

Racial inequality in business ownership and income

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Abstract: The large and persistent racial and ethnic disparities found in business ownership and performance contribute to broader economic inequality. Using the latest US Census household microdata and statistical decomposition techniques, I explore several potential barriers to minority business ownership and income. I examine patterns for the four major racial and ethnic groups in the United States: African-Americans, Latinos, Asians, and non-Latino whites. I find that low levels of wealth contribute to why blacks and Latinos have lower business ownership rates, and high levels of wealth increase Asian business ownership rates. Low levels of education contribute to why blacks and Latinos have lower business income, and high levels of education increase Asian business income. Blacks, Latinos, and Asians are relatively young compared to whites, reducing business ownership rates.

Keywords: entrepreneurship, race, ethnicity, self-employment, business ownership, inequality, diversity

JEL classification: J15, L26

I. Introduction

Income inequality is one of the most pressing societal issues. A major component of income inequality that has been documented and studied extensively is earnings inequality by race and ethnicity (Altonji and Blank, 1999). Recent estimates from the US Bureau of Labor Statistics (BLS), for example, indicate that African-American workers earn 77 per cent of white workers, and Latino workers earn 72 per cent of white workers.

Racial differences in business ownership and income also contribute to income inequality and in many cases are larger than income differences (Fairlie and Robb, 2008). Although these disparities have received much less attention in the literature, they are alarming because of their magnitude and the importance of business ownership as a way to make a living. Roughly one out of 10 workers, or 12m people, in the United States are self-employed business owners. These 12m business owners hold roughly 40 per cent of total US wealth (Bucks *et al.*, 2006).

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Policy-makers have been concerned for many years about improving success among minority business owners. In the United States, for example, although they are sometimes controversial, a variety of federal, state, and local government programmes offer contracting goals, price discounts, and loans to businesses owned by minorities, women, and other disadvantaged groups (Joint Center for Political and Economic Studies, 1994; Boston, 1999; Chatterji *et al.*, 2014). One of the goals of these programmes is to foster minority business development, which may have implications for reducing earnings and wealth inequality (Bradford, 2003). Disadvantaged business owners have more upward income mobility and experience faster earnings growth than disadvantaged wage and salary workers (Holtz-Eakin *et al.*, 2000; Fairlie, 2004). It has also been argued that some disadvantaged groups historically facing discrimination or blocked opportunities in the wage/salary sector, such as Chinese, Greek, Italian, Japanese, and Jewish people, have used business ownership as a source of economic advancement.¹

Another concern is the loss in economic efficiency resulting from blocked opportunities for minorities to start and grow businesses.² Business formation is associated with the creation of new industries, innovation, job creation, improvement in sector productivity, and economic growth (Reynolds, 2005). If minority entrepreneurs face liquidity constraints, discrimination, or other barriers to creating new business or expanding current businesses, there will be efficiency losses in the economy. Although it would be difficult to determine the value of these losses, barriers to entry and expansion that minority-owned businesses face are potentially costly to productivity, especially as minorities represent a growing share of the population in many industrialized countries. Barriers to business growth may be especially damaging for job creation in low-income neighbourhoods (Boston, 1999, 2006).

In this paper, I use the latest available microdata from the US Census Bureau to document business ownership and income patterns across the four major racial and ethnic groups in the United States: African-Americans, Latinos, Asians, and non-Latino whites. I next explore the causes of disparities in business ownership and income. Using statistical decomposition techniques, I examine potential barriers created by human capital, wealth, demographic, geographic, and industry constraints for each group.

The paper provides three main contributions to the previous literature on the potential barriers limiting business ownership and performance among minorities. Previous studies have identified wealth disparities, access to financial capital, discrimination in lending, other types of discrimination, human capital, family business background, social capital, and other factors as limiting minority business creation and success.³ First, instead of focusing on one or two hypothesized constraints, I use one overarching model to estimate the separate and independent contributions of several potential barriers. This is important because many potential factors (e.g. education, wealth, age, geography) are correlated with each other, and thus a separate analysis could be misleading. Second, much of the previous evidence focuses on constraints particular to

¹ See Glazer and Moynihan (1970), Loewen (1971), Light (1972, 1979), Baron *et al.* (1975), Bonacich and Modell (1980), and Sowell (1981).

² Hsieh *et al.* (2016) find that falling occupational barriers for minority workers may explain one-fourth of aggregate growth in *per capita* GDP from 1960 to 2010.

³ For broader discussions and reviews of this literature, see Fairlie and Robb (2008), Bates (2011), Dávila and Mora (2013), for example.

African-American entrepreneurs, with fewer studies focusing on constraints faced by Latino entrepreneurs, and even fewer studies focusing on Asian entrepreneurs. In this paper, I use the same model to simultaneously examine constraints faced by African-Americans and Latinos and whether they mirror possible advantages experienced by Asians in business ownership and outcomes. The analysis of all four major racial and ethnic groups sheds new light on barriers to successful business ownership.

Third, I use the most recent data and an extremely large dataset to examine whether wealth, education, and other constraints identified in the previous literature continue to bind. The 2011–15 American Community Survey (ACS) includes a nationally representative sample of nearly 10m observations providing extremely precise estimates for all analyses.

The remainder of the paper is organized as follows. The next section describes the ACS data used in the analysis. Section III documents business ownership and income patterns among blacks, Latinos, Asians, and whites. Section IV provides estimates of the contributions of Latino entrepreneurs to the US economy. Section V concludes.

II. Data

The dataset used in this study is the latest 5-year sample of the American Community Survey (ACS), 2011–15. The ACS is a household survey and provides information on business ownership, income, and industries at the owner level. The ACS also provides information on immigration status. The ACS is one of the only nationally representative Census Bureau datasets that provides a large sample size of black, Latino, and Asian business owners.

The ACS includes over 9m observations for working-age adults (ages 20–64). Even after conditioning on business ownership, the sample size is very large, allowing one to explore the causes of differences in net business income. The ACS includes more than half a million observations for business owners.

In the ACS microdata, business ownership is measured by using the class-of-worker question that refers to the respondent's main job or business activity (i.e. activity with the most hours) at the time of the interview. Business owners are individuals who report that they are (i) 'self-employed in own not incorporated business, professional practice, or farm', or (ii) 'self-employed in own incorporated business, professional practice, or farm'. This definition includes owners of all types of businesses—incorporated, unincorporated, employer, and non-employer firms. The samples used in this analysis include all business owners aged 20–64 (i.e. working-age adults) who work 15 or more hours per week in their businesses. To rule out very small-scale businesses, disguised unemployment, or casual sellers of goods and services, only business owners with 15 or more hours worked are included.⁴ Fifteen hours per week is chosen as the cut-off because it represents a reasonable amount of work effort in the business (roughly 2 days per week). Note that self-employed business ownership is defined as the individual's main job activity, thus removing the potential for counting side businesses owned by

⁴ Some unemployed individuals may report being self-employed if they sell a small quantity of goods or services while not working at their regular jobs.

wage-and-salary workers. Also, estimates are reported with and without the 15-hour restriction to show the robustness of disparities in business ownership rates. Finally, the self-employment information is self-reported and not based on tax or business registration filings, and thus may capture a wide range of self-employment activities depending on the respondent.⁵

Business income is calculated from survey questions about income sources. The main question used is: 'Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses.' Most business owners report this type of income, but incorporated business owners report their earnings from the business as wage and salary earnings. For simplification and consistency in treatment the responses to self-employment income and wage and salary earnings are combined for all business owners. The questions refer to annual income and capture the past 12 months.

The ACS provides the most comprehensive data available on business owners by the race and ethnicity of owners.⁶ The four major racial and ethnic groups are defined for comparison: blacks, Latinos, Asians, and non-Latino whites. Multiple race individuals are included in each racial and ethnic category.

III. Business ownership and income patterns

Estimates of the number of business owners, business ownership rates, and business income are first presented. All estimates are from the ACS (2011–15), which as noted above is the latest available household data from the US Census Bureau on business ownership and income. [Table 1](#) reports estimates for blacks, Latinos, Asians, and non-Latino whites. There are roughly 800,000 black and Asian business owners in the United States, and 1.8m Latino business owners. In comparison, there are nearly 9m non-Latino white business owners. The total number of business owners is 12.2m.

Blacks are the most underrepresented group in business ownership. Out of the population only 3.0 per cent of blacks own a business. Latinos have the next lowest level of business ownership relative to population at 5.8 per cent. The Asian business ownership to population rate is 6.6 per cent and the non-Latino white rate is 7.3 per cent.

Focusing on business owners with a work commitment of 15 or more hours worked per week, the total number of business owners is lower, but not substantially lower. There are roughly 700,000 black business owners, 1.7m Latino business owners, 750,000 Asian business owners, and 8.3 million white business owners after using this restriction. The total number of business owners in the United States that work 15+ hours per week is 11.4m. Imposing the hours-worked restriction is useful for removing individuals who might be partly unemployed and just have part-time self-employment work as a method of generating some income.

⁵ There also could be underreporting of self-employment activities in the ACS.

⁶ It is assumed that undocumented immigrants are captured in the ACS. The ACS immigrant population is compared to Department of Homeland Security data to estimate the size of the undocumented population in the United States (see [Hofer et al., 2012](#), for example).

Table 1: Business ownership rates by race and ethnicity, ACS 2011–15

| Group | Black | Latino | Asian | Non-Latino whites |
|-------------------------------------|------------|------------|------------|-------------------|
| Population (ages 20–64) | 25,570,220 | 31,247,449 | 12,004,998 | 121,520,318 |
| Business owners | 773,448 | 1,817,236 | 794,606 | 8,820,771 |
| Percentage of population | 3.0 | 5.8 | 6.6 | 7.3 |
| Workforce (15+ hours/week worked) | 15,686,385 | 21,320,868 | 8,323,278 | 86,387,463 |
| Business owners (15+ hours) | 709,536 | 1,692,007 | 751,493 | 8,277,854 |
| Percentage of workforce (15+ hours) | 4.5 | 7.9 | 9.0 | 9.6 |

Another commonly used measure of the rate of business ownership conditions on being in the workforce. The percentage of the workforce that owns a business is 4.5 per cent among blacks and 7.9 per cent among Latinos. The business ownership to workforce rates are higher for Asians (9.0 per cent) and non-Latino whites (9.6 per cent). For all groups conditioning on being in the workforce increases business ownership rates, but the rankings across groups does not change. In particular, the relatively low rates of business ownership among blacks and Latinos are not due to higher levels of unemployment or not being in the labour force, but instead are driven by lower propensities to own businesses.

(i) Business income

Among business owners there are large disparities in business income across racial and ethnic groups. [Table 2](#) reports estimates of business income across groups. Blacks and Latinos have substantially lower levels of business income than Asian and non-Latino whites. Mean business income is \$34,475 for Latinos and \$39,170 for blacks. The mean level of business income for Latinos is roughly \$30,000 lower than mean business income among non-Latino whites. Black business owners have an average business income that is roughly \$25,000 lower than the white level. The disparity in business income is much larger than the disparity in business ownership rates for blacks and Latinos.

When comparing parts of the distribution, blacks and Latinos are disadvantaged in business income. [Table 2](#) also reports the median, 25th percentile, and 75th percentile levels of business income. For all three points along the distribution, black and Latinos have lower business income levels than do whites.

Table 2: Business income by race and ethnicity, ACS 2011–15

| Group | Black | Latino | Asian | Non-Latino whites |
|----------------------------------|----------|-----------|----------|-------------------|
| Business owners | 773,448 | 1,817,236 | 794,606 | 8,820,771 |
| Mean business income | \$39,170 | \$34,475 | \$60,950 | \$63,329 |
| 75th percentile | \$45,070 | \$37,558 | \$63,563 | \$70,088 |
| Median | \$23,608 | \$20,192 | \$31,297 | \$35,335 |
| 25th percentile | \$10,429 | \$10,429 | \$16,096 | \$15,643 |
| Business owners (15+ hours) | 709,536 | 1,692,007 | 751,493 | 8,277,854 |
| Mean business income (15+ hours) | \$41,694 | \$36,246 | \$63,492 | \$66,618 |
| 75th percentile | \$48,289 | \$40,051 | \$66,083 | \$73,815 |
| Median | \$25,442 | \$20,857 | \$33,893 | \$37,558 |
| 25th percentile | \$12,303 | \$12,015 | \$18,023 | \$18,672 |

Low mean business income among blacks and Latinos is also not driven by business owners working few hours. Table 2 also reports mean business income conditioning on working 15+ hours per week. Using this restriction, mean business income among Latinos is \$36,246 and \$41,694 for blacks. Mean business income among non-Latino whites is \$66,618. Using both measures, Asian mean business income is only slightly lower than white levels.

IV. Potential explanations for differences in business ownership rates and income

To investigate what causes differences in business ownership rates I first examine differences in population characteristics. Differences in population characteristics such as education and wealth levels may explain why blacks and Latinos have much lower business ownership rates than whites. Furthermore, differences in these same characteristics among business owners might explain why blacks and Latinos have lower business income. Some of these characteristics may be more important in contributing to the disadvantages for blacks than for Latinos or vice versa.

(i) Differences in education, wealth, and other characteristics

Table 3 presents differences in education, wealth, and other characteristics for the working-age population by ethnic/racial group. There are major differences in characteristics across racial and ethnic groups.

Latinos are younger on average than non-Latino whites. Blacks and Asians are also younger on average, but the differences from white levels are smaller. This pattern of a younger average age poses a disadvantage because business ownership has been found

Table 3: Population characteristics by race and ethnicity, ACS 2011–15

| Group | Blacks | Latinos | Asians | Non-Latino whites |
|------------------|-----------|-----------|-----------|-------------------|
| Age | 40.19 | 38.34 | 39.91 | 42.76 |
| HS dropout (%) | 13 | 31 | 10 | 6 |
| HS graduate (%) | 31 | 28 | 15 | 26 |
| Some college (%) | 37 | 27 | 25 | 34 |
| College (%) | 12 | 10 | 30 | 22 |
| Grad school (%) | 6 | 4 | 20 | 11 |
| Home owner (%) | 43 | 48 | 60 | 70 |
| House value | \$190,266 | \$227,229 | \$439,066 | \$273,811 |
| Interest income | \$237 | \$293 | \$1,050 | \$1,479 |
| North-east (%) | 17 | 15 | 20 | 19 |
| Mid-west (%) | 17 | 9 | 12 | 26 |
| South (%) | 56 | 37 | 23 | 35 |
| West (%) | 10 | 40 | 45 | 20 |
| Married (%) | 36 | 53 | 62 | 58 |
| Children | 0.77 | 1.15 | 0.79 | 0.67 |
| Sample size | 1,058,611 | 1,241,172 | 545,478 | 6,248,870 |

to be positively associated with age. The only age difference that appears to be large, however, is the one between Latinos and whites.

Latinos are less educated: only 10 per cent have a college degree (without a further degree) and 4 per cent have a graduate degree, whereas 21 per cent of whites have a college degree and 10 per cent have a graduate degree. The percentage of high school drop-outs among Latinos is 31 per cent, which is considerably higher than for whites. Blacks also have lower levels of education, with 13 per cent high school drop-outs and only 12 per cent with a college degree and 6 per cent with a graduate degree. Among non-Latino whites only 6 per cent are high school drop-outs and 22 per cent have college degrees and 11 per cent have graduate degrees. Asians, however, have the highest levels of higher education degrees, with 30 per cent having a college degree and 20 per cent having a graduate degree.

Another major difference across racial and ethnic groups is wealth. The ACS includes information on home ownership, house values, and interest/dividend income. Home values represent the largest component of wealth for most individuals. Interest and dividend income represents another good measure of wealth.⁷ Blacks and Latinos are much less likely than whites to own houses, and the houses they own have lower values on average. The disparities are substantial, with only 43 per cent of blacks owning a house with those houses being worth \$190,266 on average. In contrast, 70 per cent of whites own a house and those houses are worth \$273,811 on average. Latinos also have low rates of home ownership (48 per cent) and home values (at \$227,229). Both black and Latinos have much less interest and dividend income than whites. Asians have lower rates of home ownership (70 per cent) and interest income (\$1,050), but much higher average home values (at \$439,066).

Another major difference across racial and ethnic groups is their geographical concentrations across the country. The majority of blacks live in the South, whereas the South captures no more than 37 per cent of the population for any other group. Nearly half of all Asians live in the West, and 40 per cent of Latinos live in the West. The Midwest captures 26 per cent of the white population, which is the highest of all groups.

Focusing on family characteristics, marriage rates are substantially lower among blacks than whites. Latinos also have lower marriage rates than whites, but Asians have higher rates. The average number of children is higher among Latinos than other groups. Both marriage and children have been found to be associated with business ownership.

Overall, there exist major differences in education, wealth, geography, and other characteristics across racial and ethnic groups. Both blacks and Latinos generally have disadvantaged socioeconomic characteristics. Previous research, which is discussed below, indicates that many of these characteristics are important in determining business ownership and outcomes.⁸

⁷ The survey question asks about income from: 'Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account.'

⁸ See [Hundley \(2000\)](#), [Zissimopoulos and Karoly \(2003\)](#), [van der Sluis *et al.* \(2005\)](#), [Moutray \(2007\)](#), and [Fairlie and Krashinsky \(2012\)](#) for a few examples, and [Parker \(2007\)](#) for an overall review of the literature.

(ii) Industry distributions of business owners

Industry distributions of business owners differ across racial and ethnic groups. [Table 4](#) reports industry distributions for business owners. Latino business owners are concentrated in construction (23.4 per cent), professional services (20.8 per cent), and other services (19.5 per cent). The distribution across industries is not substantially different from the distribution across industries for non-Latino white men. The main exception is that only 10.8 per cent of white business owners are in other services. Black business owners are less concentrated in construction (11.9 per cent) and more concentrated in transportation (10.5 per cent), health care and social assistance (14.7 per cent), and other services (18.0 per cent). Asian business owners have the most dissimilar industry distribution, with much higher concentrations in retail (14.3 per cent) and accommodation, recreation, and entertainment (13.7 per cent), and a much lower concentration in construction (5.1 per cent).

The patterns across industries might contribute to differences in mean business income. The decompositions presented in the next section shed direct light on this question.

(iii) Decomposition technique

The comparison of average characteristics across ethnic/racial groups identifies several potential barriers to business ownership and income. Although there are large differences in many of these characteristics we do not know how much they contribute directly to business ownership and income disparities. To explore this question I perform a decomposition technique that allows one to estimate the separate contributions from differences between groups in education, home ownership, and other characteristics to the racial and ethnic gaps in business ownership rates and income.

The advantage of this technique is that it allows for a precise estimate of how much a factor contributes to the disparity. For example, the technique can answer the question of what percentage of the gap in business ownership between blacks and whites is due

Table 4: Industry distribution of business owners by race and ethnicity, ACS 2011–15

| Group | Blacks | Latinos | Asians | Non-Latino whites |
|--|---------|-----------|---------|-------------------|
| Number of businesses | 709,422 | 1,691,501 | 751,358 | 8,273,387 |
| Agriculture/extraction (%) | 0.7 | 1.3 | 1.0 | 5.9 |
| Construction (%) | 11.9 | 23.4 | 5.1 | 17.7 |
| Manufacturing (%) | 1.6 | 2.2 | 3.2 | 3.9 |
| Wholesale (%) | 1.2 | 1.9 | 3.8 | 2.5 |
| Retail (%) | 5.6 | 6.8 | 14.3 | 7.7 |
| Transportation (%) | 10.5 | 5.3 | 5.8 | 3.5 |
| Information/finance (%) | 8.0 | 4.9 | 7.3 | 10.0 |
| Professional services (%) | 19.7 | 20.8 | 16.1 | 21.7 |
| Educational services (%) | 1.7 | 0.8 | 1.8 | 1.7 |
| Health care and social assistance (%) | 14.7 | 7.8 | 11.9 | 8.4 |
| Accommodation, recreation, and entertainment (%) | 6.4 | 5.4 | 13.7 | 6.2 |
| Other services (%) | 18.0 | 19.5 | 16.0 | 10.8 |

to education disparities. Similarly, the technique can estimate this percentage for each of the other factors included in the multivariate regression model.

The decomposition technique is extremely useful for identifying causes of group disparities in outcome variables such as business ownership and income. Specifically, we ‘decompose’ inter-group differences in a dependent variable into those due to different observable characteristics across groups (sometimes referred to as the endowment effect) and those due to different ‘prices’ of characteristics of groups (see [Blinder \(1973\)](#) and [Oaxaca \(1973\)](#)). The Blinder–Oaxaca decomposition of the white/minority gap in the average value of the dependent variable, Y , can be expressed as:

$$\bar{Y}^W - \bar{Y}^M = [(\bar{X}^W - \bar{X}^M)\hat{\beta}^W] + [\bar{X}^M(\hat{\beta}^W - \hat{\beta}^M)] \quad (1)$$

Similarly to most recent studies applying the decomposition technique, I focus on estimating the first component of the decomposition that captures contributions from differences in observable characteristics or ‘endowments’. I do not report estimates for the second or ‘unexplained’ component of the decomposition because it partly captures contributions from group differences in unmeasurable characteristics and is sensitive to the choice of left-out categories, making the results difficult to interpret. I also weight the first term of the decomposition expression using coefficient estimates from a pooled sample of all groups (see [Oaxaca and Ransom \(1994\)](#), for example).

It is becoming increasingly popular when studying racial differences to use the full sample of all races to estimate the coefficients, instead of one group such as whites (see [Fairlie \(2017\)](#) for more details).⁹ It is advantageous in that it incorporates the full market response and does not exclude rapidly growing groups of the population (i.e. Hispanics and Asians). It is also advantageous in situations with multiple group comparisons because it creates a common base.

The contribution from ethnic/racial differences in the characteristics can thus be written as:

$$(\bar{X}^W - \bar{X}^B)\hat{\beta}^* \quad (2)$$

where \bar{X}^j are means of firm characteristics of race j , $\hat{\beta}^*$ is a vector of pooled coefficient estimates, and $j=W$ or M for white or minority, respectively. [Equation \(2\)](#) provides an estimate of the contribution of ethnic/racial differences in the entire set of independent variables to the racial gap. Separate calculations are made to identify the contribution of group differences in specific variables to the gap.¹⁰

The Blinder–Oaxaca decomposition represented in [equation \(2\)](#) is used to identify the causes of differences in business income. For business ownership, which is equal to 0 or 1, an alternative non-linear decomposition technique is used ([Fairlie, 1999](#)).

⁹ Dummy variables for each race/ethnic group are also included in the underlying regression.

¹⁰ In the Blinder–Oaxaca technique the contribution estimates are insensitive to the choice of the left-out category. For example, the percentage explained by education would be the same if the lowest education category is the left-out category in the underlying regressions or if the highest education category is the left-out category in the underlying regressions.

(iv) Decomposition results for business ownership

Table 5 reports estimates from the procedure for decomposing gaps in business ownership between whites and blacks, Latinos, and Asians separately.¹¹ The decompositions provide estimates of how much each gap is due to differences in characteristics between whites and the minority group of comparison. Column 1 reports estimates for the factors contributing to the difference in business ownership rates between non-Latino whites and blacks. For convenience, the first two rows repeat group business ownership rates previously reported in Table 1. The black business ownership rate is 2.8 per cent and the white rate is 6.8 per cent, forming a gap of 4.0 percentage points. The decomposition reveals that one of the most important contributing factors is wealth. Relatively low levels of wealth among blacks explains 0.86 percentage points (or 21.2 per cent) of why business ownership rates are lower for this group.¹²

Another important factor is age. The younger average age of blacks in the working-age population contributes to why they have lower business ownership rates than

Table 5: Decompositions of business ownership rate gaps

| | Blacks | Latinos | Asians |
|---|------------------------------|------------------------------|---------------------|
| White business ownership rate | 0.0681 | 0.0681 | 0.0681 |
| Minority business ownership rate | 0.0277 | 0.0541 | 0.0626 |
| White/minority group gap | 0.0404 | 0.0140 | 0.0055 |
| Contributions from racial differences in: | | | |
| Age | 0.0039 (0.0000) 9.7% | 0.0069 (0.0000) 49.2% | 0.0042 (0.0000) |
| Education | -0.0004 (0.0000) -1.1% | -0.0009 (0.0001) -6.7% | 0.0003 (0.0000) |
| Wealth | 0.0086 (0.0001) 21.2% | 0.0068 (0.0001) 48.7% | -0.0067 (0.0001) |
| Region | -0.0007 (0.0000) -1.8% | -0.0010 (0.0000) -7.1% | -0.0004 (0.0001) |
| Family characteristics | 0.0028 (0.0000) 7.0% | -0.0014 (0.0000) -9.9% | -0.0017 (0.0000) |
| All included variables | 0.0141 35.0% | 0.0104 74.1% | -0.0042 |

Notes: (i) All decomposition specifications use pooled coefficient estimates from the full sample of all races (and include a full set of race dummies in the logit models). (ii) Sampling weights are used in all specifications. (iii) Standard errors are reported in parentheses below contribution estimates.

¹¹ See Appendix Table 1 for underlying logit regression estimates.

¹² There is also evidence from different data that minority businesses experience higher loan denial probabilities and pay higher interest rates than white-owned businesses, even after controlling for differences in credit-worthiness, and other factors (Cavalluzzo *et al.*, 2002; Coleman, 2002, 2003; Blanchflower *et al.*, 2003; Mitchell and Pearce, 2004, 2011; Cavalluzzo and Wolken, 2005; Blanchard *et al.*, 2008; Bates and Robb, 2015).

whites. Business ownership increases with age as individuals gain experience and general skills. Family characteristics also contribute to the gap in business ownership rates between whites and blacks. Low marriage rates and a positive association between marriage and business ownership partly contributes to why blacks have lower business ownership rates.

Interestingly, education disparities do not contribute to why blacks are less likely to own businesses. This is because higher education is not found to be a strong predictor of business ownership rates. It is important to keep in mind that these results hold for business ownership which for many individuals captures a form of 'necessity' employment. Many individuals turn to business ownership when they cannot find a job in the wage and salary sector. The results differ for business income, as shown below.

For Latinos the decomposition reveals that the most important contributing factor is wealth. Relatively low levels of wealth among Latinos explain 0.68 percentage points (or 48.7 per cent) of why business ownership rates are lower for this group. Another very important factor for Latinos is age. The younger average age of Latinos in the working-age population contributes to why they have lower business ownership rates than whites.

Both regional and family characteristic differences are favourable for Latinos relative to whites, as evidenced by the negative contribution estimates. The contribution estimate of -0.14 percentage points (or -9.9 per cent) for family characteristics indicates that Latinos have higher marriage rates and marriage is positively associated with business ownership. Thus, this characteristic is favourable for Latinos relative to whites. Also, it suggests that the gap between Latino and white business ownership rates would be 0.14 percentage points higher if Latinos had similar marriage rates as whites. Latinos also have a 'favourable' regional distribution, living in regions of the country that have higher than average business ownership rates. For example, Latinos are much more likely to live in the West which has relatively high business ownership rates.

The results are generally consistent with previous research that decomposes gaps in business ownership or transitions into and out of business ownership for blacks and Latinos. Fairlie (1999), using the Panel Study of Income Dynamics, finds that wealth and education disparities are important for black men. Fairlie and Woodruff (2010), using the Current Population Survey and earlier ACS data, find evidence that low Mexican-American business ownership and formation are partly due to education and wealth disparities. Lofstrom and Wang (2009), using Survey of Income and Program Participation data, also find that low levels of wealth for Mexican-Americans and other Latinos works to lower self-employment entry rates. Interestingly, using the same underlying regression coefficients, the contribution for African-Americans is higher for wealth than the contribution for Latinos. But, because the gap is smaller for Latinos, wealth disparities explain a higher percentage of the gap.

Column 3 reports decomposition estimates for Asians. There is essentially no business ownership gap between whites and Asians (and thus percentage contributions are not reported because of the small base). Although there is no gap to 'explain' from group differences in characteristics, nevertheless decomposition results can be informative about advantages and disadvantages faced by Asians relative to whites. The most important factor relevant for this exercise is wealth. The large negative contribution estimate on wealth indicates that Asians have an advantage in that they have higher

wealth on average than whites. The contribution estimate implies that without this wealth advantage the Asian business ownership rate would be 0.67 percentage points lower. On the other hand, the working-age Asian population is younger than the white working-age population, holding business ownership rates down by 0.42 percentage points.

(v) Decomposition results for business income

I now turn to discussing the decomposition results for business income. The business income gaps were consistently large. [Table 6](#) reports estimates from the procedure for decomposing the white-minority group gaps in business income into differences in characteristics.¹³ The included variables are the same as before with two important exceptions. First, wealth is not included in the models for business income because more successful business owners are likely to accumulate more wealth. Thus, this reverse causality would create a problem for estimating the effects of differences in wealth on differences in business income. Second, industry was not included in the models for business ownership because starting a business and its industry is a joint decision, whereas for business income the decision has already been made and there are important differences in income levels across industries. The decompositions include the same 12 industry classifications as listed in [Table 4](#).

Column 1 reports estimates for blacks. The underlying regression models estimated for the decompositions use log business income which is common in working with earnings or income data because it improves the fit of the model and limits the influence of large outliers.¹⁴ The log business income of blacks is 9.92 which is 42 log points (or roughly 42 per cent) lower than the white level of 10.33. The most important factor explaining the business income difference is education. Low levels of education among black business owners explain 7 log points (or 18 per cent) of the gap in business income. The next largest contribution is from family characteristics. Relatively low marriage rates among black business owners explain part of the gap in business income. Industry differences explain 5 per cent of the business income gap. Black business owners are concentrated in lower-income industries, although the explanatory power of industry differences is not large.

Among Latinos mean log business income is 9.89, which is 44 log points (or roughly 44 per cent) lower than the white level. The most important factor explaining the business income difference is education. Low levels of education among Latino business owners explain 20 log points (or 46 per cent) of the gap in business income. Industry concentrations make a small contribution to the gap (5 per cent). The finding for industry is important and suggests that business income is not low overall among Latino

¹³ See [Appendix Table 2](#) for underlying linear regression estimates.

¹⁴ One problem, however, with using logs is that very small and zero income observations tend to overly influence the estimates. To address this issue I right and left censor the data at + or - \$1,000. Thus, any business income value from 0 to 1,000 is given a value of $\log(1,000)$ and from -1,000 to 0 is given a value of $-\log(1,000)$. Negative values of income are reversed in sign prior to taking logs to avoid problems with taking logs of negative values (e.g. -10,000 would be $-\log(10,000)$) In no case do I remove any business income observations. The general idea is that a business owner with less than \$1,000 in business income has business income that is indistinguishable from \$0. I find that using alternative cut-offs does not change the results.

Table 6: Decompositions of log business income gaps

| | Blacks | Latinos | Asians |
|---|------------------------------|------------------------------|---------------------|
| White log business income | 10.3324 | 10.3324 | 10.3324 |
| Minority log business income | 9.9157 | 9.8892 | 10.3147 |
| White/minority group gap | 0.4167 | 0.4432 | 0.0177 |
| Contributions from racial differences in: | | | |
| Age | 0.0122 (0.0008) 2.9% | 0.0196 (0.0013) 4.4% | -0.0059 (0.0006) |
| Education | 0.0733 (0.0007) 17.6% | 0.2024 (0.0029) 45.7% | -0.0487 (0.0009) |
| Region | -0.0050 (0.0013) -1.2% | -0.0070 (0.0015) -1.6% | -0.0098 (0.0014) |
| Family characteristics | 0.0260 (0.0012) 6.2% | -0.0039 (0.0014) -0.9% | -0.0171 (0.0006) |
| Industry | 0.0195 (0.0015) 4.7% | 0.0225 (0.0012) 5.1% | 0.0567 (0.0016) |
| All included variables | 0.1260 30.2% | 0.2336 52.7% | -0.0248 |

Notes: (i) All decomposition specifications use pooled coefficient estimates from the full sample of all races (and include a full set of race dummies in the regressions). (ii) Sampling weights are used in all specifications. (iii) Standard errors are reported in parentheses below contribution estimates.

business owners because they are concentrated in a few industries. As noted above, Latinos are younger than non-Latino whites on average. The relative youth of Latinos contributes to the gap in business income, explaining 4.4 per cent of the gap. Regional differences and family characteristics differences do not contribute to the gap in business income.

Column 3 reports decomposition estimates for Asians. There is essentially no business income gap between whites and Asians (and thus per cent contributions are not reported because of the small base). Although there is no gap to 'explain' from group differences in characteristics, nevertheless decomposition results can be informative about relative advantages and disadvantages faced by Asians relative to whites. The two factors that are relevant for this exercise are education and industry. The negative contribution estimate on education indicates that Asians have an advantage in that they are more educated on average than are whites. The contribution estimate implies that without this educational advantage Asian business income would be 4.9 log points lower. On the other hand, Asian business owners are concentrated in lower-income industries, holding business income down by 5.7 log points.

Education differences are the most important factor across all major racial and ethnic groups in explaining business income patterns. Low levels of education among blacks and especially among Latinos explain a part of why these groups have lower business income. In this case, the explanatory power of education disparities is larger in both absolute and percentage terms for Latinos compared to African-Americans. Working in the opposite direction, higher levels of education among Asian business owners place upward pressure on their business income relative to whites.

The results are generally consistent with findings from the previous literature. For example, Fairlie and Woodruff (2010) find that Mexican-American business owners have lower incomes than non-Latino white business owners, and that most of the difference is due to low levels of education among Mexican-American owners. Fairlie and Robb (2008) find, using the 1992 Characteristics of Business Owners (CBO) data, that African-American-owned businesses are less successful, partly because of lower owner education levels, and Asian-owned businesses are more successful, partly because of higher owner education levels.

V. Conclusions

The analysis of the latest available household microdata from the US Census Bureau provides several new findings on racial and ethnic disparities in business ownership and income. Minority groups make up large numbers of business owners in the United States and other countries.¹⁵ There are 600,000 black business owners, 1.8m Latino business owners, and 800,000 Asian business owners in the United States. Total business income generated by these businesses is \$30 billion for black business owners, \$63 billion for Latino business owners, and \$48 billion for Asian business owners.

Using a decomposition technique that simultaneously explores various potential barriers to minority business ownership and income, I find that wealth is the most important factor contributing to racial and ethnic patterns in business ownership. Across the three measures of wealth used here, blacks have 16–69 per cent of white levels. Wealth disparities alone (controlling for everything else) explain 0.86 percentage points (or 21 per cent) of the gap in business ownership rates between blacks and whites. Latinos also have low levels of wealth, ranging from 20 to 83 per cent of white levels, which explains 0.68 percentage points (or 49 per cent) of the gap in business ownership. Asians, on the other hand, have relatively high levels of wealth increasing their business ownership rates (0.67 percentage points).

Education is the most important factor explaining racial and ethnic patterns in business income. Only 18 per cent of blacks and 14 per cent of Latinos have a college or higher degree. Asians have the highest college graduate rate at 50 per cent (whites have a college graduate rate of 33 per cent). Putting these patterns together, low levels of education hold blacks and Latinos back in business income, but high levels of education increase business income among Asians. Using the same underlying model, I find that educational disparities are the most detrimental for Latino business income.

Age is also found to be an important factor in the decompositions for business ownership and to a lesser degree business income. Older workers have more work and business experience which is valuable in business ownership and outcomes. Blacks, Latinos, and Asians have younger population distributions than whites, representing a disadvantage faced by all three minority groups relative to whites. But, age differs from traditional constraints related to inequality, such as financial capital and human capital. Further research needs to uncover why age is important to guide policy solutions.

¹⁵ Minority-owned businesses also represent a large and rapidly growing share of businesses in many other developed countries. For example, minority-owned businesses grew by 84 per cent from 2002 to 2012 in Germany (compared with non-minority growth rate of 5 per cent (Fossen, 2015)). In the United Kingdom, the ethnic minority share of businesses was 7 per cent for employers and 5 per cent for non-employers (UK Department for Business, Innovation & Skills, 2015).

These findings across the three major minority groups in the United States are important and novel because the separate group contributions are estimated within the same embedded model. Thus, the scale of contributions can be compared directly. For example, I find that educational disparities have a nearly three times larger explanatory power for Latinos than for blacks in contributing to business income differences. In contrast, most of the previous research on minority entrepreneurship focuses on one group, making it difficult to compare results across groups because it requires also making comparisons across different studies, datasets, models, and definitions. More research taking a comparative race approach instead of narrowly focusing on one group is needed to better understand what drives entrepreneurial inequality.

To reduce racial and ethnic disparities, policies to improve wealth, credit scores, and the general financial health of minority business owners may be helpful. Wealth inequality may be directly addressed through expanding asset building programmes such as financial education programmes, individual development accounts (IDAs), and first-time home ownership programmes. Access to financial capital can be increased through government programmes and community banks. Policies to promote educational attainment in general and among business owners more specifically would also be helpful. Programmes targeted at increasing educational opportunities for minorities may result in better business outcomes among minority business owners. These policies are also likely to have an indirect long-term effect on business ownership and success through reducing wealth inequality. Higher levels of education are associated with higher levels of wealth. More research on the impacts of specific educational programmes, however, is needed. But certainly any policies that increase high school and college graduation rates will not only be useful in increasing business income directly, but also indirectly through their impacts on wealth.

Appendix Table 1: Logit regressions for business ownership, ACS 2011–15

| Variable | Marginal effect | Standard error | T-statistic | P-value |
|-------------------------|-----------------|----------------|-------------|---------|
| Black | -0.0403 | 0.0003 | -117.64 | <.0001 |
| Latino | -0.0029 | 0.0003 | -11.32 | <.0001 |
| Asian | -0.0086 | 0.0003 | -25.23 | <.0001 |
| Native American | -0.0162 | 0.0007 | -23.39 | <.0001 |
| Other race | 0.0070 | 0.0015 | 4.64 | <.0001 |
| Age | 0.0015 | 0.0000 | 185.93 | <.0001 |
| HS graduate | 0.0013 | 0.0003 | 4.12 | <.0001 |
| Some college | -0.0036 | 0.0003 | -11.48 | <.0001 |
| College | -0.0033 | 0.0003 | -9.81 | <.0001 |
| Grad school | -0.0032 | 0.0004 | -8.66 | <.0001 |
| Home owner | -0.0107 | 0.0003 | -40.69 | <.0001 |
| House value | 0.0107 | 0.0001 | 132.88 | <.0001 |
| House value squared | -0.0004 | 0.0000 | -84.62 | <.0001 |
| Interest income | 0.0040 | 0.0001 | 43.69 | <.0001 |
| Interest income squared | -0.0001 | 0.0000 | -20.36 | <.0001 |
| Midwest | 0.0029 | 0.0003 | 10.51 | <.0001 |
| South | 0.0081 | 0.0002 | 33.45 | <.0001 |
| West | 0.0068 | 0.0003 | 26.52 | <.0001 |
| Married | 0.0150 | 0.0002 | 76.24 | <.0001 |
| Children | 0.0060 | 0.0002 | 37.00 | <.0001 |
| Children squared | -0.0004 | 0.0000 | -10.87 | <.0001 |

Notes: (i) The sample size is 9,086,560. (ii) The dependent variable is business ownership (0,1). (iii) Sampling weights are used in all specifications.

Appendix Table 2: Regressions for log business income, ACS 2011–15

| Variable | Coefficient | Standard error | T-statistic | P-value |
|--|-------------|----------------|-------------|---------|
| Black | -0.2782 | 0.0111 | -25.00 | <.0001 |
| Latino | -0.2015 | 0.0082 | -24.55 | <.0001 |
| Asian | -0.0345 | 0.0109 | -3.17 | 0.0015 |
| Native American | -0.2810 | 0.0223 | -12.59 | <.0001 |
| Other race | -0.0636 | 0.0479 | -1.33 | 0.184 |
| Age | 0.0802 | 0.0020 | 40.32 | <.0001 |
| Age squared | -0.0008 | 0.0000 | -37.08 | <.0001 |
| HS graduate | 0.1864 | 0.0100 | 18.58 | <.0001 |
| Some college | 0.2661 | 0.0100 | 26.53 | <.0001 |
| College | 0.5905 | 0.0108 | 54.76 | <.0001 |
| Grad school | 1.0921 | 0.0121 | 90.55 | <.0001 |
| Midwest | -0.1395 | 0.0087 | -16.13 | <.0001 |
| South | -0.0752 | 0.0076 | -9.85 | <.0001 |
| West | -0.0760 | 0.0081 | -9.36 | <.0001 |
| Married | 0.1703 | 0.0062 | 27.65 | <.0001 |
| Children | 0.0485 | 0.0051 | 9.51 | <.0001 |
| Children squared | -0.0045 | 0.0012 | -3.85 | 0.0001 |
| Construction | 0.1133 | 0.0138 | 8.20 | <.0001 |
| Manufacturing | 0.1042 | 0.0187 | 5.58 | <.0001 |
| Wholesale | 0.3468 | 0.0210 | 16.52 | <.0001 |
| Retail | -0.1793 | 0.0155 | -11.57 | <.0001 |
| Transportation | 0.2459 | 0.0176 | 13.94 | <.0001 |
| Information | 0.0005 | 0.0249 | 0.02 | 0.9833 |
| Finance | 0.2585 | 0.0158 | 16.37 | <.0001 |
| Professional services | 0.0927 | 0.0138 | 6.72 | <.0001 |
| Educational services | -0.4493 | 0.0244 | -18.40 | <.0001 |
| Health care and social assistance | 0.0299 | 0.0156 | 1.91 | 0.0556 |
| Accommodation, recreation, and entertainment | -0.1959 | 0.0161 | -12.16 | <.0001 |
| Other services | -0.2880 | 0.0144 | -20.00 | <.0001 |

Notes: (i) The sample size is 572,350. (ii) The dependent variable is log business income. (iii) Sampling weights are used in all specifications.

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