

# Annual Report of the Office of Economic Research

FY 2016 / January 2017



Created by Congress in 1976, the Office of Advocacy of the U.S. Small Business Administration (SBA) is an independent voice for small business within the federal government. Appointed by the President and confirmed by the U.S. Senate, the Chief Counsel for Advocacy directs the office. The Chief Counsel advances the views, concerns, and interests of small business before Congress, the White House, federal agencies, federal courts, and state policymakers. Economic research, policy analyses, and small business outreach help identify issues of concern. Regional Advocates and an office in Washington, D.C., support the Chief Counsel's efforts.

For more information on the Office of Advocacy, visit [www.sba.gov/advocacy](http://www.sba.gov/advocacy) or call 202-205-6533. Receive email notices of new Office of Advocacy information by signing up at [https://public.govdelivery.com/accounts/USSBA/subscriber/new?topic\\_id=USSBA\\_184](https://public.govdelivery.com/accounts/USSBA/subscriber/new?topic_id=USSBA_184).

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## Foreword

Forty years ago, Public Law 94-305 assigned Advocacy the task of examining “the role of small business in the American economy and the contribution which small business can make in improving competition.” Over the years, the Office of Economic Research (OER) within Advocacy has supported this mission through several channels, such as research studies, issue briefs, fact sheets, conferences, and forums.

While OER produced several research reports, it also convened numerous conversations through its program series “Small Business Economic Research Forums,” which gave economists and researchers an opportunity to present relevant and timely small business issues. These outreach efforts are important for the small business community, which include small business stakeholders, policy makers, and researchers. These discussions also inform Advocacy’s staff of the cutting-edge issues that are affecting small businesses.

To better understand the current economic landscape for small businesses, members of Advocacy’s economic team also participated in numerous conferences and roundtables throughout the country, speaking on current issues affecting the small business community while presenting Advocacy’s reports. Advocacy also used these outreach efforts to inform diverse communities about specific small business research. These outreach efforts and discussions also identified areas of future research. On a more micro level, Advocacy published a transitional background paper on the Office of Advocacy in October 2016 — a document that will be beneficial for the next Chief Counsel for Advocacy and other new policymakers unfamiliar with Advocacy’s mission and accomplishments.

Advocacy has advocated tirelessly for 40 years on behalf of small businesses, appreciates your interest in small business research and data, and values your response on future topics. Regular updates on Advocacy’s research are released on Advocacy’s research listserv. For more information about the Office of Advocacy, visit [sba.gov/advocacy](http://sba.gov/advocacy).



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Chief Counsel for Advocacy



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## Introduction

Congress created the Office of Advocacy 40 years ago to monitor the health of small businesses and to promote policies to support their development and growth. Advocacy's Office of Economic Research (OER) has continuously supported this task over the years through its research products used by many stakeholders interested in how small business affects the economy. To advance this undertaking, OER also engaged in countless outreach efforts such as conferences and roundtable meetings on behalf of the small business community.

In light of this effort, the Office of Economic Research in FY 2016 (Oct.1, 2015 through Sept. 30, 2016) not only continued to provide timely and actionable small business research, but also incorporated reproducible research and data visualization tools that translate important technical information while improving the appearance of a copious amount of small business data and analysis. For the first time, OER's most widely used annual publication "Small Business State Profiles" (*See Appendix A*); was updated, redesigned and streamlined for better visualization, digestibility, and reproducibility. Reproducible research refers to analyses that are published along with their data and code so that others can easily verify the findings and build upon them.<sup>1</sup> Reproducible products, like the State Profiles, can easily be reproduced from scratch using free software. Thus, reproducibility makes Advocacy reports more transparent and accessible to other researchers.

In addition, data visualization was employed in several other products. Data visualization makes it possible to present large amounts of data in a digestible manner intended to engage the reader. A few products using this tool included: "What's New with Small Business (*See Appendix B*); "How Can Crowdfunding Help Entrepreneurs?" (*See Appendix C*); and "Minority STEM Entrepreneurship" (*See Appendix D*).

This report summarizes 26 publications produced by the Office of Advocacy's Office of Economic Research in FY 2016, and lists 10 presentations from the Small Business Economic Research Forums. The reports are listed by subject with the newest items first. The highlights and contributions of small business topics covered in FY 2016 include the following:

- Access to Capital,
- Demographic Owner Participation,
- Entrepreneurship and Innovation,
- International Trade, and
- Veterans

The emphasis within these reports was entrepreneurship. Advocacy's research also examined diverse segments of small business participation within the economy.

Advocacy continues to partner with the U.S. Census Bureau to collect and report important data on small business. Advocacy economists process and analyze this data to produce easy-to-

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<sup>1</sup> Find details on reproducibility of the Small Business State Profiles.

understand statistical tables and reports downloadable from Advocacy’s website. For the readers’ convenience, the publications listed are linked by the title of the report to the document. To learn more about Advocacy, visit [sba.gov/advocacy](http://sba.gov/advocacy).

## Advocacy Research Reports, FY 2016

Advocacy's Office of Economic Research published 26 reports covering a range of small business topics. These included access to capital, entrepreneurship, and international trade. This section lists OER's FY 2016 research publications by topic, and released date, beginning with the latest.

### Access to Capital

#### **“What is Alternative Finance?”**

**Author:** Miriam Segal, Advocacy Economist

**Released:** Sept. 2016

**Description:** Research from the Office of Advocacy has consistently documented the post-Great Recession decline in banks' lending to small business. As a result, small businesses are looking elsewhere for financing. This issue brief, a part of Advocacy's new Alternative Finance Research Series, outlined new and existing forms of alternative finance.

#### **“Small Business Finance Frequently Asked Questions”**

**Author:** Office of Economic Research

**Released:** July 2016

**Description:** This updated publication outlines the borrowing and lending universe for startups and exiting small businesses, provides demographic information, and touches on important trends in the amount and modes of finance.

#### **“Research on the Current State of Crowdfunding: The Effect of Crowdfunding Performance and Outside Capital”**

**Author:** Venkat Kuppuswammy and Kathy Roth

**Released:** May 2016

**Description:** This report used data on entrepreneurs who launched crowdfunding campaigns to fund their startups to determine how crowdfunding affects startups after their campaigns are completed. In particular, this report examined the relationship between crowdfunding and the ability to raise external capital to sustain a business as it develops.

#### **“Small Business Lending Bulletin”**

**Author:** Victoria Williams, Advocacy Economist

**Released:** March 2016

**Description:** This report showed that financial conditions remained supportive of economic growth during the first half of 2015, and business owners continued to take advantage of the relatively low interest rates. In the second quarter of 2015, total business lending grew at a solid pace. This was especially true for the portion of business loans known as commercial industrial loans.

## Entrepreneurship and Innovation

### “The Ascent of the Senior Entrepreneur”

**Author:** Daniel Wilmoth, Advocacy Economist

**Released:** August 2016

**Description:** This report focused on the growing senior population and their involvement in the entrepreneurial sector of our economy. This report is part of the Office of Advocacy series, Trends in Entrepreneurship. The report finds self-employment is increasing among seniors. The percentage of individuals age 62 and over who were self-employed increased from 4.2 percent in 1988 to 5.4 percent in 2015.

### “Imported Entrepreneurs: Foreign-Born Scientists and Engineers in U.S. STEM Fields Entrepreneurship”

**Author:** Margaret Blume-Kohout; MBK Analytics

**Released:** February 2016 **Research Summary No. 432**

**Description:** This report investigated the differences in STEM entrepreneurship between U.S.-born and foreign-born college graduates. The study finds that differences in educational attainment along with differences in the distribution of U.S.–foreign-born demographic characteristics explain most of the percentage gap. Among immigrants who earned their highest degree in the United States, the rate of STEM entrepreneurship is almost 4 percentage points higher than for otherwise-similar native-born citizens.

### “The Missing Millennial Entrepreneurs”

**Author:** Daniel Wilmoth, Advocacy Economist

**Released:** February 2016

**Description:** This Advocacy’s report painted a different picture of the entrepreneurial landscape for the millennial generation. With fewer than 2 percent of Millennials reporting self-employment in 2014, compared with 7.6 percent for Generation X (born 1963 to 1981) and 8.3 percent for Baby Boomers (born 1944 to 1962), it seems entrepreneurship is trending down.

## General

### “Small Business Frequently Asked Questions”

**Author:** Office of Economic Research

**Released:** July 2016

**Description:** This widely used publication is the place to go to for the basics – how many small businesses are in the United States, how many employees they have, and what their growth trends are. A related tool, “Frequently Asked Questions about Small Business Finance,” was also released.



### **“Small Business State Profiles, 2016” (See Appendix A)**

**Author:** Office of Economic Research

**Released:** March 2016

**Description:** The Office of Advocacy released the annual Small Business Profiles in a fresh, redesigned format. The user-friendly, data-rich profiles combine catchy visuals and more in-depth data than previous editions. They capture vital data on U.S. and state-level economic growth, industry, and jobs using completely reproducible data from the leading government statistical agencies. The profiles illustrate the state and national economies in terms of small business employment, diversity, and trade. They show the most important small business industries, both in the number of firms and number of employees. They also show establishment turnover trends and county-level job change.

### **“Annual Report of the Office of Economic Research, FY 2015”**

**Author:** Office of Economic Research

**Released:** December 2016

**Description:** This report detailed 26 OER publications and eight Small Business Economic Research Forums that were produced during fiscal year 2015. That year, OER produced research on the following topics: Access to Capital, Employment, Innovation, Minority- and Women-owned Businesses and Veterans.

## **Infographics**

### **“What’s New with Small Business?” (See Appendix B)**

**Author:** Office of Economic Research

**Released:** September 2016

**Description:** This one page infographic fact sheet presents information on firms with paid employees, and non-employer firms. Data on firm startups, closures, and minority business ownership are also covered.

### **“How can crowdfunding help entrepreneurs?” (See Appendix C)**

**Author:** Jonathan Porat, Advocacy Economist

**Released:** June 2016

**Description:** This infographic provides information about startup funding, and shows that seed stage venture capital deals are at historical lows and venture capital investment has plateaued.

### **“Survey of Business Owners Facts: American Indian- and Alaska Native-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** Key statistics on American Indian- and Alaska Native-Owned Businesses are presented in this one pager.

### **“Survey of Business Owners Facts: Asian-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet presents key statistics on firms, employment, and top industries for Asian-owned businesses.

### **“Survey of Business Owners Facts: Black- or African American-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet presented key statistics on employment and firm size for businesses owned by Black or African American business owners.

### **“Survey of Business Owners Facts: Hispanic-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet presented key statistics on employment and firm size for businesses owned by Hispanic business owners.

### **“Survey of Business Owners Facts: Minority-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet presented key statistics on employment and firms in high-patenting industries owned by minorities.

### **“Survey of Business Owners Facts: Native Hawaiian- and Pacific Islander-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet provided information on Native Hawaiian- and Pacific Islander-Owned Businesses in the U.S. for firms, employment, and industry.

### **“Survey of Business Owners Facts: Veteran-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This fact sheet provided information on veteran-owned businesses in the U.S. regarding firms, share of employment, and industry.

### **“Survey of Business Owners Facts: Women-Owned Businesses”**

**Author:** Office of Economic Research

**Released:** May 2016

**Description:** This one-pager provided top-line statistics on women-owned businesses in the U.S. regarding firms, employment, and high-patenting industries.

### **“Minority STEM Entrepreneurs” (See Appendix D)**

**Author:** Office of Economic Research, based on data from Margaret Blume-Kohout, MBK Analytics

**Released:** April 2016

**Description:** This infographic captured key statistics on STEM education, business ownership, and entrepreneurship, by U.S. born, naturalized citizens, and minority individuals.

### **“Establishment Startups and Exits”**

**Author:** Miriam Segal, Advocacy Economist

**Released:** November 2016

**Description:** This Fact Sheet showed the trend in business startups and exit rates over a ten-year period. Private sector establishment startups once again are outpacing exits.

### **“Survival Rates and Firm Age”**

**Author:** Miriam Segal, Advocacy Economist

**Released:** November 2016

**Description:** This Fact Sheet captured the survival rates of firms by age and size. The average survival rate of a firm existing ten years is roughly 34 percent.

## **International Trade**

### **“Small Business Key Players in International Trade”**

**Author:** Patrick Delehanty, Advocacy Economist

**Released:** December 2015

**Issue Brief No. 11**

**Description:** This issue brief spotlighted the role U.S. small businesses play in international trade, and finds that small businesses are important to consider when assessing U.S. export potential and policy tools such as free trade agreements.

## **Minority and Veteran Business Ownership**

### **“Minority Business Ownership: Data from the 2012 Survey of Business Owners”**

**Author:** Michael McManus, Advocacy Economist

**Released:** September 2016

**Issue Brief No. 12**

**Description:** This issue brief analyzed the data collected from minority business owners through the Census 2012 Survey of Business Owners. After taking a closer look at the five years

enveloping the Great Recession, the data show that minority-owned businesses helped support the U.S. economy despite traditional setbacks.

**“Income and Net Worth of Veteran Business Owners over the Business Cycle, 2007–2013”**

**Author:** George Haynes, Haynes Consulting

**Released:** November 2015 **Research Summary No. 430**

**Description:** This study examined the changing financial health of veterans during the recent recession and recovery. Veterans play a pivotal role in American society, so understanding their finances is a national priority and a key to expanding opportunities for their businesses.

## The Office of Economic Research Team Participates in Roundtable Discussions

*A team of Advocacy economists and attorneys, along with Chief Counsel Darryl L. DePriest, conducted roundtable discussions and toured several small businesses in Denver and Boulder, Colo., to better understand the state economy and to meet small business owners. Here the delegation posed at Maria Empanada's in Denver in September of 2016, with business owner and Argentina native Lorena Cantarovici (far left) and Region 8 advocate John Hart.*



## Small Business Economic Research Forums

In 2015, the Office of Economic Research launched the Small Business Economic Research Forums. For these forums, OER invites an expert to discuss a key economic topic and to give a presentation to Advocacy's staff. The forums are valuable to keep Advocacy's staff up-to-date on the latest data and research from other agencies and researchers. This fiscal year, OER hosted the following 10 forums.

### **“When Are There Not Bubbles?”**

**Speaker:** Dr. Brent Goldfarb, Associate Professor of Management and Entrepreneurship, Robert H. Smith School of Business, University of Maryland

**Date:** Nov. 10, 2015

**Description:** Most studies of financial manias and crises fail to compare times of turmoil to times of stability, and hence, by design, cannot ascertain root causes of bubbles. To avoid this methodological trap, Dr. Goldfarb and his colleagues offer an historically informed approach that studies over 90 major technological innovations across 130 years and reports on the presence or absence of speculation. Their research implicates three factors in the production of manias and crises: (1) the presence of novice investors; (2) the degree and nature of uncertainty surrounding a particular innovation and (3) coordinating events that align investor beliefs. Their comparative approach reinterprets and integrates past historical narrative of technological change and speculative behavior.

### **“Why SME Financing Matters and How It Can Be Accelerated: A Global Perspective”**

**Speaker:** Jeffrey Anderson, Senior Advisor, SME Finance Forum

**Date:** Dec. 9, 2015

**Description:** Jeffrey Anderson of the SME Finance Forum discussed the importance of addressing the intensified challenges SMEs have faced securing finance around the world since the global financial crisis, given the unique role played by SMEs in providing the bulk of job creation across countries and across business cycles. He also spoke about the role played by changes in financial regulation, past and prospective, and by non-regulatory impediment, including market failures concerning credit information and the availability of collateral. He then discussed policy measures that can ease impediments. These include officially backed partial credit guarantee schemes, which can provide capital relief to banks, ease information asymmetries, and lessen the effects of limited collateral when properly directed and adequately resourced.

### **“Evolutionary Economics and Small Business Policy”**

**Speaker:** Dr. Robert Atkinson, Founder and President, Information Technology and Innovation Foundation

**Date:** Feb. 10, 2016

**Description:** In the conventional view, the U.S. economy is a static entity, changing principally only in size (growing in normal times and contracting during recessions). In this framework, small business health is largely determined by macro-economic factors, such as interest rates, influencing consumer demand. However, in reality, the economy is a constantly evolving complex ecosystem. The U.S. economy of 2014 is different, not just larger, than the economy of 2013. Understanding that we are dealing with an evolutionary rather than static economy has significant implications for the conceptualization of economics, economic policy and small business policy. With this in mind, Dr. Atkinson discussed the concept of evolutionary economics, how it differs from conventional neoclassical economics and neo-Keynesian economics, and the implications for small business policy. He provided an overview of the evolutionary economics framework, the history of evolutionary economics thinking and discussed the three main drivers of U.S. economic evolution (geographic shifts in production, technological change, and demographic/cultural/governmental change). Finally, he addressed the implications for small business research and policy.

### **“Gender Gap in Patenting and Participation on Corporate Scientific Advisory Boards among Life Scientists, and the Importance of Relationships with Industry Researchers”**

**Speaker:** Dr. Waverly Ding, Associate Professor of Management & Organization, Robert H. Smith School of Business, University of Maryland

**Date:** March 9, 2016

**Description:** Dr. Ding’s research focuses on high-tech entrepreneurship and strategy, knowledge transfer between universities and industrial firms, and the U.S. biotech industry. She has also conducted research relating to the labor force in science and technology. Her recent publications include “The Impact of Founders’ Professional Education Background on the Adoption of Open Science by For-Profit Biotechnology Firms” in *Management Science*, “Divergent Paths to Commercial Science: A Comparison of Scientists’ Founding and Advising Activities” in *Research Policy*, and “The Impact of Academic Patenting on the Rate, Quality and Direction of (Public) Research Output” in *Journal of Industrial Economics*.” Dr. Ding discussed general themes from her research and introduced a new paper on the career trajectories of women who receive PhDs in STEM fields (science, technology, engineering, and math), specifically regarding whether these women enter academia or industry. Advocacy research shows that postdoctoral employment in industry contributes significantly to women’s entrepreneurship in STEM fields.

### **“Overview of the U.S. Census Bureau’s *Survey of Business Owners*”**

**Speaker:** Gail D. White, Survey Statistician, Economy Wide Statistics Division, U.S. Census Bureau

**Date:** April 13, 2016

**Description:** Gail White is a subject matter expert on the Survey of Business Owners and Self Employed Persons (SBO). She has worked at the U.S. Census Bureau as a Survey Statistician on the SBO for over eight years. On April 13, 2016, Gail discussed the Census Bureau’s Survey of Business Owners, the only data source from the federal government that provides both demographic data on business owners as well as data on business characteristics such as employment and payroll. Her presentation included an in-depth discussion of historical changes in the survey. This forum was an excellent opportunity for researchers at all levels of familiarity with the Survey of Business Owners to learn more about the data.

### **“Reproducibility”**

**Speaker:** Dr. Richard Schwinn, Research Economist, SBA Office of Advocacy

**Date:** May 11, 2016

**Description:** Research is considered reproducible if it is published with complete source data and code so that others can easily verify findings and build upon them. The SBA Office of Advocacy’s Small Business Profiles is an annual report on the state of America’s small businesses. Its reproducible 2016 redesign illustrates why now is the time for researchers to begin using the new tools of reproducibility. The languages of R, Knitr, LATEX, and Markdown make it easy for researchers to call government APIs, to repeat analyses, and to embrace aesthetic principles. The suggested workflow offers a template for future researchers who want to meet the highest standards in transparency and aesthetics while efficiently managing resources.

### **“Fintech and the Future of Banking”**

**Speaker:** William Phelan, President and Co-Founder of PayNet, Inc.

**Date:** May 24, 2016

**Description:** At this Small Business Economic Research Forum, Bill Phelan, President of Paynet, Inc., discussed trends on national business conditions, lending problems faced by small businesses, and online lenders.



## **“Capital Raising in the U.S.: An Analysis of the Market for Unregistered Securities Offerings, 2009-2014”**

**Speaker:** Dr. Vladimir I. Ivanov, Senior Financial Economist, U.S. Securities and Exchange Commission

**Date:** June 8, 2016

**Description:** Capital formation through private placement of securities has increased substantially since the onset of the financial crisis. Amounts raised through unregistered securities offerings have outpaced the level of capital formation through registered securities offerings during recent years, and totaled more than \$2 trillion during 2014. In their analysis, Dr. Ivanov and his colleagues provide insights into a large segment of the unregistered securities market: offerings conducted in reliance on Regulation D of the Securities Act. Using information collected from Form D filings, this study provides a detailed examination of offering characteristics, including the types of issuers, investors, and financial intermediaries that participate in the offerings. As part of the examination, the researchers analyzed the new Rule 506(c) exemption, which became effective in September 2013 and allows general solicitation and general advertising, reversing almost 80 years of regulatory practice. The analysis also provides some perspective on the state of competition and potential regulatory burden in alternate capital markets by analyzing the level of activity among the various registered and unregistered offering alternatives.

## **“Measuring Firm-Level Innovation Using Short Questionnaires”**

**Speaker:** Dr. Silvia Muzi, Program Coordinator, Enterprise Analysis Unit, Development Economics, World Bank

**Date:** July 13, 2016

**Description:** Little is known about innovation in developing countries, partly because of the lack of comparable and reliable data. Collecting data on firm-level innovation is challenging because of the subjective definition of what determines an innovation, a problem that is exacerbated in developing countries where innovation is likely to be incremental and less radical. Silvia and her colleague’s paper contributes to the literature by presenting the results of an experiment aiming to identify the survey instrument that better captures firm-level innovation in developing countries. The paper shows that a small set of questions included in a multi-topic, firm-level survey does not provide an accurate picture of firm-level innovation and tends to overestimate innovation rates. Issues related to framing explain some of the unreliability of innovation responses, while cognitive problems do not appear to play a significant role.

## **“Making Value for America: Implications for Small Business”**

**Speaker:** Dr. Kenan Jarboe, Senior Program Officer, Manufacturing, Design and Innovation, National Academy of Engineering

**Date:** Sept. 21, 2016

**Description:** The National Academy of Engineering (NAE) issued a report on “Making Value for America: Embracing the Future of Manufacturing, Technology and Work,” which looks at how globalization, developments in technology, and new business models are transforming the way products and services are conceived, designed, made, and distributed. The report highlights the transformation in manufacturing from making things to making value. Manufacturing can no longer be considered separate from the value creation system of research and development, product design, software development and integration, and lifecycle support. These forces present challenges—lower wages and fewer jobs for a growing fraction of middle-class workers—as well as opportunities for "makers" and aspiring entrepreneurs to create entirely new types of businesses and jobs. “Making Value for America” examines these challenges and opportunities, and offers recommendations for collaborative actions between government, industry, and education institutions to help ensure that the U.S. thrives amid global economic changes and remains a leading environment for innovation. This presentation examined the implications of these findings and recommendations specifically for small businesses and small business research.

## Data Access

The SBA is not a data collection agency, however, the Office of Advocacy in FY 2016 continued to organize downloadable data related to small businesses and provide links to data on its website. Businesses with and without employees — employer and non-employer firms are covered in the data. A large percentage of firms are non-employer firms; but the larger share of receipts and payroll are in employer firms. The majority of employer firms are small firms, but for comparison purposes, data are also provided on large firms. The Office of Advocacy defines a small business for research and purposes as an independent business having fewer than 500 employees.

In addition, banking data by for small businesses is also provided. While the size of a firm is used to define a small business, the banking data uses the loan size. Business loans of \$1 million or less is used to define a small business loan in the banking data.

All of these data are provided in a user-friendly format that allows researchers, policymakers, small business trade associations, small businesses, and members of the media interested in small businesses to obtain the data to investigate the role and status of small firms in the economy.

## Small Business Data Resources

Advocacy offers a list of hyperlinked Small Business Data Resources that is useful for small business researchers and policy makers. This valuable research tool lists small business databases by both federal agencies and the private sector with links to their websites. This information contains key topics, which include demographics, employment, exports, finance, firm size data, health care, taxes, pension coverage, and training.

The list captures many of the most widely used data resources, but Advocacy notes that inclusion of any specific database on the list does not constitute an endorsement by the Office of Advocacy or the Small Business Administration.

## Downloadable Firm Size Data

As noted above, Advocacy defines a small business as an independent business having fewer than 500 employees, and posts firm size data from a number of sources on its website. Firm size data for employer firms are from the Statistics of U.S. Businesses (SUSB), Business Dynamics Statistics (BDS), and Business Employment Dynamics (BED) programs. Non-employer data are available from the Non-Employer Statistics (NE) program. These data are provided annually from the U.S. Census Bureau, except for the Business Employment Dynamics, which is quarterly and from the U.S. Department of Labor, Bureau of Labor Statistics. BDS and BED have an age component. All of the data programs are essentially based on the universe of private-sector businesses.

Detailed data on owner and business characteristics are available from the U.S. Census Bureau's Survey of Business Owners (SBO) in years ending in 2 or 7. The SBO, which is part of the Economic Census, provides data and a microdata set for activity in 2007. To supplement the SBO data in the other years, the Annual Survey of Entrepreneurs (ASE) conducted by the Census Bureau provides annual information on selected economic and demographic characteristics for businesses and business owners by gender, ethnicity, race, and veteran status. Estimates from the ASE are produced for employer businesses on the number of firms, sales and receipts, annual payroll, and employment by gender, ethnicity, race, and veteran status. The first estimates were available in 2016.

## **Statistics of U.S. Businesses**

Annually, the Office of Advocacy partially funds the Statistics of U.S. Businesses (SUSB) program—an employer firm size database produced by the U.S. Census Bureau. A firm is defined as an aggregation of all establishments owned by a parent company (within a geographic location and/or industry) with some annual payroll.

The SUSB's employer data include the number of firms, number of establishments, employment, and annual payroll for employment firm size categories by location and industry. In addition to firm size data, receipt size categories are available, but only in Economic Census (i.e. years ending in 2 or 7).

The data also consist of static and dynamic data. Static data provide a “snapshot” of firms at a point in time, while dynamic data follow firms from year to year and report job creation and destruction as well as business births and deaths. Much of the data is listed in time series format with some data available as far back as 1988, but the latest data available lags a few years.

Detail industry information is available at the NAICS 6-digit level, meaning that data is available for over 1,000 industries. Geographic data for some of the data items is also available at the county and metropolitan statistical area level, but data this detailed tends to be aggregated to a relatively high industry level.

## Business Dynamics Statistics

Business Dynamics Statistics (BDS) provides another source of employer firm data, but by the age of the firm.<sup>2</sup> BDS contains annual data for states, major industry, and some metropolitan statistical area data. Census provides a plethora of historical data for BDS with data going back to 1977, but the most current data lags a few years. BDS provides the number of firms, establishments, and employment, along with some dynamics, so firm and job creation can be analyzed.

## Business Employment Dynamics

The Business Employment Dynamics (BED) employer database is a Bureau of Labor Statistic program that provides quarterly data with a focus on employment changes from establishment entry, growth, decline, and exit. BLS presents the data in two ways to capture the seasonal firms by listing establishment openings—establishments that did not exist in the previous quarter—and establishment births—establishments that did not exist in the previous year. Classifications are similar for closings and deaths. Some employment data are by firm size such as job creation and destruction, but much of BED is establishment-based and does not contain an establishment or firm size component. These quarterly data dates from 1992.<sup>3</sup>

## Non-Employer Statistics

The Census Bureau provides non-employer data, which contains information on the number of firms and receipts by state, metropolitan statistical area, and county with industry detail. A non-employer firm is defined as one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Non-employers account for about three percent of business receipts, and about three quarters of all businesses. The data also contains capital expenditure data for both employers and non-employers. Note that non-employer businesses can have more than one owner and are a business. Thus, referring to the non-employer data as self-employed data (which is the occupation of someone) is not entirely accurate.

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<sup>2</sup>See the background paper, “Business Formation and Dynamics by Business Age: Results from the New Business Dynamics Statistics,” by John Haltiwanger, Ron Jarmin, and Javier Miranda for information on the data program, [http://www.ces.census.gov/docs/bds/bds\\_paper\\_CAED\\_may2008\\_dec2.pdf](http://www.ces.census.gov/docs/bds/bds_paper_CAED_may2008_dec2.pdf).

<sup>3</sup>See the background paper “Measuring Job and Establishment Flows with BLS Longitudinal Microdata by Timothy Pivetz, Michael Searson, and James Spletzer” for information about the data program, [www.bls.gov/opub/mlr/2001/04/art2full.pdf](http://www.bls.gov/opub/mlr/2001/04/art2full.pdf).

In the recent years, the U.S. Census Bureau has begun using noise infusion for disclosure avoidance for non-employer and SUSB data. This allows the agency to provide more data instead of merely providing a disclosed code for a data cell.

### **Call Report and Community Reinvestment Act Data**

The Federal Deposit Insurance Corporation provides comprehensive banking information for all FDIC insured institutions on a quarterly basis. Both the Call Report and CRA data define a small business as those with loans of \$1 million or less, which differs from the more common definition based on firm size. The data contains the lending institution's name, geographic location, loan size, number, and assets.

## Conclusion

The Office of Economic Research within Advocacy has addressed several small research topics pertaining to small business in the last four decades. In 2016, OER continued to address small business concerns through its regulatory process and research activities. The OER team continued outreach efforts beyond the beltway by engaging in dialogues and seminars pertaining to small businesses across the country. OER strives to reach its stakeholders using different methods as previously mentioned. The office continued to provide timely small business research and incorporated reproducible research and data visualization tools that simplify important technical information while providing transparency. On the data front, OER continues to collaborate with other agencies and parties in a quest for reliable and timely small business data—the bedrock of sound research that shapes policy decisions.

## Meet the Office of Economic Research Team

*The Office of Economic Research staff assembled after attending and presenting at Advocacy's 40th anniversary symposium in Washington, D.C. in June of 2016.*



## Appendices A-D

**Appendix A:** “Small Business Profile of the United States”

**Appendix B:** “What’s New With Small Business”

**Appendix C:** “How Can Crowdfunding Help Entrepreneurs?”

**Appendix D:** “Minority Stem Entrepreneurs”



# SMALL BUSINESS PROFILE

U.S. SMALL BUSINESS ADMINISTRATION  
**OFFICE OF ADVOCACY**

REGULATION • RESEARCH • OUTREACH

## UNITED STATES



**28.8 million**  
99.7%  
Small Businesses  
of US Businesses

**56.8 million**  
48.0%  
Small Business Employees  
of US Employees



**EMPLOYMENT**  
1.1 million  
net new jobs<sup>1</sup>



**DIVERSITY**  
38.1%  
increase in minority  
ownership<sup>2</sup>



**TRADE**  
97.7%  
of US exporters<sup>3</sup>

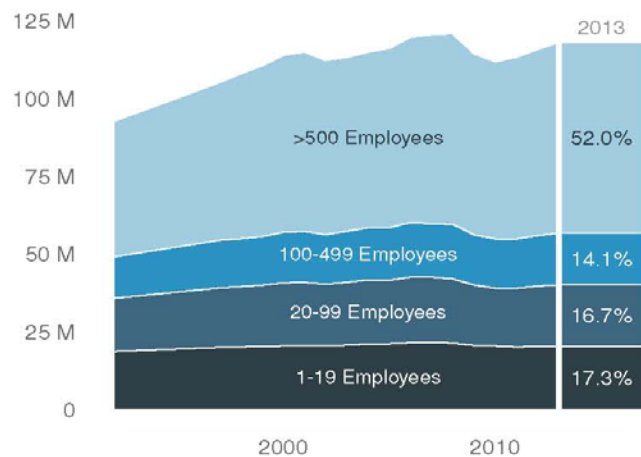
### OVERALL US ECONOMY

- Multiple economic indicators, including real gross domestic product (GDP), consistently signaled a strengthening US economy in 2015. In the third quarter of 2015, the United States grew at an annual rate of 1.9%. By comparison, the United States's 2014 growth of 4.1% was up from the 2013 level of 3.2%. (Source: BEA)
- The employment situation in the United States improved. At the close of 2015, unemployment was 5.0%, down from 5.6% at the close of 2014. (Source: CPS)

### EMPLOYMENT

- US small businesses employed 56.8 million people, or 48.0% of the private workforce, in 2013. (Source: SUSB)
- Firms with fewer than 100 employees have the largest share of small business employment. See Figure 1 for further details on firms with employees. (Source: SUSB)
- Private-sector employment increased 2.2% in 2015. This was below the previous year's increase of 2.5%. (Source: CES)
- The number of proprietors increased in 2014 by 1.3% relative to the previous year. (Source: BEA)
- Small businesses created 1.1 million net jobs in 2013. Among the seven BDS size-classes, firms employing 250 to 499 employees experienced the largest gains, adding 257,245 net jobs. The smallest gains were in firms employing 5 to 9 employees which added 84,020 net jobs. (Source: BDS)

Figure 1: US Employment by Firm Size



The Small Business Profiles are produced by the US Small Business Administration's Office of Advocacy. Each report incorporates the most up-to-date government data to present a unique snapshot of small businesses. **Small businesses are defined as firms employing fewer than 500 employees.** Hyperlinks to data sources and report generation information are provided in Table 3.

<sup>1,3</sup> Net small business jobs change and exporter share are based on newly released 2013 BDS and 2012 ITA data.

<sup>2</sup> Diversity statistic tracks changes between 2007 and 2012 based on the Survey of Business Owners (SBO) 2015 release.

## INCOME AND FINANCE

- The number of banks reported in the Call Reports between June 2014 and June 2015 declined. (Source: FDIC)
- In 2014, 5.2 million loans under \$100,000 (and valued at \$73.6 billion) were issued by US lending institutions reporting under the Community Reinvestment Act. (Source: FFIEC)
- The median income<sup>4</sup> for individuals who were self-employed at their own incorporated businesses was \$49,204 in 2014. For individuals self-employed at their own unincorporated firms, this figure was \$22,209. (Source: ACS)

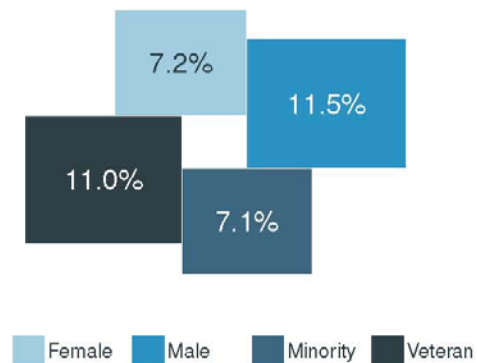
<sup>4</sup> Median income represents earnings from all sources. Unincorporated self-employment income includes unpaid family workers, a very small percent of the unincorporated self-employed.

## BUSINESS OWNER DEMOGRAPHICS

Figure 2: US Changes in Business Ownership by Demographic Group



Figure 3: US Self-Employment within Demographic Group

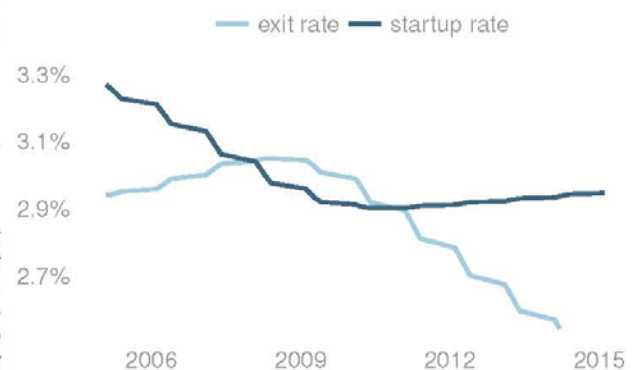


- Figure 2 displays the change in overall firm ownership for each demographic group from 2007 to 2012 based on the Survey of Business Owners (SBO) for the United States, released in December 2015.
- Figure 3 displays the percent of each demographic group identified as self-employed according to the 2014 American Community Survey (ACS) 5-year estimates.

## BUSINESS TURNOVER

- In the second quarter of 2014, 220,000 establishments started up<sup>5</sup> in the United States and 205,000 exited.<sup>6</sup> Startups generated 805,000 new jobs while exits caused 717,000 job losses. (Source: BDM)
- Figure 4 displays startup and exit rates from 2005 to 2015. Each series is smoothed across multiple quarters to highlight long-run trends. (Source: BDM)

Figure 4: US Private Startup and Exit Rates



<sup>5</sup> **STARTUPS** are counted when business establishments hire at least one employee for the first time. The BLS terms these **births**, as distinct from the BLS **openings** category which includes seasonal re-openings.






<sup>6</sup> **EXITS** occur when establishments go from having at least one employee to having none, and then remain closed for at least a year. The BLS terms these events **deaths**, as distinct from the **closings** category which includes seasonal shutterings.

## INTERNATIONAL TRADE

- A total of 304,223 companies exported goods from the United States in 2013. Among these, 297,343, or 97.7%, were small firms; they generated 33.6% of the United States's total known export value. (Source: ITA)

## SMALL BUSINESSES BY INDUSTRY

Table 1: US Small Firms by Industry, 2013  
(sorted by small employer firms)

				
Industry	1 – 499 Employees	1 – 19 Employees	Nonemployer Firms	Total Small Firms
Professional, Scientific, and Technical Services	778,090	731,341	3,235,906	4,013,996
Other Services (except Public Administration)	670,468	626,850	3,583,742	4,254,210
Retail Trade	649,764	595,280	1,906,597	2,556,361
Construction	645,479	598,039	2,368,442	3,013,921
Health Care and Social Assistance	642,586	561,706	1,959,723	2,602,309
Accommodation and Food Services	502,076	397,330	346,280	848,356
Administrative, Support, and Waste Management	325,474	289,799	2,032,516	2,357,990
Wholesale Trade	309,568	267,370	406,469	716,037
Real Estate and Rental and Leasing	275,298	262,850	2,448,282	2,723,580
Manufacturing	248,155	188,964	343,025	591,180
Finance and Insurance	233,184	216,130	706,394	939,578
Transportation and Warehousing	167,496	149,262	1,102,255	1,269,751
Arts, Entertainment, and Recreation	116,159	100,867	1,256,694	1,372,853
Educational Services	85,151	67,144	616,952	702,103
Information	70,792	61,051	326,526	397,318
Mining, Quarrying, and Oil and Gas Extraction	21,594	18,222	106,610	128,204
Agriculture, Forestry, Fishing and Hunting	21,323	19,997	239,863	261,186
Utilities	5,715	4,511	19,344	25,059
<b>Total</b>	<b>5,768,372</b>	<b>5,156,713</b>	<b>23,005,620</b>	<b>28,773,992</b>

*Totals for Tables 1 and 2 differ from SUSB's nationwide tallies due to firms with establishments in more than one industry and the omission of industry classifications not reported by NES. (Source: NES and SUSB)*  
*s Indicates samples deemed too small to represent the population according to SUSB.*



**SMALL BUSINESS EMPLOYMENT BY INDUSTRY**

Table 2: US Employment by Industry and Firm Size, 2013  
(sorted by small firm employment)

Industry	Small Business Employment	Total Private Employment	Small Business Employment Share
Health Care and Social Assistance	8,515,106	18,598,711	45.8%
Accommodation and Food Services	7,454,788	12,395,387	60.1%
Retail Trade	5,370,419	15,023,362	35.7%
Manufacturing	5,059,759	11,276,438	44.9%
Professional, Scientific, and Technical Services	4,869,277	8,275,350	58.8%
Other Services (except Public Administration)	4,536,340	5,282,688	85.9%
Construction	4,526,389	5,470,181	82.7%
Administrative, Support, and Waste Management	3,523,802	10,185,297	34.6%
Wholesale Trade	3,463,622	5,908,763	58.6%
Finance and Insurance	1,918,122	6,063,761	31.6%
Transportation and Warehousing	1,585,539	4,287,236	37.0%
Educational Services	1,532,214	3,513,469	43.6%
Real Estate and Rental and Leasing	1,361,352	1,972,105	69.0%
Arts, Entertainment, and Recreation	1,315,721	2,112,000	62.3%
Information	871,065	3,266,084	26.7%
Mining, Quarrying, and Oil and Gas Extraction	288,789	732,186	39.4%
Agriculture, Forestry, Fishing and Hunting	132,812	154,496	86.0%
Utilities	110,352	638,575	17.3%
<b>Total</b>	<b>56,435,468</b>	<b>115,156,089</b>	<b>49.0%</b>

Figure 5: US County-Level Job Changes, 2015  
(CEW)

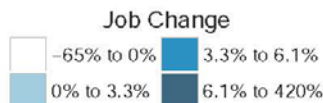
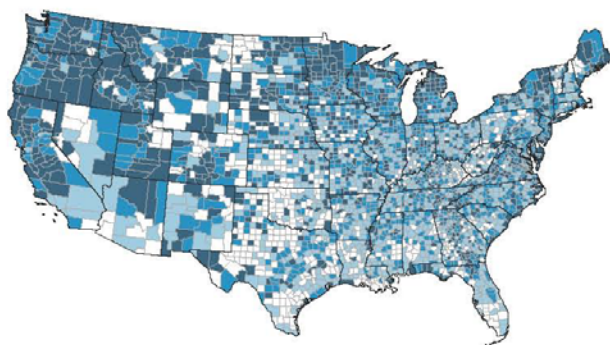


Table 3: Abbreviations and Resources

ACS	American Community Survey, US Census Bureau
BEA	Bureau of Economic Analysis
BDM	Business Employment Dynamics, BLS
BDS	Business Dynamics Statistics, US Census Bureau
BLS	Bureau of Labor Statistics, US Department of Labor
CES	Current Employment Statistics, BLS
CEW	Census of Employment and Wages, BLS
CPS	Current Population Survey, BLS
FDIC	Federal Deposit Insurance Corporation
FFIEC	Federal Financial Institutions Examination Council
ITA	International Trade Administration
NES	Nonemployer Statistics, US Census Bureau
SBO	Survey of Business Owners, US Census Bureau
SUSB	Statistics of US Businesses, US Census Bureau

All profiles, source data, methodology notes, and county-level employment statistics are available at <http://go.usa.gov/cfKMD>



# WHAT'S NEW WITH SMALL BUSINESS?



## WHAT IS A SMALL BUSINESS?

A small business is an independent business with fewer than 500 employees.



BED, [1992-2013]

## SMALL BUSINESSES COMPRISE:



SUSB, NES, ITA [2013]

## 28.8M SMALL BUSINESSES IN THE U.S.



SUSB, NES [2013]

## 401K CLOSURES

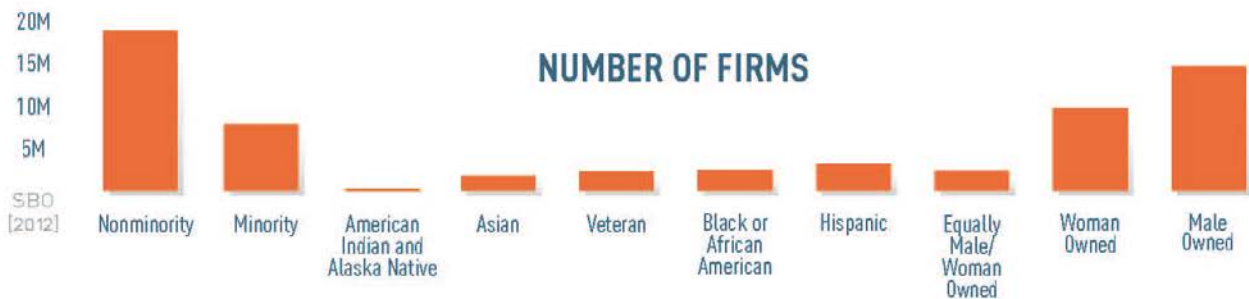


## 406K STARTUPS\*



\*A startup is a firm less than one year old.

BDS, [2013]



### US CENSUS BUREAU

**NES** Nonemployer Statistics  
**BDS** Business Dynamics Statistics  
**SBO** Survey of Business Owners  
**SUSB** Statistics of US Businesses

**BED** Business Employment Dynamics, Bureau of Labor Statistics  
**ITA** International Trade Administration, US Department of Commerce

For even more information visit <http://go.usa.gov/xDc2C>



# How can crowdfunding help entrepreneurs?

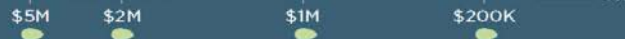
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 REVOLUTION • RESEARCH • OUTREACH

Early-stage funding is critical to the survival of innovative startups. Venture capital markets are a primary source of early-stage funding, but they are moving away from financing new startups. However, crowdfunding offers startups unique fundraising opportunities to help them withstand this negative momentum. In addition to raising capital, crowdfunding can establish an audience for a product or service; both things strengthen an innovative startup, making a risky investment worth a second look from VCs.

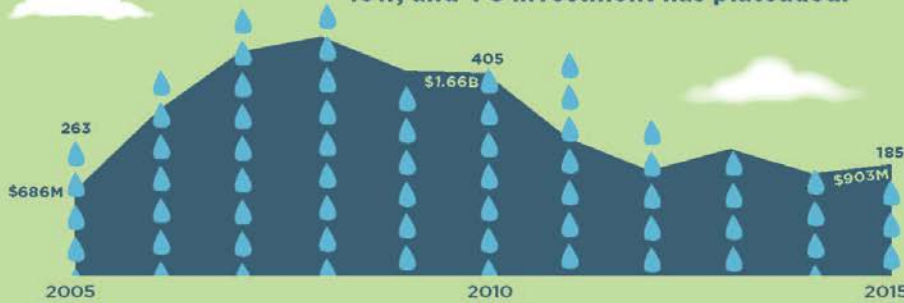
The more startups raise at the seed stage, the more likely they will obtain Series A, or 1st round funding.

"While returns on capital are often strong in mature companies, it is growth that matters most in the early stages of a company's life."  
 - McKinsey

Percentage of startups that obtained **Series A funding** by total seed stage dollars raised



Seed stage VC deals are at an historic low, and VC investment has plateaued.



"During times [of capital market contractions] even growing companies with great teams and the promise of paradigm disruption can find raising a Series A to be difficult."  
 - Forbes

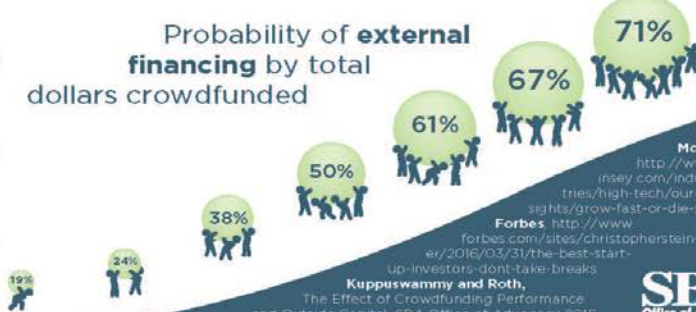
● Total annual seed stage VC deals  
 ■ Total annual seed stage VC investment dollars

Startups that raise more money crowdfunding are more likely to receive external financing.

"Crowdfunding performance, has a positive effect on the likelihood of external financing benefits."  
 - Kuppuswamy and Roth, 2016



Probability of **external financing** by total dollars crowdfunding



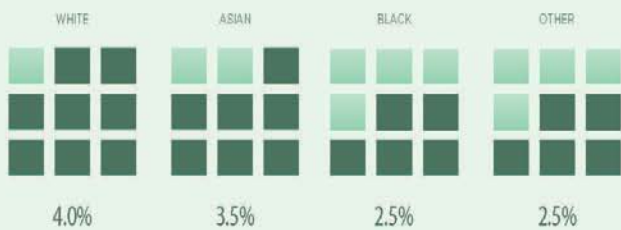
Kuppuswamy and Roth, The Effect of Crowdfunding Performance and Outside Capital. SBA Office of Advocacy 2016. Crunchbase, Medium Thomson Reuters



# MINORITY STEM ENTREPRENEURS

STEM fields - science, technology, engineering, and mathematics - are the source of tangible innovations in products and processes that help to spur economic growth.

Among college-educated, native-born U.S. citizens, opportunities to increase Black STEM entrepreneurship exist (percentages represent STEM entrepreneurship rates within each demographic group).



Note: Other Minorities includes the following groups, as characterized by the U.S. Census Bureau: American Indians, Alaska Natives, Native Hawaiians, other Pacific Islanders, and individuals who self-identify as belonging to multiple races or ethnicities.

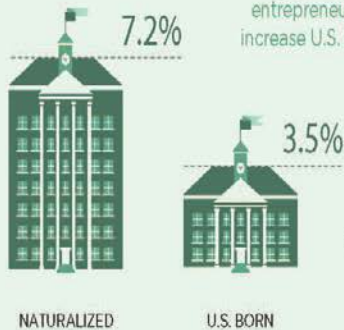
■ = .5%

College-educated Hispanic STEM entrepreneurs are not one size fits all (as evidenced by varied rates of STEM ownership).



Note: Percent of all college graduates Hispanic: Americans may be of any race. Puerto Rico is a U.S. territory.

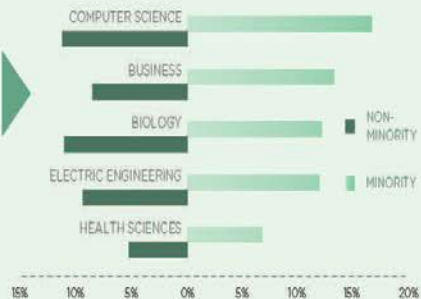
Among college-educated Asian STEM entrepreneurs, opportunities exist to increase U.S. born STEM ownership to match naturalized STEM ownership.



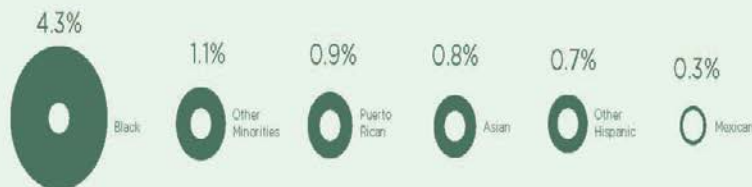
STEM Business Ownership, Asian College Graduates, US Citizens.

Among native born U.S. citizens, 4.4 percent of first generation college graduates own STEM businesses.

Top 5 Bachelor's Degrees among Minority STEM Business Owners



Even among minority STEM entrepreneurs, opportunities to increase leadership positions exist. Minority STEM business owners collectively represent only about 8% of top-level executive positions.



Note: Equivalent share for Whites is 91.8% Native born U.S. citizens. Top-level executives include top-level managers, executives, administrators such as CEOs, COOs, CFOs, presidents, district managers, provosts.

Source: All figures based on research conducted for the SBA Office of Advocacy under contract no. SBAHQ-14-G-0034 using the National Science Foundation's 2010 Scientists and Engineers Statistical Data System (SESTAT).

