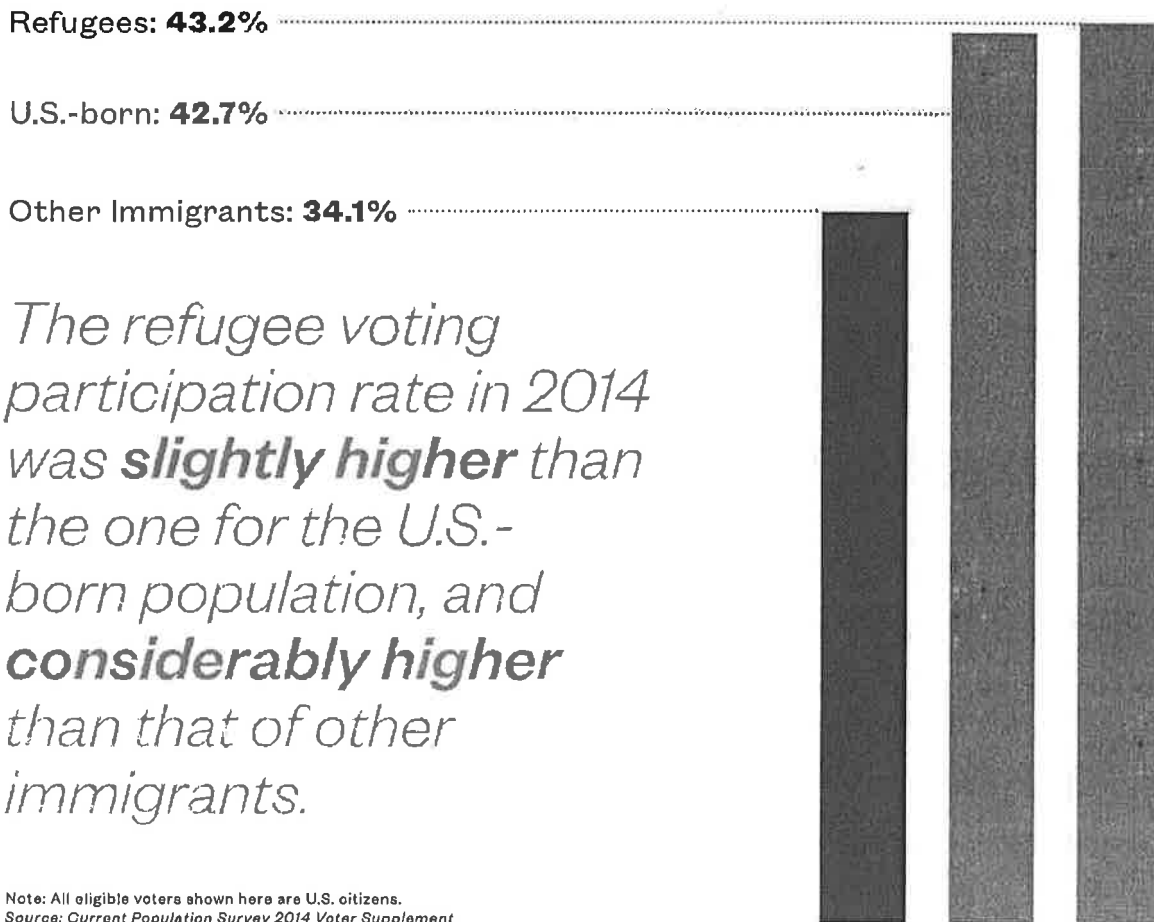
Note: Excludes those in group quarters.

Source: Author's Analysis of American Community Survey, 2011-2015.

Refugees who are eligible also vote at relatively high rates—exercising what many consider an important civic duty. In the 2014 midterm election, more than 563,000 refugees cast ballots. That meant, of the population eligible, 70.7 percent of refugees had registered to vote, and 43.2 percent cast ballots. That voting participation rate was slightly higher than the one for the U.S.-born population, and considerably higher than the participation rate of immigrants who came to the country via other channels. (See Figure 14 below.)

Having higher participation rates than U.S.-born residents may turn out to be a new phenomenon for refugees. However, it should be noted that the sample for 2014 was smaller than that of 2012, a presidential election year. In 2012, 44.6 percent of likely refugees came out to vote. That figure was far eclipsed by the U.S.-born voting participation rate, which was 62.5 percent that year.

FIGURE 14: VOTER PARTICIPATION RATES AMONG REFUGEES AND OTHER POPULATION GROUPS, 2014



*The refugee voting participation rate in 2014 was **slightly higher** than the one for the U.S.-born population, and **considerably higher** than that of other immigrants.*

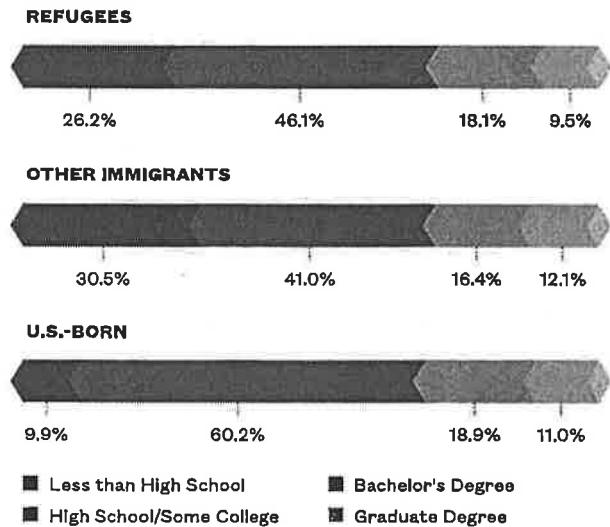
Note: All eligible voters shown here are U.S. citizens.  
Source: Current Population Survey 2014 Voter Supplement

25 had a bachelor's degree or higher. This compared to 29.9 percent of the equivalent U.S.-born population. They also, unlike the foreign-born population as a whole, are less likely than the U.S.-born to have a graduate degree. In many ways this is not surprising, given that many refugees have lived through displacement and war or have grown up in refugee camps with little access to higher education. This reality makes the large contributions refugees make to our economy—as both entrepreneurs and earners—all the more notable.

*Compared to other immigrant groups, refugees are less likely to boast high levels of education, making their large contributions to the economy all the more notable.*

The refugees in our group also contribute to a wide variety of industries, some of which have real need for additional workers now. Refugees are more than twice as likely as U.S.-born workers to hold jobs in general or “other services”—a sector that includes a variety of service roles such as dry cleaning, housekeeping, or machine repair. In 2015, one in 10 refugee workers held jobs in that industry. Similarly, refugees gravitated in high numbers toward healthcare, an industry where one

FIGURE 18: EDUCATIONAL ATTAINMENT LEVEL OF LIKELY REFUGEES AND OTHER POPULATION GROUPS, AGES 25+, 2015



Source: Author's analysis of American Community Survey, 2011-2015.

out of every seven refugees worked. With baby boomers aging into retirement, this sector has a particular need for more workers now. Past NAE analysis has found that in 2014, 5.7 open healthcare jobs were posted online for every one unemployed healthcare worker.<sup>21</sup>

Where refugees appear to make the biggest mark, however, is in the manufacturing sector. In 2015, more than one in five refugees, or 20.3 percent, were working in the manufacturing industry. This meant the sector employed almost 280,000 refugees that year. Although the data does not allow us to drill down further, many experts say that refugees—many of whom come to America with little work experience—frequently fill jobs that may hold less appeal to U.S.-born workers. This can include positions in rural areas or in fields such as meatpacking or poultry processing. Hibma, the Minneapolis refugee employment counselor, says that because refugees tend to be stable employees, staying in roles for years at a time, their presence can help an employer with hard-to-fill jobs remain viable.

David Giovanni, senior vice president of the manufacturing firm Molded Fiber Glass Companies, knows that dynamic well. In 2010, he moved to Aberdeen, South Dakota to run one of the company's plants, a facility that produced blades for wind turbines. He had entered into a difficult situation from a labor perspective. South Dakota has a consistently low unemployment rate, typically about half the national average. In recent years, it has hovered around 2.7 percent, one of the lowest such rates in the country.<sup>22</sup>

Given the rapidly expanding wind energy market, Giovanni hoped to expand the plant. But he quickly learned it would be difficult to find enough workers. With its friendly tax policies and low utility costs, "South Dakota is a great place for companies to be, but the available workforce has been a little bit of an issue for us," Giovanni explains. "So, for us to be able to handle our business levels, we had to look at alternatives."

Luckily, he found one. Following the lead of a turkey processing plant in Huron, South Dakota that had faced its own recruitment challenges, Giovanni began exploring hiring from an unlikely source: The Karen community, a group of refugees who had escaped persecution and internment in Myanmar. Gaining an introduction to community leaders in Minnesota, Giovanni offered several Karen jobs in Aberdeen. The word spread and many other Karen soon followed. That was in 2011 when his factory had just 150 employees. Today it employs 600, half of them U.S.-born. "If we had not been able to tap into that reservoir of people, we would have had difficulty," Giovanni says. "Quite frankly, the refugee workers have been critical to our success as a company."

Today, Molded Fiber Glass pays above-average wages and offers benefits that rank in the top quartile for the area. It gives employees tuition assistance for related

college coursework and pays its immigrant workers to take English-language classes. In addition, human resources staff help refugees navigate life outside of work, assisting them in finding housing, cars, and doctors. They also help them read bills and school forms.

The investment has been well worth it, the company says. Production has more than tripled, and the town has benefited from the influx of young workers and families. With an aging population and young people increasingly moving to urban areas, South Dakota as a whole has been struggling economically. "The refugees have begun to meld into the community," Giovanni says, "so it's also an economic boom for Aberdeen."

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*"If we had not been able to tap into that reservoir of people, we would have had difficulty," Giovanni says. "Quite frankly, the refugee workers have been critical to our success as a company."*

# Methodology Appendix

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## Identifying Likely Refugees

While refugees remain one of the most scrutinized and well-documented type of travelers to the United States, there is surprisingly little quantitative data available on refugees and their socioeconomic characteristics after they are resettled. The main reason for this is that nationally representative surveys that normally provide socioeconomic data to researchers do not include information on respondents' immigration status beyond citizenship status. Therefore, more qualitative researchers have an abundance of information about refugees when they enter, yet little to examine about their socioeconomic performance as they integrate into U.S. society.

To address this, we use an imputation method to identify cases in microdata that are likely to be refugees. This is similar to work of Kallick and Mathema<sup>36</sup> as well as Capps et al.<sup>37</sup> on the characteristics of refugee groups in the United States after their resettlement. The main source of our data is the American Community Survey (ACS) 5-year sample for 2011-2015. For data on voting patterns, we use the 2012 and 2014 November Voter Supplements from the Current Population Survey (CPS). Both the ACS and CPS are conducted by the U.S. Census Bureau and all microdata sets were downloaded from the University of Minnesota Population Center's IPUMS project.

We first isolate the U.S.-born population from the foreign-born using citizenship variables, with those reporting to be native-born citizens or citizens born

abroad to U.S. citizen parents recoded as "U.S.-born." The remaining respondents, those responding as either naturalized citizens or non-U.S. citizens, are recoded as "foreign-born." We use each foreign-born respondent's country of birth and their year of arrival to identify those who are likely to be refugees. To identify the years that saw significant inflows of refugees from each country, we use data from the U.S. Department of Homeland Security (DHS) as well as the U.S. Department of State Bureau of Population, Refugees, and Migrations WRAPS database and compare yearly totals with the ACS data showing how many people in the United States were born in each country and the year that each immigrated to the United States. Comparing the two, we assign refugee status to those born in a given country of origin who arrived during years when the number of refugee arrivals from that country according to DHS/WRAPS data exceeded 50 percent of the total population born in a given country who immigrated in each year.

What we find aligns broadly with what we know about refugee numbers in general. The vast majority of the refugees we identify came to the United States after 1980, after the Refugee Act, which established the foundation for modern U.S. refugee policy. There are four main exceptions. First, refugees fleeing from Communist countries in Europe—such as Hungarians in 1956, Yugoslavians, and Soviet refugees until 1989. While the United States has welcomed Iranian refugees consistently and constantly since the Iranian Revolution began in 1978, it is only during the first few years after the revolution that refugees made up a substantial portion of arrivals from the country as whole. As a result, we only classify Iranian immigrants from the

## Data Sources and Key Terms

While refugees remain one of the most scrutinized and well-documented type of travelers to the United States, there is surprisingly little quantitative data available on refugees and their socioeconomic characteristics after they are resettled. The main reason for this is that nationally representative surveys that normally provide socioeconomic data to researchers do not include information on respondents' immigration status beyond citizenship status. As such, more qualitative researchers have an abundance of information about refugees when they enter, yet little to examine about their socioeconomic performance as they integrate into U.S. society.

As mentioned above, the main source of our data is the American Community Survey (ACS) 5-year microdata sample for 2011-2015. All data points except those specifically about voter activity come from the ACS. For data on voting patterns, we use the 2012 and 2014 November Voter Supplements from the Current Population Survey (CPS).

We define the working age population as those 25 to 64 years old. Definitions on those in the labor force and employed are the same as in the U.S. Census.

As in past NAE briefs, we use the term "spending power," which we define as the disposable income leftover after subtracting federal, state, and local taxes from household income.<sup>39</sup>

To make industry breakdowns easier to understand, we recoded individual industries into broader categories, matching the two-digit codes from the North American Industry Classification System (NAICS), developed by the Office of Management and Budget (OMB) and used by Federal statistical agencies to classify business establishments.

In this study, we use the term "entrepreneur" and "self-employed" interchangeably. We do not make

the distinction between self-employed people who own incorporated or unincorporated businesses. The number of self-employed people is limited to those who reported being self-employed, in the labor force, and not unemployed. We aggregate these entrepreneurs' self-declared business income to produce estimates on their total business income.

The data on housing tenure also comes from the ACS. Immigrant homeowners are defined as foreign-born householders who reported living in their own home, whether owned outright or on a mortgage.

Data on naturalization and eligibility come from the ACS. We use the citizenship variable in the ACS microdata to estimate the naturalized and non-citizen breakdowns of each demographic group.

Data on educational attainments is limited to only the population 25 years old or older, following standard demographic study practices, including those of the U.S. Census. We group master's, professional, and doctorates together under the blanket term "advanced degrees."

The estimates for registration rates and active voters are calculated from the Voter Supplement in the Current Population Survey (CPS) for the years 2012 and 2014 using the IPUMS database. The sample in CPS includes only civilian non-institutional persons.

## Calculating Spending Power

Using the 2015 ACS 5-year microdata sample, we estimate the aggregate household income, tax contributions, and spending power of foreign-born households. We estimate state and local taxes using the tax rates estimates produced by the Institute on Taxation and Economic Policy by state income quintiles.<sup>40</sup> For federal tax rate estimates, we use data released by the Congressional Budget Office in 2014 and calculate the federal tax based on the household income federal tax bracket.<sup>41</sup>

# Data Appendix

**DATA APPENDIX: HOUSEHOLD INCOME, TAX CONTRIBUTIONS, AND SPENDING POWER OF LIKELY REFUGEE HOUSEHOLDS, BY STATE (IN \$ MILLIONS), 2015**

State	Number of Likely Refugees	Household Income	Federal Taxes	State and Local Taxes	Spending Power
AL	6,886	\$160.20	\$22.50	\$13.30	\$124.50
AZ	40,123	\$1,032.30	\$168.30	\$83.10	\$780.90
AK	5,873	\$184.80	\$30.20	\$17.30	\$137.30
CA	645,437	\$23,974.00	\$4,790.00	1,943.10	17,240.80
CO	34,206	\$1,004.20	\$175.30	\$72.10	\$756.80
CT	23,228	\$952.60	\$179.90	\$93.10	\$679.50
DC	6,048	\$232.30	\$45.20	\$19.80	\$167.40
FL	77,983	\$2,534.50	\$459.10	\$165.30	\$1,910.00
GA	61,409	\$1,599.10	\$274.10	\$133.60	\$1,191.40
HI	7,892	\$255.70	\$44.90	\$25.20	\$185.60
ID	5,392	\$123.90	\$20.10	\$9.60	\$94.20
IL	95,259	\$3,316.80	\$589.50	\$319.20	\$2,408.10
IN	17,593	\$371.20	\$59.80	\$34.20	\$277.20
IA	20,395	\$573.60	\$100.20	\$50.50	\$422.90
KS	15,872	\$519.50	\$89.40	\$42.00	\$388.10
KY	14,814	\$311.00	\$48.40	\$29.00	\$233.70
LA	16,367	\$617.20	\$90.60	\$39.20	\$387.40
ME	5,996	\$84.20	\$9.70	\$7.50	\$67.00
MD	49,857	\$1,935.60	\$382.60	\$182.30	\$1,370.70
MA	64,190	\$2,432.20	\$474.10	\$196.60	\$1,761.40
MI	74,284	\$1,605.80	\$264.90	\$130.80	\$1,210.10
MN	94,175	\$2,400.20	\$380.70	\$227.20	\$1,792.30
MS	3,808	\$114.90	\$18.40	\$9.70	\$86.70
MO	26,329	\$708.20	\$117.30	\$59.10	\$531.70
NE	12,924	\$290.10	\$42.50	\$26.60	\$221.00
NV	20,369	\$622.20	\$106.10	\$33.50	\$482.60
NH	6,076	\$141.70	\$23.10	\$8.80	\$109.80
NJ	61,360	\$2,468.20	\$500.70	\$213.00	\$1,754.50
NM	4,170	\$129.20	\$27.80	\$9.20	\$92.50
NY	139,529	\$5,782.00	\$1,168.10	\$625.40	\$3,988.40
NC	40,891	\$1,104.80	\$182.20	\$91.40	\$831.00
OH	42,898	\$1,102.00	\$180.10	\$102.50	\$819.40
OK	18,235	\$472.10	\$86.30	\$36.90	\$349.00
OR	28,393	\$951.70	\$167.20	\$70.60	\$713.90
PA	68,333	\$2,024.70	\$356.60	\$173.90	\$1,494.30
RI	8,067	\$282.90	\$56.00	\$26.10	\$200.80
SD	7,473	\$225.90	\$37.50	\$15.90	\$172.40
SD	4,321	\$66.20	\$8.80	\$4.80	\$52.60
TN	26,634	\$849.90	\$108.90	\$43.40	\$497.50
TX	177,719	\$6,207.70	\$1,159.30	\$422.30	\$4,626.00
UT	15,335	\$431.80	\$75.20	\$32.80	\$323.80
VA	86,847	\$3,518.80	\$704.20	\$260.00	\$2,554.70
WA	88,080	\$2,809.40	\$500.60	\$242.00	\$2,066.80
WI	25,434	\$649.40	\$105.40	\$60.80	\$483.30

Notes: Estimates for Alaska, Delaware, Montana, North Dakota, Vermont, West Virginia, and Wyoming is omitted due to small sample size.

Source: Author's analysis of American Community Survey, 2011-2015.



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EVIDENCE FROM THE ACS

William N. Evans  
Daniel Fitzgerald

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## I. Introduction

The United States Department of State defines a refugee as a person who had fled their homeland and cannot return because they have a well-founded fear of persecution in their home country due to race, religion, nationality, political opinion, or membership in a social group.<sup>1</sup> The United Nations estimates that currently there are 21 million refugees in the world and another 41 million that have been displaced from their homes but are living within their own country.<sup>2</sup> Every year, thousands of refugees are admitted to the United States under the United States Refugee Admission Program.<sup>3</sup> Since 1975, when the current program was started, over 3 million refugees have been resettled in the U.S.<sup>4</sup> It is estimated that fewer than one percent of refugees are actively resettled to a third country and about two-thirds of this group are resettled in the United States.<sup>5</sup>

In recent years, the Syrian refugee crisis has brought renewed attention to the U.S. refugee resettlement program. The civil war in Syria has produced an estimated 4.8 million refugees since 2011, the bulk of whom have fled to the nearby countries of Turkey, Lebanon, Jordan, Iran and Egypt.<sup>6</sup> In response to this crisis, President Obama committed to accepting 110,000 refugees in Fiscal Year 2017, a 57 percent increase over the number accepted in 2015, with the bulk of the new refugees expected to come from Syria.<sup>7</sup> The change in the number and identity of the refugees entering the U.S. has led to concerns on two fronts. First, there is a fear that terrorists from the Islamic State of Iraq and Syria (ISIS) are hidden among the refugees. This sentiment has been

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<sup>1</sup> <https://www.uscis.gov/humanitarian/refugees-asylum/refugees>

<sup>2</sup> <http://www.unhcr.org/en-us/news/latest/2016/6/5763b65a4/global-forced-displacement-hits-record-high.html>

<sup>3</sup> <http://www.state.gov/j/prm/ra/admissions/>

<sup>4</sup> <http://www.state.gov/j/prm/ra/>

<sup>5</sup> <https://www.state.gov/j/prm/ra/>

<sup>6</sup> <http://data.unhcr.org/syrianrefugees/regional.php>

<sup>7</sup> [https://www.washingtonpost.com/news/post-politics/wp/2016/09/14/white-house-plans-to-accept-at-least-110000-refugees-in-2017/?utm\\_term=.900d9965986b](https://www.washingtonpost.com/news/post-politics/wp/2016/09/14/white-house-plans-to-accept-at-least-110000-refugees-in-2017/?utm_term=.900d9965986b)

As part of the contract, the supporting agencies are required to identify the employment status of refugees 180 days after arrival in the U.S. Therefore, there is data on employment status at 180 days. As part of its annual report to congress about the refugee program, the Department of Health and Human Services conducts the Annual Survey of Refugees (ASR), a survey of roughly 2500 refugees that entered the country over the past eight months to five years. The ASR does contain detailed data about employment and use of Federal income transfer programs but the ASR data is not available for research purposes.<sup>13</sup> Third, the limited amount of data on refugees that includes both long-term outcomes and is available to researchers tends to be from longitudinal surveys where there are small numbers of refugees. For example, the New Immigrant Survey (NIS), a longitudinal survey of 8,573 immigrants to the U.S. that received permanent residency in the U.S. in 2003, has less than 400 refugees in the data set.<sup>14</sup>

Given these constraints, what refugee literature does exist tends to concern very specific populations, uses very small samples, relies on data from a small number of countries with high refugee totals, or focuses on very short-term outcomes. For example, Takeda (2000) looked exclusively at Iraqi refugees that settled in two Southeastern states and his analysis included data from only 105 refugees. Similarly, Chiswick (1993) examined the economic adjustment of specifically Jewish refugees from the Soviet Union to life in the U.S., and Rumbaut's work (1989a and 1989b) focused on outcomes for 500 refugees from Southeast Asia. Potocky-Tripodi (2004) relied on a larger sample in examining the outcomes of 2,400 Asian and Hispanic refugees, but all of these refugees were from just two communities (San Diego and South Florida). Connor (2010) compared outcomes of refugees and other immigrants with data on 394 refugees from the NIS dataset. Finally, Beaman (2012) examined the 180-day employment outcomes for 1,700 male

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<sup>13</sup> [https://www.acf.hhs.gov/sites/default/files/ort/arc\\_15\\_final\\_508.pdf](https://www.acf.hhs.gov/sites/default/files/ort/arc_15_final_508.pdf)

<sup>14</sup> <http://nis.princeton.edu/>

and is similar in spirit to how Schoellman (2016) identified that immigrants from Southeast Asia that entered the U.S. in the 1970s were mostly refugees. In a similar vein, (Potocky-Tripodi, 2001) examined outcomes from the 1990 1-Percent Census Public Use Micro Samples for immigrants from the Soviet Union, Eastern Europe, Southeast Asia and Cuba, arguing that a high fraction of immigrants from these countries were refugees. We demonstrate that this procedure identifies the county/year pairs where roughly 33 percent of refugees that entered the country over the 25-year period from 1990-2014 emigrated, and when our sample of refugees is compared to the population of refugees that entered the U.S. over that time, the two look very similar. Our analysis sample includes 19,298 refugees aged 0-65 that entered the country between the ages of 0 and 45. This is the largest sample of refugees analyzed to date.

With this data, we generate a synthetic panel of refugees and ask: What are refugees' economic and social outcomes as they age in the U.S.? Initially, we examine the outcomes of refugees that enter as children. Our results indicate that, at ages 19-24 and 23-28, refugees who enter the U.S. before the age of 14 graduate high school and college, respectively, at the same rates as U.S.-born survey respondents, consistent with Schoellman's 2016 analysis of refugees that arrived in the U.S. from Indochina before the age of six. On the other hand, at ages 19-24 and 23-28, the high school and college completion rates, respectively, for refugees that enter after age 14 decline monotonically by age at entry to the U.S. Supplementary analyses suggest that the poor outcomes for older teens may largely be due to language difficulties and/or the fact that many children in this age range enter the country as unaccompanied minors. However, we also find that refugees who arrived as children of any age have much higher school enrollment rates than U.S.-born respondents of the same age. As a result, observed differences in high school graduation between refugees and natives observed at ages 19-24 disappear when we examine them 10 years later. Likewise, the observed differences in college completion rates between the two groups are halved as the

revenues and expenditures over time and properly discounting, we calculate that those that enter the country from ages 18-45 pay on average \$21,000 more in taxes to all levels of government than they receive in benefits over a 20 year period.

In the next section, we review the refugee resettlement process as well as some of the related literature on refugees. In section III, we outline our procedure to identify refugees in the ACS and examine how well our sample mirrors the entire population of refugees in the U.S. In section IV, we outline the assimilation of refugees that enter as children and in section V we consider the results for refugees that enter at ages 18-45. In section VI we estimate the net fiscal costs of this adult refugee group. We make some concluding remarks in section VII.

## **II. An Overview of the Refugees Resettlement Process in the U.S.**

In this section we provide a brief outline of the refugee resettlement process in the U.S. The following description borrows heavily from a variety of sources including Beaman (2012), Capps et al. (2015), and the Refugee Council.<sup>15</sup>

The United States Refugee Admissions Program (USRAP) is one of the largest and oldest resettlement programs in the world. It is administered by three different federal agencies: the Bureau of Population, Refugees and Migration (PRM) at the DOS; the Office of Refugee Resettlement (ORR) at the Department of Health and Human Services (HHS); and the Asylum Division of the U.S. Citizenship and Immigration Service (USCIS) of the Department of Homeland Security (DHS). Potential candidates for resettlement are brought to the attention of the Federal government primarily through referrals from the United Nations High Commissioner for Refugees (UNHCR), but some are brought to the attention of U.S Embassies through non-governmental organizations (NGOs). Candidates for resettlement fall into one of three priority areas. “Priority 1”

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<sup>15</sup> <http://www.rcusa.org/resettlement-process/>

the refugee resettlement process. The goal of the resettlement process is assist refugees in becoming economically self-sufficient as soon as possible. The VOLAGs receive roughly \$2000 per refugee for resettlement services but many of the organizations supplement these costs with their own resources. During the first 30 days after arrival, the VOLAGs are expected to provide for refugees' basic needs, such as housing, clothing, furniture, English as a second language instruction, medical care, and job training. The VOLAGs also assist eligible families with enrollment into Federal assistance programs such as Temporary Assistance for Needy Families (TANF) or the Supplemental Nutrition Assistance Program (SNAP). About 30 days after arrival, DHS provides individuals with an Employment Authorization Document, allowing them to work legally within the United States. VOLAGs can receive matching grants that provide an additional 120 days of support, so long as the refugee agrees to accept their first job offer.

### **III. Identifying Refugees in the ACS**

The primary dataset used in our analysis is the Public Use Microdata Samples from the American Community Survey (ACS). The ACS replaced the long form of the decennial census, and surveys roughly one percent of the U.S. population each year. The survey is designed to be pooled over a five-year period, allowing the Census to construct moving averages of aggregate economic, social, and demographic information in small geographic areas. The Census Bureau randomly selects addresses to be surveyed, rather than households, in order to have a geographically-representative sample.

Our data comes from the 2014 five-year ACS, which pools the surveys from 2010 through 2014 to provide data on five percent of the U.S. population. We use the IPUMS.org ACS samples (Ruggles et al., 2015). While the ACS is not representative of the U.S. population due to variation in

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Refugees and Immigrants, United States Conference of Catholic Bishops/Migration and Refugee Services, and World Relief.



are refugees. A small number of data points fall above the 45° line, which is most likely due to our use of ACS weights. In our analysis below, we limited our attention to country-year pairs which had an RCR greater than 0.7. Immigrants from country/year pairs that fall in this range are likely to be refugees.

Table 1 shows the 137 country-year pairs that have an  $RCR_{ct} > 0.7$  and are included in our sample. This sample includes 22,350 individual survey respondents. With an average person-weight of 26.29, the observations in our dataset represent around 588,000 refugees. The U.S. admitted around 1.80 million refugees between 1990 and 2014, so our sample represents approximately 33 percent of the total refugees that entered the U.S. during the past 25 years.

The sample of refugees in our analysis come from select country/year combinations: those in which almost all people entering the U.S. are doing so as refugees. These countries are more likely to be in the midst of a civil war, have an unstable political regime, or otherwise be in a state of unrest. The sample of refugees in our analysis may oversample from countries with the worst violence and human rights abuse. While it is not possible to directly test if our sample is representative of the refugee population at whole, we have some baseline demographics for which we can check if our sample of refugees is similar to the general population of refugees. The Office of Refugee Resettlement (ORR) and the Department of Homeland Security publish the age, gender, country of origin, and state of resettlement for the entire refugee population at their time of arrival.<sup>20</sup> Figure 2a shows the age distribution of refugees identified in our sample as compared to the age distribution of all refugees entering the U.S. over the same period. Figure 2b shows the continent of origin of refugees used in this analysis compared to the continent of origin of all refugees entering the U.S. between 1990 and 2014. Figure 2c shows the gender breakdown of refugees in our sample versus all refugees in the U.S. Finally, Figure 2d shows the state the refugees in our analysis were

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<sup>20</sup> <https://www.acf.hhs.gov/orr/resource/annual-orr-reports-to-congress>

five different ACS samples. The results in Schoellman (2016) indicate that the education outcomes for refugees that arrive 0-6 are similar to outcomes for natives so our results should not differ much by excluding the youngest ages at arrival. Similarly, the college graduation analysis includes respondents aged 23 to 28 at the time of the survey, who arrived between the ages of 8 and 19. In these two samples, there are 1,366 and 1,432 refugees in our data sets, respectively.

In Table 2, we report some simple descriptive statistics (means and standard deviations) for two samples. Both contain respondents aged 19-24 from the 2010-2014 ACS. The first column presents statistics for 19- to 24-year old refugee respondents to the 2010-2014 ACS that entered the U.S. between the ages of 4 and 16; the second presents the same results for U.S.-born respondents in the same age group. The average ages are similar across the two groups, but a higher fraction of refugee respondents are female. The ACS asks respondents aged 5 and above to self-report their English language ability. The possible responses are “Does not speak English,” “Speaks English but not well,” “Speaks English well,” “Speaks English very well,” or “Only speaks English.” We combine the last three groups and define these as “Speaks English well or above.” Note that there is not much difference in this fraction between refugees and natives.

Overall, high school graduation rates are only two percentage points lower for refugees than U.S.-born respondents. There is, however, tremendous heterogeneity in this number based on the age when the refugee migrated to the U.S. In Figure 3a, we report with the solid line the high school graduation rate for refugees aged 19 to 24 that entered the country between the ages of 4 and 16 in our ACS sample. The straight dotted line is the high school graduation rate for U.S.-born respondents to the ACS aged 19-24. Notice that for refugees that entered the U.S. by age 13, there is little difference in the high school graduation rate between refugees and U.S. born respondents. After age 13, graduation rates drop off sharply. We discuss a possible explanation for this drop-off later in this paper.

adults aged 23-38 in the ACS. In Figure 4b, we pool the refugees and U.S.-born from Figure 4a and regress a college graduation dummy on sex and age dummies, as well as dummies for refugees' age at entry. Note that the patterns in these two figures are quite similar to those for high school completion. Among those that entered as refugees aged 8-13, we see little difference in college graduation rates between them and similarly-aged U.S.-born respondents. However, for those that entered at ages 14-19, we observe negative coefficients on the age of entry in Figure 4b, with the differences between graduation rates statistically different from zero for those that entered at ages 17-19.

Why are the results so different for refugees that arrive in the U.S. as older teens? There are two obvious potential explanations. The first is the language barrier: A large fraction of refugees enter the U.S. with poor English language skills. In Figure 5a, we take a sample of our refugees from our ACS sample that entered the U.S. within the last 3 years and graph the fraction that does not speak English or does not speak English well, by age at arrival. There is no obvious trend in the data by age of entry, but 29.7 percent of all refugees that enter as children have significant language difficulties in the first three years after arrival. The means in Tables 2 and 3, however, suggest this difficulty has been mostly overcome by the time refugees are surveyed in the ACS. This might be less of an issue for those that arrive at younger ages as they have more time to make up any language background before they have to graduate high school.

A second potential problem for refugees who arrive as older teens is that many arrive unaccompanied by an adult, a scenario that occurs less often for younger children. Hence older teen refugees are more likely than younger children to be resettled as foster children in the U.S. The lack of a parent in the household may be detrimental to their outcomes. We can verify the more frequent foster status of refugees that arrived as older teens in the ACS. The IPUMS version of the ACS is a rectangular data set where each row is a different person. For each child in the data set,

two variables we have added to the model. This is a very imprecise way to obtain controls for these two covariates but is the best method available given the data constraints. Even with these limited variables, we are able to eliminate half of the difference in graduation rates, suggesting these two explanations should be further explored in future analyses.

The estimates above indicate that for most refugees, educational outcomes are similar to U.S.-born respondents in the ACS. In this section, we consider whether, conditional on education, outcomes are different between refugees and natives. In this case, we use the sample of native-born adults aged 23-28 and add to that a sample, adult refugees of the same age that entered the U.S. at ages 8-19. We examine a series of outcomes such as dummies for labor force participation and whether they are currently employed, labor market earnings and the natural log of earnings for those with positive earnings. These outcomes are regressed on dummies for age and sex as well as a set of dummies for each educational categorical response in the ACS. To capture the role of age at entry for refugees but boost power for individual coefficients, we pool age at entry groups and estimate four dummies for refugees that entered at ages 8-10, 11-13, 14-16, and 17-19, with U.S. born the reference category.

In Figures 6a through 6d, we report the coefficients and 95 percent confidence intervals for the four age at entry dummy variables for regressions where the outcomes are a) a dummy for labor force participation; b) a dummy for whether they are employed; c) labor earnings and; d) the natural log of earnings for those with positive earnings, respectively. In Figure 6a, the three oldest age at entry groups have higher labor force participation rates than natives, with a statistically significant 5 percentage point higher rate of participation for those that entered at 14-16. On the other hand, those that entered at ages 8-10 have a statistically significant lower rate of participation of about the same amount. In Figure 6b, the three oldest age of entry groups have no statistically different employment rates than natives, but again, those that entered aged 8-10 have a statistically significant

steep decline in high school graduation rates by age of entry we found in Figure 3a is reflected in the first set of numbers. However, as the refugees age in our synthetic cohort, high school graduation rates rise dramatically. By the time refugees that entered at ages 14-16 are 24-28 years of age, their high school graduation rates are now 92.9, 93.1, and 88.1 percent, respectively, compared to 91.5 percent for the U.S.-born respondents. The high school graduation numbers slip some when we age this group another five years, illustrating the problems inherent in using synthetic cohorts, but still remain at least 10-15 percentage points above graduation rates for the 19-24 cohort.

In Figure 7b, we repeat this exercise for college graduation for teens that entered the U.S. at ages 17-19. We calculate college graduation rates for ACS respondents in three different age groups: 23-27, 38-32 and 33-37. As these refugees age in a synthetic cohort, the college completion rates rise dramatically. Among refugees that entered at ages 17-19, college graduation rates were 21, 13 and 10 percent, respectively, at ages 23-27. Aging this cohort by five years increases these numbers to 28, 21 and 28 percent, respectively. Aging the cohort by five years again, these numbers increase to 31, 39 and 28 percent. These graduation rates are still below the college graduation rates for the U.S.-born respondents, but aging the cohorts by 10 years halves the difference in graduation rates present at earlier ages.

In summary, refugees that arrive to the U.S. as children under the age of 15 do as well as natives on measures of educational attainment. These results are very similar to those found by Schoellman (2016), who performed a similar exercise for refugees that arrived as children aged 0-5 from Indochina. Refugees that arrive as older teens do much poorer on measures of educational attainment but much of this is explained by language barriers and the fact they are more likely to arrive in the U.S. without parents. These poor outcome are also very temporal in that refugees that arrive as children, regardless of their age at arrival, attend school at much higher rates than natives during their 20s. Their high school and college graduation rates increase dramatically through their

In Table 4, refugees that arrived in the U.S. as adults are on average slightly younger and just as likely to be female as the U.S.-born respondents. Refugees do, however, have much lower educational attainment than U.S.-born respondents. Their high school and college graduation rates are 23.7 and 13.2 percentage points lower, respectively, than the corresponding values for U.S.-born respondents. The fraction of people with a high level of English ability is also lower in the refugee sample. Note that for this sample of refugees who entered the U.S. as adults, English language skills are much lower than for the refugees who entered the U.S. as children. Despite lower levels of human capital, refugees have higher labor force participation and employment rates than U.S.-born respondents. Given their lower human capital, however, it is not surprising that refugees also have lower labor earnings and higher use of welfare and Supplemental Nutritional Assistance Program (SNAP) use than U.S.-born respondents.<sup>24</sup>

The simple difference in outcomes presented in Table 4 between the two groups masks the fact that outcomes change considerably as refugees age in place. The more years refugees spend in the country, the better their economic outcomes are. This is graphically illustrated in Figures 8a-8i. In each of these graphs, we take the cross-sectional data on refugees from the 2010-2014 ACS and place people into bins that measure the number of years since their arrival in the U.S. This is measured on the X axis. On the Y axis we report the mean outcome for each cohort. When appropriate, the gray line is the sample mean for U.S.-born respondents aged 18-65.

In Figure 8a, we show the number of observations for refugees in each cohort by the number of years spent in the U.S. This value ranges from 366 to 788 with an average of 586. Figure 8b shows the average age across years spent in the U.S. For each year of arrival cohort, the mean age

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<sup>24</sup> The variables welfare and SNAP use measure whether the respondent is in a household that receives welfare or SNAP. These are not measured at the individual level.

in age, sex, and educational levels. We then add a set of dummies for years spent in the U.S. (0-20), where U.S.-born respondents are the reference group.

In Figure 9a, we report the coefficients and the 95 percent confidence intervals on the years since arrival dummies for the equation where employment is the outcome of interest. We only report the numbers for employment – the results for labor force participation are the same in general terms. The numbers in this graph correspond to the numbers in Figure 8d. In that figure, 2-3 years after arrival, refugees are working 10 percentage points less than U.S.-born respondents. Controlling for observed characteristics, in Figure 9a this shrinks to a 0-2 percentage point difference and is statistically insignificant. In Figure 8d, refugees that have spent 17-20 years in the U.S. are 7 percentage points more likely to be working than their U.S.-born counterparts. Controlling for observed characteristics, this increases to about a 10 percentage point difference in Figure 9a, which is statistically significant. Controlling for age, education and gender, the employment rate difference between refugees and U.S.-born residents falls by an average of about 3 percentage points across all 21 coefficients..

In Figure 9b, we control for language ability by adding in controls for the four categories of self-reported English language ability. The slope of the graph does not change at all and the coefficients increase by about 1.4 percentage points on average across all of the 21 coefficients. In general, language ability cannot explain the slope of the results or much of the explained difference between the two groups.

In Figures 9c and 9d, we repeat the same exercise with earnings as the outcome of interest. These numbers correspond to the raw differences observed in Figure 8e. In the first six years after arrival, controlling for age, sex and education explains about 40 percent of the raw difference observed in Figure 8e. As refugees age in place, that fraction drops. For refugees that have spent 16-20 years in the U.S., the addition of controls only explains 20-25 percent of the observed

but controlling for education and language ability removes about 60 percent of the earnings differences. Controlling for education and language, after about a decade in the country, there is little statistical difference in welfare and SNAP use between refugees and natives.

## VI. Measuring the Fiscal Costs and Benefits of Refugees

There has been significant debate of late about the fiscal costs associated with the refugee resettlement program. These costs include not only the direct costs of resettlement, but, as the numbers in the previous section indicate, there are also indirect costs of resettlement in that refugees are eligible for government transfer programs. A number of groups have estimated these indirect costs and found them to be large. The Heritage Foundation estimated that Obama's proposal to admit 10,000 additional Syrian refugees would cost U.S. taxpayers \$6.5 billion during the refugees' lifetimes.<sup>25</sup> These estimates assume that all Syrian refugees are low-skilled workers, would pay taxes and receive assistance at the same level of low-skilled immigrant workers, and would live another 50 years. The Center for Immigration Studies estimated the cost of resettling a family of 4 from the Middle East to be about \$258,000 during the first 5 years after resettlement.<sup>26</sup> This estimate, using ORR survey data, assumes refugees contribute nothing whatsoever in taxes and assigns public education costs for refugee children to the parents.

In this section, we consider this question in more detail and ask: What are the fiscal costs of resettling adult refugees? To answer this question we need to focus on a few key facts. First, it is important to consider the temporal nature of this question. There are large upfront costs to resettlement, and refugees start their U.S. residence with high public assistance use, but the results in the previous section indicate that outcomes for refugees change considerably over their life course.

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<sup>25</sup> <https://www.numbersusa.com/news/additional-syrian-refugees-would-cost-taxpayers-65-billion>

<sup>26</sup> <http://cis.org/High-Cost-of-Resettling-Middle-Eastern-Refugees>



There are six social insurance programs that account for the majority of government payments to U.S. citizens: welfare, Supplemental Security Income (SSI), Social Security, food stamps, Medicare, and Medicaid. The ACS reports the dollar amounts of welfare, SSI, and Social Security payments received by a respondent. Food stamps, Medicare, and Medicaid are dummy variables in the ACS, indicating whether or not the respondent is enrolled in the program. We imputed the dollar amount of food stamps received using Food and Nutrition Service guidelines, which are based on family size and income.<sup>27</sup> The Centers for Medicare & Medicaid Services track the per capita cost of Medicare, by state and year.<sup>28</sup> We assumed a respondent who is on Medicare costs the average amount per enrollee in the state they lived in. Finally, the annual Actuarial Report on the Financial Outlook for Medicaid tracks average Medicaid costs of those enrolled in the program.<sup>29</sup> The report breaks down average costs into four types of enrollees: adults, children, the disabled, and the elderly. A respondent on Medicaid was assumed to cost the average of adult enrollees if their SSI spending was 0. If their SSI receipt was greater than 0, we assumed they cost the average amount of a disabled enrollee. In 2014, the Medicaid report broke out costs by newly eligible adults and non-newly eligible adults. Newly eligible adults made up 4.3 out of the 19.3 million adults enrolled in Medicaid in 2014. We assume that refugees followed the enrollment patterns of the general population and cost the weighted average of newly eligible and non-newly eligible adults.

One cost that is excluded from this analysis is the cost of public education for refugee children. The fiscal analysis is limited to refugees entering as adults. Functionally, we can treat refugee children as a separate economic entity. Society spends money on their behalf to educate them during their K-12 years. The previous section suggests that refugees entering as children have

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<sup>27</sup> <https://www.fns.usda.gov/snap/how-much-could-i-receive>

<sup>28</sup> [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV\\_PUF.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF.html)

<sup>29</sup> <https://www.medicaid.gov/medicaid/financing-and-reimbursement/actuarial-report/index.html>

Finally, we assumed that refugees paid the same amount in sales taxes as they did in state income tax. Data from the Quarterly Summary of State and Local Tax Revenues, between quarter 1 of 2010 and quarter 4 of 2014, indicates that revenues from state income tax and sales tax have been essentially the same over this period, with only a 2% aggregate difference.<sup>31</sup> This most likely understates the amount of sales tax paid by refugees, as it is a regressive tax. Summing state income, federal income, FICA, sales, and property taxes, we estimated the amount of taxes paid by a refugee.

Combining the estimate of taxes paid with the relocation and social insurance costs, we generate an estimate of the net fiscal costs of refugees to the U.S. government. While the ORR conducts a survey tracking refugees' economic outcomes after up to 5 years in the U.S., no study to date has tracked refugees over a longer period of time.

We also need to adjust for the time value of money. We use a two percent discount rate. The 20<sup>th</sup> year spent in the U.S. is considered the base year. Year 19 net fiscal costs are multiplied by 1.02, year 18 costs are multiplied by  $(1.02)^2$ , and so on. Direct resettlement costs are assumed to have been incurred in the first year a refugee enters the U.S. which in the synthetic cohort was 10 years ago, so we multiplied these costs by  $(1.02)^{20}$ . Summing discounted government costs and tax payments from year 0 through year 20 yields the net fiscal cost to the government of refugees during their first 20 years in the U.S.

In order to analyze only working-age refugees, we limited the dataset to those who entered the U.S. between the ages of 18 and 45. Thus, the upper age limit for a refugee in our analysis is someone who entered the U.S. at age 45, has been in the country for 20 years, and was 65 years old at the time of the ACS.

*b. Results for Refugees that Entered as Adults Aged 18-45*

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<sup>31</sup> <http://www.census.gov/goys/qtax/>

for poor initial conditions, it is also no surprise that we find much larger fiscal benefits from resettling younger refugees than older ones. However, we still find a net fiscal benefit of \$4,619 of resettling refugees who are 30-45 when they enter the U.S. In rows 6 and 7, we lower and raise the refugee concentration ratio (RCR) cutoffs by 0.1, respectively. The numbers increase slightly when we use a smaller cutoff and they go down when we use a larger cutoff. While the amount of money refugees bring in to the government varies with the parameters chosen, all results are positive, indicating the estimates are not overly sensitive to the parameter selections.

There are some costs that are not included in this analysis. One is the cost that refugees might generate as a result of interaction with the criminal justice system. The average annual cost of incarceration during the period we consider is around \$32,000/year.<sup>32</sup> Even a modest fraction of refugees are incarcerated this could generate a large fiscal cost to all levels of government. We do not believe this is an important cost in this case. The ACS is address-based survey, and much like the Census Long Form Public Use Micro Samples, it surveys people in group quarters, including prisons. Upon examination, we find only 0.5 percent of our refugees sample residing in group quarters such as prisons (compared to 2.34 percent for the U.S.-born population) at the time the survey was taken, suggesting this cost is not a large value.

We also would like to extend this analysis to include a longer term follow-up. This is important because as the refugee population ages into their post-65 years, they become eligible for Medicare and Social Security. The problem we face with our data sample is that past the age of 65, mortality rates start to increase dramatically. A post-65 person that has died has zero Medicare costs, so any accurate estimate of Medicare and Social Security costs must build mortality into the model. With the synthetic cohorts, we only observe people in the analysis that are alive at the time of

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<sup>32</sup> <http://archive.vera.org/sites/default/files/resources/downloads/price-of-prisons-updated-version-021914.pdf>.

welfare use declining as refugees age in place. After about six years in the U.S., refugees have higher labor force participation and employment rates compared to similarly-aged U.S.-born residents. After about 10 years, they have statistically indistinguishable use of welfare and SNAP. Despite these successes, they never earn as much on average as similarly-aged natives.

A number of commentators have argued that the refugee program is too expensive given the direct costs of resettlement and the high costs of participation in social service programs by refugees. Our results above indicate that the intertemporal dimension of this problem is key in examining how one views this program. At the start of their U.S. residency, refugees do extract high costs because of the direct costs of relocation and high welfare use. However, over time these costs decrease quickly, and our estimates show that over a twenty-year period, refugees pay \$21,000 more in taxes than they receive in benefits.

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Figure 2:  
 Comparison of Refugees Identified in the 2010-2014 ACS that Entered 1990-2014 with  
 Numbers from the Office of Refugee Resettlement over the Same Period

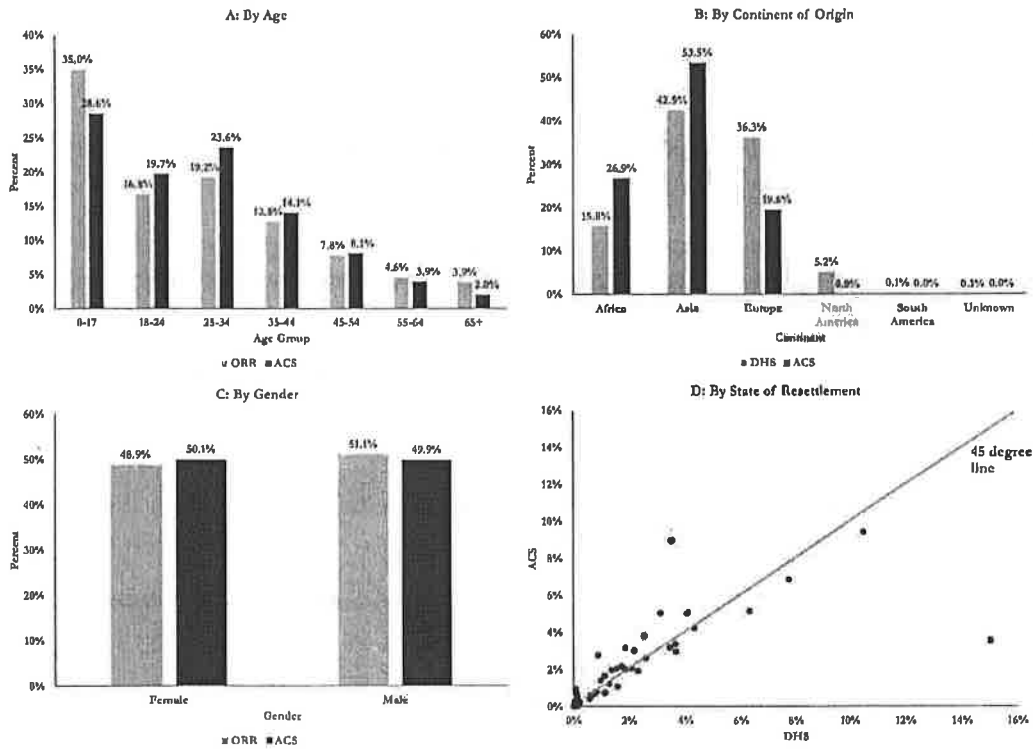


Figure 4  
 High School Graduation Rates for Refugees Aged 23-28 in 2010-2014 ACS  
 By Age at Entry to the U.S.

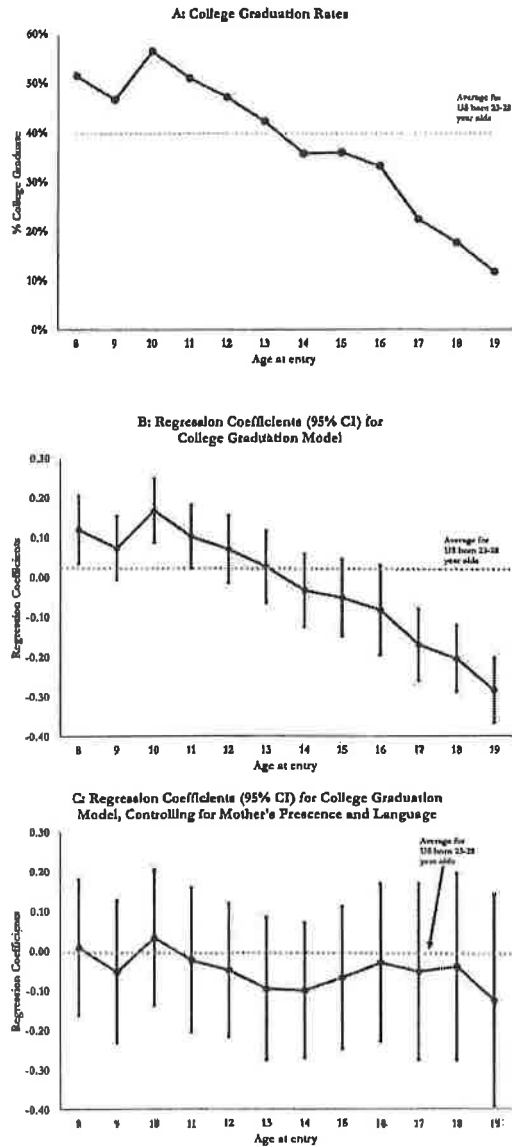


Figure 6  
 Impact of Age at Entry to the U.S. on Economic Outcomes (95% Confidence Interval)  
 For Refugees Aged 23-28, 2010-2014 ACS

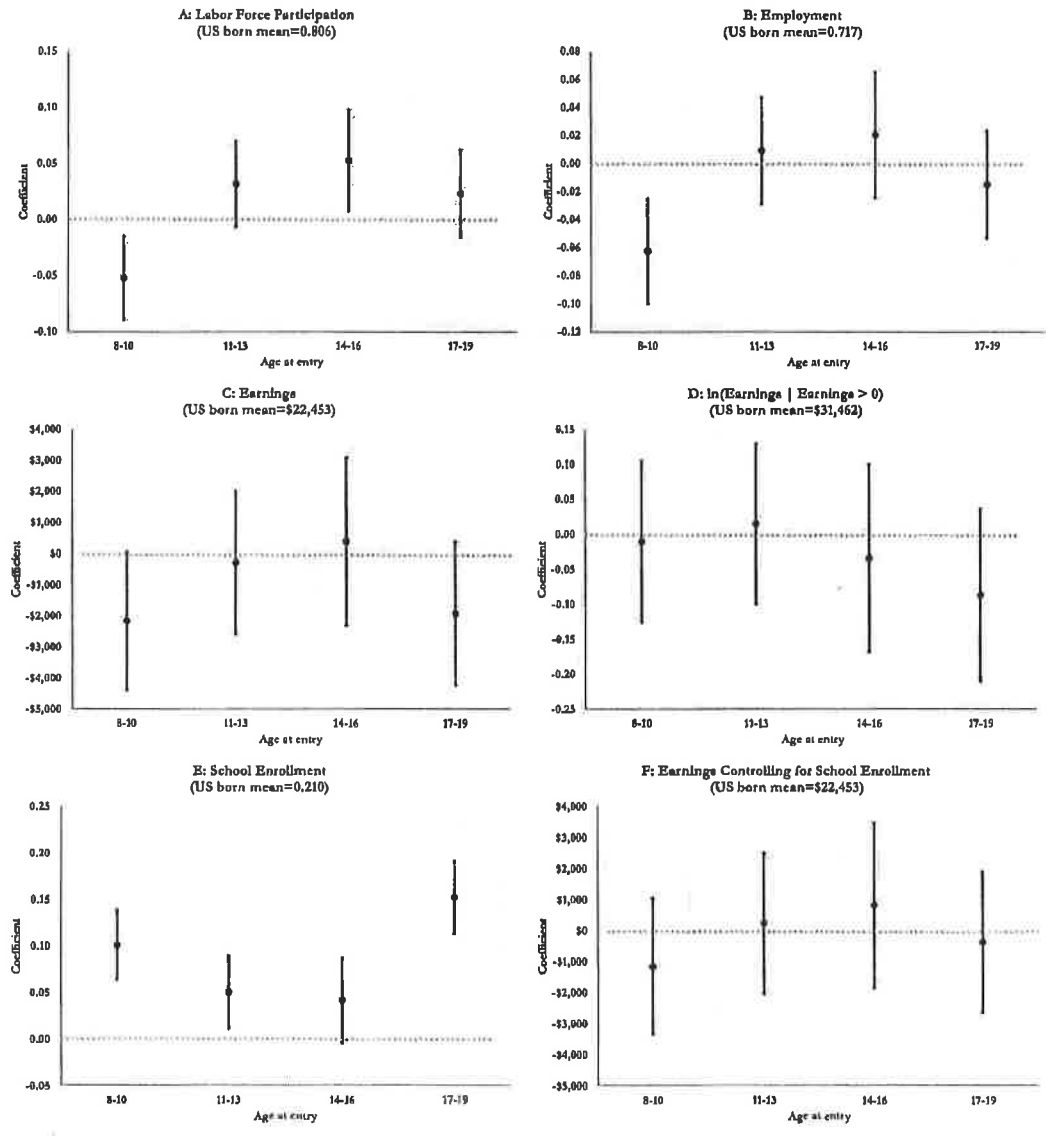




Figure 8  
 Outcomes of Refugees that Entered the U.S. at Ages 18-45 as a Function of Years in the U.S.,  
 Compared to U.S. Born Adults, 18-65

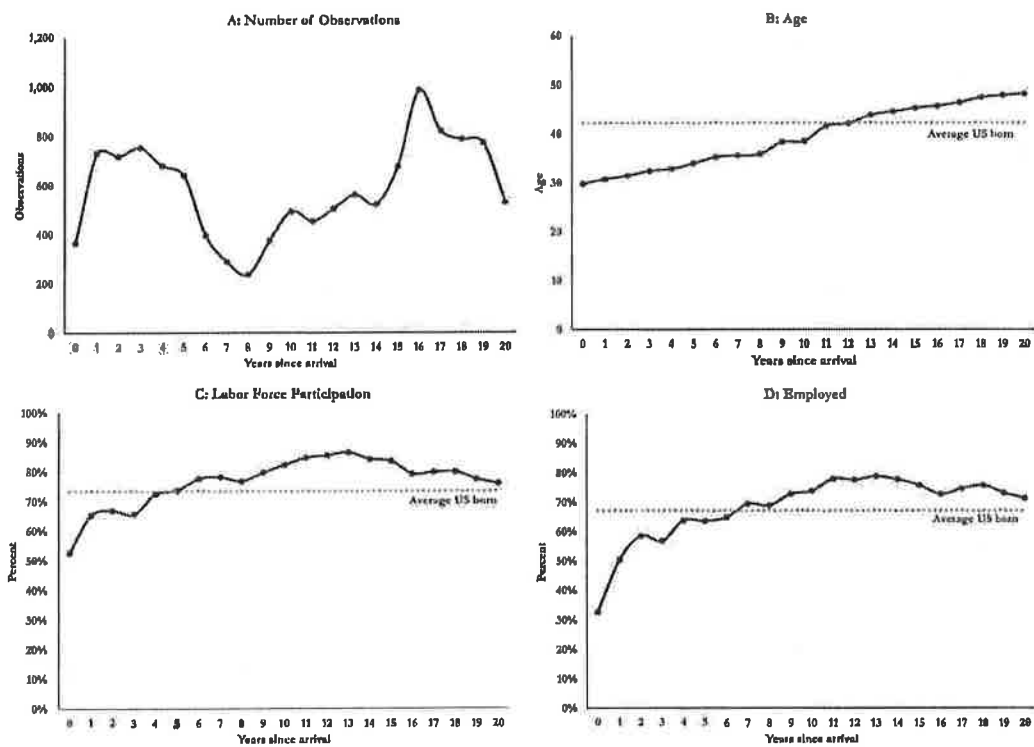


Figure 9  
 Impact of Years since Arrival for Refugees that Entered the U.S. at Ages 18-45  
 Compared to U.S. Born Adults, Aged 18-65

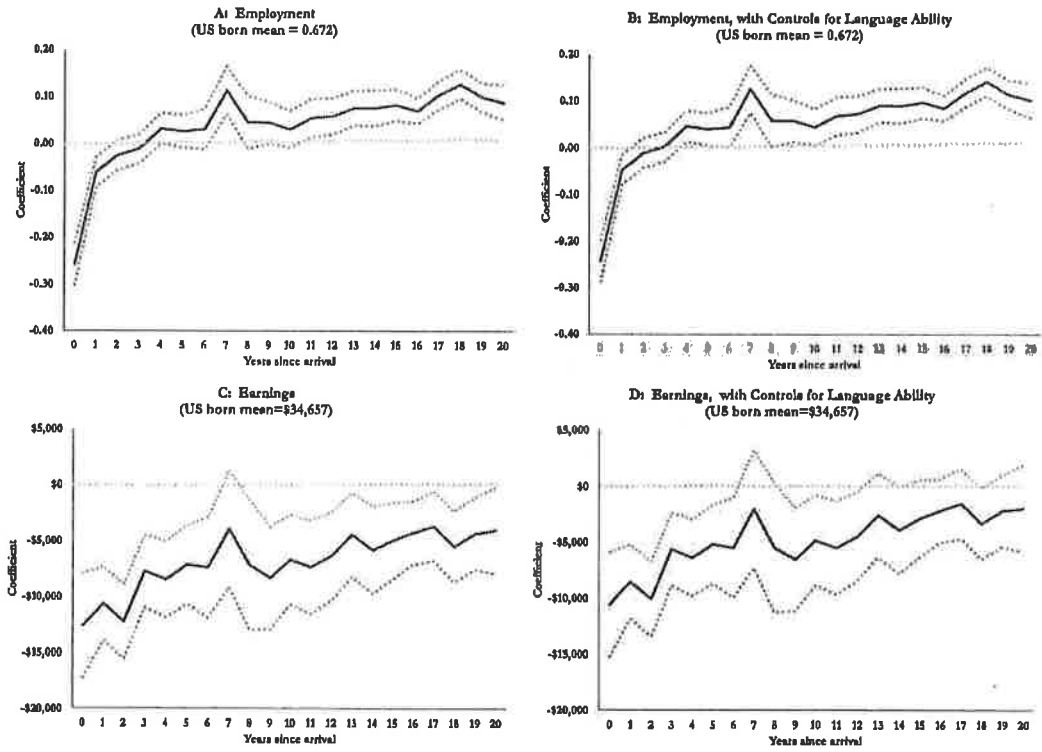


Figure 10  
 Estimated New Fiscal Costs of Refugees Aged 18-45 at Arrival by the Years Since Arrival

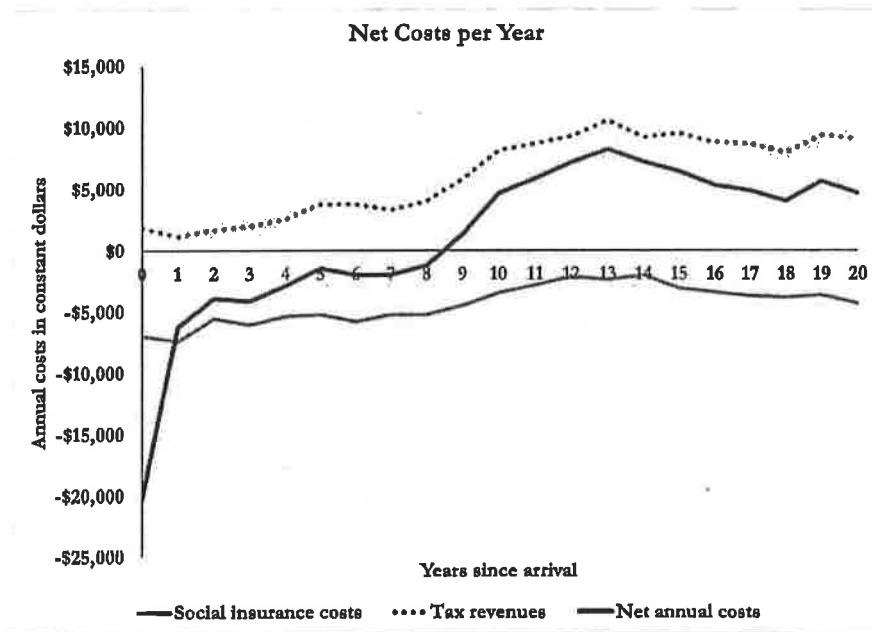


Table 3  
Descriptive Statistics, 2010-2014 ACS

Variable	Means (Standard deviations)	
	Refugees, aged 8-19 at arrival, aged 23-28 at time of the survey	U.S.-born adults aged 23-28 at time of the survey
Age	25.4 (1.7)	25.5 (1.7)
% female	49.7 (50.0)	49.6 (50.0)
% with a high school degree	87.6 (33.0)	91.4 (28.1)
% with a college degree	38.3 (48.6)	40.0 (49.0)
% w/ $\geq$ good English language skills	93.9(23.9)	99.6(6.0)
% in labor force	80.7 (39.5)	80.6 (39.6)
% employed	69.3 (46.2)	71.7 (45.1)
Labor earnings	\$20,664 (\$24,052)	\$22,546 (\$24,955)
Sample size	1,432	914,752

Standard deviation in parentheses

Table 4  
Descriptive Statistics, 2010-2014 ACS

Variable	Means (Standard deviations)	
	Refugees, aged 18-45 at arrival, aged 18-65 at time of the survey	U.S.-born adults aged 18-65 at time of the survey
Age	40.1 (10.0)	42.3 (14.1)
% female	50.8 (50.0)	50.7 (50.0)
% with a high school degree	67.1 (47.0)	90.8 (28.9)
% with some college	37.3(48.4)	62.6(48.4)
% with a college degree	23.5(42.4)	36.7(48.2)
% with $\geq$ good English language skills	62.3(48.5)	99.7(5.3)
% in labor force	76.6 (42.4)	73.5 (44.1)
% employed	68.5 (46.5)	67.2 (46.9)
Labor earnings	\$22,862 (\$32,326)	\$34,657 (\$52,245)
% on welfare	9.3 (29.0)	3.0 (17.2)
% on SNAP	38.7 (48.7)	4.8 (33.8)
Sample size	12,309	8,166,161

Standard deviation in parentheses