

Entrepreneurship in Low-Income Areas

By

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EXECUTIVE SUMMARY

This study researches entrepreneurship in low-income areas by examining the characteristics and income sources of self-employed workers in low-income areas, as well as the characteristics of businesses operating in low-income areas. The analyses reported on here rely on survey and administrative data that provide information on the characteristics of self-employed workers and businesses operating in the United States in 2013.

The study finds that self-employment rates are significantly lower in low-income areas (9.2 percent) relative to other areas (10.9 percent). The study also finds important differences in the characteristics of labor force participants between low-income and other areas. In particular, statistical tests show relatively higher proportions of labor force participants in low-income areas are women, Black, and Hispanic, and have no more than a high school education. At the same time, lower proportions of labor force participants in low-income areas are male, White, Asian, and have a college education. Differences in the characteristics of self-employed workers between low-income and other areas largely reflect these patterns. Higher proportions of self-employed workers in low-income areas are black and Hispanic and much higher proportions have no more than a high school education.

Analyses of business characteristics show that there are proportionately fewer businesses operating in low-income areas relative to other areas. In low-income areas, the vast majority of self-employed workers operate a business in their area of residence, while they are less likely to incorporate their business relative to self-employed workers in other areas. In terms of sectoral patterns of these operations, the majority of self-employed workers in low-income areas own businesses in five sectors – construction, professional services, other services, trade, and healthcare.

We also find that, within low-income areas, businesses in construction, professional services, administrative support, and agriculture are less likely than average to be employer businesses (i.e., have at least one paid employee) or have fewer-than-average employees. Indeed, the

evidence indicates that employer businesses in low-income areas have fewer employees and lower average payrolls than businesses in other areas. At the same time, low-income area businesses in education, manufacturing, mining, and healthcare tend to be larger and have higher-than-average payroll.

Analyses of the income sources of self-employed workers show that the main source of income for self-employed workers who incorporated their business is salary income and for self-employed workers who did not incorporate their business is business income. The incorporated self-employed have much higher labor, non-labor, and total income than salary workers and the unincorporated self-employed. We also find that the total average income of the unincorporated self-employed in low-income areas is slightly lower than the income of salary workers and much higher than the income of unemployed workers.

1. INTRODUCTION

Small businesses play a central role in the U.S. economy, contributing to job creation, economic development, and self-sufficiency.¹ In many instances, workers view self-employment as an attractive alternative to salary employment. Workers in low-income areas may be particularly interested in self-employment since there is likely a dearth of appropriate wage and salary jobs in their neighborhood. In addition, starting a small business affords flexibility that traditional workplaces may not offer and can furnish substantial opportunities for individuals residing in disadvantaged localities or zones.

While small businesses may provide important benefits to their owners, those operating in low-income areas face multiple impediments. For example, there are supply side constraints (such as human capital scarcity and barriers to accessing debt and equity capital) that may pose major obstacles to business start-ups. On the demand side, the overall business environment in low-income areas may present challenges to growing a customer base. As a result, many aspiring business owners in low-income areas may be discouraged from starting their own business, thus limiting their neighborhood's labor market options and depriving themselves from the potential benefits of self-employment.

Very little is known about the characteristics of self-employed workers in low-income areas. Most of the literature on this topic is dated and focuses almost exclusively on rural locations. The objective of the present study is to close the literature gap by examining the characteristics and income sources of self-employed workers as well as the characteristics of businesses in low-income areas. The two main data sources for the study are:

¹ The Small Business Administration (SBA) has established two widely used size standards for defining small businesses: 500 employees for most manufacturing and mining industries, and \$7.5 million in average annual receipts for many nonmanufacturing industries. There are a number of exceptions to this rule. <https://www.sba.gov/content/summary-size-standards-industry-sector>. Retrieved August 1, 2016.

- 1) the 2013 American Community Survey (ACS), an annual nationally representative survey that provides detailed information on the demographic, employment, and geographic characteristics of the U.S. population; and
- 2) the 2013 County Business Patterns (CBP), which provides annual national figures on the number and characteristics of U.S. establishments with at least one paid employee and annual business receipts of \$1,000 or more.²

The ACS data furnish information on workers residing in all 2,351 Public Use Microdata Areas (PUMAs) in the U.S. We used the PUMA designations as the geographical unit of analyses, categorizing a PUMA as “low-income” if its average household income was below the 20th percentile of the PUMA income distribution (i.e. the lowest quintile among PUMAs in terms of average income). Based on this criterion, we designated 471 PUMAs as low-income.³

The CBP data were used to compare the characteristics of businesses operating in low-income areas and those operating in other areas. Since the CBP data are organized by county, our analyses used the county as the geographical unit. We categorized a county as “low-income” if its average household income was below the 20th percentile of the county income distribution (i.e. the lowest quintile among all U.S. counties in terms of average income). Based on this definition, 882 of the 3,142 U.S. counties were designated as low-income counties.

Using the ACS data, we examined the characteristics of the self-employed in low-income areas, including comparisons with the characteristics of the self-employed in other areas. These analyses identify the types of workers who are likely to engage in self-employment in low-income areas and the extent to which they differ from those in other areas. In addition, using both the ACS and CBP data, our study breaks new ground by examining the characteristics of businesses in low-income areas, including industry, number of employees, and average payroll.

² The study uses ACS and CBP data for 2013 because this is the year with the latest available data.

³ There is a robust link between our measure and PUMA local poverty rates which we explain in detail in subsection 2.5.1 below.

These analyses identify the types of businesses operating in low-income areas and the extent to which they differ from businesses operating in other areas.

The paper is organized as follows. After this introduction, Section 2 gives background on entrepreneurship in the U.S. and related research evidence. Section 3 presents analysis of the characteristics of the self-employed in low-income areas, and Section 4 shows analysis of business characteristics in these areas. Section 5 presents analysis of worker income sources. Finally, Section 6 summarizes the study findings and discusses their implications.

2. BACKGROUND

2.1 Entrepreneurship in the United States

There is substantial work that examines entrepreneurship patterns and the characteristics of self-employed workers in the United States, using descriptive and correlational analyses of survey, secondary, and administrative data. Many workers consider self-employment as an attractive option for achieving high earnings, improving their socioeconomic status, and possibly enhancing their work-life balance (Bates, 1997; Keister, 2000). Indeed, some view self-employment as a better alternative to salary employment because it offers the opportunity to achieve self-sufficiency while working independently or simply because they have a passion for a particular business idea (Grilo and Thurika, 2005). Unemployed workers may be particularly interested in self-employment – particularly low-skill workers who are unable to find a salary job – because it offers a stopgap measure to boost earnings or because it is the only option to avoid long-term unemployment and labor market discrimination (Fairlie and Krashinsky, 2006).

Beyond the improvements in well-being that entrepreneurship affords, new businesses create job opportunities and yield other benefits for the economy, including producing important innovations, improving the diversity of supplied goods and services, contributing to overall economic growth, and employing disadvantaged workers (Acs, 1999; Headd, 2000; Minniti and Bygrave, 2004; Davis et al., 2008). According to the U.S. Small Business Administration (SBA), in 2011, small businesses made up 99.7 percent of U.S. employer firms and created 64 percent of new private sector jobs.⁴ Over three-quarters of these small businesses were non-employers (hired no paid employees). Small firms are more likely than larger firms to be engaged in construction, services, and agriculture, forestry, and fishing, whereas large firms are concentrated in manufacturing, retail trade, transportation, communications, public utilities, finance and insurance, and real estate.

Aspiring entrepreneurs may be willing to work hard and invest a substantial portion of their

⁴ Source: Frequently Asked Questions about Small Business, U.S. Small Business Administration Office of Advocacy, Washington, D.C., 2012. https://www.sba.gov/sites/default/files/FAQ_Sept_2012.pdf.

time to start their business, but face numerous obstacles in their efforts to succeed, including lack of business background and expertise (Hout and Rosen, 2000; Dunn and Holtz-Eakin, 2000; Fairlie and Robb, 2007b) and lack of access to credit (Blanchflower et al., 2003; Cavalluzzo and Wolken, 2005; Asiedu et al., 2012). These problems may be responsible for the failure of many new businesses within the first two years of operation (Lowrey, 2009).

These obstacles and other differences – like education and family background – explain to some extent the important variation in entrepreneurship entry and success by gender and race. Self-employment rates in the U.S. have been historically higher for White men compared with those of women and Nonwhites (Loscocco and Robinson, 1991; Fairlie and Meyer, 2000; Sonfield et al., 2001), while business owned by white men have had higher business receipts and profitability (Fairlie and Robb, 2007a; Loftstrom and Bates, 2007). Race and gender disparities in entrepreneurship participation and success are only partly attributable to differences in human capital and skills (Fairlie and Meyer, 1996; Fairlie, 1999; Smith, 2004; Reynolds et al., 2004). In fact, a portion of the gender and race gaps are attributable to the fact that women and minorities are less likely than their peers to inherit or have experience working in a family business (Fairlie, 1999; Fairlie and Robb, 2007b; Hout and Rosen, 2000; Fairlie and Robb, 2007c), and because they have limited access to credit, lower personal wealth, and limited family support (Cavalluzzo and Walken, 2002; Blanchflower et al., 2003; Blanchard et al., 2005; Lofstrom and Bates, 2007). Finally, it has been shown that women- and minority-owned businesses concentrate in sectors such as personal services, transportation, and communications, which have limited access to capital, are less likely to receive government contracts, and lack the potential for substantial growth (McClelland et al., 2005; Fairlie and Robb, 2009).

2.2 Entrepreneurship in Low-Income Areas

Very little evidence is available about the characteristics of small business owners and their firms in low-income areas. Research on the demographic and economic characteristics of the self-employed and their operations in low-income urban areas is lacking. In fact, most literature

on entrepreneurship in low-income areas is based on descriptive analyses of existing data and focuses mostly on rural low-income areas. Small businesses dominate rural communities and are vital to economic prosperity. Rural areas present unique conditions that have been associated with adversity for rural entrepreneurs and small businesses, including lower levels of population density, consumer income, and educational attainment (USDA, 2002). Low population density limits business growth, and as a result, rural businesses tend to be small. Limited population may restrict the pool of available skilled labor, reducing the flexibility to hire appropriate help. The per capita and household income in rural communities is also low in comparison to urban areas (USDA, 2002). In addition, low educational levels and a higher proportion of elderly residents are associated with reduced computer access and use. Rural communities tend to lag behind cities in investments in infrastructure and bandwidth capacity due to remoteness and low population density (Shields, 2005).

By the same token, low-income urban neighborhoods face a similar continuing cycle of poverty and social problems due to the lack of profitable businesses and jobs. Issues around higher crime rates, poor infrastructure, poor employee skills, and barriers to accessing debt and equity capital create major obstacles to the growth of businesses (Gartner and Bhat, 2000).

These factors, in turn, may influence the business makeup of poor areas. For example, a study examining the food choices available in low-income and segregated areas in Mississippi, North Carolina, Maryland, and Minnesota found that, compared with the poorest neighborhoods, large numbers of supermarkets and gas stations with convenience stores are located in wealthier neighborhoods (Morland et al., 2002). The authors also found that the poorest neighborhoods have three times as many places to consume alcoholic beverages as the wealthiest neighborhoods. Further, there are four times as many supermarkets located in majority White neighborhoods compared to majority Black neighborhoods; the latter have more small grocery stores.

2.3 Entrepreneurship Programs

Because of the importance of small businesses in the U.S. economy, supporting self-employment has received a lot of attention from policymakers in the past 20 years. At the beginning of the 1990s, the U.S. Department of Labor (DOL) funded two self-employment demonstration programs: the Washington Self-Employment and Enterprise Development program and the Massachusetts Self-Employment Demonstration. The goal of these programs was to explore if self-employment programs are a viable policy tool for promoting the reemployment of unemployed workers through the creation of small businesses. Using a randomized controlled trial (RCT) methodology, both programs were found to be effective in assisting participants to start their own business (Benus et al., 1995). With the passage of the North America Free Trade Agreement Implementation Act in 1993, Congress authorized states to establish self-employment assistance (SEA) programs targeting unemployed workers for a five year period. This led to the implementation of a number of SEA programs, including those in Maine, New Jersey, and New York. Quasi-experimental analyses showed that the early SEA programs were generally effective, prompting Congress to permanently authorize self-employment training programs for the unemployed (Vroman, 1997; Kosanovich et al., 2002).

In 2002, DOL teamed with the SBA to create an RCT-design self-employment program, called Project GATE (Growing America Through Entrepreneurship). Project GATE offered entrepreneurship training to aspiring business owners in Pennsylvania, Minnesota, and Maine (Benus et al., 2009). Experimental analyses of Project GATE showed that the program helped unemployed workers to return to employment by starting their own business (Benus et al., 2009; Michaelides and Benus, 2012). The program did not lead to substantive effects on earnings, but helped participants start sustainable new businesses, leading to long-term positive effects on self-employment rates (Michaelides and Benus, 2012). In 2009, DOL funded the GATE II grants to serve displaced workers in Alabama, Minnesota, North Carolina, and Virginia. Using an RCT design, a DOL-funded study showed that GATE II was effective in helping displaced workers start their own business and avoid unemployment (Davis et al., 2017).

In addition, there are several programs to assist small businesses to overcome limited access to credit and start-up capital. According to the Aspen Institute, there are hundreds of microenterprise programs in the United States, including nearly 60 Federal programs, of which 37 are supported by SBA.⁵ Moreover, the federal Empowerment Zone (EZ) program provides a series of geographically targeted tax incentives and block grants designed to encourage economic, physical, and social investment in the neediest urban and rural areas in the United States. Non-experimental analyses of this program showed that it generated jobs in targeted communities and raised local earnings without generating large increases in population or housing rents (Busso et al. 2013). Finally, SBA's Historically Underutilized Business Zones (HUBZone) program helps small businesses located in certain urban and rural communities to gain preferential access to federal procurement opportunities to boost success of small businesses in low-income areas.⁶

2.4 Study Objectives

The overarching goal of this study is to close the literature gaps on entrepreneurship in low-income areas by providing an examination of self-employment in low-income areas, including the characteristics of the self-employed and the types of businesses that they own. In particular, this study seeks to address three primary research questions to enhance our understanding of entrepreneurship in low-income areas.

- 1) *What are the characteristics of the self-employed in low-income areas?* Examine the characteristics of self-employed workers in low-income areas and assess whether they differ from the characteristics of self-employed workers in other areas.
- 2) *What are the characteristics of businesses operating in low-income areas?* Examine the characteristics and distribution of businesses in low-income areas, and assess whether there are differences in business characteristics between low-income and other areas.
- 3) *What are the income sources of the self-employed in low-income areas?* Investigate the

⁵ Source: U.S. Microenterprise Census Highlights, FY 2008 Data. The Aspen Institute, Washington, DC.

⁶ See: The HUBZone Program, U.S. Small Business Administration website:

<https://www.sba.gov/contracting/government-contracting-programs/hubzone-program>.

income sources of the self-employed in low-income areas (business income, salary income, and non-labor income) and compare them to the income sources of the self-employed in other areas.

Addressing these questions fills two important gaps in the literature. First, this study breaks new ground by providing a detailed picture of the characteristics of self-employed workers in low-income areas. Second, this is the first study to analyze, in detail, the income sources of business owners in low-income areas and the extent to which those differ from the income sources of business owners in other areas. The analyses provide important evidence and insights on business ownership in low-income areas, which may contribute useful information for the design of policies to promote start-ups and small business expansion in these areas.

2.5 Study Methodology

This section describes the data sources used in this study and outlines the data analysis plan for addressing the study's three questions.

2.5.1 Data Sources

American Community Survey (ACS). The ACS is an annual, nationally representative survey conducted by the U.S. Census Bureau that provides detailed information on the labor market and other characteristics of the U.S. population. In this study, we used the ACS for 2013, the most recent year for which data were available when this study was done, which provide the following information:

- *Employment* – including labor force status (employed, self-employed, and unemployed); self-employment status (incorporated or unincorporated); income sources (salary, business, non-labor, and total income); and industry of employment based on the North America Industry Classification System (NAICS) industry codes.
- *Personal characteristics* – including gender, race, ethnicity, age, education, marital status, number of children, veteran status, U.S. citizenship, and English proficiency.
- *Geographic characteristics* – including state and Public Use Microdata Area (PUMA) of

residence,⁷ and state and PUMA of place of work.

We used the PUMA definitions to define geographic areas. The advantage of the 2013 ACS is its large sample sizes, which enabled us to examine the characteristics and outcomes of self-employed workers in the 2,351 PUMAs in the United States. Importantly, we used the ACS to identify which PUMAs are “low-income” based on the average household income in the area.⁸ We followed a three-step process to identify low-income PUMAs: (1) calculate average household income for each PUMA; (2) produce the average household income distribution for all PUMAs in the United States; and (3) categorize a PUMA as “low-income” if its average household income is below the 20th percentile of the average household income distribution.

As a result, 471 of the 2,351 PUMAs were designated as “low-income” and the remaining 1,880 were designated as “other.” A map illustrating the spatial distribution of low-income and other PUMAs is presented in Figure 1. Of the 471 low-income PUMAs, 249 are classified as rural and 222 are classified as urban areas. Of the 1,880 other PUMAs, 1,058 are considered rural and 822 are considered urban areas.⁹

County Business Patterns (CBP) Data. The CBP data provide annual county-level information on the number and characteristics of all businesses operating in the U.S. that have at least one

⁷ PUMAs are statistical geographic areas defined by the U.S. Census Bureau for dissemination of the ACS data. PUMAs are areas that: (1) nest within states or equivalent entities; (2) contain at least 100,000 people; (3) are built on Census tracts and counties; and (4) are geographically contiguous. A PUMA may consist of a single large county or may include two or more small counties. At the same time, a single large county may include multiple PUMAs. For details, see: <https://www.census.gov/geo/reference/puma.html>. Retrieved February 1, 2016.

⁸ Alternative ways of designating low-income PUMAs are to use the poverty rate distribution (i.e., designate PUMAs as low-income if their poverty rate is in the top quintile of the distribution), or the per capita household income distribution (i.e., designate PUMAs as low-income if their per capita household income is in the bottom quintile of distribution). Note that more than 95 percent of PUMAs designated as low-income using the household income distribution were in the top two quintiles of the poverty rate distribution (67 percent in top quintile and 28 percent in the second quintile). Similarly, 98 percent of PUMAs designated as low-income using the household income distribution were in the bottom two quintiles of the per capita household income distribution (83 percent in the bottom quintile and 15 percent in the next quintile). Separate analyses also show that the results reported on here and results based on the two alternative definitions above are not substantively different. Overall, we conclude that using alternative “low-income” definitions does not substantively alter this study’s findings.

⁹ This categorization is based on the U.S. Census Bureau’s urban-rural classification: (1) urban areas contain 50,000 or more people; and (2) rural areas encompass all population, housing, and territory not included within an urban area. For details, see: <https://www.census.gov/geo/reference/urban-rural.html>. Retrieved February 1, 2016.

paid employee and annual business receipts of \$1,000 or more.¹⁰ The CBP data provide the following annual information for each county: (1) number of establishments; (2) distribution of establishments by NAICS industry code; (3) distribution of establishments by number of employees; and (4) average establishment payroll. For this study, we used CBP data for 2013 so that the time period for the analyses of employer business characteristics coincides with that for the analyses of business owners in low-income PUMAs using the 2013 ACS data.

The 2013 CBP data provide county-level information on 7,470,536 U.S. businesses that fit the above criteria by industry, number of employees, and payroll. For consistency with the PUMA definitions in the ACS, we used the following process to create the CBP analytic file:

- 1) Use the cross-walk between PUMA and county codes to identify the PUMA codes corresponding to each county in the CBP data.
- 2) Merge average household income and average population by PUMA (calculated using the ACS data) to the corresponding counties in the CBP data.
- 3) Calculate the average household income for each county in the CBP data.¹¹
- 4) Categorize a county as “low-income” if its average household income is below the 20th percentile of the county average household income distribution.

As a result, the 3,142 counties in the CBP data were designated as “low-income” (882 counties) or “other” (2,260 counties). Based on the U.S. Census Bureau definitions, 154 of the 882 low-income counties are considered rural and 728 are considered urban areas; and 607 of the 2,260 other counties are rural and 1,653 are urban. A map illustrating the spatial distribution of low-income and other counties is presented in Figure 2.

To examine whether income designations are congruent between the ACS and the CBP data, we cross-tabulated the designations. We found that: (1) 184 of the 471 low-income PUMAs

¹⁰ Non-employer establishments, that is, establishments with no paid employees, are not included in the CBP data.

¹¹ For counties that belong to a single PUMA, average household earnings were set equal to the PUMA average. For counties that include multiple PUMAs, average household earnings were set equal to the population-weighted average household income of all PUMAs in the county. For counties that belong to the same PUMA, average household earnings were set equal to the PUMA’s average household income.

belong to low-income counties and the remaining 287 belong to other counties; and (2) 1,866 of the 1,880 other PUMAs (99 percent) belong to other counties and 14 belong to low-income counties. These tabulations show that many low-income PUMAs were absorbed into other counties. This means that caution must be used when comparing the findings from the two data sources. Nevertheless, a comparison of the spatial distribution of low-income PUMAs (Figure 1) and of low-income counties (Figure 2) shows that they cover similar geographic areas.

An issue that is beyond the scope of our analysis is entrepreneurship in low-income zones within larger regional units like PUMAs or counties. Unfortunately, the geographic information available is too coarse to be able to analyze entrepreneurship in low-income neighborhoods within relatively affluent areas. Analyzing more disaggregated geographic units would require more precise geographic information than is currently available in nationally representative datasets.

Figure 1. Spatial Distribution of Low-Income and Other PUMAs

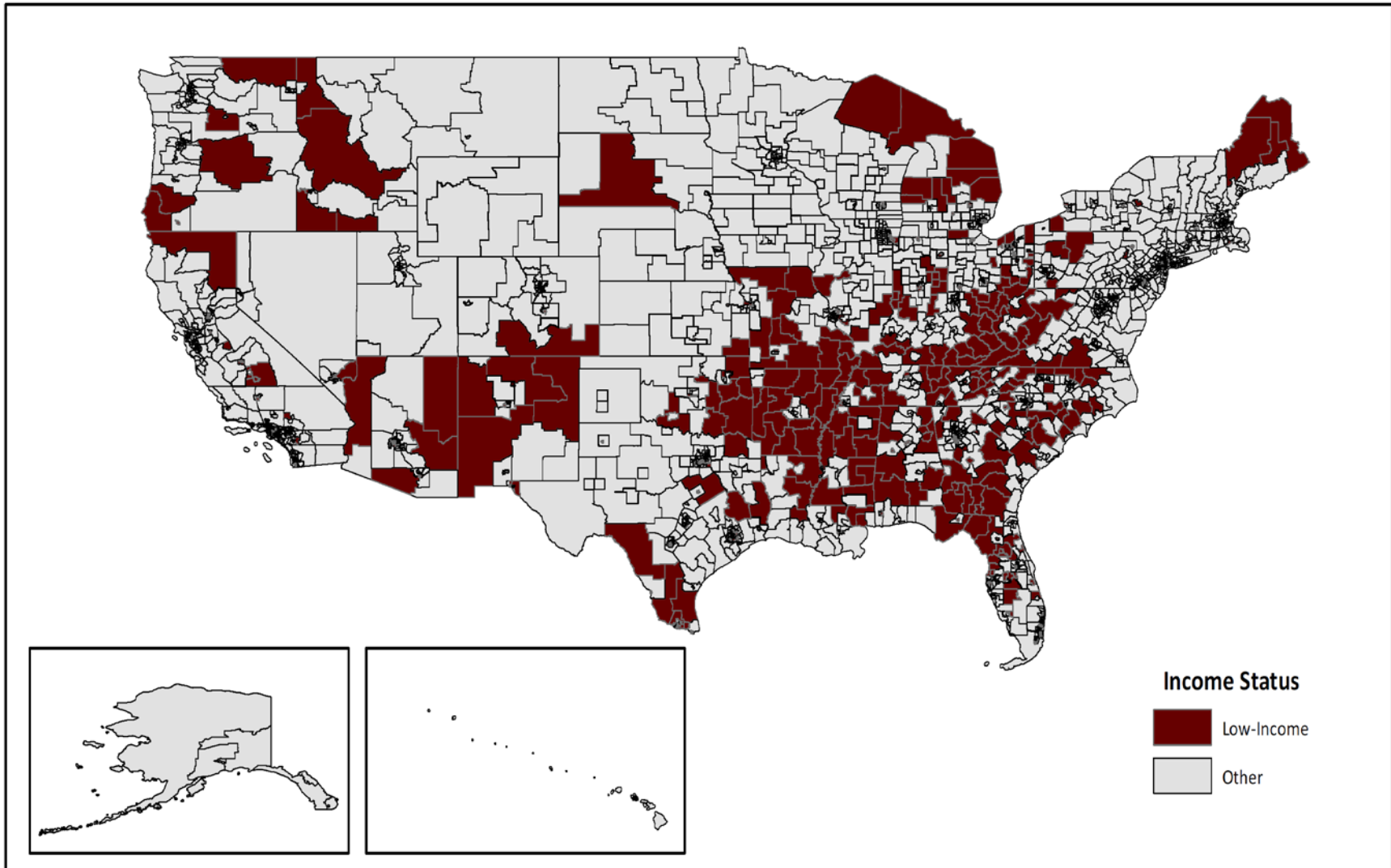
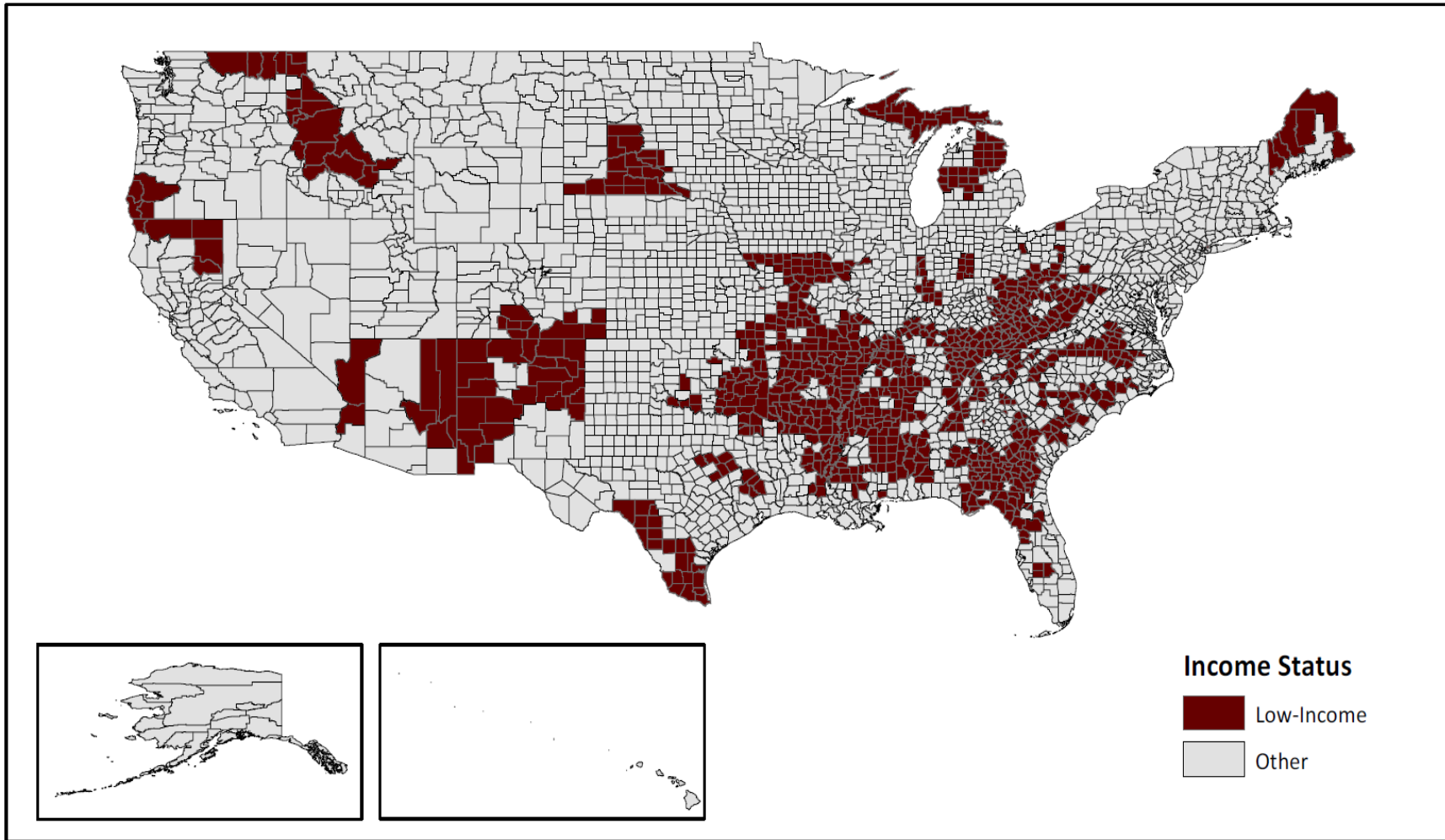


Figure 2. Spatial Distribution of Low-Income and Other Counties



2.5.2 Data Analyses

To address the study's research questions, we performed descriptive and multivariate regression analyses of the 2013 ACS and CBP data. The analysis plan is presented below.

Characteristics of Self-Employed Workers in Low-Income Areas. To examine the characteristics of self-employed workers in low-income areas, we used the 2013 ACS data. We first present descriptive analyses of the characteristics of labor force participants in low-income areas (including gender, race, ethnicity, age, and education) and compare them to the characteristics of labor force participants in other areas. We then compare the characteristics of self-employed workers between low-income and other areas. T-tests are used to determine if characteristics differences between low-income and other areas are statistically significant. In addition, we examine self-employment rates in low-income and other areas, overall and by individual characteristics, to examine if differences in the characteristics of the self-employed are attributable to differences in the local labor force or to the propensity to be become self-employed.

Characteristics of Businesses Operating in Low-Income Areas. Using the 2013 ACS and CBP data, we examined the characteristics of businesses in the United States and their characteristics, overall and based on area income designation. Using the ACS data, we tabulated the characteristics of businesses operated by self-employed workers in low-income PUMAs, including location (based on PUMA of work), industry (based on NAICS 2-digit industry codes),¹² and incorporation status. Using the CBP data, we tabulate the distribution of employer businesses in the United States and their characteristics, overall and by county income designation. In particular, we present the distribution of employer businesses based on

¹² NAICS 2-digit industry codes include the following categories: (1) agriculture, forestry, fishing, and hunting; (2) mining, quarrying, and oil and gas extraction; (3) utilities; (4) construction; (5) manufacturing; (6) wholesale trade; (7) retail trade; (8) transportation and warehousing; (9) information; (10) finance and insurance; (11) real estate and rental and leasing; (12) professional, scientific, and technical services; (13) management of companies and enterprises; (14) administrative and support and waste management and remediation services; (15) education services; (16) health care and social assistance; (17) arts, entertainment, and recreation; (18) accommodation and food services; (19) other services, except public administration; and (20) public administration.

NAICS 2-digit industry codes, number of employees,¹³ and annual payroll.

Income Sources of Self-Employed Workers in Low-Income Areas. Using the ACS data, we examined the following income sources of self-employed workers in low-income PUMAs:

- *Salary income* – income earned from own business in the form of salary plus income earned from another salary job.
- *Business income* – income earned from own business, other than salary income.
- *Public assistance income* – income earned from Social Security and other public assistance benefit programs.
- *Other income* – income earned from other sources, including rents, interest, and returns on investments.

We aggregated the above income categories as follows: (1) *labor income* – total labor income earned (salary plus business income); (2) *non-labor income* – total non-labor income earned (public assistance plus other income); and (3) *total income* – total income earned (labor income plus non-labor income). We should note that ACS does not report benefits, and thus we cannot measure total compensation. We present descriptive analyses of each income source for incorporated and unincorporated self-employed workers in low-income PUMAs, as well as for salary workers and unemployed workers in the same area. For comparison, we present analyses for self-employed, salary workers, and unemployed workers in other PUMAs.

These analyses do not take into account income variation across worker groups based on differences in characteristics. For example, suppose that the self-employed in low-income PUMAs are less likely to have a college education and have lower labor income than salary workers. College-educated workers likely have a higher than average income, and thus income differences between self-employed and salary workers may be more attributable to differences in education between the two groups and less to the fact that self-employment has lower labor

¹³ The CBP data report the following categories for number of employees: (1) 1-4 employees; (2) 5-9 employees; (3) 10-19 employees; (4) 20-49 employees; (5) 50-99 employees; (6) 100-249 employees; (7) 250-499 employees; (8) 500-999 employees; and (9) 1,000 or more employees.

market returns than salary employment. Similarly, income may vary substantially based on other individual characteristics, such as gender, race, age, and industry. To disentangle the relationship between income, personal characteristics, and employment status in low-income PUMAs, we used the population of labor force participants in low-income PUMAs to estimate the following multiple regression model:

$$Y = \alpha + Inc \cdot \beta + Emp \cdot \gamma + Unemp \cdot \delta + X \cdot \varepsilon + v \quad (2)$$

In this model, the dependent variable (Y) is income (labor income or total income), and the control variables include: (1) Inc , an indicator that equals 1 if the individual is incorporated self-employed, and 0 otherwise; (2) Emp , an indicator that equals 1 if the individual is employed in a salary job, and 0 otherwise; (3) $Unemp$, an indicator that equals 1 if the individual is unemployed, and 0 otherwise; (4) X , indicators for personal characteristics; and (5) v , a zero-mean disturbance term. The parameters of interest are: β , which measures differences in average income between the incorporated self-employed and the unincorporated self-employed (the baseline category) in low-income PUMAs, controlling for personal characteristics; γ , which measures differences in average income between salary workers and unincorporated self-employed workers; and δ , which measures differences in average income between unemployed and unincorporated self-employed workers. For comparison, the above analyses are repeated using the population of labor force participants in other PUMAs.

3. CHARACTERISTICS OF SELF-EMPLOYED WORKERS IN LOW-INCOME AREAS

Using the 2013 ACS data, we examine the characteristics of self-employed workers in the 471 low-income areas and how these compare to the characteristics of self-employed workers in the 1,880 other areas. For context, we begin by comparing the labor market characteristics of low-income and other areas. Next, we compare the characteristics of self-employed workers in low-income areas with the characteristics of self-employed workers in other areas. The results are summarized in Box 1.

BOX 1: SUMMARY – CHARACTERISTICS OF SELF-EMPLOYED WORKERS IN LOW-INCOME AREAS

Characteristics of Low-Income and Other Areas

- Self-employment rates are lower in low-income areas (9.1%) relative to other areas (10.9%).
- The characteristics of labor force participants differ between low-income and other areas.
- Higher proportions of labor force participants in low-income areas were female, black, Hispanic, and had no more than a high school education.
- Lower proportions of labor force participants in low-income areas were male, white, Asian, 15-44 years old, and had a college education relative to those in other areas.

Characteristics of Self-Employed Workers in Low-Income and Other Areas

- Higher proportions of self-employed workers in low-income areas were minorities relative to other areas.
- Much higher proportions of self-employed workers in low-income areas had no more than a high school education, while much higher proportions of self-employed workers in other areas had a college degree.
- Differences in the characteristics of self-employed workers between low-income and other areas largely reflect differences in the characteristics of the labor force.

3.1 Labor Market Characteristics of Low-Income and Other Areas

Table 1 presents information on the average household income and employment rates for the 471 low-income PUMAs and the other 1,880 PUMAs. The average household income in low-income PUMAs (i.e., PUMAs with income below 20th percentile of household income) was \$46,432 and the average household income in the remaining PUMAs was \$80,281. The same table shows that low-income PUMAs had lower average per capita household income and higher average poverty rate than other PUMAs.

The table also shows that low-income PUMAs had lower self-employment rates and higher unemployment. In particular, 12,776 (9.1 percent) of the 139,289 labor force participants in low-income PUMAs were self-employed in 2013 compared to 69,407 (10.9 percent) of the 634,548 labor force participants in other PUMAs. The unemployment rate in low-income PUMAs was 7.6 percent, which was more than 50 percent higher than the unemployment rate in other PUMAs (5.0 percent). The same table reports that the vast majority of labor force participants in both low-income and other PUMAs were employed in their PUMA of residence.

Table 1. Average Household Income and Self-Employment Rates, Low-Income and Other PUMAs

	Low-Income PUMAs	Other PUMAs
Number of PUMAs	471	1,880
Average Household Income	\$46,432 (5,044)	\$80,281 (25,995)
Average per Capita Household Income	\$25,317 (3,217)	\$40,157 (11,877)
Average Poverty Rate	.222 (.066)	.111 (.048)
Labor Force Status	139,289 (100.0%)	634,548 (100.0%)
Self-Employed Workers	12,776 (9.1%)	69,407 (10.9%)
Salary Workers	115,903 (83.2%)	533,325 (84.1%)
Unemployed Workers	10,610 (7.6%)	31,816 (5.0%)
PUMA of Work*	128,679 (100.0%)	602,732 (100.0%)
Same	108,469 (84.3%)	516,960 (85.8%)
Different, Low-Income PUMA	4,294 (3.3%)	8,011 (1.3%)
Different, Other PUMA	15,916 (12.4%)	77,761 (12.9%)

Source: Authors' tabulations of the 2013 ACS data. *= for self-employed and salary workers.

Note: Reported is the sample size with sample proportion in parentheses; for average household income, average per capita household income, and average poverty rate, reported is the sample mean with standard deviation in parenthesis.

Table 2 compares the characteristics of labor force participants in low-income and other PUMAs. These comparisons show that the composition of the labor force differs between the two area types in important ways. Low-income areas have relatively higher proportions of female, black, Hispanic, and younger labor force participants. Importantly, the average labor force participant in low-income areas was much more likely to have no more than a high school

education and much less likely to have a college education compared with the average participant in other areas. Finally, the proportion of Hispanics is much higher in low-income areas, which, in conjunction with the lower U.S. citizenship and English use rates, suggests that low-income areas have a higher population of Hispanic immigrants relative to other areas.

Table 2. Characteristics of Labor Force Participants in Low-Income and Other PUMAs

	Labor Force Participants in Low-Income PUMAs	Labor Force Participants in Other PUMAs	<i>Difference</i>
Sample Size	139,289	634,548	
Male	.508	.544	-.036 [.001]***
Race			
White	.716	.810	-.094 [.001]***
Black	.183	.081	.102 [.001]***
Asian	.020	.055	-.035 [.001]***
Other	.080	.054	.027 [.001]***
Hispanic	.162	.104	.059 [.001]***
Age			
15-24 Years	.053	.038	.016 [.001]***
25-34 Years	.185	.175	.010 [.001]***
35-44 Years	.217	.216	.001 [.001]
45-54 Years	.253	.267	-.014 [.001]***
55-64 Years	.213	.223	-.010 [.001]***
65+ Years	.078	.082	-.044 [.001]***
Education			
No High School Diploma	.104	.050	.054 [.001]***
High School Diploma	.388	.287	.101 [.001]***
Some College	.269	.249	.020 [.001]***
College Degree	.239	.415	-.176 [.001]***
Married	.493	.577	-.084 [.001]***
Veteran	.077	.082	-.005 [.001]***
U.S. Citizen	.921	.932	-.010 [.001]***
Speaks English	.909	.935	-.025 [.001]***

Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample proportions. Difference reports differences in sample proportions, with standard errors in brackets; *** = statistically significant at the 1% level.

3.2 Characteristics of Self-Employed Workers in Low-Income and Other Areas

There are reasons to believe that the distribution of characteristics of self-employed workers may differ between low-income and other areas. First, as discussed, there were important differences in the characteristics of labor force participants between low-income and other PUMAs. Second, the decision to pursue self-employment is likely to differ between low-income and other areas. For example, labor force participants in low-income areas may have fewer opportunities to start a successful business and lower access to credit than those in other areas. At the same time, low-income areas may have less attractive salary job options and thus a lower opportunity cost for pursuing self-employment. Moreover, it is likely that there is substantial heterogeneity in access to business opportunities, credit, and salary jobs based on individual characteristics. As a result, individuals with certain characteristics may have a different propensity to pursue self-employment in low-income areas compared with similar individuals in other areas.

In this section, we examine how the profile of self-employed workers in low-income areas differs from the profile of self-employed workers in other areas. As shown in Table 3, there were important differences in the characteristics of self-employed workers between low-income and other PUMAs. Higher proportions of the self-employed in low-income PUMAs were Black and Hispanic relative to other PUMAs. There were also important education differences, with much higher proportions of the self-employed in low-income PUMAs with no more than a high school education and with much higher proportions of the self-employed in other PUMAs with a college degree. We also find that the self-employed in low-income PUMAs were less likely to be U.S. citizens and English speakers relative to those in other PUMAs. In contrast, about an equal proportion of the self-employed in low-income and other areas were male. Finally, differences in the age distribution were minor – low-income areas had slightly higher proportions of the self-employed in the three younger age categories.

**Table 3. Personal Characteristics of Self-Employed Workers,
Low-Income vs. Other PUMAs**

	Self-Employed Workers in Low-Income PUMAs	Self-Employed Workers in Other PUMAs	Difference
Sample Size	12,776	69,407	
Male	.665	.664	.001 [.005]
Race			
White	.813	.868	-.055 [.003]***
Black	.092	.038	.054 [.002]***
Asian	.023	.052	-.029 [.002]***
Other	.072	.042	.030 [.002]***
Hispanic	.165	.088	.078 [.003]***
Age			
15-24 Years	.016	.009	.007 [.001]***
25-34 Years	.113	.091	.022 [.003]***
35-44 Years	.192	.181	.011 [.004]**
45-54 Years	.267	.276	-.009 [.004]**
55-64 Years	.262	.280	-.019 [.004]***
65+ Years	.150	.162	-.012 [.004]***
Education			
No High School Diploma	.135	.059	.077 [.002]***
High School Diploma	.394	.289	.105 [.004]***
Some College	.227	.226	.001 [.004]
College Degree	.244	.427	-.182 [.004]***
Married	.598	.656	-.058 [.005]***
Veteran	.087	.089	-.002 [.003]
U.S. Citizen	.896	.931	-.035 [.003]***
Speaks English	.876	.920	-.044 [.003]***

Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample proportions. Difference reports differences in sample proportions with standard errors in parentheses. ***, **, * = statistically significant at the 1%, 5%, 10% level.

To a large extent, these disparities are tied to differences in the characteristics of the labor force between low-income and other areas. At the same time, differences in the characteristics of the self-employed shown in Table 3 may also reflect differences due to individual characteristics in the propensity to become self-employed between low-income and other

areas. To examine these possibilities, Table 4 presents differences in the self-employment rates between low-income and other areas. As shown, self-employment rates were 9.2 percent in low-income areas and 10.9 percent in other areas. The minus 1.8 percentage-point difference was statistically significant.

Similar differentials are detected for many socioeconomic groups, including men, women, and Whites. Blacks were less likely to be self-employed in low-income areas, while Asians and Hispanics were about equally likely to be self-employed in low-income and other areas. Similarly, younger workers (15-24 years and 25-34 years old) were about equally likely to be self-employed in low-income and other areas. But workers 35 years of age or higher were more likely to be self-employed in other areas, with the differential growing with age. For the remaining characteristics – education, married, veteran, citizen, and English speakers – the differences in self-employment rates between low-income and other areas largely reflected the overall difference.

These analyses suggest that differences in the characteristics of the self-employed between low-income and other areas largely reflect differences in the characteristics of the labor force. At the same time, despite the fact that low-income areas may offer fewer business opportunities and have lower self-employment rates relative to other areas, race and ethnic minorities (with the exception of blacks) as well as younger workers (less than 35 years old) are about equally likely to be self-employed across areas.

Table 4. Self-Employment Rates, Low-Income vs. Other PUMAs

	Self-Employment Rate in Low-Income PUMAs	Self-Employment Rate in Other PUMAs	Difference
Total	.092 (.289)	.109 (.312)	-.018 [.001]***
Male	.120 (.325)	.134 (.340)	-.013 [.001]***
Female	.062 (.241)	.081 (.272)	-.018 [.001]***
Race			
White	.104 (.305)	.117 (.321)	-.013 [.001]***
Black	.046 (.209)	.051 (.220)	-.005 [.002]***
Asian	.105 (.307)	.103 (.304)	.002 [.006]
Other	.082 (.275)	.085 (.280)	-.003 [.003]
Hispanic	.094 (.290)	.093 (.290)	.001 [.002]
Age			
15-24 Years	.027 (.163)	.027 (.162)	.000 [.002]
25-34 Years	.056 (.230)	.057 (.231)	-.001 [.002]
35-44 Years	.081 (.273)	.092 (.289)	-.011 [.002]***
45-54 Years	.097 (.296)	.113 (.317)	-.016 [.002]***
55-64 Years	.113 (.316)	.138 (.345)	-.025 [.002]***
65+ Years	.177 (.381)	.217 (.412)	-.040 [.004]***
Education			
No High School Diploma	.120 (.324)	.130 (.336)	-.011 [.003]**
High School Diploma	.093 (.291)	.110 (.313)	-.017 [.002]***
Some College	.077 (.267)	.099 (.299)	-.022 [.002]***
College Degree	.094 (.291)	.113 (.316)	-.019 [.002]***
Married	.111 (.314)	.124 (.330)	-.013 [.001]***
Veteran	.104 (.305)	.119 (.324)	-.016 [.003]***
U.S. Citizen	.089 (.285)	.109 (.312)	-.020 [.001]***
Speaks English	.088 (.284)	.108 (.310)	-.019 [.001]***

Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample proportions. Difference reports differences in sample proportions with standard errors in parentheses. ***, **, * = statistically significant at the 1%, 5%, 10% level.

4. CHARACTERISTICS OF BUSINESSES IN LOW-INCOME AREAS

One of the key study objectives is to examine the characteristics of businesses operating in low-income areas and assess the extent to which they differ from the characteristics of businesses operating elsewhere. For these analyses, we used both the ACS and the CBP data. The ACS data were used to examine the characteristics of businesses operated by self-employed workers in low-income and other PUMAs, including location, industry, and incorporation status. The CBP data were used to compare the industry, size, and payroll distributions of employer businesses between low-income and other counties. Results are summarized in Box 2.

BOX 2: SUMMARY – CHARACTERISTICS OF BUSINESSES IN LOW-INCOME AREAS

Area Distribution and Incorporation of Businesses in Low-Income and Other Areas

- There are proportionately fewer self-employed workers and employer businesses in low-income areas relative to other areas.
- The vast majority of self-employed workers in low-income areas operate a business in their area of residence.
- Businesses in low-income areas are less likely to incorporate than businesses in other areas.

Characteristics of Businesses in Low-Income and Other Areas

- The large majority of self-employed workers in low-income areas own businesses in five sectors – construction, professional services, other services, trade (includes wholesale and retail), and healthcare.
- In low-income areas, businesses in construction, professional services, administrative support, and agriculture are much less likely than average to be employer businesses (i.e., have at least one paid employee).
- In low-income areas, businesses in trade and healthcare are much more likely than average to be employer businesses.
- Employer businesses in low-income areas have fewer employees and lower average payrolls than businesses in other areas.
- Within low-income areas, employer businesses in education, manufacturing, mining, and healthcare tend to be larger and have higher-than-average payroll.

4.1 Area Distribution and Incorporation of Businesses in Low-Income and Other Areas

Table 5 provides information on the distribution of businesses in low-income and other areas using the ACS and the CBP data. As shown, of the 82,183 self-employed workers in the ACS data, 14.8 percent owned a business in low-income areas and 85.2 percent owned a business in other areas. The same table shows that the vast majority of self-employed workers residing in low-income areas (89.9 percent) owned a business in a low-income area; similarly, close to the entirety of the self-employed residing in other areas owned a business in other areas.

The CBP figures present a different story regarding the distribution of employer businesses. Of the 7,470,536 employer businesses in the United States in 2013, only 503,995 (6.7 percent) were in low-income counties, much lower than the proportion of self-employed workers in low-income PUMAs (14.8 percent). This disparity is attributable to two factors: (1) discrepancies in the low-income area definitions between the ACS and CBP data; and (2) the CBP data do not include non-employer businesses, which are likely overrepresented in low-income areas. Nevertheless, the estimated proportion of businesses in low-income areas using either ACS or CBP is lower than the proportion of the labor force in low-income PUMAs (18.0 percent).¹⁴ This shows that U.S. businesses are underrepresented in low-income areas, particularly employer businesses.

Table 5. Area Distribution of U.S. Businesses

	Total	Low-Income Areas	Other Areas
PUMA of Work (ACS Data)	82,183	12,138 (14.8%)	70,045 (85.2%)
Self-Employed in Low-Income PUMAs	12,776	11,483 (89.9%)	1,293 (10.1%)
Self-Employed in Other PUMAs	69,407	655 (0.9%)	68,752 (99.1%)
County (CBP Data)	7,470,536	503,995 (6.7%)	6,966,541 (93.3%)
Incorporated Businesses (ACS Data)	30,941	3,712 (12.0%)	27,229 (88.0%)

Source: Authors' tabulations of the 2013 ACS and CBP data.

Note: Reported is the total number of businesses with the sample proportion in parentheses.

¹⁴ Recall from Table 2 that 139,289 (18.0 percent) of the 773,837 labor force participants were in low-income PUMAs and 634,548 (82.0 percent) were in other PUMAs.

There are many reasons why businesses find it in their best interest to incorporate. Incorporation limits the liability that business owners have for their business debts, provides tax flexibility, and makes the business more attractive to potential consumers, employees, and partners.¹⁵ As shown at the bottom of Table 5, 30,941 of the 82,183 self-employed workers in the ACS owned a business that was incorporated. Of these 30,941, 3,712 (12.0 percent) were in low-income areas and 27,229 (88.0 percent) were in high-income areas. Dividing the number of the incorporated self-employed by the total number of self-employed workers, we find that 30.6 percent of the self-employed were incorporated in low-income areas compared with 38.9 percent of those in other areas. This implies that self-employed workers in low-income areas are less likely than the self-employed in other areas to have strong incorporation incentives.

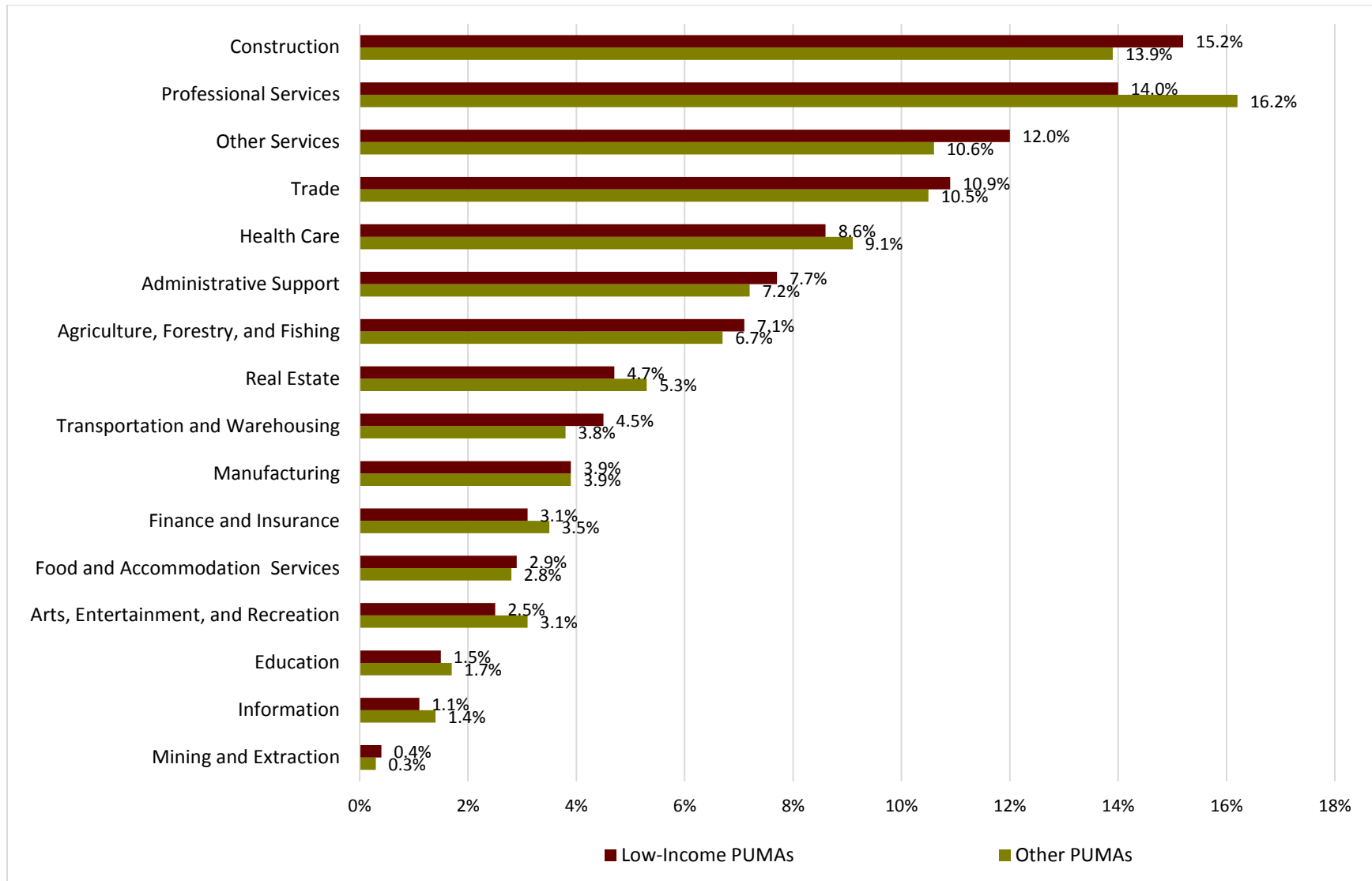
4.2 Industry Distribution of Businesses in Low-Income and Other Areas

Figure 3 presents the industry distribution of businesses in low-income and other PUMAs, based on the ACS data. Industries are in descending order, based on the proportion of businesses in low-income PUMAs. The largest sector in low-income areas was construction, followed by professional services, other services,¹⁶ and trade (includes wholesale and retail trade). Comparing the proportion of businesses in each sector between low-income and other areas, we see that there are relatively higher proportions of businesses in low-income PUMAs in construction, other services, trade, administrative support, and agriculture, forestry, and fishing. By the same token, businesses in professional services, healthcare, and real estate were underrepresented in low-income PUMAs. These figures show that certain types of businesses are more likely than others to locate in low-income PUMAs. This may be attributable to many factors, including labor costs and rents, availability of skilled workforce, and access to product markets. Identifying the importance of these factors is beyond the scope of this study.

¹⁵ See: Starting a Business, U.S. Small Business Administration website. <https://www.sba.gov/starting-business/choose-your-business-structure/corporation>.

¹⁶ Other services include all types of services that are not included in professional services, healthcare, food and accommodation, education, and public sector services. For details, see: <https://www.census.gov/eos/www/naics/>.

Figure 3. Industry Distribution of Businesses in Low-Income and Other PUMAs

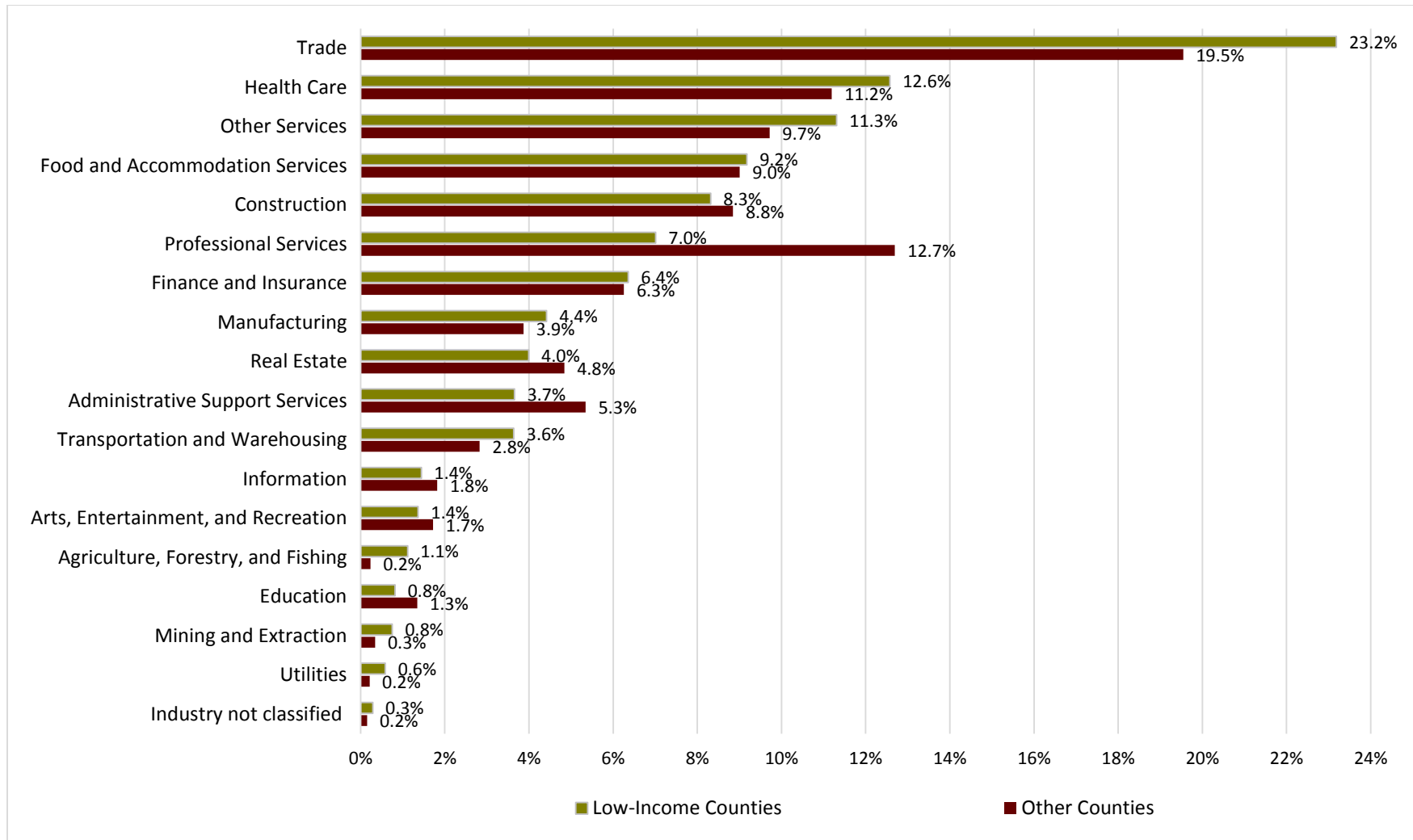


Source: Authors' tabulations of the 2013 ACS data.

Figure 4 compares the industry distribution of employer businesses between low-income and other counties, based on the CBP data. Industries are presented in descending order, based on the industry proportion of businesses in low-income counties. The most represented sector in low-income counties was trade (wholesale and retail), with many businesses in health care, other services, accommodation and food services, and construction. These five sectors account for nearly 65 percent of all businesses in low-income counties. Figure 4 shows small differences in the industry distribution between low-income and other counties. Compared to other counties, low-income counties had higher proportions of businesses in trade and other services and lower proportions of businesses in professional services.

Comparisons of the industry distributions based on the ACS (Figure 3) and the CBP (Figure 4) are subject to the same issues discussed above, namely, the discrepancies in low-income area definitions between ACS and CBP and the fact that CBP do not report information on non-employer businesses. Comparing the two figures, we identify some interesting patterns. For example, the proportion of businesses in construction, professional services, administrative support, and agriculture are much higher in the ACS relative to the CBP data. This is likely attributable to that businesses in these sectors may be more likely than average to be single-worker businesses (i.e., with no paid employees), a category that is not included in the CBP data. Conversely, the proportion of businesses in trade and healthcare are much lower in the ACS data, possibly because these sectors are less likely to include non-employer businesses.

Figure 4. Industry Distribution, Employer Businesses in Low-Income and Other Counties



Source: Authors' tabulations of the 2013 CBP data.

4.3 Size Distribution of Businesses in Low-Income and Other Counties

Using the CBP data, Table 6 presents the size distribution of employer businesses in low-income and other counties, overall and by industry. Industries are presented in descending order, based on the industry proportion of businesses in low-income counties. As shown in Table 12, the 503,995 businesses operating in low-income counties employed an average of 12.0 employees each. The industries with the largest average number of employees were manufacturing (40.7), education (22.1), and health care (20.8). Businesses in accommodation and food services, administrative support, and mining and extraction had a higher than average number of employees. On the other hand, many sectors had an average number of employees that was less than half the overall average in low-income counties, including other services, professional services, real estate, and utilities.

By comparison, the 6,966,541 employer businesses in other counties employed an average of 15.1 employees, 3.1 (26 percent) more employees than businesses in low-income counties. With few exceptions, the size gap between other and low-income counties was positive for each industry. The most notable exception was manufacturing, where the average number of employees was 36.2 in other counties and 40.7 in low-income counties.

Otherwise, we observe similar patterns between low-income and other counties. Similar to low-income counties, after manufacturing, the sectors in other counties that had the largest average number of employees were education (32.4 employees) and health care (21.7 employees). Other services, construction, professional services, and finance and insurance had a much lower than average number of employees.

Table 6. Average Number of Employees per Establishment in Low-Income and Other Counties, by Industry

	Low-Income Counties	Other Counties
All Industries	12.0	15.1
Trade	11.1	14.3
Health Care	20.8	21.7
Other Services	4.8	7.4
Food and Accommodation Services	15.7	18.5
Construction	6.2	8.3
Professional Services	5.6	11.7
Finance and Insurance	6.1	12.8
Manufacturing	40.7	36.2
Real Estate	3.4	5.5
Administrative Support Services	14.2	20.2
Transportation and Warehousing	11.3	19.7
Information	8.5	23.7
Arts, Entertainment, and Recreation	7.8	16.0
Agriculture, Forestry, and Fishing	5.2	4.7
Education	22.1	32.4
Mining and Extraction	17.4	17.9
Utilities	3.8	11.9
Industry not classified	0.1	0.3
Total Number of Employer Businesses	503,995	6,966,541

Source: Authors' tabulations of the 2013 CBP data.

Note: Reported is the average number of employees per establishment.

Combining information on the number of businesses with the average number of employees, we measured the proportion of workers employed in low-income and other counties by industry. As shown in Table 7, the 503,955 businesses in low-income counties employed more than 6 million employees. More than 70 percent of these workers were employed in four sectors—trade (wholesale and retail), health care, manufacturing, and food and accommodation services. Interestingly, the sectors that accounted for a relatively large proportion of businesses in low-income counties (other services, construction, professional services, and finance and insurance) accounted for small proportions of workers. This means

that these sectors have a higher-than average proportion of businesses that are non-employers or have relatively few employees.

Table 7. Total Number (and Percent) of Employees by Industry in Low-Income and Other Counties, by Industry

	Low-Income Counties	Other Counties
All Industries	6,027,831 (100%)	105,436,508 (100%)
Trade	1,296,880 (21.5%)	19,463,819 (18.5%)
Health Care	1,320,870 (21.9%)	16,931,481 (16.1%)
Other Services	273,367 (4.5%)	5,000,583 (4.7%)
Accommodation and Food Services	727,970 (12.1%)	11,599,291 (11.0%)
Construction	259,356 (4.3%)	5,088,362 (4.8%)
Professional Services	196,961 (3.3%)	10,348,797 (9.8%)
Finance and Insurance	196,760 (3.3%)	5,617,819 (5.3%)
Manufacturing	902,554 (15.0%)	9,835,363 (9.3%)
Real Estate	68,543 (1.1%)	1,839,167 (1.7%)
Administrative Support Services	264,799 (4.4%)	7,458,379 (7.1%)
Transportation and Warehousing	205,025 (3.4%)	3,842,744 (3.6%)
Information	59,975 (1.0%)	2,971,926 (2.8%)
Arts, Entertainment, and Recreation	55,036 (0.9%)	1,894,899 (1.8%)
Agriculture, Forestry, and Fishing	28,829 (0.5%)	65,485 (0.1%)
Education	70,156 (1.2%)	374,103 (0.4%)
Mining and Extraction	89,106 (1.5%)	2,934,307 (2.8%)
Utilities	11,491 (0.2%)	165,804 (0.2%)
Industry not classified	151 (0.0%)	4,180 (0.0%)
Total Number of Employer Businesses	503,995	6,966,541

Source: Authors' tabulations of the 2013 CBP data.

Note: Reported is the total number of employees with proportion of all employees in parentheses.

Businesses in other counties employed more than 105 million employees. The distribution of employment by industry has some similarities with the distribution in low-income counties. Large proportions of workers were employed in trade (wholesale and retail), health care, manufacturing, and accommodation and food services in other counties; however, these four sectors accounted for a little more than 55 percent of employment compared to 70 percent in

low-income counties. As in low-income counties, other services and construction accounted for small proportions of workers, but this did not hold true for professional services. In fact, professional services accounted for a larger proportion of workers in other counties than did manufacturing.

4.4 Average Payroll of Businesses in Low-Income and Other Counties

Table 13 reports the average payroll per employee by industry in low-income and other counties using the CBP data; industries are listed in descending order, based on the industry proportion of employer businesses in low-income counties. As shown, the average payroll per employee in low-income counties was \$33,071, which includes wages, commissions, dismissal pay, bonuses, vacation allowances, sick-leave pay, and employee contributions to qualified retirement and insurance plans.

Table 8. Average Payroll per Employee in Low-Income and Other Counties, by Industry

	Low-Income Counties	Other Counties
All Industries	\$33,071	\$48,382
Trade	\$26,830	\$37,627
Health Care	\$36,422	\$45,503
Other Services	\$21,371	\$29,503
Accommodation and Food Services	\$13,998	\$17,667
Construction	\$43,339	\$54,471
Professional Services	\$45,552	\$79,156
Finance and Insurance	\$48,034	\$91,495
Manufacturing	\$43,457	\$55,412
Real Estate	\$34,064	\$48,007
Administrative Support Services	\$26,590	\$34,007
Transportation and Warehousing	\$41,771	\$45,832
Information	\$45,385	\$85,927
Arts, Entertainment, and Recreation	\$25,875	\$33,051
Agriculture, Forestry, and Fishing	\$40,124	\$44,644
Education	\$71,683	\$94,224
Mining and Extraction	\$37,538	\$36,418
Utilities	\$81,294	\$102,958
Industry not classified	\$43,911	\$68,971
Total Number of Employer Businesses	503,995	6,966,541

Source: Authors' tabulations of the 2013 CBP data.

Note: Reported is the average payroll per worker.

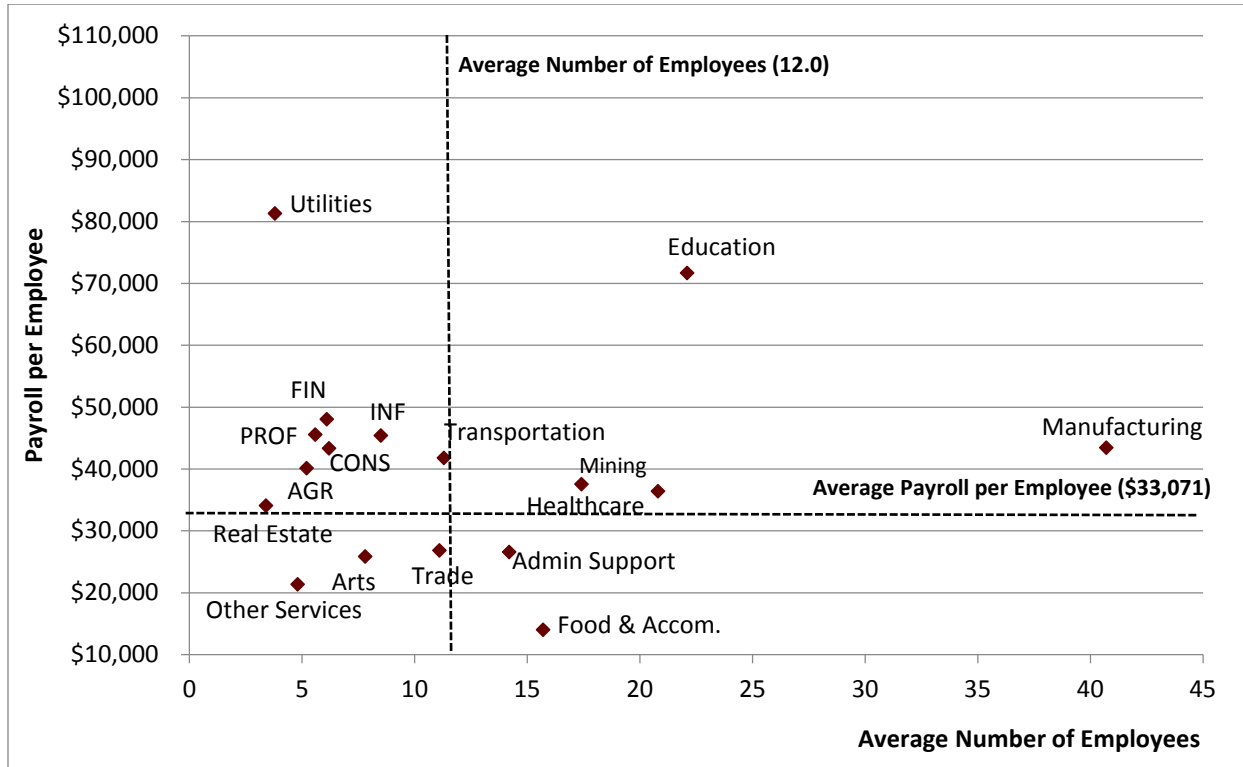
By comparison, the average payroll per employee in other counties was \$48,382, 46 percent higher than in low-income counties. Focusing on the largest sectors in low-income counties, we find that the average payroll was relatively low in trade (wholesale and retail), other services, and food and accommodation services. In contrast, the average payroll was relatively high in health care, construction, professional services, and finance and insurance. Similar patterns are observed in other counties.

Figure 5 illustrates the relationship between business size and average payroll for industries in

low-income counties. As shown, education, manufacturing, healthcare, and mining were the only four sectors that exceeded both the overall average number of employees and the overall average payroll. Interesting differences are observed when we compare the top five sectors in terms of number of establishments (trade, health care, other services, accommodation and food services, and construction). Trade had a much lower than average payroll and a slightly lower than average number of employees. Construction and other services had much lower than average numbers of employees, but while construction had a much higher than average payroll, other services had the second lowest average payroll across all sectors.

Healthcare and accommodation and food services both had a higher than average number of employees, possibly because these two industries include many large employers. In terms of average payroll, the two sectors differ significantly; healthcare had a slightly above average payroll, but food and accommodation had the lowest average payroll across all sectors.

Figure 5. Average Number of Employees and Average Payroll per Employee, Low-Income Counties



Source: Authors' tabulations of the 2013 CBP data.

Note: Reported is the average payroll per employee (vertical axis) and the average number of employees (horizontal axis), by industry. The horizontal dotted line marks the average payroll in low-income counties (\$33,071); the vertical dotted line marks the average number of employees in other counties (12.0). FIN= finance and insurance; PROF= professional services; INF= information; CONS= construction; AGR= agriculture, forestry, and fishing.

5. INCOME OF SELF-EMPLOYED WORKERS IN LOW-INCOME AREAS

In this section, we examine the income sources of self-employed workers in low-income areas using the 2013 ACS data, and compare them to the income sources of other workers in both low-income and other areas. We begin the discussion by presenting descriptive analyses of income for self-employed workers, by incorporation status, in the 471 low-income areas, followed by comparisons with the income of workers in the 1,880 other areas. Next, we use the population of labor force participants in low-income and other areas to estimate multiple regression models that disentangle the relationship between income, personal characteristics, and employment status. The results of these analyses are summarized in Box 3.

BOX 3: SUMMARY – INCOME OF SELF-EMPLOYED WORKERS IN LOW-INCOME AREAS

Labor, Non-Labor, and Total Income in Low-Income Areas

- The incorporated self-employed have much higher labor, non-labor, and total income than the unincorporated self-employed and salary workers.
- The total average income of the unincorporated self-employed is slightly lower than the income of salary workers and much higher than the income of unemployed workers.
- The main source of income for the incorporated self-employed is salary income and for the unincorporated self-employed is business income.

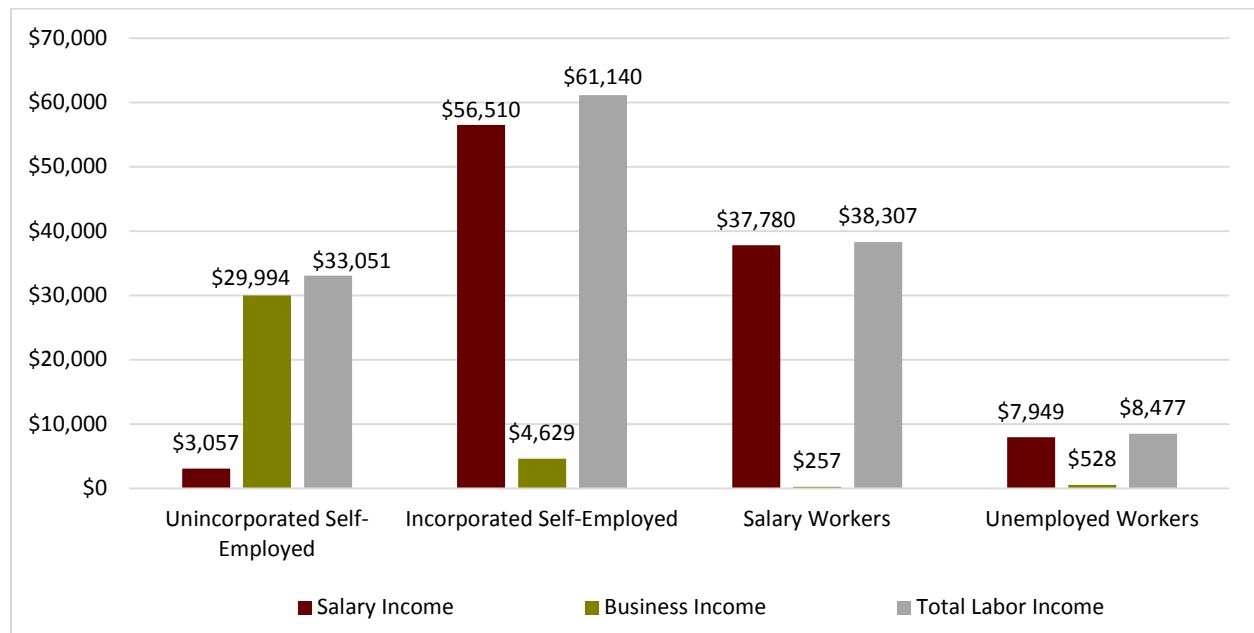
Regression Analyses of Labor and Total Income

- Regression analyses that control for differences in personal characteristics confirm that the incorporated self-employed earn much higher income than salary workers and the unincorporated self-employed.
- The income of the unincorporated self-employed is slightly lower than the income of salary workers and much higher than the income of the unemployed, controlling for personal characteristics.

5.1 Income of Self-Employed and Other Workers in Low-Income Areas

Figure 6 presents information on the average self-employment, salary, and total labor income of self-employed and other workers in low-income PUMAs. As shown, there were important differences across worker groups in both the types and the size of labor income earned. As expected, the main source of labor income for the unincorporated self-employed was business income, and for the incorporated self-employed, the main source was salary income.

Figure 6. Labor Income, Self-Employed and Other Workers in Low-Income PUMAs



Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample means.

Comparisons between self-employed and salary workers show that salary workers had a higher average labor income than the unincorporated self-employed, but much lower income than the incorporated self-employed. Moreover, self-employed workers who incorporate have higher average total income than those who are employed in a salary job.

Figure 7 summarizes the non-labor income sources of self-employed and other workers in low-income PUMAs. There are three interesting patterns. First, both unincorporated and incorporated self-employed workers receive higher average amounts of Social Security and other social assistance benefits than salary and unemployed workers. Since the vast majority of

these benefits comes from Social Security,¹⁷ these differences mean that higher proportions of the self-employed are eligible for retirement or disability benefits.

Figure 7. Non-Labor Income, Self-Employed and Other Workers in Low-Income PUMAs



Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample means.

Second, relative to other workers in low-income areas, the incorporated self-employed earn a much higher average amount of "other income," which includes investment returns, stock dividends, rents, and 401(k) benefits. At the same time, the unincorporated self-employed, compared to salary workers, have higher levels of total non-labor income.

Figure 8 presents a breakdown of total income for each worker group in low-income areas. The incorporated self-employed earned a much higher average total income than any of the three other groups. This is a result of the fact that the incorporated self-employed had higher total labor income *and* higher total non-labor income than any other worker group. Figure 8 also

¹⁷ Separate analyses show that the social security and public assistance income for the self-employed comes primarily from Social Security benefits – namely, social security benefits account for \$2,044 of the \$2,160 for the unincorporated self-employed and \$1,936 of the \$1,979 for the incorporated self-employed.

shows that the total average income earned by salary workers slightly exceeded that of the unincorporated self-employed. As expected, unemployed workers had much lower earnings than the other three groups.

Figure 8. Total Income, Self-Employed and Other Workers in Low-Income PUMAs



Source: Authors' tabulations of the 2013 ACS data.

Note: Reported are sample means.

5.2 Multivariate Regression Analyses

As discussed earlier, the observed income differences between self-employed workers and other workers in low-income PUMAs may be attributable to differences in characteristics across groups that are correlated with income (e.g., age and education) or because the labor market returns of self-employment differ from those of salary employment and unemployment.¹⁸ To disentangle these relationships, we used the population of labor force participants in low-income areas to estimate the relationship of total labor income and total income with labor force status and personal characteristics. Table 9 presents the regression results for low-income PUMAs; for comparison, the table also reports the results for other PUMAs.

¹⁸ These differences are also likely to be attributable to unobserved characteristics that relate to the decision to become self-employed, individual abilities, and preferences.

The results for low-income PUMAs show that, controlling for personal characteristics, incorporated self-employed workers had \$21,939 and \$24,940 higher labor income and total income, respectively, than unincorporated self-employed workers (the omitted category). At the same time, holding all else equal, salary workers earned \$6,089 and \$4,881 higher labor income and total income, respectively, than the unincorporated self-employed. As expected, the unemployed had substantially lower income than the unincorporated self-employed. All results were statistically significant at the 1 percent level.

Similar results were obtained for other PUMAs, but the estimated income differences were larger, implying that incorporated self-employment and salary employment have comparably larger returns in other areas relative to low-income areas. These results confirm the important differences in income between worker groups and that, in fact, self-employed workers in low-income areas can achieve high earnings.

Table 9. Regression Results, Labor Income and Total Income, Labor Force Participants

	Low-Income PUMAs		Other PUMAs	
	Labor Income	Total Income	Labor Income	Total Income
Incorporated Self-Employed	21,939 (663)***	24,940 (700)***	32,579 (463)***	36,563 (495)***
Salary Workers	6,089 (379)***	4,881 (400)***	10,497 (303)***	8,200 (324)***
Unemployed Workers	-17,613 (498)***	-15,543 (525)***	-25,322 (443)***	-23,522 (475)***
Male	13,226 (197)***	13,424 (208)***	24,743 (158)***	25,469 (169)***
Race				
White	--	--	--	--
Black	-4,218 (252)***	-4,830 (266)***	-7,360 (280)***	-8,534 (300)***
Asian	2,105 (675)***	1,456 (713)**	4,783 (351)***	3,958 (375)***
Other	-1,881 (366)***	-1,892 (387)***	-3,562 (360)***	-3,637 (385)***
Hispanic	-578 (327)*	-1,002 (244)***	-2,232 (293)***	-2,716 (313)***
Age				
15-24 Years	--	--	--	--
25-34 Years	9,243 (456)***	9,504 (482)***	10,822 (428)***	10,681 (458)***
35-44 Years	16,336 (454)***	16,897 (480)***	26,199 (429)***	26,704 (459)***
45-54 Years	19,768 (444)***	20,602 (468)***	32,942 (419)***	34,367 (448)***
55-64 Years	18,462 (453)***	20,568 (478)***	30,234 (423)***	33,277 (453)***
65+ Years	9,310 (529)***	22,805 (559)***	17,779 (477)***	35,331 (510)***
Education				
No High School Diploma	--	--	--	--
High School Diploma	4,293 (343)***	4,396 (362)***	5,148 (385)***	5,331 (411)***
Some College	9,338 (364)***	9,880 (384)***	13,327 (393)***	14,279 (420)***
College Degree	27,472 (373)***	29,041 (393)***	46,700 (385)***	49,470 (412)***
Married	4,054 (201)***	3,764 (212)***	5,877 (166)***	5,616 (178)***
Number of Children	605 (91)***	819 (96)***	2,346 (77)***	2,593 (82)***
Veteran	-498 (363)	728 (384)*	-5,318 (287)***	-4,382 (306)***
U.S. Citizen	2,834 (430)***	3,189 (454)***	752 (336)**	1,196 (360)***
Speaks English	7,412 (447)***	7,653 (472)***	16,602 (371)***	16,644 (396)***
Constant	-11,510 (758)***	-11,146 (800)***	-33,149 (695)***	-32,923 (744)***
Observations	139,289	139,289	634,548	634,548
R-Squared	.1885	.1816	.1948	.1885

Note: Reported are estimated parameters with standard errors in parenthesis. ***, **, * = statistically significant at the 1%, 5%, 10% level.

6. CONCLUSIONS

This study breaks new ground by examining the characteristics and income of self-employed workers as well as the characteristics of businesses in low-income areas in the United States.

The main findings of this study are as follows:

- Relatively high proportions of self-employed workers in low-income areas are minorities (Black and Hispanic) and have no more than a high school education relative to self-employed workers in other areas.
- The majority of self-employed workers in low-income areas own businesses that: (1) operate in their area of residence; (2) are not incorporated; and (3) are primarily in five sectors (construction, professional services, other services, trade, and healthcare).
- Businesses in low-income areas have fewer employees, have lower average payrolls, and are more likely to have no paid employees relative to business in other areas.
- Low-income area businesses in education, manufacturing, mining, and healthcare appear to be larger and have higher than average payroll.
- Self-employed workers in low-income areas who own unincorporated businesses earn nearly as much as salary workers, and both have much higher earnings than unemployed workers.
- Self-employed workers who own incorporated businesses have much higher earnings than all other worker groups in low-income areas.

These analyses provide insights into entrepreneurship in low-income areas. While workers in low-income areas are inherently different than those in the rest of the country and face worse labor market conditions, they do have opportunities to start their own business and achieve high earnings.

These findings suggest a number of policy implications. Federal and State governments should consider supporting programs for which there is evidence that they help aspiring business

owners to achieve their goals. These programs may include a combination of entrepreneurship training and start-up financing support, which have been proven effective in helping unemployed workers to start their own business and avoid unemployment. While the evidence in this report provides an important contribution in expanding the frontier of knowledge of research on entrepreneurship in low-income areas, it is primarily correlational and suggestive. More research based on data amenable to an identification strategy that supports causal inference (e.g. impact evaluation studies) is required to rigorously examine the potential effectiveness of such programs in helping individuals to start their own business, secure a better future for themselves and their families, and spur economic growth in their neighborhoods. Future research questions to be addressed include:

- (1) What obstacles do individuals in low income areas face in starting their own businesses, for instance limited experience, lack of education, no business background, scarce seed capital, or constraints in financing options? What types of services can help them to overcome these obstacles?
- (2) What are the potential macroeconomic effects of self-employment in low-income areas, for instance agglomeration economies, job creation, and economic growth? Which sectors have the most expansion potential and scope to catalyze virtuous circles through spillovers?
- (3) What are the potential benefits of self-employment programs for aspiring business owners in low-income areas? What types of individuals are likely to benefit the most?
- (4) What are the business financing options available in low-income areas? How can policymakers help aspiring business owners access necessary start-up capital and other forms of credit to set up and grow their businesses?

Addressing these questions would help policymakers identify the requirements of aspiring business owners in low-income areas and develop entrepreneurship programs to address those needs and create opportunities for self-sufficiency and economic growth.

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