IMMIGRANT ENTREPRENEURSHIP IN AMERICA:
EVIDENCE FROM THE SURVEY OF BUSINESS OWNERS 2007 & 2012

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ABSTRACT

We study immigrant entrepreneurship and firm ownership in 2007 and 2012 using the Survey of Business Owners (SBO). The survival and growth of immigrant-owned businesses over time relative to native-founded companies is evaluated by linking the 2007 SBO to the Longitudinal Business Database (LBD). We quantify the dependency of the United States as a whole, as well as individual states, on the contributions of immigrant entrepreneurs in terms of firm formation and job creation. We describe differences in the types of businesses started by immigrants and the quality of jobs created by their firms. First-generation immigrants create about 25% of new firms in the United States, but this share exceeds 40% in some states. In addition, Asian and Hispanic second-generation immigrants start about 6% of new firms. Immigrant-owned firms, on average, create fewer jobs than native-owned firms, but much of this is explained by the industry and geographic location of the firms. Immigrant-owned firms pay comparable wages, conditional on firm traits, to native-owned firms, but are less likely to offer benefits.

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1 Introduction

Immigrant entrepreneurship is very important for America. Around 25% of U.S. firms are founded by immigrants, and this share rises to above 40% in states like California and New York. These immigrant-founded firms provide jobs and innovations to the U.S. economy, impacting the lives of natives. Many cities seek to attract immigrant entrepreneurs and this economic advantage, such as the Competition THRIVE program in New York City, the Office of New Americans in Chicago, the International Institute of St. Louis, and the Welcoming Cities initiatives in places such as Pittsburgh. Under President Obama, the White House also launched the Startup America initiative, which included securing access to entrepreneur visas as a major part of the agenda.

A substantial literature finds that immigrants in many countries are more likely to enter self-employment and other forms of entrepreneurship.[1] Yet, relatively little is known about the national and local economic impacts of immigrant entrepreneurs in terms of job creation and economic growth. Immigrant scientists and engineers have received close study,[2] for example, but this remains distinct from entrepreneurship. Several studies also show that U.S. firms with immigrant owners are more likely to export goods and services and have operations abroad (Wang and Liu 2015), but these studies do not measure the jobs that are being created as a result of the international activity.

We quantify and characterize the jobs created by immigrant-founded firms using a novel data platform—the Survey of Business Owners (SBO) for 2007 and 2012, combined with the Longitudinal Business Database (LBD) for 2007-2011. The SBO allows us to evaluate the share and the number of jobs created, as well as the quality of jobs generated. The SBO information spans company payroll per employee, usage of full-time versus temporary workers, and the provision of various employee benefits such as health insurance and paid time off. We also examine differences between native- and immigrant-founded firms in terms of their international activities and start-up and expansion financing. We compare the activity of first-generation immigrants to that of second-generation immigrants to measure whether the firms founded by U.S.-born entrepreneurs with foreign-born parents more closely resemble the

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[1] Examples include Borjas (1986), Lofstrom (2002), Fairlie and Meyer (2003), Clark and Drinkwater (2000, 2006), Schuetze and Antecol (2007), Fairlie et al. (2010), Lofstrom et al. (2014), and Kerr and Kerr (2017).

[2] For example, Hunt and Gauthier-Loiselle (2010), Kerr and Lincoln (2010), Hunt (2011), Kerr et al. (2015a,b), Peri et al. (2015), and Kerr (2018). Kerr (2013) provides a review.

companies started by native entrepreneurs.

Dependency on immigrant founders varies substantially across America. More than 40% of new firms have at least one immigrant owner in immigration "gateway" states like California, while the share is less than 5% in states like Idaho and North Dakota. Job creation rates closely resemble firm creation rates, and new immigrant-owned firms in 2007 are more likely to survive to 2011 and grow at a slightly faster pace than native-owned firms. Immigrant-owned firms tend to create jobs that are lower paying and offer fewer employee benefits than those created by native-owned firms. Regression analyses show that this difference is partly explained by industries in which the firms operate, but a gap persists even with a very stringent set of control variables. There are also differences by owner ethnicity.

In contemporaneous and independent research, Brown et al. (2018) also consider the 2007 SBO. Their important study focuses on job creation and innovation by immigrant-owned firms as they also have access to the 2014 Annual Survey of Entrepreneurs that includes questions about the innovative activities of firms. They find that immigrant entrepreneurs have distinct motivations for starting a business as compared to natives, and are more likely to engage in R&D and innovation. Immigrant-owned firms are more likely to file for patents, and their innovation advantage is especially high within the college-educated group.

The rest of this study is organized as follows. Section 2 reviews prior research on the SBO and immigrant entrepreneurship more generally. Section 3 describes the data platform and provides descriptive findings. Section 4 uses regression analyses to formally compare immigrant- and native-owned businesses, and Section 5 compares first- versus second-generation immigrants. The final section concludes with some discussion of potential aggregate impacts and future research opportunities.

2   Studies of U.S. Immigrant Entrepreneurs

The impact of immigrant entrepreneurs for the United States and the limitations of the U.S. visa system for supporting them has received substantial attention in recent years (e.g., Kerr 2018). The literature on this topic dates back a few decades. Silicon Valley is most frequently discussed, as its immigrant founder share exceeds 50%, along with the broader tech sector.[3]

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[3]For example, Saxenian (1999, 2002), Anderson and Platzer (2006), Monti et al. (2007), Hart and Acs (2011), and Wadhwa et al. (2007).

Coming from another direction, other studies consider ethnic and minority entrepreneurs, often using SBO data (e.g., Fairlie 2012; Fairlie and Robb 2008, 2009). In a study for the Small Business Administration, Fairlie (2012) notes that firm formation rates among immigrants are more than twice as high as those among natives, and that immigrant-owned firms are more likely to hire employees (although hiring native-owned firms tend to hire more employees than hiring immigrant-owned firms). Fairlie (2012) also finds that personal and family savings are the most common forms of start-up and expansion financing among immigrant-owned firms.

Kerr and Kerr (2017) measure immigrant entrepreneurship through the Longitudinal Employer Household Dynamics (LEHD) database, a very large administrative dataset collected by the Census Bureau. Relative to the SBO, these data cover a much greater number of establishments, but the firm and founder details in the SBO are much richer. Kerr and Kerr (2017) find that the share of immigrant founders steadily increased between 1995 and 2008, reaching 25% by 2008. They also note that the firm survival rate is somewhat higher among native-founded firms from 1995 to 2008, but among surviving firms, those founded by immigrants tend to grow faster in terms of their employment.

Previous studies have used the 2007 SBO to characterize immigrant-owned firms. Wang and Liu (2015) show that firms with immigrant owners are more likely to export or have operations outside of the United States. Other SBO-based research focuses on Hispanic- or black-owned firms in various parts of the country.[4] The sources of start-up capital reported in the 2007 SBO have also been studied both more generally (e.g., Mencken and Tolbert 2016; Kerr et al. 2018).[5] The Fiscal Policy Institute also published a 2012 report using the 2007 SBO regarding immigrant and native business owners.

The higher propensity of immigrants towards entrepreneurship is observed in other immigrant-receiving countries,[6] resulting in a substantial share of entrepreneurship being immigrant-based. The Centre for Entrepreneurs (2014) calculates that immigrants start 14% of all U.K. firms, with particular concentration around London. Comparable statistics for Canada

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[4] For example, Gramlich and Perrin (2013), Echeverri-Carroll and Kellison (2012), and Mora and Davila (2014).

[5] Conroy and Weiler (2016) look at job creation by owner gender using the 2007 SBO and find that male-owned firms are more likely to strongly follow national employment trends.

[6] See OECD (2010). The Centre for Entrepreneurs (2014) shows that over 17% of U.K. immigrants start a firm, compared to 10% of natives. For Canada, 19.6% of immigrants become self-employed (5.3% own a firm), whereas the comparable numbers are 16.1% and 4.8% for natives (Green et al. 2016). For Australia, the overall rate of self-employment is about 12%, with immigrants more likely to enter self-employment than natives (Atalay et al. 2013).

and Australia are not possible, but Momani (2016) reports that 24% of Small and Medium Sized Enterprise (SME) owners in Canada are immigrants. The high prevalence of immigrants among entrepreneurs globally raises the importance of studying the channels through which they impact local economies.

While the evidence from other countries is beyond the scope of this study, the common patterns also raise important questions. A positive story of higher rates of entrepreneurship for immigrants emphasizes personality traits of immigrants, such as a willingness to take risks, or past work experiences that make immigrants more willing to start companies in their new home (e.g., Akee et al. 2007). There can also be group-level advantages from joint selection into entrepreneurship for immigrants from a country (e.g., Kerr and Mandorff 2015). A darker story, however, suggests that immigrants are pushed into entrepreneurship rather than regular employment due to difficulties in their destination country descending from mismatch in qualifications, discrimination, and similar challenges (e.g., Borjas 1986). To resolve these questions, an important first step is to understand better the types of companies being created and how they perform. Opportunity- versus necessity-based entrepreneurship hold different predictions for the data, with the former more likely to be associated with good jobs and strong subsequent performance.

3   Data and Descriptive Analyses

We use the restricted-access Survey of Business Owners (SBO) data housed in the Federal Statistical Research Data Centers (RDC). We employ the 2007 and 2012 SBOs and merge them with other Census Bureau data sources, including the Longitudinal Business Database (LBD). These data provide a rich and detailed platform to study immigrant entrepreneurship over time and across states.

The SBO contains many types of firms, ranging from self-employed individuals who do not hire employees to small and large employer firms, some of which are publicly held. Our analysis considers employer firms given our focus on understanding the quantity and types of jobs created, rather than the self-employment patterns previously discussed in the literature. Tabulations available from the authors consider excluded non-employer firms, where immigrants account for 15% of self-employed owners. Immigrant owners of non-employer businesses are more educated than their native counterparts and have higher start-up capital and receipts.

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We also exclude publicly owned firms from the sample, as it is impossible to accurately separate them into the immigrant- versus native-owned categories.

In 2007, our baseline sample of private employer firms includes 950 thousand companies. We exclude 1.4 million records for publicly owned firms and firms with no identifiable owner (e.g., estates, trusts, cooperatives, clubs, tribal entities) and 10.4 million records for self-employed incorporated non-employers. In 2012, our baseline sample of private employer firms includes 300 thousand companies. This 2012 sample comes after the exclusion of 224 thousand records for publicly owned companies and firms with no identifiable owner and 8.3 million records for self-employed individuals. The core sample is smaller in 2012 due to the introduction of two separate versions of the SBO survey instrument, one of which lacks detailed questions about the owners of the firm. This change does not impact our work as tabulation weights allow for population-based estimates.

We further analyze "new firms," defined to be those entering in the five years prior to each survey. This segment captures the role of immigrants in recent entrepreneurial activity. The number of new firm records that underlie the upcoming analyses is 139 thousand in 2007 and 48 thousand in 2012. We will track the new firms that enter prior to the 2007 SBO over time in the LBD, which provides annual employment and payroll information. This link affords measurement of the survival and growth patterns of these young firms during the critical early years of their operations.

Throughout this paper, Census Bureau disclosure requires observation counts be rounded, and all reported numbers are likewise rounded to four significant digits. We use the SBO tabulation weights in summary tables, and the noise-infused employment, payroll and receipts for all variables utilizing those measures.

3.1 SBO 2007 and 2012 Descriptive Analysis

Tables 1a-1b describe the SBO samples by the immigrant status of the owners and the age of the firm. A firm is classified as an immigrant-owned firm if one or more of the owners is an immigrant.

Table 1a shows that immigrant-owned firms accounted for 16% of all U.S. companies in 2007 and 18% in 2012. Immigrant-owned firms tend to have fewer employees and lower sales receipts, but comparable receipts per employee. Receipts include the total revenue and business done

by domestic establishments of the firm, excluding foreign operations; values are reported in thousands of nominal dollars. Immigrant-owned firms have somewhat lower wages (measured as payroll divided by employment), with a 13% differential evident in 2012. Immigrant-owned firms started with more investment capital in 2007 but the levels are comparable in 2012.

Looking at the traits of founders, female ownership is slightly higher in immigrant-owned firms. Immigrant owners tend to be younger and are more likely to combine owners of several ages, perhaps indicative of a greater prevalence of family businesses. Education levels are broadly comparable between immigrants and natives.

In addition to paying lower wages, immigrant-owned firms are less likely to offer employee benefits such as health insurance, retirement benefits, and paid leave. These differences across owner types are among the most stark in the SBO data and perhaps indicate less attractive employment. The provision of these benefits is further declining in all firms between 2007 and 2012 in the SBO data. The Current Population Survey also shows that the percent of population receiving health insurance coverage through an employer dropped from 59.8% in 2007 to 54.9% in 2012.[7] Retirement benefits also declined from 2007 to 2011, but rebounded in 2012. Access to paid leave has remained constant in the CPS. While the CPS' population-level statistics are not directly comparable to the firm-level traits captured by the SBO (e.g., as a majority of employees work in large companies), they provide some confirmation in the patterns observed.

Finally, immigrant-owned firms are mostly comparable to native-owned firms in terms of hiring temporary versus full-time workers. Generally, temporary workers account for just over 2% of private sector jobs (Economics and Statistics Administration, 2015). In the SBO context, temporary employment includes workers from temporary agencies, day laborers, and leased employees; part-time workers are a separate category. Immigrant-owned firms show a much higher rate of foreign-oriented activity as measured by exporting, outsourcing, and maintaining overseas operations.

Table 1b shows that immigrants own a higher share of new firms at 24% in 2007 and 26%

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[7]https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-hi/hi-01.2016.html. A report by the Kaiser Family Foundation further documents that 50.1% of firms offered health insurance to their employees in 2012, but only 45.3% offered the benefit in 2016. The Affordable Care Act (ACA) was signed into law in March of 2010. While the ACA sought to increase coverage, it may have reduced health insurance provision by smaller firms. Larger firms with more than 50 employees were subject to the employer mandate to provide employees with health insurance. The portion of large firms offering health insurance increased to 97% in 2016, but decreased for smaller firms from 35.2% in 2012 to 28.6% in 2016.

in 2012. Most of the traits discerned in Table 1a for all businesses carry over to these new companies.

3.2 ACS 2001–2015 Descriptive Analysis

We supplement the SBO data with the publicly available American Community Survey (ACS) data for 2001–2015. The ACS data allow us to verify trends, look at an alternative definition for defining entrepreneurs, and evaluate the representativeness of the SBO at smaller geographic levels. Within the ACS, the closest metric to business ownership is self-employed individuals in incorporated businesses (SE-I). The primary ACS sample is restricted to individuals who report their place of birth and are aged between 25 and 55. The ACS analyses are available upon request from the authors, and we briefly summarize them here.

The ACS shows that an increasing share of SE-I entrepreneurs are immigrants, growing from 17% in 2001 to about 24% by 2015. The biggest origin places for immigrant SE-I are Mexico, India, South America (combined in the public use ACS data), China, Central America (combined), and Korea. Immigrant entrepreneurship has pulled increasingly from individuals coming from Mexico, India, and China since 2001, although no country accounts for more than 4% of the total SE-I stock in 2015. In 2015, immigrant SE-I shares are higher for those with less than a college education (26%) versus those with one (22%), whereas they were comparable up to 2008. Immigrant SE-I shares are higher for those with STEM degrees (27%) or Business/Education (22%) compared to other fields (17%).

The evolving demographics of SE-I entrepreneurs mirrors that of the broader U.S. population: a growing share of SE-I are non-white, overall and among immigrant groups, and becoming older. While the share of business owners who are women declines in the SBO, it is increasing in the ACS for SE-I individuals among both natives and immigrants. The official SBO statistics from the Census Bureau show that the number of women-owned businesses increased between 2007 and 2012. However, given that over 90% of these women-owned businesses have no employees, these samples do not compare directly with our employer firms.

The ACS allows several insights into the financial status of SE-I entrepreneurs over time. The share of immigrant SE-I in the top household income group (over $100k per year) was quite stable at about 45% from 2001 until 2008, after which it declined to about 40%. The share of immigrant SE-I who are in the middle income groups ($40k–$100k) is stable from 2001

to 2015, while the low income group (less than \$40k) forms a notably increasing share of the immigrant SE-I population over time. The share of immigrant SE-I who are homeowners was relatively steady around 78% through 2010, but then dropped to 67% by 2015.

3.3 Industry, Financing and Geographic Variation

Returning to the SBO data, Table 2a lists the most common two-digit NAICS industry codes for immigrant- and native-owned firms. Roughly half of immigrant-owned startups are in three sectors: accommodation and food services, retail trade, and professional and technical services. Native-owned firms show lower levels of industrial concentration (e.g., Kerr and Mandorff 2015). The differences in firm traits in Tables 1a-1b could be due to these industry choices, but data from the March 2017 National Compensation Survey conducted by the Bureau of Labor Statistics suggest that industry differences are unlikely to bear full responsibility. The three most prominent sectors for immigrant-owned businesses fall above and below national averages on most dimensions.[8] Upcoming regression analyses control for industry differences in a rigorous manner.

Previous studies document that immigrant-owned businesses start with more funding (e.g., Fairlie 2012); the 2007 SBO confirms this finding, while the differences are much smaller in the 2012 SBO in Tables 1a and 1b. Table 2b shows the most common sources of start-up and expansion capital for immigrant- versus native-owned businesses. Personal savings are the most important source of capital for all firms, but this source is especially important for immigrant-owned firms. Native-owned firms are more likely to have bank loans and credit, while immigrant-owned firms are more likely to rely on home equity loans and family loans. These patterns may signal a lower ability by immigrants to obtain bank credit.[9] Venture capital funding is rare but slightly more frequent for immigrant-owned firms.

Table 3 and Figures 1-4 document the states with the greatest and least reliance on immigrant entrepreneurs. The least dependent states, such as Montana, the Dakotas, and Idaho,

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[8]Nationally, 48% of establishments offer a retirement plan, with the three largest immigrant entrepreneurship sectors falling above and below: accommodation and food services (34%), retail trade (50%), and professional and technical services (52%). The pattern is similar for healthcare benefits: national (58%), accommodation and food services (29%), retail trade (54%), and professional and technical services (68%). A May 2016 report shows a similar pattern for pay: national (\$49,630), accommodation and food services (\$25,250), retail trade (\$32,120), and professional and technical services (\$79,700). Sources: https://www.bls.gov/oes/current/oes_nat.htm, https://www.bls.gov/oes/current/naics2_44-45.htm, https://www.bls.gov/oes/current/naics2_72.htm, https://www.bls.gov/oes/current/naics2_54.htm.

[9]For example, Blanchflower et al. (2003), U.S. Chamber of Commerce (2005) and Bruder et al. (2011).

have 6% or less of their new firms founded by immigrants in 2012, whereas the shares for California, New Jersey, and New York exceed 40%. These differences are naturally tied to geographic variation in where immigrants make up a large share of the population. The correlation in 2012 between the working age population share and firm owner share for immigrants is 0.85 for new firms and 0.91 for all firms. Metropolitan areas (PMSAs) within states also vary substantially. The most dependent PMSAs in California display immigrant business owner shares in excess of 60%, a 50% increase upon the state average.

The appendix available from the authors provides a similar exercise using the ACS. As the ACS does not identify new firms, the comparison point is mostly to the full firm sample in the SBO in Figures 1 and 3. The ACS patterns in 2013-2015 are very similar to the SBO and show strong growth from the earlier period. In California, 41% of SE-I were immigrants in 2013-2015, a growth of 5.4% from 2001-2003. The largest percentage gains took place in Virginia (9.0%), Maryland (8.9%) and the District of Columbia (8.1%), with a total of 14 states exceeding 6% growth. Only three states—West Virginia, Vermont, and Maine—saw declines in the share of SE-I who are immigrants.

4   Regression Analysis of Immigrant Ownership

Section 3 noted sizable differences between immigrant- and native-owned firms in terms of employment, wages, and other job characteristics like employer-provided benefits. This section analyzes the degree to which these differences persist once we control for state and industry choices, along with other observable traits of the owners like age and gender.

Tables 4a-4j report a consistent battery of regressions for all SBO firms and the new ones started during the five years prior to the survey. We combine the 2007 and 2012 data, and all estimations control for year fixed effects. Regressions are unweighted and report robust standard errors.

Column 1 documents a baseline regression with a single indicator variable for immigrant ownership. Column 2 adds state and two-digit NAICS sector fixed effects. Columns 3-7 progressively add further demographic controls: gender, ethnicity/race, age, education, and number of owners. These unreported controls are incorporated through indicator variables. For ethnicity, we aggregate baseline categories into three indicator variables: African-American, Hispanic (Mexican, Cuban, Other Hispanic, not Puerto Rican) and Asian (Chinese, Indian,

Filipino, Japanese, Korean, Vietnamese, and Other Asian). Ethnicity is separately asked from immigration status in the SBO. Column 8 tests using detailed six-digit NAICS sector fixed effects. The last column further controls for firm size using the log of the number of employees, with this regression skipped for outcome variables where it is not appropriate to be controlling for firm size.

Table 4a considers log firm employment as the outcome variable. Controlling for industry and state fixed effects strengthens the baseline effect that immigrants own smaller firms. Some of the differential, however, is explained when we include race and ethnicity controls, as Hispanic and Asian ethnic groups start firms of different sizes compared to Caucasians regardless of immigration status. When controlling for the full set of observable firm and owner characteristics in Columns 7 and 8, we find that immigrant-owned firms are 14% smaller than native-owned firms, and a 12% difference exists for new firms.

Tables 4b shows an interesting contrast for log firm start-up capital. Immigrant-owned firms tend to start with more capital. Two-thirds of the raw 15% difference is explained by state and sector choices, but the residual difference remains statistically significant in the presence of controls. While recently founded firms owned by immigrants also show 16% greater capital use at launch in the simple specification of Column 1, this result is not present once we add controls. Among the ethnicity variables, Asian-owned firms have larger amounts of start-up capital than the average firm, while Hispanic-owned firms have much smaller amounts.

Table 4c shows that sales receipts per employee are higher for immigrant-owned firms than native-owned firms. This is the net result of two competing effects. While the overall receipts of immigrant-owned firms are lower than those of native-owned firms, the employment differences are even larger. As a consequence, receipts per employee are higher, especially for recently founded firms. That difference remains statistically significant even when adding the full regression controls in the model.

Table 4d shows that the wage differences that we documented earlier for immigrant-owned firms disappear in the presence of stringent controls. State and industry choices account for about half of the difference, and adding ethnic controls accounts for the rest. Asian-owned firms pay higher wages than average, while Hispanic-owned firms pay lower wages, although much of those differences appear to be related to other owner and firm characteristics.

Table 4e shows immigrant-native differences in the use of temporary workers and/or full-

time employees. Once we control for observable traits of founders, immigrant-owned firms tend to be 1.5%-2.0% less likely to hire either type of worker. Among new firms, there is no difference between immigrants and natives.

While the traits of firms explained away differences in wage rates between immigrant- and native-owned firms, Tables 4f-4h show that this is not the case for the reduced likelihood of immigrant-owned firms offering various benefits. Depending upon the stringency of controls introduced, immigrant-owned firms are 6%-17% less likely to offer health insurance, 5%-13% less likely to offer paid time off, and 6%-14% less likely to offer a 401k plan. These differences persist but are smaller among new firms. Thus, the average "job quality" (as defined by these metrics) is somewhat weaker in immigrant-owned firms.

Tables 4i-4j similarly confirm the robustness of the observation that immigrant-owned firms are more likely to engage in international operations. Depending upon the stringency of controls introduced, immigrant-owned firms are 3%-4% more likely to export, 1%-2% more likely to establish overseas operations, and 1%-3% more likely to engage in outsourcing. These differences are comparable or even larger among new firms. While the differences are a few percentage points or less, given the low share of firms engaging in global operations and activity, these differences are economically meaningful.

While we do not report all the regression coefficients, a few results are worth noting. First, firms with more owners tend to hire more workers, start their firms with more capital, pay higher wages, and are also more likely to provide employee benefits. Larger firms, in general, are also more likely to pay better and to offer employee benefits. Part of this difference is due to legal mandates imposed upon larger firms, but a long literature has noted the greater general attractiveness of jobs in larger firms (e.g., Moore 1911; Brown et al. 1990; Gibson and Stillman 2009). Firms with female owners, younger owners, and lower-educated owners tend to hire fewer employees, pay lower wages and benefits, and engage less in international activities.

Finally, Table 5 studies the survival and growth properties of immigrant- versus native-owned firms using the subsequent history of 2007 SBO firms to 2011 in the LBD. The sample begins with 139 thousand companies that were founded between 2002 and 2007 and present in the 2007 SBO. Among those firms matched to the 2007 LBD, immigrant-owned firms are somewhat more likely to survive to 2011 than are native-owned firms (62.4% versus 60.8%). Conditional on survival until 2011, immigrant- and native-owned firms are similarly-sized in

2007, with immigrant-owned firms growing their employment 24% to 2011 versus 19% for natives.

5   Second-Generation Immigrant Entrepreneurs

The SBO data allow the identification of individuals who were born in the United States but are of a specific ethnic origin, including Chinese, Indian, and Mexican. While the survey does not ask whether one or both their parents were born outside of the United States, one can approximate second-generation immigrants via ethnicity. Using the public use ACS data for 2001-2016, we find that 94% of U.S.-born persons who report to be of Chinese ethnic origin have at least one parent who is an immigrant. These percentages are 99% and 71% for persons of Indian and Mexican ethnic origin, respectively.

Duncan and Trejo (2018) review the evidence regarding second-generation immigrants in the United States and the heterogeneity across countries of origin, but entrepreneurship remains under explored.[10] Data from the 2012 Global Entrepreneurship Monitor (GEM) indicate that first-generation immigrants in the United States are more entrepreneurial than either natives or second-generation immigrants (Kelley et al. 2012). Looking at Fortune 500 companies in 2011, roughly equal proportions of them were founded by first-generation (19%) and second-generation (23%) immigrants (Partnership for a New American Economy, 2011). Andersson and Hammarstedt (2010) study the self-employment activity of second-generation immigrants in Sweden, and Beckers and Blumberg (2013) consider the Netherlands. While the SBO cannot quantify rates of entry into entrepreneurship by first- versus second-generation immigrants, the data allow us to describe their businesses.

Tables 6a and 6b repeat the earlier tabulations in Tables 1a-1b but separate out the entrepreneurial activity of second-generation immigrants to the United States. For these tabulations, Columns 1 and 4 report statistics where only first-generation immigrants are owners of the business, potentially along with natives, but no second-generation immigrants own the business. Columns 2 and 5 focus only on businesses where second-generation immigrants are owners, potentially along with natives, but no first-generation immigrants are owners. Columns 3 and 6 document cases where only natives are owners. As such, the columns are mutually exclusive

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[10]Duncan and Trejo (2018) document the many studies on education assimilation for second-generation immigrants. Case examples include Waters (1994), Zhou and Bankston (1994), and Berry et al. (2006).

but not collectively exhaustive. In particular, about 1% of the sample is not included and represents cases where both first- and second-generation immigrant business ownership is reported for the firm. With this framing, second-generation immigrants account for approximately 4% of U.S. entrepreneurship in 2007 and 6% in 2012.

A fascinating pattern emerges: on many dimensions where the differences between immigrant- and native-owned firms are most visible (e.g., offering health insurance, exporting), businesses owned by second-generation immigrants sit in between the other two firm types. This patterns highlights an assimilation of immigrant-founded firms into the broader business landscape of America which has not been documented before. Second-generation immigrant owners tend to be younger than the other owner types, which may, for example, affect their ability to accumulate start-up capital. Female-owned firms (whether fully or partially) are most common in the group of second-generation immigrant-owned companies, in both the newly founded and all firms samples.

6 Discussion and Future Research

We explored the 2007 and 2012 Survey of Business Owners records to learn more about how the businesses created by immigrants resemble and differ from those owned by natives. To summarize a few key findings: immigrant-owned firms are somewhat smaller than native-owned firms in terms of employee counts but have comparable sales per employee; the jobs created by immigrant firms have lower average salaries, but much of this difference can be explained by other traits of founders; the jobs created by immigrant firms have lower provision of health, retirement, and paid time off benefits; and the firms owned by immigrants show a substantially higher rate of engagement in international activity like exporting and the launch of overseas facilities. Immigrant-owned businesses have a modestly different industry composition than native-owned business, but the bigger differences are spatial, with ten-fold differences across states in terms of the share of businesses owned by immigrants. Finally, new immigrant-owned businesses in the 2007 SBO are more likely to survive to 2011 and show greater employment growth to 2011.

The tabulated ownership shares and firm sizes allow us to calculate back-of-the-envelope estimates of job provision generated by immigrant-owned businesses. While first-generation immigrants own 16.4% and 17.8% of firms in 2007 and 2012, respectively, their smaller average

firm size means they account for 13.5% and 14.4% of jobs, respectively, in these years. Applying these shares to overall U.S. private-sector employment as captured by the Business Dynamics Survey estimates ongoing job provision by immigrant firms of about 16 million workers. Further incorporating second-generation immigrants raises the estimate to around 20 million workers. These calculations assume that the immigrant share can be applied to other types of firms that we do not measure with the SBO. Particularly challenging conceptually is how to consider older public companies, which employ a substantial part of the workforce. Immigrants played a role in founding many of these companies, but these contributions happened many years ago and ownership is now often diffuse.

One can avoid some of these challenges by isolating new firms developed over the prior five years. This is important as young firms account for almost all of the net job growth in America (Haltiwanger et al. 2013). First-generation immigrants account for 23.7% and 26.0% of these new firms in 2007 and 2012, respectively. As entering employment sizes in recent cohorts are mostly similar for immigrants and natives, immigrant entrepreneurs have accounted for 23.1% of jobs in young companies in both surveys. Applying these shares to overall U.S. private-sector employment in new firms as captured by the Business Dynamics Survey would estimate job provision by young immigrant-owned firms of 3-4 million workers. Further incorporating second-generation immigrants would raise the estimates to 4-5 million workers. While these calculations are only approximate, they give a sense to the ongoing contribution to the U.S. economy of immigrant entrepreneurship.

There are several important directions future research can take. We have provided novel evidence on the quality of jobs generated by immigrant-owned firms in terms of compensation and benefits, but there many other dimensions worth pursuing. Merging onto the SBO the Longitudinal Employer Household Dynamics (LEHD) database would allow researchers to look at the duration of jobs and the evolution of earnings over tenure for workers in immigrant-versus native-owned firms.

Uniting the Decennial Census files with the SBO data would also provide greater information on the countries of origin of immigrants. These extra data would allow researchers to examine more sharply differences over groups. As immigrant entrepreneurship rates differ substantially by nationality, one could learn more about how much of these patterns follow from group-wide preferences to be one's own boss (Hurst and Pugsley 2011) and how the

concentration of immigrant groups into specific occupations for entrepreneurship (Kerr and Mandorff 2015) shifts their behavior. Such extensive margin evidence would better highlight the mechanisms behind perceived differences in job quality.

The evidence regarding greater overseas activity of immigrant-owned businesses also deserves more consideration. These contributions may be more quantitative and model-based: what are the general equilibrium implications of a rising share of U.S. entrepreneurs being immigrants and therefore being more likely to engage in global activities? As the period of time covered by these surveys includes some countries expanding and others contracting, the relative value of these overseas connections will provide nice variation to tease out their empirical effects.

Finally, we have provided some basic evidence and back-of-the-envelope calculations for job provision in immigrant firms, but more of the job creation and job destruction machinery (e.g., Davis et al. 1996) and growth analysis (e.g., Puri and Zarutskie 2012) could be applied to these groups. This would be especially powerful when combined with information on the individuals hired. Immigrant owners may show different employment adjustment patterns for immigrant employees from their home country than immigrants from other countries or native employees. Given the heavy geographic and industrial clustering of immigrant entrepreneurs, this could in turn influence regional business cycles.

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Figure 1: Immigrant ownership shares of all SBO employer firms in 2007
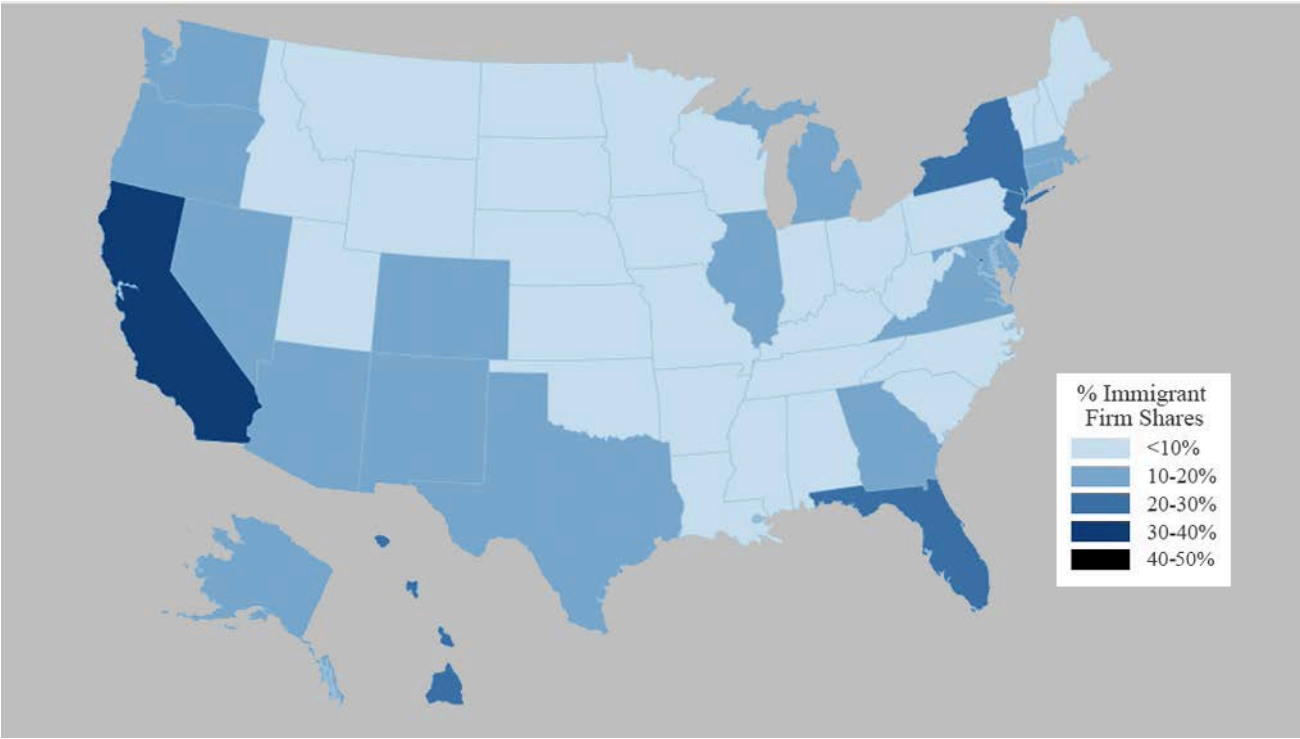
Figure 2: Immigrant ownership shares of SBO employer firms in 2007 created in prior five years
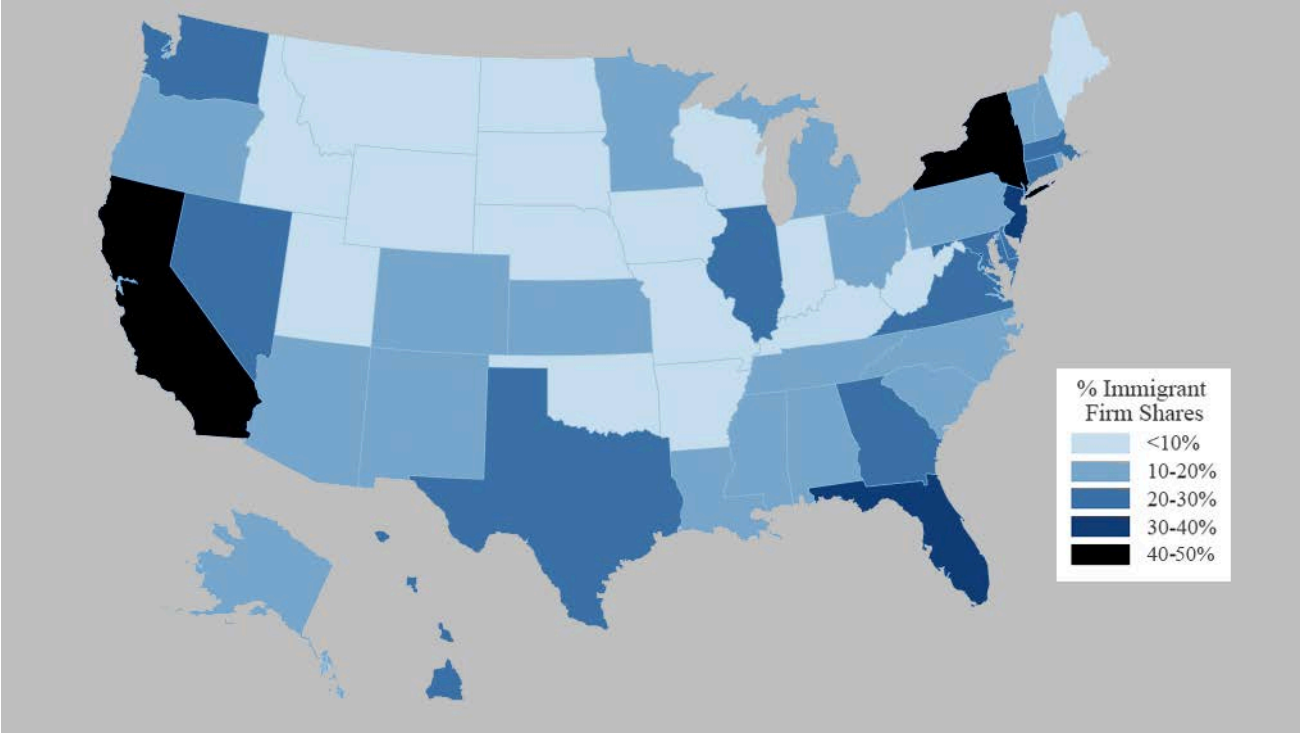
Figure 3: Immigrant ownership shares of all SBO employer firms in 2012
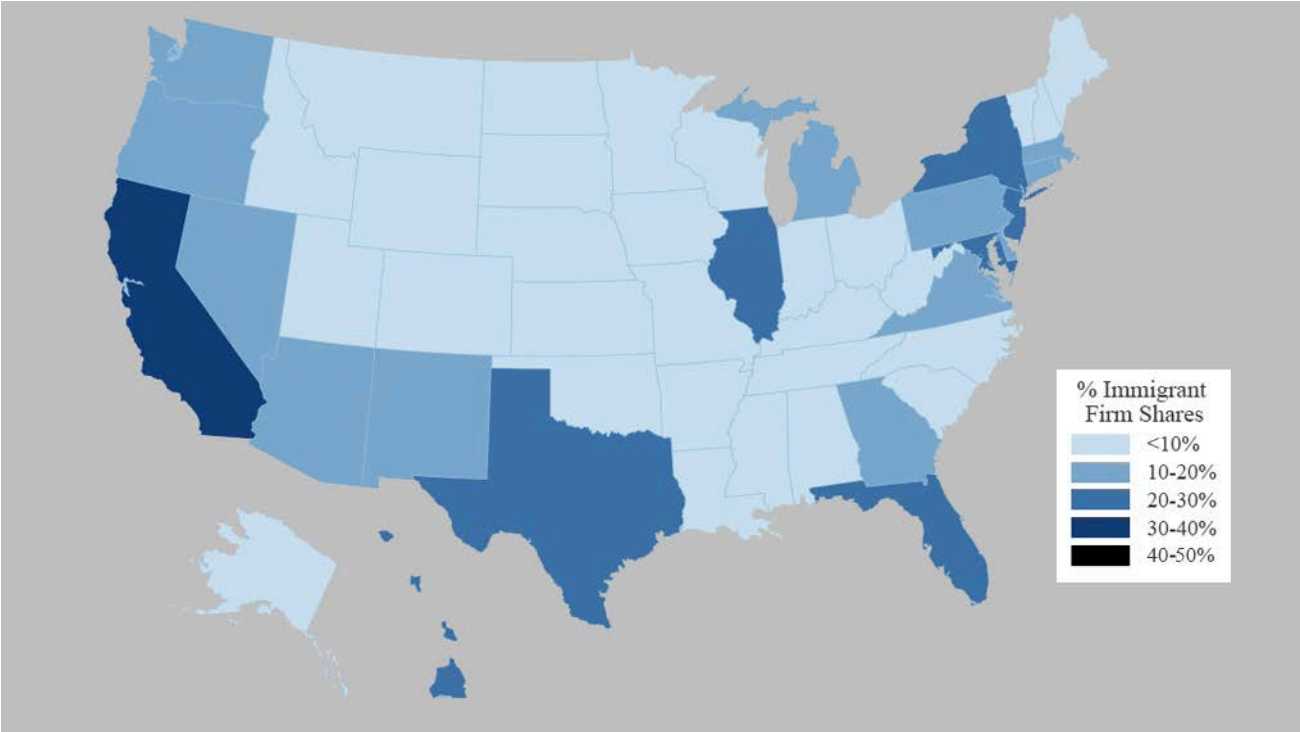
Figure 4: Immigrant ownership shares of SBO employer firms in 2012 created in prior five years
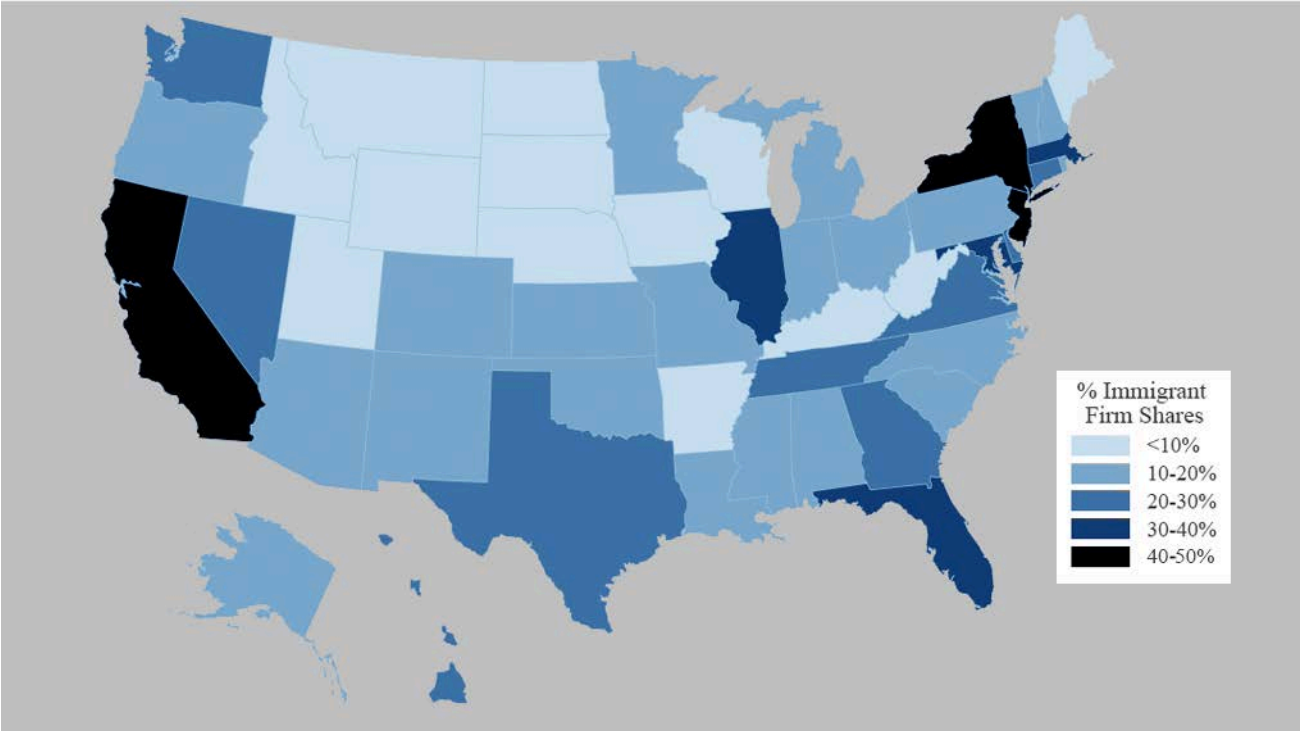
Table 1a: Summary statistics 2007 and 2012 Survey of Business Owners - all firms

	2007		2012	
	Immigrant owners	No immigrant owners	Immigrant owners	No immigrant owners
	1	2	3	4
% of firms	16.4%	83.6%	17.8%	82.2%
Mean: employees	8.43	10.63	8.55	10.98
Mean: employees if >0	9.41	11.69	9.61	12.26
Mean: receipts (thousands)	1,467	1,923	1,573	2,128
Mean: ln(receipts/employee)	11.57	11.54	11.60	11.58
Mean: payroll/employee	31,570	34,330	31,650	35,770
Mean: start-up capital	157,500	110,800	139,000	135,500
% one owner	46.9%	48.7%	57.5%	60.9%
% 2 owners	38.2%	36.6%	30.5%	29.0%
% 3 or more owners	14.9%	14.7%	11.9%	10.0%
% female owners	48.5%	45.0%	44.5%	40.9%
% owners < 35	6.0%	4.8%	5.6%	4.8%
% owners 35-55	51.3%	45.3%	49.8%	40.2%
% owners > 55	23.6%	32.1%	27.9%	40.6%
% mixed age	19.2%	17.8%	16.7%	14.2%
% high educated	40.8%	40.4%	44.4%	45.0%
% low educated	44.0%	43.5%	43.1%	43.1%
% mixed educated	15.2%	16.1%	12.6%	11.9%
% offer health insurance	36.9%	50.3%	27.7%	40.0%
% offer 401k	18.2%	29.8%	13.5%	22.9%
% offer paid leave	44.9%	55.9%	36.7%	44.9%
% hire temps	12.3%	14.7%	7.0%	7.0%
% hire full-time workers	75.7%	77.4%	66.9%	68.4%
% export	11.0%	7.7%	7.5%	3.7%
% outsource	2.7%	0.9%	2.9%	0.9%
% operations abroad	1.6%	0.7%	2.6%	1.0%

Notes: Sample includes non-public employer firms only and uses noise infusion in 2007 for employment, receipts, payroll, and variables derived using those measures. Reported numbers use tabulation weighting and are rounded to four significant digits.

Table 1b: Summary statistics 2007 and 2012 Survey of Business Owners - new firms

	2007		2012	
	Immigrant owners	No immigrant owners	Immigrant owners	No immigrant owners
	1	2	3	4
% of firms	23.7%	76.3%	26.0%	74.0%
Mean: employees	5.26	5.45	5.03	5.88
Mean: employees if >0	6.57	6.91	6.52	7.70
Mean: receipts (thousands)	738.5	728.6	752.4	839.3
Mean: ln(receipts/employee)	11.44	11.34	11.51	11.38
Mean: payroll/employee	27,720	31,350	28,470	32,290
Mean: start-up capital	164,900	136,900	127,400	126,800
% one owner	50.0%	50.7%	59.8%	61.6%
% 2 owners	36.9%	38.3%	28.7%	29.0%
% 3 or more owners	13.0%	11.0%	11.5%	9.4%
% female owners	48.3%	47.3%	44.1%	44.1%
% owners < 35	12.9%	14.5%	13.0%	15.5%
% owners 35-55	58.9%	54.0%	58.5%	50.9%
% owners > 55	10.1%	14.9%	12.1%	18.7%
% mixed age	18.0%	16.6%	16.4%	14.9%
% high educated	41.9%	42.1%	46.0%	49.1%
% low educated	44.4%	42.6%	42.7%	38.7%
% mixed educated	13.6%	15.4%	11.4%	12.2%
% offer health insurance	24.2%	33.9%	18.6%	26.4%
% offer 401k	9.7%	15.5%	8.4%	12.5%
% offer paid leave	33.1%	38.8%	28.4%	34.6%
% hire temps	10.3%	11.0%	6.8%	5.9%
% hire full-time workers	69.3%	67.1%	62.5%	60.5%
% export	8.3%	4.7%	6.9%	2.6%
% outsource	2.7%	0.9%	3.1%	1.2%
% operations abroad	1.5%	0.5%	2.7%	1.1%

Notes: See Table 1a. New firms are those created in the five years prior to the survey.

Table 2a: Most common sectors by owner type

	2007				2012			
	Immigrant owners		No immigrant owners		Immigrant owners		No immigrant owners	
	Sector	%	Sector	%	Sector	%	Sector	%
	1	2	3	4	5	6	7	8
All firms								
#1	72 Accomm & food	16.3	54 Prof, tech services	15.1	72 Accomm & food	16.2	54 Prof, tech services	17.0
#2	44 Retail trade	15.5	23 Construction	14.7	62 Health care & social	14.3	23 Construction	13.4
#3	62 Health care & social	12.3	44 Retail trade	13.0	54 Prof, tech services	12.8	62 Health care & social	11.1
#4	54 Prof, tech services	11.9	62 Health care & social	9.4	44 Retail trade	12.5	44 Retail trade	7.7
#5	23 Construction	8.2	72 Accomm & food	6.4	81 Other services	7.7	81 Other services	6.6
#6	42 Wholesale trade	7.3	81 Other services	6.2	23 Construction	7.0	56 Admin etc. services	6.5
#7	81 Other services	7.2	56 Admin etc. services	6.0	42 Wholesale trade	6.9	72 Accomm & food	6.1
% firms in 1-7		78.7		70.8		77.4		68.4
New firms								
#1	72 Accomm & food	18.0	54 Prof, tech services	17.5	72 Accomm & food	20.1	54 Prof, tech services	19.4
#2	44 Retail trade	15.3	23 Construction	16.9	54 Prof, tech services	14.8	62 Health care & social	11.7
#3	54 Prof, tech services	13.3	62 Health care & social	9.7	44 Retail trade	12.6	23 Construction	10.5
#4	62 Health care & social	11.5	44 Retail trade	9.5	62 Health care & social	12.5	72 Accomm & food	10.4
#5	23 Construction	9.4	72 Accomm & food	7.6	81 Other services	6.9	44 Retail trade	6.4
#6	81 Other services	6.7	56 Admin etc. services	6.6	23 Construction	5.8	81 Other services	6.4
#7	42 Wholesale trade	5.9	53 Real estate & rental	6.4	42 Wholesale trade	5.7	56 Admin etc. services	6.3
% firms in 1-7		80.1		74.2		78.4		71.1

Notes: See Table 1a. Industries are 2-digit NAICS codes.

Table 2b: Start-up capital and expansion capital sources - new firms

	2007		2012	
	Immigrant owners	No immigrants	Immigrant owners	No immigrants
	1	2	3	4
Start-Up Funding Reliance				
Personal savings	71.5%	70.1%	75.1%	71.8%
Bank loan	15.2%	18.7%	10.9%	14.3%
Credit	15.8%	18.1%	12.0%	13.9%
Home equity loan	14.2%	13.6%	5.4%	6.1%
Assets	10.6%	12.8%	9.1%	10.3%
Family loan	5.2%	4.7%	5.6%	5.0%
Venture funding	0.9%	0.8%	0.9%	0.8%
Other financing	2.9%	3.6%	2.3%	3.2%
Expansion Funding Reliance				
Personal savings	37.8%	34.5%	36.6%	28.6%
Credit	17.2%	20.5%	10.0%	10.8%
Bank loan	12.2%	15.8%	6.6%	8.8%
Profit from business	11.7%	15.4%	9.0%	10.8%
Home equity loan	9.7%	8.7%	2.9%	2.3%
Assets	6.4%	7.1%	5.0%	4.4%
Family loan	3.1%	2.4%	2.5%	1.9%
Venture funding	0.6%	0.5%	0.7%	0.5%
Other financing	1.8%	1.9%	0.9%	1.1%

Notes: Reported numbers use tabulation weighting. The percentages represent the share of firms reporting they used the funding source as a percentage of all firms answering the source question. Firms can report using multiple funding sources.

Table 3: Most and least dependent states

	2007 All firms		2007 New firms		2012 All firms		2012 New firms	
Top 10	CA	33.1%	CA	42.4%	CA	33.4%	NJ	44.5%
	DC	32.6%	DC	42.3%	DC	29.7%	NY	43.1%
	NY	27.1%	NY	39.6%	NY	29.1%	CA	41.9%
	NJ	26.2%	NJ	38.6%	NJ	28.3%	FL	33.0%
	HI	25.3%	FL	30.1%	FL	25.9%	DC	32.2%
	FL	25.3%	CT	28.3%	HI	23.4%	IL	31.7%
	MD	18.9%	MD	27.9%	MD	21.1%	MA	30.2%
	NV	18.6%	IL	27.7%	IL	20.2%	TX	30.1%
	IL	17.7%	MA	26.4%	TX	19.8%	MD	30.1%
	CT	17.2%	NV	26.4%	NV	18.9%	HI	29.8%
Bottom 10	ND	3.4%	MT	5.0%	SD	2.5%	SD	2.4%
	SD	3.5%	WV	5.0%	ND	3.2%	ND	4.7%
	IA	4.5%	SD	5.7%	NE	3.4%	ID	4.8%
	WY	4.5%	WY	6.3%	MT	3.4%	MT	5.4%
	MT	4.5%	NE	6.6%	IA	3.7%	IA	6.1%
	NE	4.6%	ND	6.7%	ID	4.7%	WV	6.3%
	WV	4.8%	ID	7.1%	WY	4.8%	ME	6.6%
	MS	5.2%	IA	8.7%	WV	5.0%	WY	6.8%
	AR	5.2%	KY	9.0%	AR	5.4%	UT	7.6%
	ID	5.5%	AR	9.0%	ME	5.4%	NE	8.0%

Notes: Tables shows states with highest and lowest shares of immigrant owners among surveyed SBO firms.

Table 4a: Regression analysis - firm employment

	1	2	3	4	5	6	7	8	9
	Dependent variable is ln(Firm Employment)								
All firms									
Immig	-0.231	-0.296	-0.292	-0.142	-0.153	-0.144	-0.143	-0.146	n.a.
	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	
Asian				0.200	0.138	0.089	0.003	0.012	
				(0.009)	(0.009)	(0.009)	(0.008)	(0.008)	
Hispanic				-0.135	-0.090	-0.058	-0.051	-0.058	
				(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	
Constant	2.105	1.806	1.853	1.210	1.372	1.263	0.991	1.201	
N	1,152,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	
Adj R2	0.006	0.088	0.090	0.096	0.131	0.147	0.185	0.287	
New firms									
Immig	-0.096	-0.183	-0.181	-0.071	-0.092	-0.087	-0.115	-0.124	n.a.
	(0.008)	(0.008)	(0.008)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	
Asian				0.221	0.157	0.115	-0.001	0.005	
				(0.017)	(0.017)	(0.017)	(0.016)	(0.015)	
Hispanic				-0.038	-0.022	0.003	-0.005	-0.012	
				(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	
Constant	1.439	1.378	1.468	0.950	1.123	1.045	0.704	0.812	
N	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	
Adj R2	0.002	0.106	0.110	0.118	0.146	0.158	0.213	0.306	
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: Sample includes non-public employer firms. Data for 2007 and 2012 are pooled. Regressions are unweighted. Immig is an indicator variable for one or more immigrant owner. Control variables are entered through indicator variables as discussed in text. Robust standard errors are reported.

Table 4b: Regression analysis - start-up capital

	1	2	3	4	5	6	7	8	9
	Dependent variable is ln(Start-Up Capital Amount)								
All firms									
Immig	0.153	0.057	0.064	0.089	0.059	0.068	0.059	0.056	n.a.
	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	
Asian				0.438	0.361	0.276	0.155	0.158	
				(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	
Hispanic				-0.225	-0.218	-0.165	-0.158	-0.137	
				(0.009)	(0.009)	(0.009)	(0.008)	(0.008)	
Constant	10.84	10.96	11.05	10.61	10.62	10.43	10.05	9.80	
N	822,000	821,000	821,000	821,000	821,000	821,000	821,000	821,000	
Adj R2	0.009	0.102	0.105	0.108	0.129	0.155	0.192	0.248	
New firms									
Immig	0.164	-0.021	-0.019	0.060	0.030	0.037	-0.005	-0.018	n.a.
	(0.011)	(0.010)	(0.010)	(0.013)	(0.013)	(0.012)	(0.012)	(0.012)	
Asian				0.447	0.358	0.279	0.096	0.095	
				(0.023)	(0.022)	(0.022)	(0.021)	(0.021)	
Hispanic				-0.272	-0.245	-0.193	-0.207	-0.184	
				(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	
Constant	10.75	11.21	11.30	10.75	11.04	10.87	10.38	9.88	
N	154,000	154,000	154,000	154,000	154,000	154,000	154,000	154,000	
Adj R2	0.005	0.137	0.139	0.146	0.177	0.198	0.258	0.315	
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4c: Regression analysis - sales per employee

	1	2	3	4	5	6	7	8	9
				Dependent variable is ln(Receipts / Employee)					
All firms									
Immig	0.002	0.028	0.034	0.057	0.050	0.056	0.056	0.062	n.a.
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	
Asian				0.171	0.149	0.127	0.100	0.073	
				(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	
Hispanic				-0.114	-0.110	-0.093	-0.091	-0.073	
				(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	
Constant	11.68	11.80	11.88	11.69	11.69	11.63	11.55	11.36	
N	1,146,000	1,146,000	1,146,000	1,146,000	1,146,000	1,146,000	1,146,000	1,146,000	
Adj R2	0.000	0.243	0.248	0.250	0.254	0.258	0.264	0.400	
New firms									
Immig	0.098	0.080	0.083	0.092	0.083	0.086	0.078	0.063	n.a.
	(0.007)	(0.007)	(0.007)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)	
Asian				0.192	0.167	0.145	0.113	0.095	
				(0.015)	(0.015)	(0.015)	(0.015)	(0.014)	
Hispanic				-0.100	-0.101	-0.084	-0.086	-0.054	
				(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	
Constant	11.50	11.57	11.70	11.53	11.51	11.47	11.37	11.11	
N	147,000	147,000	147,000	147,000	147,000	147,000	147,000	147,000	
Adj R2	0.002	0.161	0.172	0.176	0.180	0.184	0.189	0.303	
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4d: Regression analysis - wages

	1	2	3	4	5	6	7	8	9
	Dependent variable is ln(Payroll / Employee)								
All firms									
Immig	-0.110	-0.073	-0.067	-0.007	-0.013	-0.006	-0.006	-0.002	0.014
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
Asian				0.165	0.141	0.114	0.087	0.052	0.050
				(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Hispanic				-0.108	-0.098	-0.077	-0.075	-0.071	-0.065
				(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)
Constant	10.20	10.24	10.31	10.00	10.03	9.96	9.87	9.78	9.65
N	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000	1,151,000
Adj R2	0.002	0.170	0.177	0.183	0.194	0.205	0.215	0.310	0.332
New firms									
Immig	-0.122	-0.055	-0.051	-0.002	-0.013	-0.008	-0.018	-0.012	-0.001
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Asian				0.174	0.148	0.119	0.077	0.062	0.061
				(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)
Hispanic				-0.085	-0.082	-0.058	-0.061	-0.049	-0.048
				(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Constant	9.99	10.03	10.15	9.88	9.90	9.84	9.71	9.61	9.54
N	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000
Adj R2	0.003	0.143	0.157	0.164	0.172	0.182	0.194	0.272	0.281
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4e: Regression analysis - worker types

	1	2	3	4	5	6	7	8	9
	Dependent variable is (0,1) Use Temporary Workers
All firms									
Immig	-0.047	-0.045	-0.044	-0.018	-0.018	-0.016	-0.016	-0.015	-0.008
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.266	0.189	0.209	0.125	0.172	0.142	0.052	0.092	0.033
N	1,231,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,138,000
Adj R2	0.028	0.053	0.056	0.058	0.070	0.084	0.134	0.176	0.195
New firms									
Immig	-0.014	-0.008	-0.007	0.001	-0.001	0.000	-0.004	0.001	0.004
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Constant	0.140	0.154	0.167	0.138	0.151	0.137	0.086	0.074	0.040
N	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	147,000
Adj R2	0.008	0.031	0.033	0.136	0.035	0.039	0.058	0.094	0.121
	Dependent variable is (0,1) Use Full-Time Workers
All firms									
Immig	-0.039	-0.040	-0.038	-0.018	-0.020	-0.019	-0.019	-0.015	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.866	0.810	0.833	0.734	0.765	0.747	0.704	0.744	0.656
N	1,232,000	1,231,000	1,231,000	1,231,000	1,231,000	1,231,000	1,231,000	1,231,000	1,139,000
Adj R2	0.022	0.044	0.049	0.051	0.067	0.073	0.087	0.117	0.202
New firms									
Immig	0.005	0.001	0.002	0.007	0.002	0.003	-0.003	-0.004	0.014
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Constant	0.716	0.713	0.753	0.661	0.664	0.650	0.578	0.613	0.55
N	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	147,000
Adj R2	0.007	0.031	0.038	0.040	70.050	0.053	0.071	0.100	0.190
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4f: Regression analysis - offer health insurance

	1	2	3	4	5	6	7	8	9
	Dependent variable is (0,1) Offer Health Insurance								
All firms									
Immig	-0.153	-0.166	-0.163	-0.089	-0.090	-0.086	-0.086	-0.080	-0.062
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Asian				0.051	0.034	0.011	-0.014	-0.013	-0.012
				(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Hispanic				-0.114	-0.095	-0.079	-0.077	-0.073	-0.066
				(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.684	0.489	0.517	0.278	0.361	0.306	0.222	0.362	0.225
N	1,233,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,139,000
Adj R2	0.040	0.078	0.082	0.094	0.130	0.155	0.186	0.227	0.321
New firms									
Immig	-0.110	-0.111	-0.109	-0.058	-0.064	-0.061	-0.069	-0.065	-0.053
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Asian				0.078	0.060	0.041	0.007	0.008	0.012
				(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Hispanic				-0.072	-0.068	-0.052	-0.054	-0.049	-0.051
				(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Constant	0.412	0.291	0.333	0.143	0.193	0.148	0.051	0.146	0.055
N	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	147,000
Adj R2	0.019	0.058	0.065	0.075	0.090	0.108	0.139	0.171	0.268
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4g: Regression analysis - offer paid time off

	1	2	3	4	5	6	7	8	9
	Dependent variable is (0,1) Offer Paid Time Off								
All firms									
Immig	-0.131	-0.134	-0.132	-0.075	-0.076	-0.072	-0.073	-0.064	-0.046
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Asian				0.039	0.023	0.004	-0.019	-0.014	-0.015
				(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Hispanic				-0.059	-0.044	-0.030	-0.028	-0.027	-0.021
				(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.715	0.484	0.508	0.308	0.374	0.327	0.253	0.437	0.310
N	1,233,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,139,000
Adj R2	0.030	0.067	0.070	0.078	0.107	0.126	0.152	0.191	0.284
New firms									
Immig	-0.078	-0.076	-0.075	-0.040	-0.047	-0.044	-0.053	-0.045	-0.033
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Asian				0.078	0.058	0.040	0.006	0.012	0.014
				(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Hispanic				-0.017	-0.014	-0.001	-0.004	-0.001	0.003
				(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Constant	0.460	0.337	0.373	0.201	0.229	0.191	0.094	0.233	0.143
N	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	147,000
Adj R2	0.009	0.040	0.045	0.051	0.067	0.080	0.109	0.145	0.246
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4h: Regression analysis - offer 401k plan

	1	2	3	4	5	6	7	8	9
	Dependent variable is (0,1) Offer 401k Plan								
All firms									
Immig	-0.144	-0.137	-0.134	-0.080	-0.082	-0.077	-0.077	-0.071	-0.057
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Asian				0.028	0.011	-0.013	-0.042	-0.040	-0.041
				(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Hispanic				-0.102	-0.088	-0.070	-0.068	-0.065	-0.062
				(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.461	0.282	0.309	0.157	0.217	0.157	0.061	0.142	0.029
N	1,233,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,232,000	1,139,000
Adj R2	0.031	0.067	0.070	0.077	0.102	0.130	0.170	0.204	0.259
New firms									
Immig	-0.071	-0.061	-0.061	-0.041	-0.044	-0.041	-0.046	-0.041	-0.036
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Asian				0.037	0.030	0.016	-0.003	-0.004	-0.005
				(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Hispanic				-0.046	-0.044	-0.031	-0.032	-0.030	-0.031
				(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Constant	0.199	0.110	0.134	0.061	0.084	0.050	-0.006	0.021	-0.037
N	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	147,000
Adj R2	0.010	0.051	0.055	0.058	0.065	0.082	0.098	0.134	0.184
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4i: Regression analysis - international activity

	1	2	3	4	5	6	7	8	9
				Dependent variable is (0,1) Exports					
All firms									
Immig	0.037	0.030	0.030	0.043	0.043	0.044	0.044	0.038	0.041
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.117	0.111	0.114	0.083	0.098	0.085	0.060	0.030	0.012
N	1,193,000	1,192,000	1,192,000	1,192,000	1,192,000	1,192,000	1,192,000	1,192,000	1,103,000
Adj R2	0.008	0.148	0.149	0.149	0.152	0.156	0.163	0.251	0.260
New firms									
Immig	0.040	0.029	0.029	0.036	0.035	0.036	0.035	0.036	0.036
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.055	0.063	0.066	0.040	0.043	0.035	0.026	0.006	0.001
N	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	143,000
Adj R2	0.006	0.079	0.079	0.080	0.081	0.083	0.084	0.140	0.150
				Dependent variable is (0,1) Operations Outside U.S.					
All firms									
Immig	0.016	0.015	0.015	0.017	0.017	0.017	0.017	0.014	0.015
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.014	0.011	0.014	0.004	0.007	0.004	-0.009	-0.005	-0.010
N	1,236,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,142,000
Adj R2	0.002	0.012	0.012	0.013	0.013	0.015	0.024	0.066	0.071
New firms									
Immig	0.014	0.014	0.014	0.015	0.015	0.015	0.015	0.014	0.015
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.006	0.002	0.003	-0.005	-0.004	-0.006	-0.011	-0.004	-0.005
N	186,000	186,000	186,000	186,000	186,000	186,000	186,000	186,000	148,000
Adj R2	0.005	0.013	0.013	0.013	0.013	0.014	0.015	0.038	0.038
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 4j: Regression analysis - outsourcing activity

	1	2	3	4	5	6	7	8	9
	Dependent variable is (0,1) outsourcing								
All firms									
Immig	0.026	0.025	0.025	0.017	0.016	0.016	0.016	0.014	0.014
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.015	0.004	0.004	0.005	0.004	0.000	-0.006	-0.002	-0.005
N	1,235,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,234,000	1,141,000
Adj R2	0.005	0.016	0.016	0.017	0.018	0.020	0.022	0.054	0.053
New firms									
Immig	0.021	0.021	0.021	0.020	0.020	0.020	0.019	0.018	0.018
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.011	0.003	0.006	-0.006	-0.009	-0.012	-0.018	-0.010	-0.013
N	186,000	186,000	186,000	186,000	186,000	186,000	186,000	186,000	148,000
Adj R2	0.005	0.026	0.026	0.027	0.027	0.028	0.030	0.056	0.062
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector (2-digit)	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Sector (6-digit)	No	No	No	No	No	No	No	Yes	Yes
Gender	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity/Race	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Age	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	No	No	No	Yes	Yes	Yes	Yes
N Owners	No	No	No	No	No	No	Yes	Yes	Yes
Firm Size	No	No	No	No	No	No	No	No	Yes

Notes: See Table 4a.

Table 5: Firm survival and growth analysis

Survival Rate	Immigrant	Native
Survival until 2008	87.6%	86.2%
Survival until 2009	77.1%	74.7%
Survival until 2010	69.0%	66.7%
Survival until 2011	62.4%	60.8%
Conditional on Survival Until 2011	**Immigrant**	**Native**
Mean: Log Employment 2007	1.032	1.047
Mean: Log Employment 2011	1.268	1.237
Mean: Employee Growth 2007-2012	23.8%	19.0%

Regressions	Alive in 2011 N=139,000	Growth 2007-11 N=87,000
1. No controls		
Immigrant owned	0.012	0.030
	(0.003)	(0.008)
Constant	0.623	0.165
Adj R2	0.000	0.000
2. State & 6-Digit NAICS		
Immigrant owned	0.000	0.022
	(0.003)	(0.008)
Constant	0.604	0.219
Adj R2	0.046	0.029
3. Plus size in 2007		
Immigrant owned	0.022	-0.088
	(0.003)	(0.008)
Constant	0.520	0.601
Adj R2	0.075	0.161

Notes: Sample includes non-public employer firms founded in 2002-2007. SBO firms are matched to LBD and followed until 2011. Observation counts are rounded to closest 100. Regressions are unweighted. Immigrant owner coefficient is reported for each specification.

Table 6a: Summary statistics by immigrant generation - all firms

	2007			2012		
	Immig. 1st gen.	Immig. 2nd gen.	No immig.	Immig. 1st gen.	Immig. 2nd gen.	No immig.
	1	2	3	4	5	6
% of firms	15.8%	3.1%	80.4%	17.0%	4.4%	77.9%
Mean: employees	8.30	9.83	10.67	8.39	9.20	11.08
Mean: employees if >0	9.26	11.04	11.71	9.43	10.51	12.36
Mean: receipts (thousands)	1,447	1,528	1,938	1,547	1,429	2,168
Mean: ln(receipts/employee)	11.57	11.45	11.55	11.63	11.51	11.58
Mean: payroll/employee	31,560	34,750	34,310	31,600	34,040	35,860
Mean: start-up capital	156,000	124,600	136,000	136,200	112,700	110,700
% one owner	48.8%	44.4%	48.8%	60.0%	57.5%	61.1%
% 2 owners	37.6%	40.3%	36.5%	29.3%	31.6%	28.9%
% 3 or more owners	13.6%	15.3%	14.7%	10.7%	10.9%	10.0%
% female owners	47.5%	52.6%	44.8%	43.4%	47.5%	40.5%
% owners < 35	6.0%	9.3%	4.6%	5.7%	10.0%	4.5%
% owners 35-55	52.1%	52.6%	45.0%	50.5%	50.4%	39.7%
% owners > 55	24.2%	19.9%	32.6%	28.7%	24.5%	41.5%
% mixed age	17.6%	18.2%	17.8%	15.1%	15.2%	14.4%
% high educated	41.1%	39.1%	40.4%	44.8%	45.4%	45.0%
% low educated	44.4%	44.1%	43.5%	43.5%	42.2%	43.2%
% mixed educated	14.5%	16.8%	16.1%	11.8%	12.4%	11.9%
% offer health insurance	36.4%	43.9%	50.5%	27.5%	33.7%	40.3%
% offer 401k	18.0%	22.9%	30.1%	13.4%	17.5%	23.2%
% offer paid leave	44.4%	51.3%	56.0%	36.3%	40.8%	47.8%
% hire temps	12.0%	14.3%	14.7%	6.9%	7.9%	7.0%
% hire full-time workers	75.4%	77.0%	77.4%	66.6%	67.5%	68.5%
% export	11.0%	7.8%	7.7%	7.5%	4.3%	3.7%
% outsource	2.5%	1.1%	0.9%	2.8%	1.3%	0.9%
% operations abroad	1.6%	0.8%	0.6%	2.6%	1.2%	1.0%

Notes: See Table 1a. Immig. 1st gen. firms are those with at least one first- but no second-generation immigrant owners. Immig. 2nd gen. firms are those with at least one second- but no first-generation immigrant owners. For these tabulations, we do not include firms with both first- and second-generation immigrant owners.

Table 6b: Summary statistics by immigrant generation - new firms

	2007			2012		
	Immig. 1st gen.	Immig. 2nd gen.	No immig.	Immig. 1st gen.	Immig. 2nd gen.	No immig.
	1	2	3	4	5	6
% of firms	23.0%	4.3%	72.0%	25.0%	6.4%	68.0%
Mean: employees	5.18	5.57	5.44	4.95	4.69	5.99
Mean: employees if >0	6.47	7.22	6.90	6.40	6.30	7.83
Mean: receipts (thousands)	734.4	693.7	730.8	744.0	656.7	856.6
Mean: ln(receipts/employee)	11.44	11.29	11.34	11.51	11.37	11.39
Mean: payroll/employee	27,740	32,120	31,310	28,510	31,190	32,390
Mean: start-up capital	162,900	128,800	137,400	143,500	120,400	127,400
% one owner	52.0%	45.0%	51.0%	62.9%	60.5%	61.7%
% 2 owners	36.1%	41.8%	38.1%	27.0%	29.7%	28.9%
% 3 or more owners	12.0%	13.3%	10.9%	10.1%	9.8%	9.4%
% female owners	47.4%	53.2%	46.9%	42.8%	51.6%	43.4%
% owners < 35	13.0%	20.0%	14.2%	13.1%	22.6%	14.8%
% owners 35-55	59.9%	55.2%	54.0%	59.8%	54.5%	50.6%
% owners > 55	10.4%	6.7%	15.4%	12.6%	8.9%	19.6%
% mixed age	16.8%	18.1%	16.5%	14.5%	13.9%	15.0%
% high educated	42.3%	40.6%	42.2%	46.5%	47.5%	49.3%
% low educated	44.8%	41.7%	42.6%	43.2%	39.4%	38.6%
% mixed educated	12.9%	17.7%	15.2%	10.3%	13.1%	12.1%
% offer health insurance	24.0%	30.5%	34.1%	18.3%	23.0%	26.7%
% offer 401k	9.8%	12.0%	15.7%	8.4%	11.0%	12.6%
% offer paid leave	32.7%	38.3%	38.8%	27.8%	30.6%	34.9%
% hire temps	10.2%	11.8%	10.9%	6.7%	6.7%	5.8%
% hire full-time workers	69.1%	68.2%	67.0%	62.2%	61.4%	60.4%
% export	8.3%	5.2%	4.7%	6.9%	3.3%	2.6%
% outsource	2.7%	1.1%	0.8%	3.1%	1.1%	1.2%
% operations abroad	1.5%	1.0%	0.5%	2.8%	1.1%	1.1%

Notes: See Table 6a. New firms are those created in the five years prior to the survey.