

Estimating the Contribution of Immigrant Business Owners to the U.S. Economy

by

**Robert W. Fairlie, Ph.D.
Santa Cruz, CA 95060**

for



Under contract no. SBAHQ-07-M-0380

Release Date: November 2008

This report was developed under a contract with the Small Business Administration, Office of Advocacy, and contains information and analysis that was reviewed and edited by officials of the Office of Advocacy. However, the final conclusions of the report do not necessarily reflect the views of the Office of Advocacy.

Estimating the Contribution of Immigrant Business Owners to the U.S. Economy

Robert W. Fairlie, Ph.D., Santa Cruz, CA 90560
2008 [47] pages. Under contract no. SBAHQ07M0380

Purpose

The objective of this study is to provide a set of estimates of immigrant business owners in the U.S. economy. Using data from three large nationally representative government datasets—the 2000 Census 5 percent Public Use Microdata Sample (PUMS), the 1996-2007 Current Population Survey (CPS), and the 1992 Characteristics of Business Owners (CBO)—this study also examines the contribution of immigrant businesses to the U.S. economy.

Overall Findings

According to Census 2000, immigrants constitute 12.2 percent of the total U.S. work force, and 12.5 percent of the total population of U.S. business owners. The total business income generated by immigrant business owners is \$67 billion, representing 11.6 percent of all business income in the United States. Immigrant business ownership is geographically concentrated in a few states.

Highlights

- Immigrants are nearly 30 percent more likely to start a business than are nonimmigrants, and they represent 16.7 percent of all new business owners in the United States
- Immigrant business owners make significant contributions to business income, generating \$67 billion of the \$577 billion in U.S. business income, as estimated from 2000 U.S. Census data. They generate nearly one-quarter of all business income in California—nearly \$20 billion—and nearly one-fifth of business income in New York, Florida, and New Jersey.

- Immigrant business ownership is geographically concentrated in a few states. Nearly 30 percent of all business owners in California are immigrants, compared with about 12.5 percent of the population of U.S. business owners. Twenty-five percent of business owners in New York and more than 20 percent in New Jersey, Florida, and Hawaii are foreign-born.
- In California, immigrants are 34.2 percent of the new business owners each month. Nearly 30 percent of all new business owners per month in New York, Florida, and Texas are immigrants.
- Immigrants own 11.2 percent of businesses with \$100,000 or more in sales and 10.8 percent of businesses with employees.
- Immigrants' contributions differ across sectors of the economy. They own a large share—more than one-fifth—of businesses in the arts, entertainment, and recreation industry. They also contribute significantly to other services, transportation, and wholesale and retail trade.
- Immigrants also own a large share of businesses in the lowest and highest skill sectors and in several industries.
- Although business owners from Mexico constitute the largest share of immigrant business owners, total immigrant business ownership, formation, and income originate with immigrant business owners from around the world.

Scope and Methodology

The report used three large nationally representative datasets: the Census 2000 5 percent PUMS Sample, the Current Population Survey (CPS 1996-2007), and the Characteristics of Business Owners (CBO 1992).

The Census 5 percent PUMS sample is the only nationally representative dataset with large enough sample sizes to examine business ownership among detailed immigrant groups, and the CBO is the only business-level dataset with information on a large sample of immigrants.

A longitudinal dataset from matching consecutive months of the CPS with large immigrant samples was created. The matched CPS data allow for a detailed analysis of rates of business creation among the foreign-born. These monthly surveys are representative of the entire U.S. population and contain observations for more than 130,000 people. Combining the 1996 to 2007 monthly data creates a sample size of more than 8 million adult observations.

Probit and least squares regressions were performed to identify the independent effect of different factors on business ownership. The detailed demographic information available in the Census micro-data makes it possible to control for many important determinants of business ownership.

This report was peer reviewed consistent with the Office of Advocacy's data quality guidelines. More information on this process can be obtained by contacting the director of economic research at advocacy@sba.gov or (202) 205-6533.

Ordering Information

The full text of this report and summaries of other studies performed under contract with the U.S. Small Business Administration's Office of Advocacy are available on the Internet at www.sba.gov/advo/research. Copies are available for purchase from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(800) 553-6847 or (703) 605-6000
TDD: (703) 487-4639

www.ntis.gov

Order number: PB2009-101040.

Paper A04 (\$33.00)

Microfiche A01 (\$27.00)

CD-ROM A00 (\$30.00)

Download A00 (\$15.00)

To receive email notices of Advocacy's newsletter, press, regulatory news, and research, visit <http://web.sba.gov/list>. For really simple syndication, visit www.sba.gov/advo/rsslibrary.html.

Executive Summary

A better understanding of how immigrants contribute to the U.S. economy is important. Few studies have examined how immigrant entrepreneurs contribute to total U.S. business ownership, formation, and income. Using data from three large, nationally representative government datasets—the 2000 Census 5 percent Public Use Microdata (PUMS) Sample, the 1996-2007 Current Population Survey (CPS), and the 1992 Characteristics of Business Owners (CBO)—this study examines the contributions of immigrant business owners and their businesses to the U.S. economy.

To provide a comprehensive picture of the contributions of immigrant business owners, several measures are examined. First, the total number of immigrant business owners based on household survey data is estimated from the 2000 Census. Second, the number of new immigrant business owners per month is estimated from newly created data matching consecutive months of the 1996-2007 CPS. Third, total immigrant-owned business income is estimated from the 2000 Census. Finally, the total sales and employment of immigrant-owned businesses based on business tax records are estimated from the 1992 CBO. The following are among the key findings:

1. The nearly 1.5 million immigrant business owners in the United States represent 12.5 percent of all business owners. Immigrants constitute 12.2 percent of the total work force in the United States. They own a large share of businesses in the lowest- and highest-skill sectors and in several industries, an indication that their contributions differ across sectors of the economy. Immigrant business ownership is geographically concentrated in a few states. Nearly 30 percent of all business owners in California are immigrants. One-fourth of New York business owners are foreign-born, as are more than one-fifth of business owners in New Jersey, Florida, and Hawaii.
2. Immigrants are nearly 30 percent more likely to start a business than nonimmigrants, and they represent 16.7 percent of all new business owners in the United States. In California, immigrants constitute 34.2 percent of all new

business owners each month and they represent roughly 5 percent of all new business owners in the United States. Nearly 30 percent of all new business owners per month in New York, Florida, and Texas, are immigrants.

3. The total business income generated by immigrant business owners is \$67 billion, 11.6 percent of all business income in the United States. Immigrant business owners generate nearly \$20 billion or one-quarter of all business income in California, and nearly one-fifth of all business income in New York, Florida, and New Jersey.
4. Immigrants own 11.2 percent of all businesses with \$100,000 or more in sales and 10.8 percent of all businesses with employees.
5. Although business owners from Mexico constitute the largest share of immigrant business owners, immigrants from around the world are sources of U.S. business formation, ownership, and income.

These findings indicate that immigrants make large and important contributions to business ownership, formation, and income in the United States, particularly in some states and economic sectors.

Introduction

The entrepreneurial success of immigrants is well known. For example, business ownership is higher among the foreign-born than the native-born in many developed countries including the United States, the United Kingdom, Canada, and Australia (Borjas, 1986, Schuetze and Antecol, 2006, and Fairlie et al., 2008). Businesses owned by some immigrant groups are also very successful, with higher incomes and employment than native-owned businesses. Many developed countries have created special visas and entry requirements in an attempt to attract immigrant entrepreneurs (Schuetze and Antecol, 2006). The United States has a small program that gives special preferences for admission to immigrants who invest \$1 million in businesses that create at least 10 new full-time jobs (U.S. Department of Homeland Security, 2007).

Recently, much attention has been drawn to the contributions of immigrant entrepreneurs to the technology and engineering sectors of the economy. Twenty-five percent of engineering and technology companies started in the past decade were founded by immigrants (Wadwha, et al., 2007). These firms had \$52 billion in sales and hired 450,000 workers in 2005 in the United States. Previous research also indicates that immigrant entrepreneurs have made important contributions to high-tech areas such as Silicon Valley (Saxenian, 1999, 2000). Engineers from China and India run roughly one-quarter of all technology businesses started in Silicon Valley. These firms have created substantial wealth and many high-tech jobs in the area. High rates of immigrant entrepreneurship also contribute to overall business creation in Silicon Valley (Fairlie, 2007).

Although many previous studies examine immigrant business ownership, very little is known about business formation rates and business performance among immigrants. Previous research examining the contributions of immigrant business owners has generally focused on specific sectors of the economy or regions of the country. A broader understanding of immigrant business ownership at the national level and for all sectors is needed. The lack of data availability on immigrant-owned businesses has been a major hindrance for research in this area. Limited evidence is available on how many new businesses are created by immigrants, the types of businesses created by these

immigrants, and the countries of origin for these immigrant business owners. Thus, the contribution of immigrant-owned businesses to the total U.S. economy is not well understood.

In this study, the contribution of immigrants to business ownership, formation, and performance is examined using three large nationally representative datasets—the Census 5 percent PUMS sample, the Current Population Survey (CPS), and the Characteristics of Business Owners (CBO). The Census 5 percent PUMS sample is the only nationally representative dataset with large enough sample sizes to examine business ownership among detailed immigrant groups, and the CBO is the only business-level dataset with information on a large sample of immigrants. Consecutive months of CPS data are matched to address the absence of longitudinal data with large immigrant samples to study business formation.¹ The matched CPS data allow for a detailed analysis of rates of business creation among the foreign-born.

The goal of this study is to provide a comprehensive analysis of immigrant business ownership and immigrants' contributions to the U.S. economy. Several key questions about immigrant business ownership are explored using Census, CPS, and CBO data:

- How much do immigrant groups contribute to total business ownership in the United States?
- Do immigrants have higher business ownership rates than nonimmigrants and what percent of all businesses do immigrants own?
- Where do immigrant business owners come from and do immigrant-owned businesses contribute more to specific sectors of the U.S. economy?
- How do immigrants contribute to new business starts?
- Are business formation rates higher among immigrants and do immigrants start a disproportionate share of businesses requiring certain skill levels or in certain industries and states?
- What is the contribution of immigrant-owned businesses to total business income, sales, and employment in the United States?

- In which industries and parts of the country do immigrants generate large shares of total U.S. business income?

Data

The only nationally representative and publicly available datasets with large enough samples to study immigrant business owners in detail are the Census 5 percent PUMS sample and the Current Population Survey. Although both are cross-sectional datasets, consecutive months of the CPS can be matched creating monthly panel data following Fairlie (2008).² This is important for the creation of a measure of the rate of business formation at the individual owner level. Cross-sectional datasets allow only for the calculation of the total number of existing business owners. The combination of 2000 Census microdata and matched CPS data allows for a detailed study of immigrant business ownership and formation in the United States. Published estimates from the Characteristics of Business Owners provide further evidence on the contributions of immigrant-owned businesses. Each dataset is described in turn.

The 2000 Census

The primary sample used to examine immigrant business ownership and net business income is the 5 percent Public Use Microdata Sample (PUMS) of the 2000 U.S. Census of Population. The Census microdata include over 8 million observations for working-age adults. Even after conditioning on business ownership, the sample size is very large, allowing one to explore the causes of differences in net business incomes. The Census is also large enough to examine regional, industrial, and country-of-origin differences across immigrant business owners.

Using the Census data, business ownership is measured based on the class-of-worker question that refers to the respondent's main job or business activity (i.e., activity

¹ Although the cross-sectional CPS data are commonly used to estimate static rates of business ownership, the matched data allow for the creation of a dynamic measure of entrepreneurship that captures the rate of business formation at the individual owner level.

with the most hours) at the time of the interview. Business owners are individuals who report that they are 1) "self-employed in own not incorporated business, professional practice, or farm," or 2) "self-employed in own incorporated business, professional practice, or farm." This definition includes owners of all types of businesses—incorporated, unincorporated, employer, and nonemployer firms. The samples used in this analysis include all business owners of ages 20 and over 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.³ Fifteen hours per week is chosen as the cutoff because it represents a reasonable amount of work effort in the business, about two 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 wage-and-salary workers.

Matched Current Population Survey, 1996-2007

Although research on entrepreneurship is growing rapidly, very few national datasets provide information on recent trends in business formation. A relatively new measure to study immigrant-owned business formation is matched data from the 1996-2007 Current Population Surveys (CPS). The new measure captures the rate of business creation at the individual owner level. The underlying datasets used to create the entrepreneurship or business formation measure are the basic monthly files of the Current Population Survey (CPS). Longitudinal data can be created by linking the CPS files over time. The surveys, conducted monthly by the U.S. Bureau of the Census and the U.S. Bureau of Labor Statistics, are representative of the entire U.S. population and contain observations for more than 130,000 people. Combining the 1996 to 2007 monthly data creates a sample size of more than 8 million adult observations.

² National estimates for several demographic groups and state-level estimates created from these microdata are reported in the Kauffman Index of Entrepreneurial Activity (Fairlie, 2008).

³ 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.

Households in the CPS are interviewed each month over a four-month period. Eight months later they are re-interviewed in each month of a second four-month period. Thus, individuals who are interviewed in January, February, March, and April of one year are interviewed again in January, February, March, and April of the following year. The rotation pattern of the CPS thus allows for matching information on individuals monthly for 75 percent of all respondents to each survey. To match these data, the author uses the household and individual identifiers provided by the CPS and removes false matches by comparing race, sex, and age codes from the two months. All nonunique matches are also removed from the dataset. Monthly match rates are generally between 94 and 96 percent, and false positive rates are very low.

Potential measures of the number of existing business owners or businesses are readily available from several nationally representative government datasets. For example, the Economic Census's Survey of Business Owners provides estimates of the total number of businesses every five years, and the CPS provides estimates of the total number of self-employed business owners every month.⁴ Typical measures of business ownership based on these data, however, do not capture the dynamic nature of business creation. In particular, they do not measure business formation at the time the business is created.⁵

The business formation rate is estimated by first identifying all individuals who do not own a business as their main job in the first survey month, then matching CPS files to determine whether they own a business as their main job (with 15 or more usual hours worked per week) in the following survey month. The business formation rate is thus defined as the percentage of the population of non-business owners who start a business each month. To identify whether they are business owners in each month, the author uses information on their main job, defined as the one with the most hours

⁴ Regularly published estimates from the CPS by the U.S. Bureau of Labor Statistics, such as those reported in *Employment and Earnings*, however, exclude incorporated business owners, who represent roughly one-third of all business owners.

⁵ The Total Entrepreneurial Activity (TEA) index used in the Global Entrepreneurship Monitor captures individuals who are involved in either the startup phase or managing a business that is less than 42 months old (Reynolds, Bygrave, and Autio, 2003).

worked. Thus, individuals who start side or casual businesses are not counted if they are working more hours on a wage-and-salary job.⁶

Characteristics of Business Owners, 1992

Estimates of business ownership and formation rates and of the net business income of owners are available using Census and CPS microdata, but another approach to examining the question is to use business-level data, where the business, rather than the owner, is the focus of the analysis. The main advantage of these data is that they typically provide more information on business performance than individual-level data, but the main disadvantage is that they do not include information on the demographic characteristics of the owner. (See Headd and Saade, 2008, and Fairlie and Robb, 2008, for more discussion on the comparison between individual-level and business-level data on entrepreneurship.) Unfortunately, the only large nationally representative business-level data in which the immigrant status of the owner is known are in the 1992 Characteristics of Business Owners (CBO).⁷ The most recent version of the CBO, the 2002 Survey of Business Owners (SBO), does not include information on the immigrant status of the owner. Because the CBO microdata are confidential and access is restricted, the only estimates presented are U.S. Census Bureau figures for 1997.

Comparison of Measures of Business Ownership and Immigration

Before estimating the contribution of immigrants to U.S. business ownership, formation and income, it is useful to briefly compare measures of business ownership. A brief discussion of the issues will illuminate the following analysis, which uses several different measures and datasets. Table 1 reports estimates of the number of business owners, businesses and new business owners from the most commonly used government sources that include at least limited information on the owner (see Fairlie and Robb, 2008, for more discussion of data sources).

⁶ These data are now available for downloading from <http://www.kauffman.org/kauffmanindex/>.

Table 1
Comparison of Estimates of Number of U.S. Business Owners and Businesses

	Immigrants	U.S. total
Total number of self-employed business owners (Census 2000)	1,436,410	11,521,910
Total number of businesses (Survey of Business Owners 2002)	Not available	22,480,256
Total number of businesses (Characteristics of Business Owners 1992)	1,617,482	17,253,143
Total number of new business owners per month (Matched Current Population Survey 1996-2007)	81,100	484,864
Total number of employer firm births (Statistics of U.S. Businesses 2004-2005)	Not available	644,122
Total legal permanent residents, naturalizations and refugees (U.S. Department of Homeland Security 2007)	1,761,109	Not applicable
Total work force (Census 2000)	14,781,400	121,440,670

Notes: 1) The total number of self-employed business owners from the 2000 Census includes business owners with 15 or more hours worked per usual week. 2) The total number of businesses from the 2002 SBO is based on tax records and excludes publicly held, foreign-owned, not-for-profit, and other firms. 3) The total number of businesses from the 1992 CBO is based on tax records and does not include C corporations. 4) The total number of new business owners per month from the matched CPS 1996-2007 includes new business owners with 15 or more hours worked per week. 5) The total number of employer firm births from the SUSB includes only new employer firms. 6) The total work force from the 2000 Census includes all workers with 15 or more hours worked per usual week. Sources: Author's calculations based on 2000 Census microdata and 1996-2007 Matched CPS microdata, U.S. Census Bureau (1997), U.S. Census Bureau (2006), U.S. Department of Homeland Security (2007), Statistics of U.S. Businesses (2004-05), and Fairlie and Robb (2008).

Estimates from the 2000 Census data indicate that there are 11.5 million self-employed business owners in the United States. In comparison, estimates from the well known and commonly referenced 2002 Survey of Business Owners (SBO), also conducted by the U.S. Census Bureau, indicate that there are 22.5 million businesses in the United States.⁸ Why do these estimates differ so much? First, the Census 2000 estimates of the number of business owners are based on household survey data and enumerate individual business owners. The SBO includes all business operations during

⁷ See Fairlie and Robb (2008) for more discussion of the availability of owner information in business-level datasets.

⁸ These estimates differ from published estimates reported in U.S. Census Bureau (2006) because they exclude publicly held, foreign-owned, not-for-profit, and other firms (Fairlie and Robb, 2008).

2002 that filed tax forms as individual proprietorships, partnerships, or any type of corporation. Second, the 2000 Census estimates include only individuals owning businesses as their main work activity with a substantial commitment of hours. The SBO includes all firms with receipts of \$1,000 or more, which may include side or "casual" businesses owned by wage-and-salary workers, the unemployed, or retired workers. Roughly 30 percent of business owners in the SBO report working less than 20 hours per week in the business (U.S. Census Bureau, 2006). Third, the Census 2000 estimates include all business owners, whereas the SBO excludes agriculture and a few other types of businesses. Finally, Census 2000 estimates of the number of business owners and SBO estimates of the number of businesses differ because of multiple owners of businesses, individuals who own multiple businesses, workers in occupations such as sales and real estate, the reference period for capturing business ownership, and other measurement issues (see Headd, 2005, Headd and Saade, 2008, Bjelland et al., 2006, and Fairlie and Robb, 2008, for more discussion).

The 2002 SBO does not include information on the immigrant status of the owner. Estimates here of the number of immigrant-owned businesses are from the 1992 CBO. The 2000 Census indicates that there are 1.4 million immigrant business owners in the United States, and the 1992 CBO indicates that there are 1.6 million immigrant-owned businesses. Estimates of the number of immigrant and total business owners from the Census and estimates of the number of immigrant-owned and all businesses from the CBO differ for reasons similar to those noted above.⁹ The main difference is that the CBO is based on tax records and thus includes small-scale business activities and other individuals who do not consider their main work activity to be self-employment.

Table 1 also reports estimates of the number of new business owners each month from the matched CPS 1996-2007 data. The CPS data indicate that there are 484,864 new business owners and 81,100 new immigrant business owners in the United States each month. A measure of business starts that has been commonly used in the previous literature is employer firm births from the Statistics of U.S. Businesses (SUSB) created by the U.S. Census Bureau.¹⁰ The SUSB data, however, capture a narrower range of

⁹ One difference is that the 1992 CBO excludes C corporations, whereas the 2002 SBO includes them.

¹⁰ Estimates from the SUSB are reported by the U.S. Small Business Administration, Office of Advocacy (see www.sba.gov/advo/research/data.html). See also the Advanced Research Technologies, LLC (2005)

entrepreneurial activity than estimates reported here from the matched CPS data. These data, collected by the U.S. Census Bureau and summarized by the U.S. Small Business Administration (SBA), Office of Advocacy, include only employer firms. The exclusion of nonemployer firms is likely to lead to a substantial undercount of the rate of business formation because nonemployer firms represent 75 percent of all firms (U.S. Small Business Administration, 2001, Headd, 2005) and a significant number of new employer firms start as nonemployer firms (Davis, et. al., 2006). Estimates of business formation from the CPS do not suffer from this problem because they include all new employer and nonemployer firms. Indeed, as reported in Table 1, the SUSB data indicate that there were 644,122 new employer firm births from 2004 to 2005 in the United States. It is also difficult to compare these estimates to the CPS estimates because they are based on business-level data, whereas the CPS is based on individual-level data. Furthermore, the matched CPS data provide estimates of the number of new business owners per month, which allows for individuals to start and stop multiple businesses over the year. Thus, an annual estimate of the number of new business owners from the CPS data cannot simply be obtained by multiplying these estimates by 12.

Table 1 also reports estimates of the total number of immigrants in the United States. Estimates from the U.S. Department of Homeland Security (2007) indicate that there were 1.8 million new legal permanent residents, naturalizations, and refugees/aslyees in 2007. These estimates capture the flow of immigrants, but it is more useful to estimate the number of immigrants currently residing in the United States (the stock of immigrants) to identify the total contributions of immigrant business owners. Estimates from the 2000 Census indicate that there are 14.8 million immigrants in the U.S. work force. Immigrants represent 12.2 percent of the total work force in the United States.

report to the U.S. Small Business Administration, and Burton: Center for American Progress (2005) for results for detailed geographical areas.

Business Ownership

Using microdata from the Census and matched CPS, business ownership rates, business formation rates, and business performance among immigrants are examined. What is the contribution of immigrants to the stock of business owners in the United States? What is the immigrant contribution to the number of new business owners? How much total business income do businesses owned by the foreign-born generate? Focusing on business formation separate from business performance is important for providing a comprehensive view of the state of immigrant business ownership. Demographic disparities in business formation and business longevity are the underlying causes of differences in business ownership.

Examining the contribution of immigrants to the economy entails estimating the total number of immigrant business owners in the United States and comparing that to the total number of business owners. Table 2 reports estimates of the total number of immigrant business owners from the 2000 Census. The 2000 Census is the latest available dataset with large enough samples to examine detailed immigrant groups. Estimates from the 2000 Census indicate that there are nearly 1.5 million immigrant business owners, representing 12.5 percent of all 11.5 million business owners in the United States.

The immigrant share of all business owners compares favorably to the immigrant share of the work force. Immigrants constitute 12.2 percent of the total U.S. work force, implying a higher business ownership rate than the U.S.-born rate. Indeed, 9.7 percent of immigrants own a business, compared with 9.5 percent of the U.S.-born work force. This finding is consistent with the previous literature that documents higher business ownership rates among immigrants (see Schuetze and Antecol, 2006 for example). The difference in business ownership rates, however, is not large.

Is the higher rate of business ownership among immigrants attributable to favorable characteristics, such as education, age, marital status, region, and other demographic characteristics? This question is investigated by estimating multivariate regressions that control for detailed demographic characteristics of the work force. Regression models allow one to identify the independent effect of different factors on

Table 2
Number of Business Owners by Immigrant Group, Census 2000

Group	Business owners		Total work force		Business ownership rate (percent)
	Number	Percent of U.S. total	Number	Percent of U.S. total	
U.S. total	11,521,910	100.00	121,440,670	100.00	9.5
U.S.-born total	10,085,500	87.53	106,659,270	87.83	9.5
Immigrant total	1,436,410	12.47	14,781,400	12.17	9.7
Mexico	255,300	2.22	3,944,740	3.25	6.5
Korea	90,280	0.78	400,110	0.33	22.6
India	60,210	0.52	596,010	0.49	10.1
China	57,590	0.50	610,540	0.50	9.4
Vietnam	51,720	0.45	523,460	0.43	9.9
Canada	50,400	0.44	388,480	0.32	13.0
Cuba	49,090	0.43	379,650	0.31	12.9
Germany	41,430	0.36	315,710	0.26	13.1
Philippines	36,860	0.32	785,170	0.65	4.7
Italy	34,520	0.30	190,700	0.16	18.1
Iran	33,570	0.29	156,310	0.13	21.5
El Salvador	31,180	0.27	411,450	0.34	7.6
Poland	30,810	0.27	226,730	0.19	13.6
England	27,530	0.24	222,730	0.18	12.4
Colombia	25,760	0.22	243,560	0.20	10.6
Taiwan	23,480	0.20	176,840	0.15	13.3
Greece	20,730	0.18	79,750	0.07	26.0
Dominican Republic	19,960	0.17	271,450	0.22	7.4
Jamaica	18,980	0.16	316,070	0.26	6.0
Guatemala	18,710	0.16	231,500	0.19	8.1

Notes: 1) The sample consists of all workers with 15 or more hours worked per usual week. The total sample size is 5,967,675. 2) All reported estimates use sample weights provided by the 2000 Census. 3) The reported immigrant groups represent the largest 20 groups based on the number of business owners. Source: Author's calculations from 2000 Census microdata.

business ownership. The detailed demographic information available in the Census microdata makes it possible to control for many important determinants of business ownership.

Specification 1 of Table 3 reports marginal effects estimates from a probit regression for the probability of business ownership using the 2000 Census.¹¹ A probit model is commonly used to estimate regression models in which the dependent variable

¹¹ Marginal effects are estimated using the coefficient estimates and the full sample distribution. They provide an estimate of the effect of a 1 unit change in the explanatory variable on the probability of business ownership.

Table 3
 Probit and Linear Regressions for Business Ownership, Formation and Income
 Census (2000) and Matched Current Population Survey (1996-2007)

Explanatory variables	(1)	(2)	(3)
Dependent variable	Business ownership	Business formation	Log business income
Data source	2000 Census	CPS	2000 Census
Immigrant	0.0180 (0.0005)	0.0009 (0.0001)	0.0201 (0.0069)
Black	-0.0677 (0.0005)	-0.0012 (0.0001)	-0.1651 (0.0090)
Latino	-0.0464 (0.0005)	-0.0004 (0.0001)	-0.1380 (0.0086)
Asian	-0.0267 (0.0007)	-0.0013 (0.0001)	-0.0360 (0.0109)
Native American	-0.0324 (0.0015)	-0.0005 (0.0002)	-0.3209 (0.0251)
Female	-0.0495 (0.0002)	-0.0021 (0.0000)	-0.7106 (0.0039)
Age	0.0054 (0.0001)	0.0003 (0.0000)	0.0925 (0.0009)
Age squared	0.0000 (0.0000)	0.0000 (0.0000)	-0.0010 (0.0000)
High school graduate	-0.0049 (0.0004)	0.0003 (0.0001)	0.1620 (0.0064)
Some college	-0.0053 (0.0004)	0.0006 (0.0001)	0.3052 (0.0064)
College graduate	0.0019 (0.0004)	0.0011 (0.0001)	0.8501 (0.0063)
Mean of dependent variable	0.0949	0.0028	10.0569
Sample size	5,967,675	7,789,698	596,385

Notes: 1) The sample includes all workers with 15 or more hours worked per usual week in Specification 1, all non-business owners in the first survey month in Specification 2, and all business owners with 15 or more hours worked per usual week in Specification 3. 2) The probability of business ownership is estimated using a probit model in Specification 1, the probability of starting a business is estimated using a probit model in Specification 2, and log business income is estimated using a linear regression in Specification 3. 3) Marginal effects and their standard errors are reported for Specifications 1 and 2. 4) Although not reported, Specifications 1 and 3 also include marital status, children and region as independent variables, and Specification 2 also includes marital status, region, urbanicity, and year of survey as independent variables.

takes on only the values of 0 and 1. With this model, the probability of being a business owner is expressed as:

$$\text{Prob}(Y=1) = \Phi(\alpha + X\beta + I\gamma),$$

where $Y=1$ if the individual is a business owner and $Y=0$ if the individual is a wage/salary worker, Φ is the normal distribution, α is a constant term, X includes the demographic variables such as education, age and region, and I is a dummy variable equal to 1 if the individual is an immigrant. In this model, γ provides an estimate of the difference between immigrants and the native-born in the business ownership rate after controlling for the effects of education, age, and other individual characteristics. The probit regressions include immigrant status and controls for broad racial/ethnic categories, gender, age, marital status, children, and region.

The probit estimates indicate that African Americans, Latinos, Asians, and Native Americans are less likely to own businesses after controlling for other factors. Women are found to be much less likely to own businesses than are men. As in previous research, education is positively related to education and business ownership (see van der Sluis, van Praag and Vijverberg, 2004, and Moutray, 2007, for recent reviews of the literature). The relationship between business ownership and age is generally positive. Overall, these findings from 2000 Census microdata are consistent with findings from the previous literature on the determinants of business ownership (see Parker, 2004, and Fairlie and Robb, 2008, for recent reviews of the literature on the determinants of business ownership).

The key coefficient of interest in this analysis is immigrant status. After controlling for racial, gender, education, family, and regional differences, the author finds that immigrants are more likely than nonimmigrants to own businesses. The marginal effect estimate is 0.018, implying that immigrants are 1.8 percentage points more likely to own a business than are the U.S.-born. This is larger than the raw difference of 0.3 percentage points in business ownership rates reported in Table 1, suggesting that immigrants would have even higher business ownership rates in the United States if they had characteristics more similar to those of the U.S.-born.

Source Countries

What are the main source countries of immigrant business owners in the United States? In addition to the immigrant total contribution, Table 2 also reports estimates of the number of business owners by source country for the top 20 countries. The largest contributing country is Mexico, with 255,300 business owners representing 2.22 percent of all business owners in the United States. Korean immigrant business owners make up the next largest share of business owners, with 0.78 percent or 90,280. Indian, Chinese, Vietnamese, Canadian, and Cuban immigrants also represent relatively large shares of immigrant business owners in the United States. Of these groups, Mexican immigrants have a rate of business ownership substantially below the national average (6.5 percent compared with 9.5 percent). The large contribution to the total number of immigrant business owners is thus being driven by the large share of Mexican immigrants in the United States and not by higher business ownership rates. In contrast, 22.6 percent of Korean immigrants own a business, one reason they represent the second largest number of immigrant business owners in the United States.

Overall, immigrants contribute substantially to the number of business owners in the United States. These businesses are also quite diverse; Mexican immigrants are the only group representing more than 10 percent of the total immigrant share of business owners. Business owners in the United States come from countries around the world.

Education, Industry and State Contributions

Immigrant business owners constitute a large share of all business owners in the United States. What is their contribution to different parts of the U.S. economy? Immigrant business owners contribute differently to high-skilled businesses, industries, and states. Education is used as a proxy for skill level based on available Census data. Table 4 reports estimates of the number of immigrant business owners by education level. Immigrant business owners make up the largest share of the least educated business owners. Slightly more than 28 percent of all business owners with less than a high school degree are immigrants. This educational group represents 27.2 percent of all immigrant

Table 4
Number of Immigrant Business Owners by Education Level
Census 2000

Industry	Immigrant business owners			All business owners	
	Number	Percent of immigrant total	Percent of U.S. education total	Number	Percent of U.S. total
All education levels	1,436,420	100.0	12.5	11,521,920	100.0
Less than high school	390,690	27.2	28.4	1,376,540	11.9
High school graduate	285,710	19.9	9.6	2,977,700	25.8
Some college	310,100	21.6	9.1	3,399,700	29.5
College graduate	449,920	31.3	11.9	3,767,980	32.7

Notes: 1) The sample includes all business owners with 15 or more hours worked per usual week. 2) All reported estimates use sample weights provided by the 2000 Census. Source: Author's calculations from 2000 Census microdata.

business owners in the United States. The largest educational group among immigrants is college graduates, who constitute 31.3 percent of all immigrant business owners, and immigrant business owners represent 11.9 percent of all business owners with a college education. Interestingly, immigrant business owners contribute much less to the middle of the educational distribution—those who have completed high school but not college. This is because immigrants represent a smaller share of the U.S. population for these education levels.

Similar to the analysis by skill level, it is useful to examine how immigrant-owned businesses contribute to specific industries in the United States (Table 5). Immigrant business owners make notable contributions to the U.S. economy in several industries. More than one-fifth of all businesses in the arts, entertainment and recreation industry are owned by immigrants. This is nearly double the 12.5 percent immigrant contribution to all industries. Immigrant-owned businesses also contribute substantially to other services (17.6 percent), transportation (16.9 percent), wholesale trade (15.9 percent), and retail trade (15.5 percent).

Table 5
Number of Immigrant Business Owners by Industry
Census 2000

Industry	Immigrant business owners			All business owners	
	Number	Percent of immigrant total	Percent of U.S. industry total	Number	Percent of U.S. total
All industries	1,436,410	100.0	12.5	11,521,910	100.0
Agriculture and mining	26,740	1.9	3.7	730,800	6.3
Construction	187,030	13.0	9.6	1,945,910	16.9
Manufacturing	73,070	5.1	13.6	535,550	4.6
Wholesale trade	60,900	4.2	15.9	383,370	3.3
Retail trade	182,850	12.7	15.5	1,176,230	10.2
Transportation	71,470	5.0	16.9	423,320	3.7
Information	16,330	1.1	9.2	177,290	1.5
Finance, insurance and real estate	76,900	5.4	8.6	889,800	7.7
Professional services	219,830	15.3	10.4	2,115,610	18.4
Education, health and social services	157,740	11.0	13.0	1,213,620	10.5
Arts, entertainment and recreation	144,240	10.0	21.1	683,390	5.9
Other services	219,320	15.3	17.6	1,247,020	10.8

Notes: 1) The sample includes all business owners with 15 or more hours worked per usual week. 2) All reported estimates use sample weights provided by the 2000 Census. Source: Author's calculations from 2000 Census microdata.

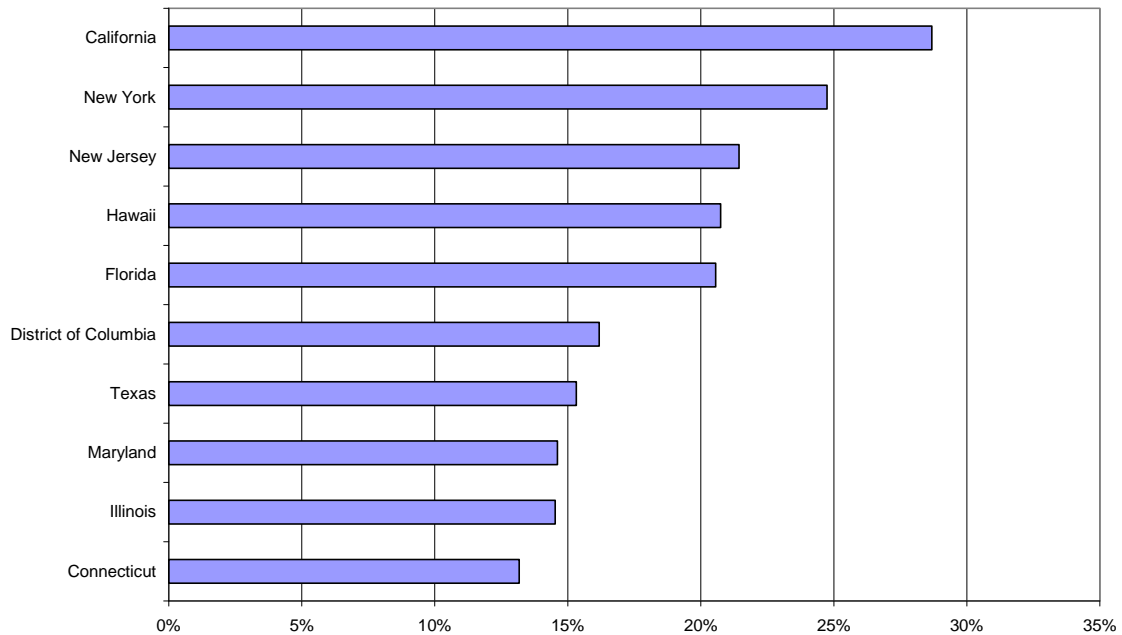
Immigrants are heavily concentrated in California, New York, Florida, and Texas (U.S. Department of Homeland Security, 2007) and may contribute more to the economies of these states than others. Table 6 reports estimates of the number of immigrant business owners by state and Figure 1 displays estimates for the top 10 states. California has by far the largest number of immigrant business owners, with 427,580. These immigrant business owners represent a very large share of all business owners in the state. Nearly 30 percent of all business owners in California are immigrants. Roughly one-fourth of all business owners in New York one one-fifth in New Jersey, Florida, and Hawaii are foreign-born. Immigrant contributions to business ownership in all these states are substantially higher than the national average of 12.5 percent.

Table 6
Number of Immigrant Business Owners by State
Census 2000

Industry	Immigrant business owners			All business owners	
	Number	Percent of immigrant total	Percent of state total	Number	Percent of U.S. total
U.S.total	1,436,410	100.0	12.5	11,521,910	100.0
Alabama	4,361	0.3	2.7	159,460	1.4
Alaska	1,946	0.1	7.5	25,990	0.2
Arizona	24,357	1.7	12.1	200,900	1.7
Arkansas	2,327	0.2	1.9	122,150	1.1
California	427,580	29.8	28.7	1,490,590	12.9
Colorado	15,875	1.1	6.6	241,150	2.1
Connecticut	19,741	1.4	13.2	149,810	1.3
Delaware	2,044	0.1	7.2	28,330	0.2
District of Columbia	2,787	0.2	16.2	17,230	0.1
Florida	146,039	10.2	20.6	710,530	6.2
Georgia	25,883	1.8	7.7	334,140	2.9
Hawaii	10,780	0.8	20.7	51,970	0.5
Idaho	2,390	0.2	3.4	70,280	0.6
Illinois	65,178	4.5	14.5	448,600	3.9
Indiana	7,351	0.5	3.3	219,980	1.9
Iowa	2,448	0.2	1.7	147,780	1.3
Kansas	4,305	0.3	3.4	128,360	1.1
Kentucky	3,331	0.2	2.1	154,960	1.3
Louisiana	7,940	0.6	5.0	159,200	1.4
Maine	2,421	0.2	3.3	74,180	0.6
Maryland	29,500	2.1	14.6	201,920	1.8
Massachusetts	33,372	2.3	12.6	265,850	2.3
Michigan	22,714	1.6	6.4	356,250	3.1
Minnesota	6,640	0.5	2.8	241,440	2.1
Mississippi	2,310	0.2	2.3	99,430	0.9
Missouri	7,151	0.5	3.0	236,350	2.1
Montana	950	0.1	1.5	64,600	0.6
Nebraska	1,356	0.1	1.4	97,270	0.8
Nevada	8,265	0.6	13.1	62,920	0.5
New Hampshire	3,442	0.2	5.5	63,010	0.5
New Jersey	68,870	4.8	21.4	321,310	2.8
New Mexico	6,816	0.5	8.6	79,700	0.7
New York	175,834	12.2	24.7	710,560	6.2
North Carolina	15,906	1.1	4.8	334,090	2.9
North Dakota	552	0.0	1.4	38,440	0.3
Ohio	16,341	1.1	4.1	395,450	3.4
Oklahoma	4,972	0.3	3.2	155,890	1.4
Oregon	13,786	1.0	7.4	187,050	1.6
Pennsylvania	26,519	1.8	6.1	435,390	3.8
Rhode Island	3,697	0.3	9.3	39,820	0.3
South Carolina	4,776	0.3	3.3	144,600	1.3
South Dakota	667	0.0	1.4	47,660	0.4
Tennessee	7,523	0.5	3.3	230,830	2.0
Texas	125,184	8.7	15.3	817,270	7.1
Utah	4,546	0.3	5.2	87,710	0.8
Vermont	1,479	0.1	3.6	41,170	0.4
Virginia	29,155	2.0	11.0	265,520	2.3
Washington	26,895	1.9	10.2	263,590	2.3
West Virginia	1,588	0.1	3.1	51,410	0.4
Wisconsin	5,907	0.4	2.7	222,320	1.9
Wyoming	615	0.0	2.2	27,500	0.2

Notes: 1) The sample consists of all business owners with 15 or more hours worked per usual week.
2) All reported estimates use sample weights provided by the 2000 Census. Source: Author's calculations from 2000 Census microdata.

Figure 1
Immigrant Share of All Business Owners for Top 10 States
Census 2000



Business Formation

The business ownership rate captures the stock of business owners in the economy at a given point in time, but does not capture the dynamics of business creation. In this section, the author examines business formation among immigrants. In particular, I estimate the number of new immigrant business owners and make comparisons to the total number of new business owners. This analysis captures how immigrants contribute to the flow of businesses in the U.S. economy. New businesses are often associated with economic growth, innovation, and the creation of jobs.

For the analysis of business formation, panel data are needed. The matched CPS (1996-2007) microdata, offering both panel data and very large sample sizes, constitute the only dataset in which business creation by immigrants can be examined. Table 7 reports estimates of the number of new immigrant business owners in the United States. Some 81,000 immigrants start businesses each month. This represents 16.7 percent of all new business owners in the United States, which is higher than the share of all business owners (stock) or of the work force. Indeed, immigrants are found to create businesses at

Table 7
Number of New Business Owners per Month by Immigrant Group
Matched Current Population Survey (1996-2007)

Group	New business owners		Business formation rate	
	Number per month	Percent of U.S. total	Percent	Number per 100,000
U.S. total	484,864	100.00	0.28	284
U.S.-born total	403,763	83.27	0.27	273
Immigrant total	81,100	16.73	0.35	349
Mexico	23,094	4.76	0.34	340
El Salvador	3,178	0.66	0.47	472
Cuba	3,098	0.64	0.42	425
Korea	2,870	0.59	0.57	575
India	2,619	0.54	0.29	292
Dominican Republic	2,417	0.50	0.47	467
Guatemala	1,758	0.36	0.52	518
Jamaica	1,691	0.35	0.40	401
Vietnam	1,678	0.35	0.24	245
Canada	1,652	0.34	0.35	354

Notes: 1) The sample consists of non-business owners who do not own a business in the first survey month. The total sample size is 7,789,698. 2) Business formation is defined as those individuals who report starting a business in the second survey month with 15 or more hours worked per week. 3) The reported immigrant groups represent the largest 10 groups based on the number of new businesses. Source: Author's calculations from matched 1996-2007 CPS microdata.

a faster rate than nonimmigrants. The business formation rate per month among immigrants is 0.35 percent; that is, of 100,000 non-business-owning immigrants, 350 start a business each month. This rate of business formation is higher than the nonimmigrant rate of 0.27 percent, or 270 of 100,000 U.S.-born non-business owners per month. Although higher rates of business ownership have been documented extensively in the previous literature, the finding of substantially higher immigrant-owned business formation rates is a relatively new and important finding. Combined with the previous finding of slightly higher business ownership rates among immigrants relative to nonimmigrants, it indicates that immigrants move into and out of business ownership at much higher rates than nonimmigrants.¹²

¹² Conditional on two groups having similar business ownership rates, the only way that one group can have a higher business entry rate is if it also has a higher business exit rate (see Fairlie, 2006, and Fairlie and Robb, 2008, for more discussion).

Are these higher rates of business formation among immigrants attributable to differences in education and other demographic characteristics? Specification 2 of Table 3 reports estimates from probit regressions for the probability of starting a business each month using matched CPS data. Only non-business owners in the first survey month are included in the sample. The dependent variable equals 1 if the individual reports owning a business in the second survey month and 0 if they do not report owning a business in the second survey month. The estimates indicate that African Americans, Latinos, Asians, and Native Americans are less likely to start businesses after controlling for other factors. Women are also less likely to start businesses. Business creation generally increases with age and strongly increases with education. College graduates have a 0.11 percentage point higher rate of business creation per month than those with less than a high school education. This difference represents a monthly rate of 110 more new business owners per 100,000 people (or a rate 39 percent higher than the mean rate).

The probit estimates indicate that immigrants are much more likely to start businesses after controlling for education and other factors. The coefficient estimates imply that immigrants are 0.09 percentage points more likely to start a business than the U.S.-born, or 90 more new business owners per 100,000 people. This rate of business creation is 32 percent higher than the mean rate. The regression-adjusted difference is slightly higher than the unadjusted difference of 70 per 100,000 as reported in Table 7. Business creation rates are much higher among immigrants and the difference is not a result of advantageous demographic characteristics.

Table 7 also reports estimates of the number of new business owners per month by source country.¹³ The largest number of new businesses is created by immigrants from Mexico, who account for 4.8 percent of all business starts in the United States. Business formation is distributed across many other immigrant groups.

¹³ Estimates of immigrant-owned business starts are reported only for the 10 largest immigrant groups because sample sizes are not large enough. Although the number of non-business owners is large for each source country, the number of new business owners per month recorded in the data is relatively small (0.28 percent).

Education, Industry, and State Contributions

Immigrants may contribute differently to business creation in various sectors of the U.S. economy. For example, Wadwa et al. (2007) find that 25 percent of engineering and technology companies started in the past decade were founded by immigrants. Table 8 reports estimates of immigrant-owned business formation by education level. The largest contribution of new immigrant business owners by education level is from those who have lower than a high school education. These new immigrant business owners represent 35.8 percent of all new business owners in this skill group in the United States. Immigrants constitute 14.8 percent of all new business owners who are college graduates.

Among major industries, the highest representation of immigrant-owned business starts is in the wholesale and retail trade, and transportation and utilities industries. Table 9 reports estimates of the number of new immigrant business owners by industry. New immigrant business owners represent 23.1 percent of all new business owners in transportation and utilities and 22.7 percent of new business owners in wholesale and retail trade. Immigrants also constitute more than one-fifth of new business owners in the leisure and hospitality, and other services industries.

Immigrants make very large contributions to business creation in several states (see Figure 2 and Table 10). The foreign-born are 34.2 percent of all new business owners in California, which is consistent with previous findings on the importance of immigrants in California and the Silicon Valley (Saxenian, 1999, 2000, and Wadwa et al., 2006). Roughly 5 percent of all new business owners in the United States are immigrants living in California. Immigrant-owned business creation is also substantial in other states; nearly 30 percent of all new business owners in New York, Florida, and Texas are immigrants—a substantially higher share than the national average of 16.7 percent. The top 10 states in terms of the number of new immigrant business owners are reported in the table. In the remaining states, immigrants represent only 6.3 percent of all new business owners, evidence of the geographical concentration of immigrants in the United States.

Immigrants contribute substantially to business starts in certain sectors and locations of the U.S. economy. The most notable contributions are geographic. In the four

Table 8
Number of New Immigrant Business Owners per Month by Education Level
Matched Current Population Survey (1996-2007)

Industry	New Immigrant Business Owners			All New Business Owners	
	Number	Percent of immigrant total	Percent of U.S. education total	Number	Percent of U.S. total
All education levels	81,100	100.0	16.7	484,864	100.0
Less than high school	28,001	34.5	35.8	78,195	16.1
High school graduate	20,686	25.5	13.8	149,824	30.9
Some college	13,281	16.4	10.4	127,928	26.4
College graduate	19,132	23.6	14.8	128,916	26.6

Notes: 1) The sample consists of individuals who do not own a business in the first survey month and report starting a business in the second survey month with 15 or more hours worked per week. 2) All reported estimates use sample weights provided by the CPS. Source: Author's calculations from matched 1996-2007 CPS microdata.

Table 9
Number of New Immigrant Business Owners per Month by Industry
Matched Current Population Survey (1996-2007)

Industry	New immigrant business owners			All new business owners	
	Number	Percent of immigrant total	Percent of U.S. industry total	Number	Percent of U.S. total
All industries	80,659	100.0	16.7	483,743	100.0
Agriculture and mining	1,484	1.8	3.3	44,624	9.2
Construction	14,987	18.6	17.3	86,781	17.9
Manufacturing	2,367	2.9	15.1	15,664	3.2
Wholesale and retail trade	12,927	16.0	22.7	56,988	11.8
Transportation and utilities	4,254	5.3	23.1	18,439	3.8
Information	1,085	1.3	10.1	10,717	2.2
Financial activities	3,913	4.9	12.9	30,311	6.3
Professional and business services	14,864	18.4	15.7	94,484	19.5
Educational and health services	11,890	14.7	19.1	62,379	12.9
Leisure and hospitality	5,628	7.0	20.6	27,263	5.6
Other services	7,260	9.0	20.1	36,092	7.5

Notes: 1) The sample consists of individuals who do not own a business in the first survey month and report starting a business in the second survey month with 15 or more hours worked per week. 2) All reported estimates use sample weights provided by the CPS. Source: Author's calculations from matched 1996-2007 CPS microdata.

largest states immigrants constitute 30.6 percent of all new business owners. They are also roughly one-quarter of all new business owners in the transportation and utilities, and wholesale and retail trade industries.

Figure 2
Immigrant Share of All New Business Owners for Top 10 States
Matched Current Population Survey (1996-2007)

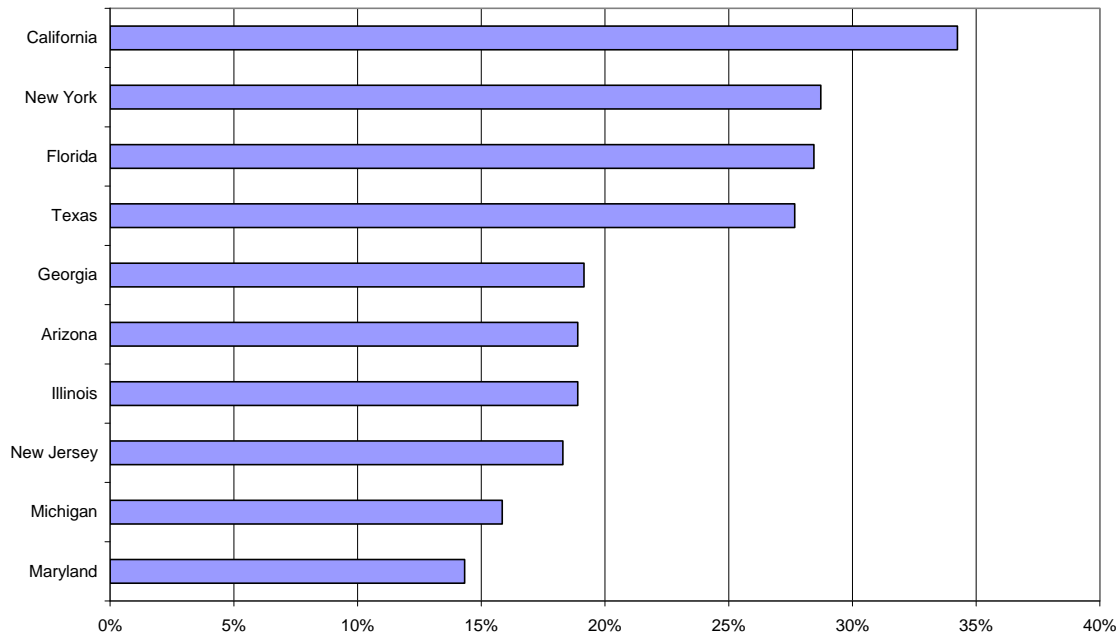


Table 10
Number of New Immigrant Business Owners per Month by State
Matched Current Population Survey (1996-2007)

Industry	New immigrant business owners			All new business owners	
	Number	Percent of immigrant total	Percent of state total	Number	Percent of U.S. total
U.S. total	81,100	100.0	16.7	484,864	100.0
California	23,331	28.8	34.2	68,133	14.1
Texas	11,633	14.3	27.7	42,045	8.7
New York	8,953	11.0	28.7	31,169	6.4
Florida	8,026	9.9	28.4	28,214	5.8
Illinois	3,453	4.3	18.9	18,273	3.8
Georgia	3,023	3.7	19.1	15,786	3.3
Michigan	2,276	2.8	15.8	14,362	3.0
New Jersey	2,156	2.7	18.3	11,783	2.4
Arizona	2,000	2.5	18.9	10,584	2.2
Maryland	1,342	1.7	14.3	9,367	1.9
All other states	14,908	18.4	6.3	235,146	48.5

Notes: 1) The sample consists of individuals who do not own a business in the first survey month and report starting a business in the second survey month with 15 or more hours worked per week. 2) All reported estimates use sample weights provided by the CPS. 3) The reported states represent the largest 10 states based on the number of new businesses. Source: Author's calculations from matched 1996-2007 CPS microdata.

Business Income, Sales, and Employment

The next question is how much immigrant-owned businesses contribute to total business income in the United States. How much value do they create for the U.S. economy? This is a difficult question to answer and measurement involves two approaches to the question. First, the 2000 Census includes information on business income net of all expenses reported by the individual business owner. The extremely large sample size of the Census is necessary to examine this question and to allow for examination of immigrant contributions by source country, education level, industry, and state. Second, the only large nationally representative *business-level* dataset that provides information on immigrant status, the 1992 Characteristics of Business Owners (CBO), is used to examine the sales and employment of immigrant-owned businesses.

Table 11 reports estimates from the 2000 Census on total business income for immigrant business owners. All estimates are reported in 2000 dollars. The total business income for immigrants is \$67 billion, representing 11.6 percent of all business income in the United States. Total U.S. business income is \$577 billion. The immigrant representation of total business income is lower than the representation of the total number of business owners, suggesting that immigrant-owned businesses have lower average incomes, an observation confirmed by estimates of average business income in Table 11. Immigrant-owned business income is \$46,614 on average, compared with \$50,643 for nonimmigrants.

Immigrant-owned businesses are also found to have lower levels of business income measured in logs. The log difference is around 3 percent. To check whether this business income disparity is because of differences in education and other demographic characteristics, the author estimates a log business income regression, which is reported in Specification 3 of Table 3. The estimates indicate that African American, Latino, and Native-American business owners each have substantially lower levels of business income than White business owners, and Asian-American business owners have slightly lower business income.¹⁴ Similar to previous results, women business owners are found

¹⁴ See Lowrey (2007) and Fairlie and Robb (2008) for recent evidence on racial patterns in business performance.

Table 11
Total Business Income by Immigrant Group
Census 2000

Group	Net business income		
	Total (thousands of dollars)	Percent of U.S. total	Average per owner (dollars)
U.S. total	577,714,338	100.0	50,141
U.S.-born total	510,757,703	88.4	50,643
Immigrant total	66,956,635	11.6	46,614
Mexico	6,890,546	1.2	26,990
Korea	4,289,510	0.7	47,514
India	4,999,076	0.9	83,023
China	2,612,293	0.5	45,360
Vietnam	1,786,430	0.3	34,540
Canada	3,272,177	0.6	64,924
Cuba	2,421,547	0.4	49,334
Germany	2,322,318	0.4	56,054
Philippines	2,179,736	0.4	59,142
Italy	1,760,395	0.3	51,004
Iran	2,559,450	0.4	76,251
El Salvador	823,997	0.1	26,431
Poland	1,341,773	0.2	43,549
England	1,580,912	0.3	57,427
Colombia	883,144	0.2	34,284
Taiwan	1,367,917	0.2	58,266
Greece	1,253,056	0.2	60,441
Dominican Republic	536,080	0.1	26,860
Jamaica	672,985	0.1	35,448
Guatemala	422,663	0.1	22,588

Notes: 1) The sample consists of all workers with 15 or more hours worked per usual week. The total sample size is 596,550. 2) All reported estimates use sample weights provided by the 2000 Census. 3) Income estimates are reported in 2000 dollars. 4) The reported immigrant groups represent the largest 20 groups based on the number of business owners. Source: Author's calculations from 2000 Census microdata.

to have substantially lower business income than male owners (Gatewood et al., 2003, Lowrey, 2006, Fairlie and Robb, 2008). Business income generally increases with the age of the owner and is strongly related to the owner's education level. The general and specific knowledge and skills acquired through formal education may be useful for running a successful business. The owner's level of education may also serve as a proxy for overall ability or as a positive signal to potential customers, lenders, or other businesses.

The immigrant coefficient is positive and statistically significant, but very small. The coefficient estimate implies that, after the findings are controlled for education and other demographic characteristics, immigrants are predicted to have business incomes roughly 2 percent higher than the U.S.-born. The difference is negligible and suggests that immigrant-owned businesses have similar business incomes when measured in logs.

Source Countries, Education, Industry, and State

Immigrants from Mexico provide the largest contribution to total U.S. business income at 1.2 percent. Korean and Indian immigrants make relatively large contributions to total business income, but overall the estimates reported in Table 10 indicate that immigrant contributions to total business income are spread across a very large number of immigrant groups in the United States, with no major groups dominating.

Unsurprisingly, most business income for both immigrants and the broader economy is produced by the most educated business owners. Table 12 reports estimates of immigrant business owner income by education level. Among immigrants, the total business income of college graduate business owners represents 52.1 percent of all immigrant-owned business income. Similarly, for all business owners, college graduates produce 51.9 percent of all business income. College-graduate immigrant business owners have \$35 billion in business income. This sum represents 11.6 percent of all business income produced by college-educated business owners in the United States. Immigrant-owned businesses also generate a large share of total U.S. business income among the least educated.

Immigrant-owned businesses provide large income contributions to a few industries in the United States (see Table 13). In the arts, entertainment, and recreation industry they produce 21.1 percent of all business income. The next two largest industry contributions are in education, health, and social services (16.6 percent) and other services (16.1 percent).

Similar to their contributions to the numbers of business owners and starts, immigrants provide substantial contributions to total business income in the largest states. Table 14 reports estimates of the business income of immigrant business owners (Figure

Table 12
Total Net Business Income of Immigrant Business Owners by Education Level, Census 2000

Industry	Immigrant business owners			All business owners	
	Total business income (thousands of dollars)	Percent of immigrant total	Percent of U.S. education total	Total business income (dollars)	Percent of U.S. total
All education levels	66,956,635	100.0	11.6	577,714,338	100.0
Less than high school	10,283,783	15.4	25.8	39,936,703	6.9
High school graduate	9,642,336	14.4	9.5	101,236,676	17.5
Some college	12,148,724	18.1	8.9	136,799,688	23.7
College graduate	34,881,793	52.1	11.6	299,741,272	51.9

Notes: 1) The sample consists of all business owners with 15 or more hours worked per usual week. 2) All reported estimates use sample weights provided by the 2000 Census. Source: Author's calculations from 2000 Census microdata.

Table 13
Total Net Business Income of Immigrant Business Owners by Industry, Census 2000

Industry	Immigrant business owners			All business owners	
	Total business income (thousands of dollars)	Percent of immigrant total	Percent of U.S. industry total	Total business income (dollars)	Percent of U.S. total
All Industries	66,956,635	100.0	11.6	577,714,339	100.0
Agriculture and mining	863,382	1.3	3.6	23,733,994	4.1
Construction	7,270,433	10.9	8.9	81,803,394	14.2
Manufacturing	3,826,155	5.7	13.1	29,227,633	5.1
Wholesale trade	3,496,142	5.2	14.6	24,020,513	4.2
Retail trade	7,061,513	10.5	14.6	48,498,327	8.4
Transportation	2,646,458	4.0	14.0	18,956,561	3.3
Information	846,904	1.3	9.6	8,864,787	1.5
Finance, insurance and real estate	5,138,095	7.7	8.1	63,586,517	11.0
Professional services	11,018,063	16.5	8.1	135,541,200	23.5
Education, health, and social services	14,327,217	21.4	16.6	86,492,345	15.0
Arts, entertainment, and recreation	5,448,776	8.1	21.1	25,825,562	4.5
Other services	5,013,499	7.5	16.1	31,163,505	5.4

Notes: 1) The sample consists of all business owners with 15 or more hours worked per usual week. 2) All reported estimates use sample weights provided by the 2000 Census. 3) Income estimates are reported in 2000 dollars. Source: Author's calculations from 2000 Census microdata.

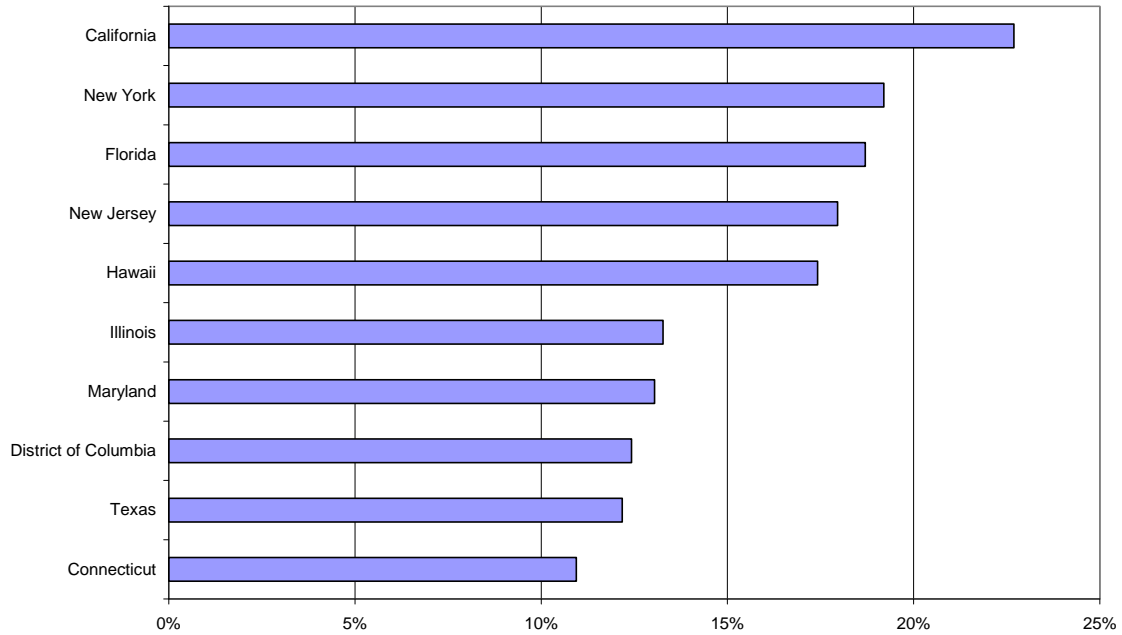
3 displays the top 10 states). Immigrant business owners produce nearly \$20 billion per year in California alone. This total represents nearly one-quarter of all business income produced in the state and 3.3 percent of all business income in the United States. In New York, Florida, and New Jersey, the total income of immigrant business owners represents nearly one-fifth of all business income. The income contributions of immigrant business owners to the economy are clearly unevenly spread across the country.

Table 14
Total Net Business Income of Immigrant Business Owners by State
Census 2000

Industry	Immigrant business owners			All business owners	
	Total business income (thousands of dollars)	Percent of immigrant total	Percent of state total	Total business income (dollars)	Percent of U.S. total
U.S. total	66,956,635	100.0	11.6	577,714,338	100.0
Alabama	256,104	0.4	3.6	7,166,173	1.2
Alaska	69,040	0.1	5.7	1,212,297	0.2
Arizona	964,106	1.4	10.0	9,644,560	1.7
Arkansas	84,821	0.1	1.7	4,871,000	0.8
California	19,238,566	28.7	22.7	84,779,273	14.7
Colorado	732,304	1.1	6.1	12,001,064	2.1
Connecticut	1,109,478	1.7	10.9	10,138,100	1.8
Delaware	94,554	0.1	6.6	1,429,332	0.2
District of Columbia	174,008	0.3	12.4	1,400,518	0.2
Florida	6,649,952	9.9	18.7	35,561,024	6.2
Georgia	1,275,188	1.9	7.5	16,971,110	2.9
Hawaii	416,814	0.6	17.4	2,392,770	0.4
Idaho	89,535	0.1	3.2	2,774,498	0.5
Illinois	3,391,939	5.1	13.3	25,554,039	4.4
Indiana	463,032	0.7	4.5	10,317,542	1.8
Iowa	151,152	0.2	2.7	5,541,212	1.0
Kansas	168,809	0.3	3.1	5,476,371	0.9
Kentucky	175,571	0.3	2.7	6,385,840	1.1
Louisiana	342,347	0.5	4.6	7,430,561	1.3
Maine	106,948	0.2	3.8	2,847,483	0.5
Maryland	1,474,148	2.2	13.0	11,304,225	2.0
Massachusetts	1,571,727	2.3	10.6	14,892,847	2.6
Michigan	1,475,603	2.2	8.4	17,650,532	3.1
Minnesota	330,847	0.5	3.0	10,944,980	1.9
Mississippi	134,162	0.2	2.9	4,562,312	0.8
Missouri	395,880	0.6	4.0	9,897,877	1.7
Montana	50,158	0.1	2.5	2,046,671	0.4
Nebraska	52,780	0.1	1.5	3,520,465	0.6
Nevada	340,279	0.5	9.3	3,650,124	0.6
New Hampshire	170,711	0.3	5.8	2,928,503	0.5
New Jersey	3,793,618	5.7	18.0	21,125,412	3.7
New Mexico	218,281	0.3	7.1	3,077,300	0.5
New York	7,872,297	11.8	19.2	40,998,879	7.1
North Carolina	707,484	1.1	4.7	15,201,153	2.6
North Dakota	23,721	0.0	1.7	1,376,842	0.2
Ohio	1,050,359	1.6	5.5	18,989,629	3.3
Oklahoma	213,901	0.3	3.6	5,887,341	1.0
Oregon	549,137	0.8	6.9	7,930,674	1.4
Pennsylvania	1,391,227	2.1	6.6	21,092,206	3.7
Rhode Island	186,956	0.3	9.5	1,963,461	0.3
South Carolina	267,477	0.4	4.0	6,739,441	1.2
South Dakota	45,763	0.1	2.5	1,850,081	0.3
Tennessee	411,043	0.6	3.8	10,732,160	1.9
Texas	4,952,249	7.4	12.2	40,678,349	7.0
Utah	174,255	0.3	4.1	4,223,437	0.7
Vermont	84,016	0.1	5.4	1,554,292	0.3
Virginia	1,380,549	2.1	10.2	13,524,141	2.3
Washington	1,253,575	1.9	9.8	12,812,259	2.2
West Virginia	167,461	0.3	7.9	2,118,930	0.4
Wisconsin	246,080	0.4	2.6	9,505,478	1.6
Wyoming	16,625	0.0	1.6	1,039,570	0.2

Notes: 1) The sample includes all business owners with 15 or more hours worked per usual week. 2) All reported estimates use sample weights provided by the 2000 Census. 3) Income estimates are reported in 2000 dollars. Source: Author's calculations from 2000 Census microdata.

Figure 3
Immigrant Share of Total Business Income for Top 10 States
Census 2000



Sales and Employment

The 1992 Characteristics of Business Owners (CBO) contains information on the immigrant status of businesses in the United States. Two business outcomes are examined using these data— sales and employment. Published estimates from the CBO on the sales of immigrant-owned businesses are reported in Table 15 (U.S. Census Bureau, 1997). Several sales categories are reported because only categorical information is available in the published report.

Immigrant-owned businesses represent 9.4 percent of all businesses in the United States. This estimate is lower than the 12.5 percent reported for business owners partly because the data are from 1992 before the large number of immigrants arrived in the 1990s. The CBO also contains a large number of small-scale businesses and consulting activities, whereas the Census and CPS data contain only workers whose primary job activity is business ownership (see the discussion in Section 3 above). The estimate of the total number of businesses from the CBO is 17.3 million, which is considerably larger than the 11.5 million estimate of the number of business owners from the Census Bureau.

Table 15
Number of Immigrant-Owned Businesses by Sales Level
Characteristics of Business Owners (1992)

Sales level	Immigrant-owned firms			All firms	
	Number	Percent of immigrant total	Percent of U.S. sales level total	Number	Percent of U.S. total
All businesses	1,617,482	100.0	9.4	17,253,143	100.0
Less than \$5,000	355,586	22.0	6.8	5,226,553	30.3
\$5,000-\$9,999	221,440	13.7	9.1	2,443,946	14.2
\$10,000-\$24,999	285,574	17.7	9.3	3,076,410	17.8
\$25,000-\$49,999	202,430	12.5	10.4	1,945,806	11.3
\$50,000-\$99,999	192,743	11.9	11.9	1,615,940	9.4
\$100,000-\$199,999	134,114	8.3	11.2	1,197,996	6.9
\$200,000-\$249,999	26,581	1.6	8.8	301,794	1.7
\$250,000-\$499,999	86,260	5.3	12.6	682,583	4.0
\$500,000-\$999,999	35,611	2.2	9.6	372,078	2.2
\$1,000,000 or more	35,851	2.2	9.2	390,037	2.3
\$100,000 or more	318,417	19.7	10.8	2,944,488	17.1

Note: The sample consists of businesses that are classified by the IRS as individual proprietorships or self-employed persons, partnerships, and subchapter S corporations and that have sales of \$500 or more. Source: Auhor's calculations based on published estimates from the 1992 CBO (U.S. Census Bureau 1997).

Direct evidence of the inclusion of small-scale business and consulting activities is provided by the large share (30.3 percent) of firms with less than \$5,000 in revenues.¹⁵ Immigrant-owned businesses constitute only 6.8 percent of all businesses in the less than \$5,000 sales category. If this category is removed, immigrants represent 10.1 percent of all businesses.

Immigrants own a significant share of high sales firms—10.8 percent of all firms with \$100,000 or more and 9.2 percent of all firms with \$1 million or more in sales.

The CBO also provides estimates of employment for several employment levels. Table 16 reports estimates of the number of immigrant-owned businesses for several employment categories. Immigrant-owned firms constitute 8.9 percent of all firms with

Table 16
 Number of Immigrant-Owned Businesses by Employment Size
 Characteristics of Business Owners (1992)

Revenues	Immigrant-owned firms			All firms	
	Number	Percent of immigrant total	Percent of U.S. employment size total	Number	Percent of U.S. total
All businesses	1,617,482	100.0	9.4	17,253,143	100.0
No paid employees	1,258,657	77.8	8.9	14,118,184	81.8
With paid employees	339,995	21.0	10.8	3,134,959	18.2
Less than 5 employees	243,335	15.0	11.3	2,151,914	12.5
5 to 9 employees	53,325	3.3	10.6	503,808	2.9
10 to 19 employees	25,388	1.6	9.9	256,110	1.5
20 to 49 employees	13,042	0.8	9.0	144,734	0.8
50 to 99 employees	3,100	0.2	6.8	45,331	0.3
100 or more employees	1,805	0.1	5.5	33,062	0.2

Note: The sample includes businesses that are classified by the IRS as individual proprietorships or self-employed persons, partnerships, and subchapter S corporations and that have sales of \$500 or more. Source: Auhor's calculations based on published estimates from the 1992 CBO (U.S. Census Bureau 1997).

no employees. In comparison, immigrants own 10.8 percent of all firms with employees. Ownership shares of the largest employment classes are lower among immigrants, however. Immigrants own 6.8 percent of all firms with 50-99 employees and 5.5 percent of all firms with 100 or more employees.

Conclusions

Immigrant business owners make important contributions to the U.S. economy. They start 16.7 percent of all new businesses in the United States and represent 12.5 percent of all business owners. The large contribution of immigrants to the number of business owners and new business owners in the United States is partly fueled by relatively high rates of business ownership and formation among immigrants. For example, immigrants are 30 percent more likely to start businesses each month than are nonimmigrants.

Immigrant business owners also contribute substantially to total U.S. business income,

¹⁵ The CBO sample consists of individuals who file an IRS form 1040 Schedule C (individual proprietorship or self-employed person), 1065 (partnership), or 1120S (subchapter S corporation), and have at least 500 or more in revenues.

sales, and employment. Of total business income in the United States, 11.6 percent is generated by immigrant business owners. Immigrant-owned businesses constitute 11.2 percent of all U.S. businesses with \$100,000 or more in annual sales and 10.8 percent of all firms with employees. Although in total counts and dollars, immigrants from Mexico contribute the most to total U.S. business ownership, formation, and income, immigrants from around the world make important contributions.

Immigrants are found to contribute even more to specific sectors of the U.S. economy. Immigrant-owned businesses constitute a large share of business ownership, starts and income in the lowest- and highest-skilled businesses, and in the arts, entertainment and recreation, other services, wholesale and retail trade, and transportation industries. Immigrant-owned businesses provide very large business contributions to several states in the country. Immigrants represent 30 percent of all business owners in California, one-fourth in New York, and more than one-fifth in New Jersey, Florida, and Hawaii. Slightly more than one-third of all new business owners in California and nearly 30 percent in New York, Florida, and Texas are immigrants. Finally, immigrant business owners generate nearly one-quarter of all business income in California, and 3.3 percent of all business income in the United States. In New York, Florida, and New Jersey, total immigrant-owned business income represents nearly one-fifth of all business income.

The findings from this analysis contribute to the understanding of immigrant business ownership and the contributions of immigrant business owners to the U.S. economy and have implications for the ongoing debates about immigration policy. The evidence presented here indicates that immigrants make significant contributions to business ownership, formation, and income in the United States. The economic contributions of immigrant business owners are also unevenly distributed across the United States, with the largest contributions located in California and other "gateway" states.

References

- Advanced Research Technologies, LLC. 2005. *The innovation-entrepreneurship NEXUS: A national assessment of entrepreneurship and regional economic growth and development*. Washington, D.C.: U.S. Small Business Administration, Office of Advocacy.
- Borjas, G. 1986. The self-employment experience of immigrants. *Journal of Human Resources*, 21, Fall: 487-506.
- Bjelland, M., J. Haltiwanger, K. Sandusky, and J. Spletzer. 2006. *Reconciling household and administrative measures of self-employment and entrepreneurship*. Washington, D.C.: U.S. Census Bureau working paper.
- Burton, John A. 2005. *Putting the spotlight on small business*, Center for American Progress.
- Davis, S.J., J. Haltiwanger, R. Jarmin, C.J. Krizan, J. Miranda, A. Nucci and K. Sandusky. 2006. *Measuring the dynamics of young and small businesses: Integrating the employer and nonemployer universes*. (CES working paper no. 06-04, February.)
- Fairlie, R.W. 2008. *The Kauffman index of entrepreneurial activity: 1996-2007*. Kansas City, MO: The Ewing Marion Kauffman Foundation.
- Fairlie, R.W. 2007. *Entrepreneurship in Silicon Valley during the boom and bust*, Washington, DC: U.S. Small Business Administration, Office of Advocacy, Washington, D.C.
- Fairlie, R. and A. Robb (2008) *Race and entrepreneurial success: Black-, Asian-, and White-owned businesses in the United States*. Cambridge, MA: MIT Press.
- Fairlie R. W., J. Zissimopoulos, and H. A. Krashinsky. 2008. The international Asian business success story: A comparison of Chinese, Indian, and other Asian businesses in the United States, Canada, and United Kingdom. *International differences in entrepreneurship*, in J.Lerner and A. Shoar, eds. Washington, D.C.: National Bureau of Economic Research Press (forthcoming).
- Gatewood, E., G., N.M. Carter, N. M., C.G. Brush, P. G. Greene, and M.M. Hart. 2003. *Women entrepreneurs, their ventures, and the venture capital industry: An annotated bibliography*. Stockholm: ESBRI.
- Headd, B. 2005. *Business estimates from the Office of Advocacy: A discussion of methodology*. Washington, D.C.: U.S. Small Business Administration, Office of Advocacy working paper.

- Headd, B., and R. Saade. 2008. *Do business definition decisions distort small business results?* Washington, D.C. : U.S. Small Business Administration, Office of Advocacy working paper.
- Lowrey, Y. 2006. *Women in business, 2006. A demographic review of women's business ownership.* Washington, D.C.: U.S. Small Business Administration, Office of Advocacy.
- Lowrey, Y. 2007. *Minorities in business: A demographic review of minority business ownership.* Washington, D.C.: U.S. Small Business Administration, Office of Advocacy.
- Moutray, C. 2007. *Educational attainment and other characteristics of the self-employed: An examination using the Panel Study of Income Dynamics data.* Washington, D.C.: U.S. Small Business Administration, Office of Advocacy working paper.
- Parker, S. C. 2004. *The economics of self-employment and entrepreneurship.* Cambridge: Cambridge University Press.
- Reynolds, P. D., W. D. Bygrave, and E. Autio. 2003. *Global Entrepreneurship Monitor: 2003 executive report.* Babson College, London Business School and the Kauffman Foundation.
- Saxenian, A. 1999. *Silicon Valley's new immigrant entrepreneurs,* San Francisco: Public Policy Institute of California.
- Saxenian, A. 2000. Networks of immigrant entrepreneurs. In *The Silicon Valley edge: A habitat for innovation and entrepreneurship.* C. Lee, W. F. Miller, and H. S. Rowen, eds. Stanford: Stanford University Press.
- Schuetze, H. J., and H. Antecol. 2007. Immigration, entrepreneurship and the venture start-up process. *The life cycle of entrepreneurial ventures: International handbook series on entrepreneurship, vol. 3,* S. Parker, ed. Springer: New York.
- U.S. Census Bureau. 1997. *1992 Economic Census: Characteristics of Business Owners.* Washington, D.C.: U.S. Government Printing Office.
- U.S. Census Bureau. 2006. *2002 Economic Census, Survey of Business Owners,* Washington, D.C.: U.S. Government Printing Office.
- U.S. Census Bureau. 2006. *2002 Economic Census, Survey of Business Owners, Characteristics of Business Owners,* Washington, D.C.: U.S. Government Printing Office.
- U.S. Department of Homeland Security. 2007. *2007 yearbook of immigration statistics,* Washington, D.C.: Office of Immigration Statistics, <http://www.dhs.gov/ximgt/statistics/publications/yearbook.shtm>.

U.S. Small Business Administration, Office of Advocacy. 2001. *Private firms, establishments, employment, annual payroll and receipts by firm size, 1998-2001*. Table reported at http://www.sba.gov/advo/stats/us_tot.pdf.

van der Sluis, J., M. van Praag, and W. Vijverberg. 2004. *Education and entrepreneurship in industrialized countries: A meta-analysis*. Tinbergen Institute working paper no. TI 03–046/3. Amsterdam: Tinbergen Institute.

Wadhwa, V., A. Saxenian, B. Rissing, and G. Gereff. 2007. *America's new immigrant entrepreneurs*. Durham, NC: Duke University.