



FRONTIERS of ENTREPRENEURSHIP

2020 Trends Report
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KENAN INSTITUTE
of Private Enterprise



KENAN-FLAGLER BUSINESS SCHOOL
Entrepreneurship Center

Why does entrepreneurship matter?

Entrepreneurship plays an integral role in the health of our global economy. Global markets, the labor market composition and influencers are changing more rapidly than ever.

Entrepreneurship drives economic output as well as job creation throughout the global economy, and innovation disrupts industries and leads to new breakthroughs that have positive impacts on society.

But is there a clear understanding about what drives, supports, sustains and stimulates entrepreneurship? There is still a lot to learn. To keep pace in an increasingly dynamic world, it is important to understand the current entrepreneurial environment and learn from trends.

What is the Trends in Entrepreneurship Report?

This report gives timely insights into the topics that significantly affect entrepreneurs, funders, ecosystem partners, policymakers and others in the innovation economy by combining data with expert analysis.

The report also translates rigorous academic research to ensure findings are accessible and actionable for the broader entrepreneurial community, aiming to inform practitioners' decisions and encourage further exploration of research ideas by scholars.

What is in the report?

The following represents the first version of the Trends in Entrepreneurship Report. The report will continue to evolve, building on the current analysis and introducing new topic areas that are timely and relevant.

Currently, the report analyzes a number of different subject areas to highlight trends and ensure the facts around entrepreneurship are known and well understood. It also highlights a number of subject areas that are still being debated by many thought leaders. The hope is that by understanding all sides of those positions, practitioners and policymakers can make better decisions.

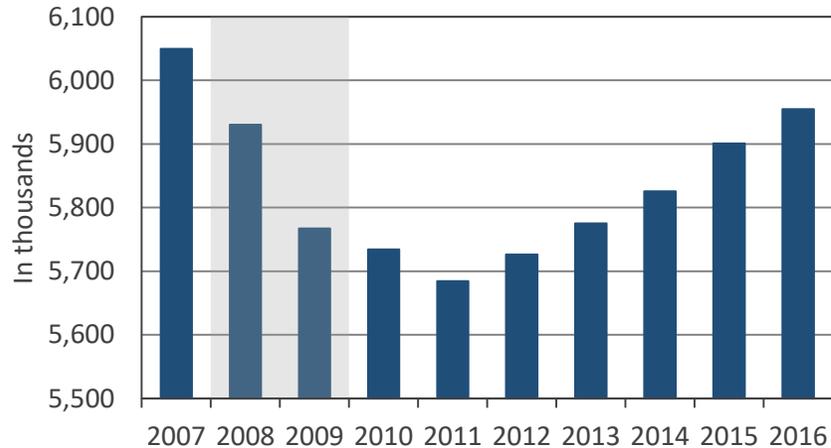
Finally, this report highlights gaps in the current research and literature to stimulate further academic exploration and research in these areas. If you have ideas for future research or questions about the report, please reach out to us at **frontiers@kenan-flagler.unc.edu**.

Laying the Groundwork: The State of American Business

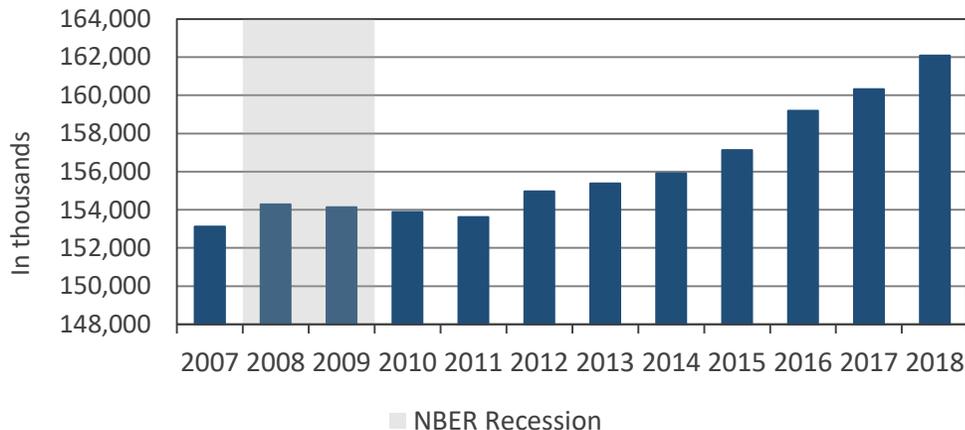


State of American Business: Trying to Boom

Total Number of Employer Firms



Labor Force



- Despite rapid rebound in employer firms post-crisis, the most recent data (2016) are still below the pre-crisis peak.
- The labor force, which has surpassed Great Recession levels, has been growing steadily since 2012.

U.S. Census Definitions (SUSB Data):

Firm: The U.S. Census categorizes a firm as a business organization with one or more domestic establishments in the same state and industry.

Employer firm: A firm that employs at least one employee.

Labor force: Sum of employed and unemployed. This measures people who are working or actively seeking employment.

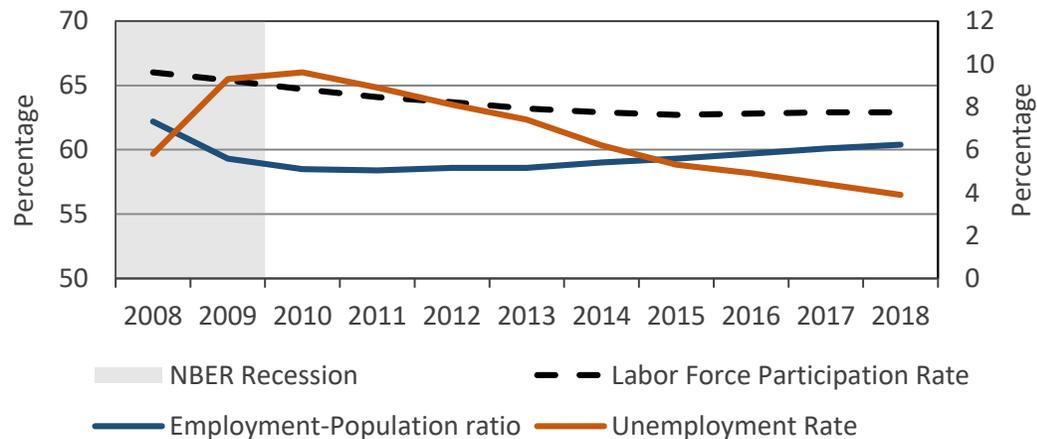
State of American Business: Tight Labor Market? Maybe.

What is a tight labor market? An economy where there are more jobs than workers able to fulfill those jobs. Generally, an overall wage increase is seen in tight labor markets.

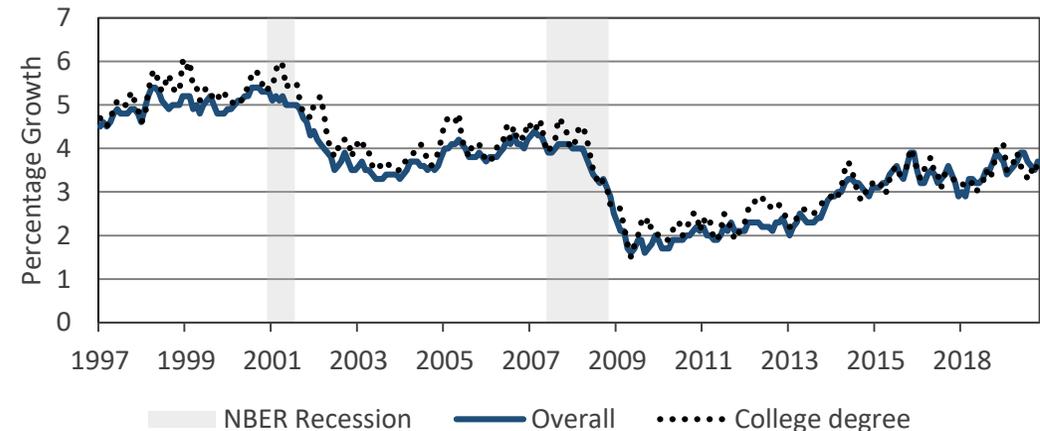
Is the United States in a tight labor market now? Probably yes, but with some hesitation.

- Since 2009, the U.S. economy has added 7.9 million jobs, and unemployment rates have fallen from near 10% in 2009 to 3.5% in 2019.
- By contrast, the labor force has increased by 22 million, implying a net 14 million do not have and are not seeking jobs, leading to decreases in labor force participation.
- Slower wage growth:
 - Wage growth is increasing more slowly than pre-Great Recession and dot-com bust.
 - Growth is not consistent across workers. College-educated workers experienced less wage growth compared to historical trends, while workers with high school degrees or less experienced relatively strong wage growth.

Labor Market Indicators

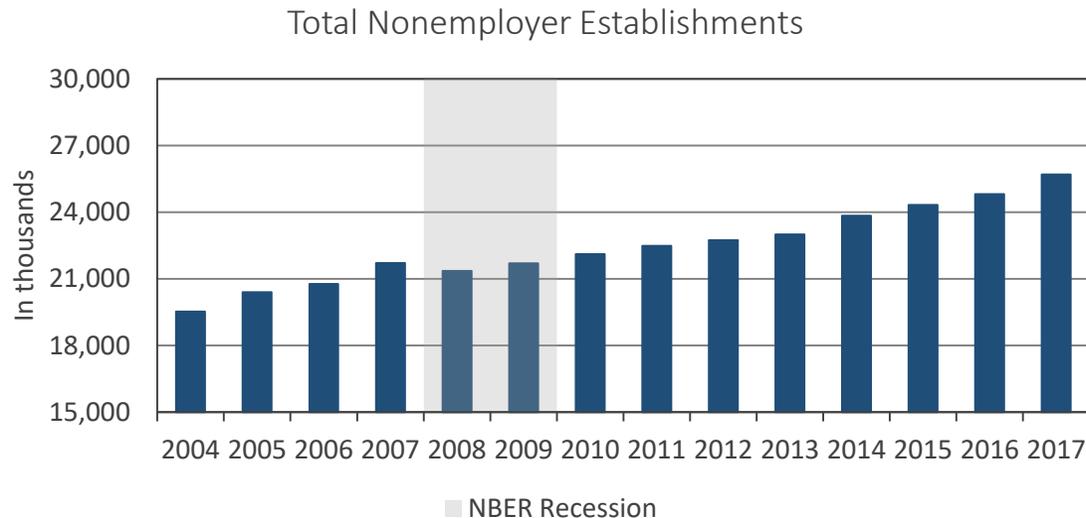


Wage Growth



State of American Business: Gig Economy is Growing, but Data Collection Remains a Problem

- There is no clear definition of the gig economy, which has sparked a debate on how to accurately collect data and measure its true impact and size.
- However, some of the growth in non-employer establishments is believed to be due to the growth in the gig economy.
 - For example, the number of non-employers classified in “Taxi and Limousine Services” tripled between 2013 and 2016. By 2015, 73% of the new entrants had another source of employment income.



Definitions:

Establishment: A single location at which business is conducted or services are performed.

Non-employer establishment: A business with no paid employees, annual business receipts of \$1,000 or more, and is subject to federal income tax. Each distinct filed income tax return is counted as an establishment.

Importance of Firm Segmentation for Analysis

Segmenting types of firms is critical to understanding their individual needs when it comes to a variety of factors including, but not limited to, business support, funding, and policy. There are multiple ways to segment firm types. Historically, there has been a focus on the importance of manufacturing firms. However, focusing on manufacturing may lead to missing critical nuances of growth and innovation within the U.S. economy. Traditionally, business-to-business (e.g., supply chain) firms' contributions to overall growth and innovation have been overlooked, but new research indicates that supply chain firms are critical for growth.

One approach: A breakdown by geographical target market - local firms vs. traded firms

<p>Local Firms</p> <p>Main Street firms selling primarily in their local market</p>	<ul style="list-style-type: none"> • ~71 million employed in 2016 • Thought of as mom and pop shops • Does not include healthcare • Tend to be proportional to the region's size
<p>Traded Firms</p> <p>Firms selling beyond their local markets</p>	<ul style="list-style-type: none"> • ~43 million employed in 2016 • Firms that are located in one region but sell products/services across regions and/or countries • Traditionally, economic development policies have focused on these firms

Importance of Segmentation (continued)

Another approach: A breakdown of to whom a firm sells - business to consumer firms vs. supply chain firms

Business to Consumer Firms (B2C)	<ul style="list-style-type: none"> • ~71 million employed in 2016 • Firms that sell primarily to consumers and are critical to consumer spending
Supply Chain Firms (Business to Business (B2B))	<ul style="list-style-type: none"> • ~48 million employed in 2016 • Firms that sell most of their goods to other businesses or to the government • Not just manufacturers, these firms -- as part of the larger commercial and governmental supply chain -- are critical to the economy • Firms may sell to multiple industries, implying that innovations developed by supply chain firms have a wide impact on many industries • High level of STEM workers

It is important to note that these segmentations are not mutually exclusive, nor exhaustive. For example, there has also been a lot of analysis on high tech firms (see next slide) which may also be examined on the basis of B2C and B2B. In addition, we can also segment firms by where they sell to geographically and whom they sell to. The important takeaway is that in order to understand the data and how to interpret it, we must understand what was being analyzed.

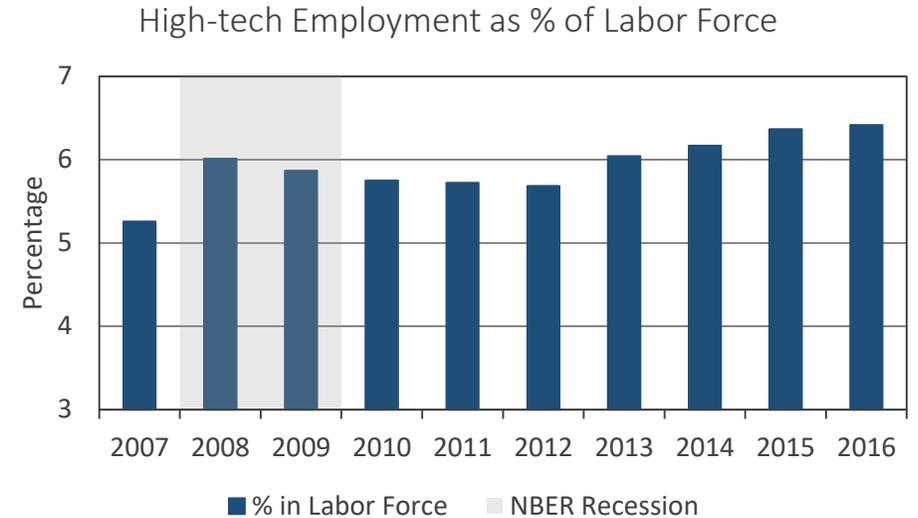
High-tech Firms: Small Percentage, Big Impact

Impact on Employment:

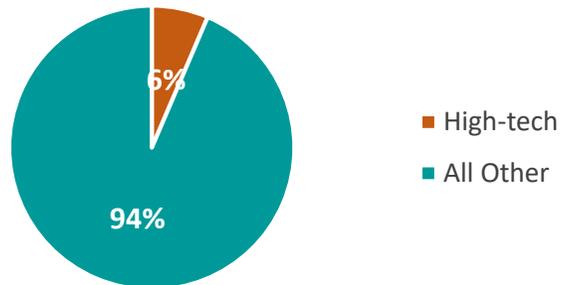
- High tech is a growing portion of the overall labor force, increasing from 5.26% in 2007 to 6.4% in 2016, excluding the federal government and management companies. When included, they account for 9.9%.
- High-tech median wages are higher than non-high-tech median wages.
- High-tech jobs returned and surpassed pre-Great Recession levels sooner than non-high-tech jobs.

Impact on U.S. Output:

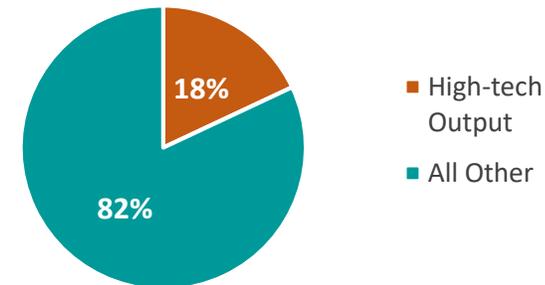
- Although accounting for a small portion of overall employment, high-tech is responsible for a much larger portion of overall output. Using the BLS definition (which includes federal government and management of companies) high-tech accounts for 18% of total U.S. output in 2016.
- High-tech jobs are becoming more prevalent in service-providing industries.



High-tech Employment 2016



High-tech Industry Output 2016



Young Firms Are Critical to Economic Health

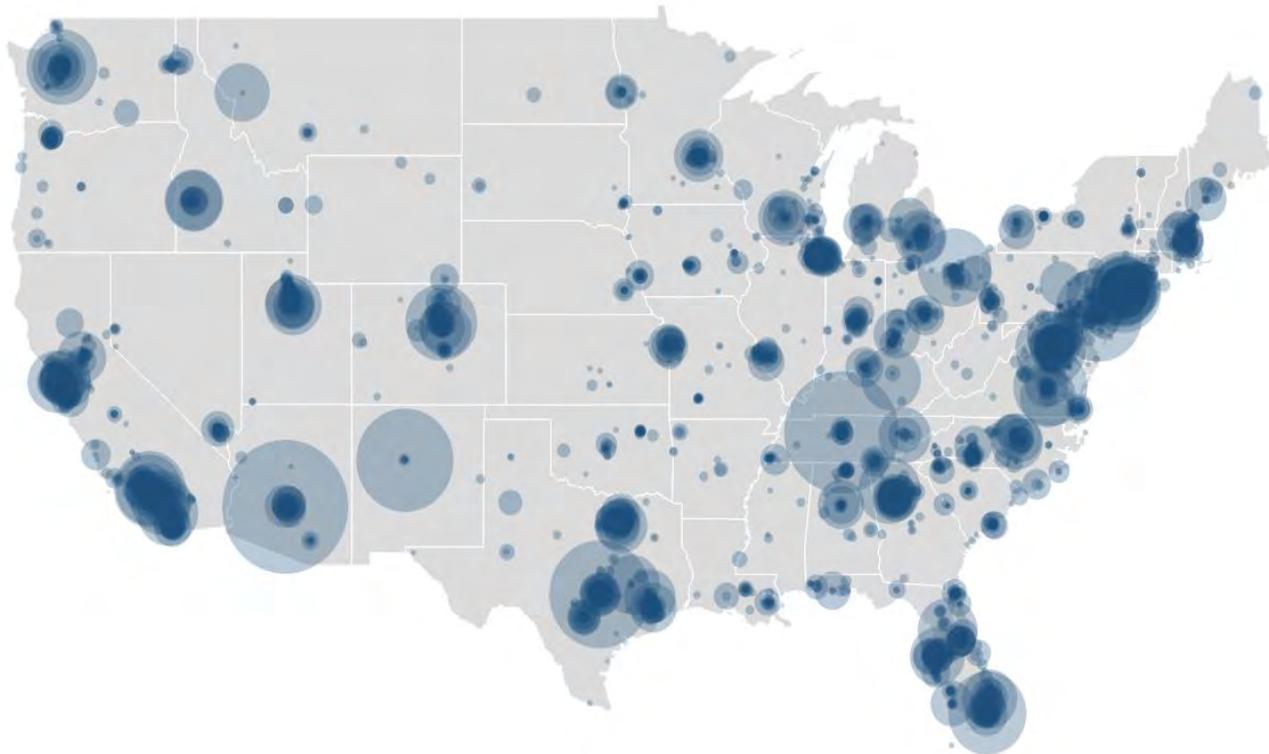
Startups (firms less than one year old) account for 20% of new job creation each year in the U.S. and drive innovation and increased competition in markets.

High-Growth firms (firms growing at more than 25% employment each year) are younger and account for almost 50% of new job creation in the U.S. per year.



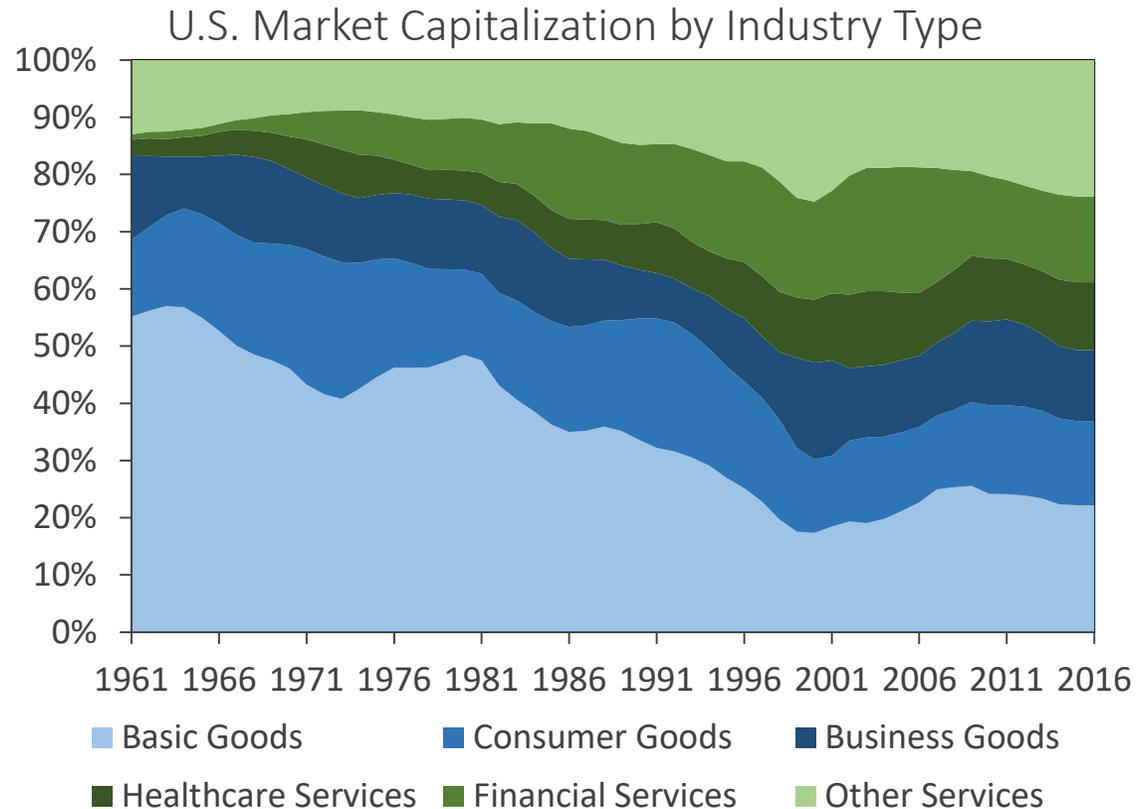
Where High Growth Business is Booming in America

Three-year revenue growth according to Inc. 5000 fastest growing privately held U.S. companies:



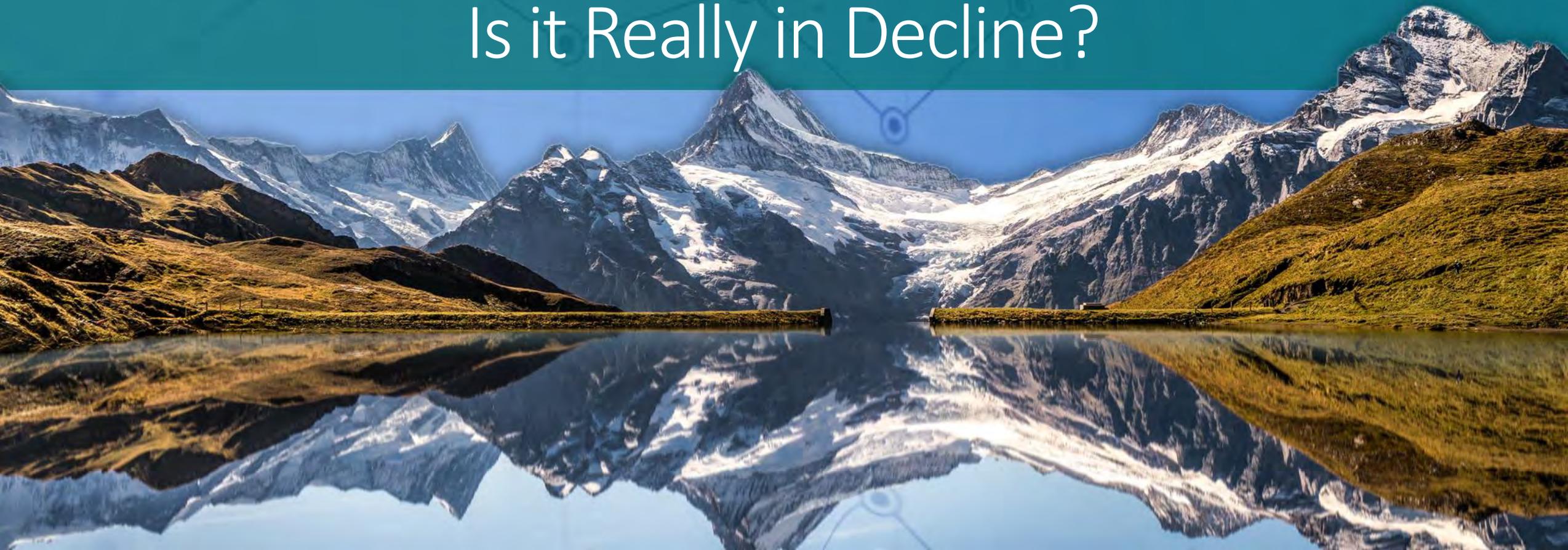
- Most of the high growth is seen in metropolitan areas.
- According to the Brookings Institution, micropolitan and rural areas are headquarters for just 2% of Inc. 5000 high-growth firms.
- Analysis from Brookings shows the top 10 high-growth company dense areas are: Boulder, Colo.; Provo, Utah; Washington, D.C.; Huntsville, Ala.; Austin, Texas; Salt Lake City, Utah; San Francisco, Calif.; Atlanta, Ga.; Boston, Mass.; and San Diego, Calif.

Changing Industry Composition of Economy & Public Companies



- The U.S. economy continues to shift away from producing goods toward providing services.
- The makeup of public companies reflects this shift. In 1960, less than 20% of public market cap was in financial services, healthcare, or other services.
- Now, more than half of public companies are services, with finance experiencing the largest growth.
- In contrast, basic goods have declined from nearly 60% of value in the 1960s to only 22% today.

The State of Entrepreneurship: Is it Really in Decline?

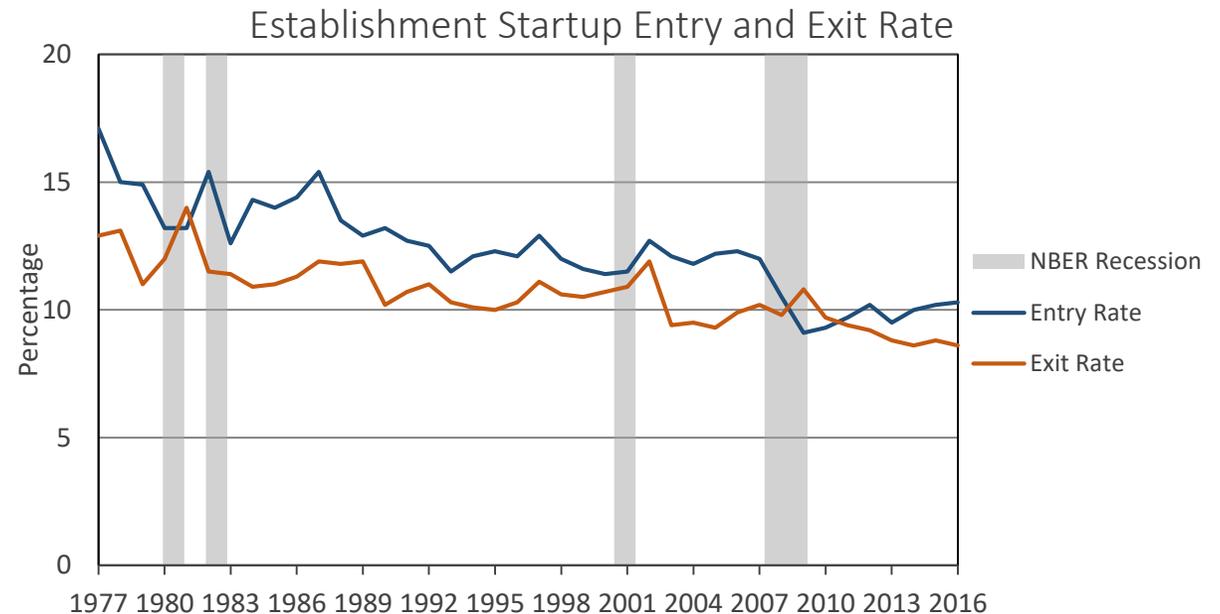


Two Schools of Thought

- **Yes.** There has been a decline in entrepreneurship as seen by the U.S. Business Dynamism data.
- **Not exactly.** If quality of ventures is taken into account, overall quality of entrepreneurship has increased and higher quality, high-growth ventures have received increased levels of funding.
- Other trends affecting the view of the decline in entrepreneurship are related to R&D and technology entrepreneurs.

Entrepreneurship is in Decline

- There has been a steady decline in the firm and establishment startup entry and exit rates, indicating a downward trend in U.S. Business Dynamics Statistics.
- The decline in firm entry is most pronounced among fast-growing young firms. This is troubling since fast-growing young firms have traditionally been a large source of economic growth and innovation.
- Evidence demonstrates a declining trend in job reallocation rates. Job reallocation, which is the sum of job creation and destruction, has historically been seen as a measure of moving resources to more productive businesses.



Definition:

Business dynamism: Business Dynamism is the process of job creation and destruction, establishment birth and deaths, and firm startups and shutdowns.

Why does it matter? “Creative destruction”, “business churn” or “up-or out” process is critical for innovation, economic job creation and growth and competition. With less economic churn, there tends to be less job switching, less job growth, small wage increases and lower overall productivity.

However, Entrepreneurship Quality is Increasing

“Simply put, alternative definitions of entrepreneurship suggest different assessments of the state of American entrepreneurship.” - Guzman and Stern, 2016

- Entrepreneurship, especially high-quality entrepreneurship, follows a cyclical pattern and is affected by the overall market.
- There is an upward trend of higher quality startups. The overall level of high-quality startups was higher from 2000 to 2010 than from 1990 to 1995.
- Starting in 2010, there was another upward trend of high-quality firms.
- There has been an increasing trend of venture capital funding of growth-oriented firms since the Great Recession.

How to measure high quality?

Guzman and Stern developed a new methodology for capturing the differences in startup quality. Using predictive analytics along with firm registration, firm characteristics and other variables, the authors developed three statistical instruments to measure quality of entrepreneurship.

The Decline of Science in Corporate R&D

- Between 1980 and 2006, large U.S. firms have become less focused on creating new knowledge through publishing basic research. Instead, they focus more on developing and commercializing existing knowledge.
- The decline in publications is evident across a range of industries.

-60%

Average annual number of publications by firms that publish, 1980-2006

+100%

Average annual number of firm patents, 1980-2006



Mahka Moeen

The Schulze Family Foundation Distinguished Assistant Professor of Entrepreneurship, UNC Kenan-Flagler Business School

Dr. Moeen is a Schulze Distinguished Assistant Professor of Entrepreneurship. Her research focuses on the co-evolution of entrepreneurial firms and nascent industries. She seeks to understand the entrepreneurial strategies that firms undertake during early industry stages and even prior to the first ever commercialization within an industry context. She is also the recipient of the 2017 Emerging Scholar Award in Innovation and Entrepreneurship from the Industry Studies Association and the 2016 Kauffman Junior Faculty Fellowship. She serves on the editorial boards of the Strategic Management Journal, Organization Science, and Strategic Entrepreneurship Journal.

EXPERT INSIGHT

To understand trends in technology entrepreneurship and firm founding, we can look at leading indicators such as R&D investment in earlier years.

- From where do technology entrepreneurs come? Based on research in strategy and technology entrepreneurship, scientists working in academic or corporate laboratories as well as employees of technology firms are the most likely to found technology startups.** Their prior academic and corporate employment puts them in prime position to gain expertise and identify entrepreneurial opportunities.
- When corporate R&D labs reduce their investment in science, as has been the case during the past decade, it is possible that these prospective technology entrepreneurs can identify fewer technological opportunities. Fewer instances of technology entrepreneurship may then ensue.



Olav Sorenson

Frederick Frank '54 and Mary C. Tanner Professor of Management, Yale School of Management

Professor Sorenson's research interests include economic geography, economic sociology, entrepreneurship, organizational ecology, the sociology and management of science and technology, and business and corporate strategy. His most extensive line of research examines how social networks affect transactions, thereby shaping the geography and evolution of industries. Although Professor Sorenson has investigated these issues in a wide variety of settings, including banking, biotechnology, and footwear manufacturing, he has most extensively studied the entertainment industries and venture capital. Prior to joining the Yale School of Management, Professor Sorenson held the Jeffrey S. Skoll Chair in Technical Innovation and Entrepreneurship at the University of Toronto's Rotman School of Management. He has also taught at the University of Chicago, UCLA and London Business School.

EXPERT INSIGHT

- Here's an example of a case where we need better data. The numbers showing a decline in entrepreneurship are based on the census data, which captures lots of cases that most people would not consider entrepreneurship, more cases of self-employment than of founding a firm.
- Guzman and Stern's numbers, while a useful innovation, skew toward capturing a particular type of startup, companies that are attractive to venture capitalists. But venture capital funds only a small fraction of startups, even of the fastest-growing firms, so their numbers cover only a fraction of the ecosystem.
- Considering a broader range of indicators, it seems likely that entrepreneurship has declined somewhat but has also shifted in its nature and focus.



Arlan Hamilton
Founder and Managing Partner, Backstage Capital

Arlan Hamilton is the founder and managing partner of Backstage Capital, a venture capital firm dedicated to minimizing funding disparities in tech by investing in high-potential founders who are people of color, women, and/or LGBT. Started in 2015, Backstage has now invested nearly \$7 million into 130 startups led by underestimated founders and has been featured in Forbes, Fortune, Wall Street Journal, CNN Money, Inc., Entrepreneur and Quartz. In 2018, Arlan co-founded, along with investment partner Christie Pitts, Backstage Studio, a new venture studio designed to build products, services and initiatives that serve the mission of eliminating underrepresentation in tech by empowering founders and their teams to succeed. Backstage is a fully remote team that has quickly scaled to 38 employees working together with an ever-expanding roster of world-class mentors and partners. Also in 2018, Backstage Studio announced the launch of four accelerator programs, in Los Angeles, Detroit, Philadelphia, and London, UK.

EXPERT INSIGHT

At Backstage Capital, our experience in early stage venture capital shows entrepreneurship is not in decline—and, in fact, we are seeing the opposite trend.

As we source entrepreneurs for investment, we are seeing a higher number of high-potential entrepreneurs at the early stage (pre-seed and seed level) year over year. An important distinction is that patterns of entrepreneurship growth or decline vary when looking at activity by demographic group. For example, it is clear that the number of women entrepreneurs – and in particular, women of color entrepreneurs – is growing.

We see evidence of this in our work: https://about.americanexpress.com/files/doc_library/file/2018-state-of-women-owned-businesses-report.pdf



Maryann Feldman

Faculty Director, CREATE; Professor of Finance, UNC Kenan-Flagler Business School; Heninger Distinguished Professor in Public Policy, UNC Chapel-Hill

Professor Feldman directs CREATE, an economic development research center at UNC Chapel Hill's Kenan Institute of Private Enterprise. She also teaches in the UNC Department of Public Policy and at the UNC Kenan-Flagler Business School. Her research and teaching focus on the geography of innovation, the commercialization of academic research and the factors that promote technological change and economic growth. She leads CREATE's Economic Development Lab, which works to create and curate a body of research that examines the fundamental determinants of shared economic prosperity. Among her honors, Prof. Feldman was awarded the 2013 Global Award for Entrepreneurship Research. She is the editor of *Research Policy*, and has written for numerous journals, including the *American Economic Review* and *The Brookings Papers on Economic Policy*. Prof. Feldman earned a doctorate in economics and management and a master's degree in public policy analysis from Carnegie Mellon University. She also holds a bachelor's degree from Ohio State University.

EXPERT INSIGHT

If we care about prosperity we need to understand the root causes of a decline in entrepreneurial dynamism and use policy to address this shortfall. These discrepancies in research findings raise fundamental questions about the type of entrepreneurship we want to encourage in our society, and also if we want to continue the practice of defining firms in a way that reinforces the existing startup models.

We don't have convincing explanations for why Haltiwanger and co-authors find a decline in new firm formation. Myriad changes in the American economy—from an increase in student debt to a decrease in community banking—warrant further investigation. Also worth further investigation is the rise of market power, as witnessed by an increase in store and restaurant chains. Feldman, Guy and Iammarino ([2019](#)) examine the rise of technology platforms that have established market power that limits competition in the entry of new firms.

Most simply, we need better data on new firm startups. This has proven to be elusive. The census data is the gold standard, but it is not accessible to many researchers and certainly not available to local planners. Secretary of state data is collected for administrative purposes. The addition of a few choice questions about intended activity and number of employees could increase the utility of that data for researchers.



Ryan Decker
Senior Economist, Federal Reserve Board

Dr. Ryan Decker is a macroeconomist researching entrepreneurship, business dynamics, and labor markets. Since 2015, Decker has been working for the Board of Governors of the Federal Reserve System. He was previously an adjunct professor at the University of Maryland College Park and an economist for the Center of Economic Studies at the U.S. Census Bureau from 2011-2015.

The analysis and conclusions set forth here are personal views and do not indicate concurrence by other members of the Federal Reserve Staff or the Board of Governors.

EXPERT INSIGHT

If high-quality, innovative entrepreneurship is healthy and robust, when will we see it in the employment and productivity data? We usually motivate the importance of startups based on their contributions to U.S. job creation and productivity growth; do we need to rethink this focus?

Alternatively, there might be other explanations for the discrepancies noted above: productivity mismeasurement (but see [Byrne et al. 2016](#) and [Syverson 2017](#)), slowing factor reallocation ([Decker et al. 2019](#)) or diffusion of technology across firms ([Andrews et al. 2015](#)), lags between initial innovation and wider aggregate benefits, limitations of GDP as a concept for defining productivity, and so on.

But the point is: The discrepancy between aggregate statistics and the anecdotal feel in Silicon Valley (and in the VC funding data) is a real puzzle, and we need more data and research to understand what is driving this and if it is real or not.

The Path of Success No Longer Leads to an IPO



Notable Trends

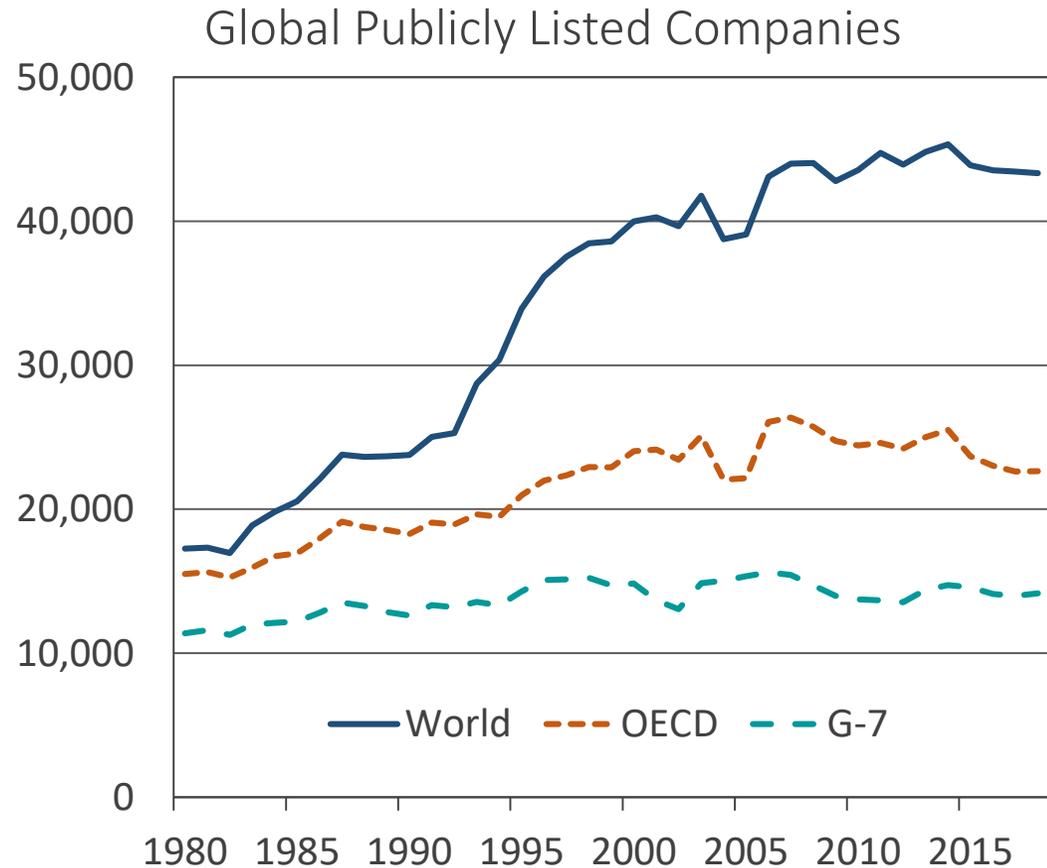
- Total number of listed companies has levelled off globally and even declined substantially in many major economies.
- Trends are driven by lower rate of initial public offerings (IPOs) and the average age and size of a firm going public has increased over time.
- Smaller firms might prefer to be acquired rather than offer an IPO due to high cost of listing, compliance costs and market demands.
- Firms are taking advantage of potentially lower-cost options than the public markets to secure capital.
- There has been a large increase in commitments to private equity/growth equity firms which can provide the capital to stay private.
- Private equity firms have improved their advising capacities so they are more attractive owners than in the past.

Public vs. Private Trade-offs

As companies consider their exit strategies and whether an IPO is the right path, they must consider the trade-offs between public and private markets in today's world.

	Public	Private
Pros	<ul style="list-style-type: none"> • Lower cost of capital from better risk sharing • More liquidity for owners and managers • Perpetual ownership structure 	<ul style="list-style-type: none"> • Private ownership dramatically lowers information asymmetry because shareholders have access to frequent, deep and actionable information. • Alignment between shareholder and management easier to achieve. • Less red tape and public scrutiny. • PE firms provide more operational help/advice
Cons	<ul style="list-style-type: none"> • Information asymmetry can lead to higher agency costs; minority vs. majority shareholder conflicts • More regulation costs and public scrutiny of decision making 	<ul style="list-style-type: none"> • Less risk sharing • Less liquidity for shareholders or managers

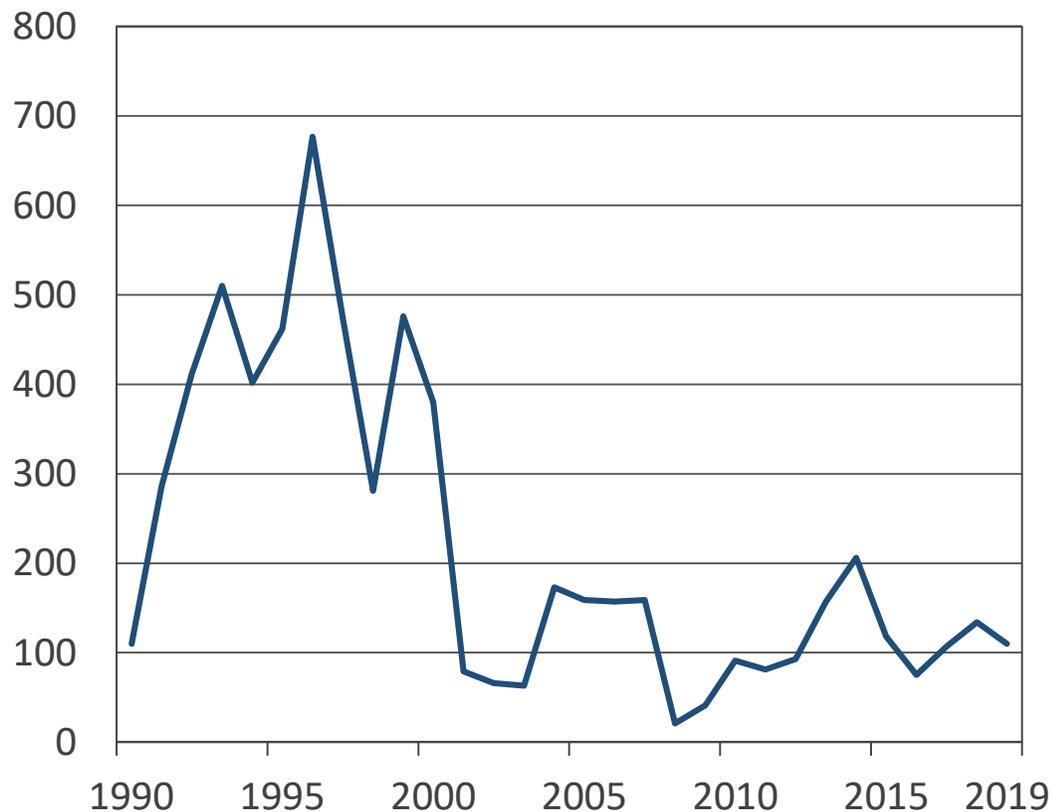
Public Equity Markets – Leveling Off of Number of Listings



- After growing rapidly during the 1980s and 1990s, the global number of publicly listed companies has leveled off and started to decline.
- The trends are more pronounced in developed economies with outright declines in listings for OECD and G-7 countries over the last decade.
- 2019 is the fifth year in a row to see a decline in global listings.

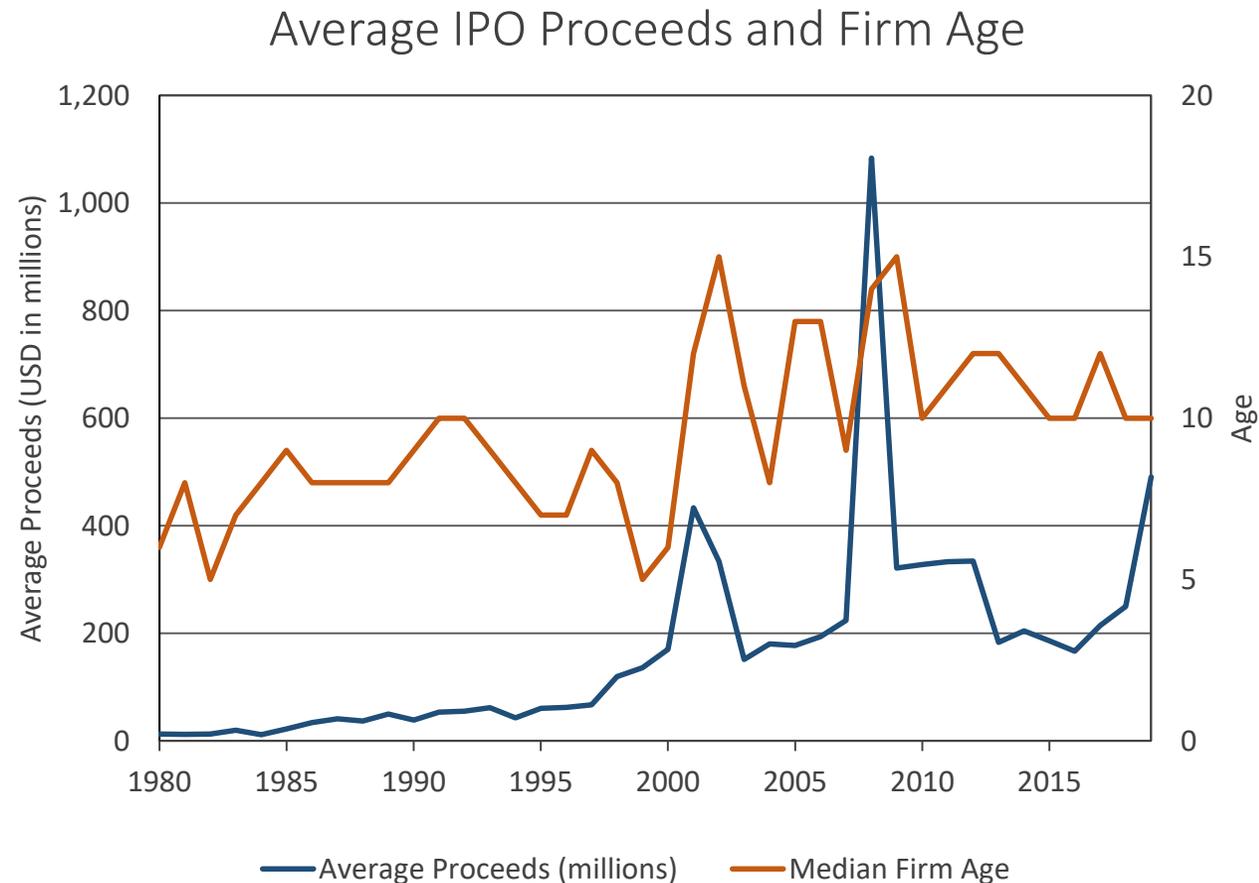
IPO Activity in the U.S. – Decline Since the Dotcom Boom

Count of U.S. IPOs



- Mirroring the drop in listings, the number of U.S. IPOs has dropped massively since the late-1990s.
- But is this a sign of decline in economic dynamism?
- It could be a decline in the preference of public versus private ownership or trade sales to public companies that bypass a public listing.

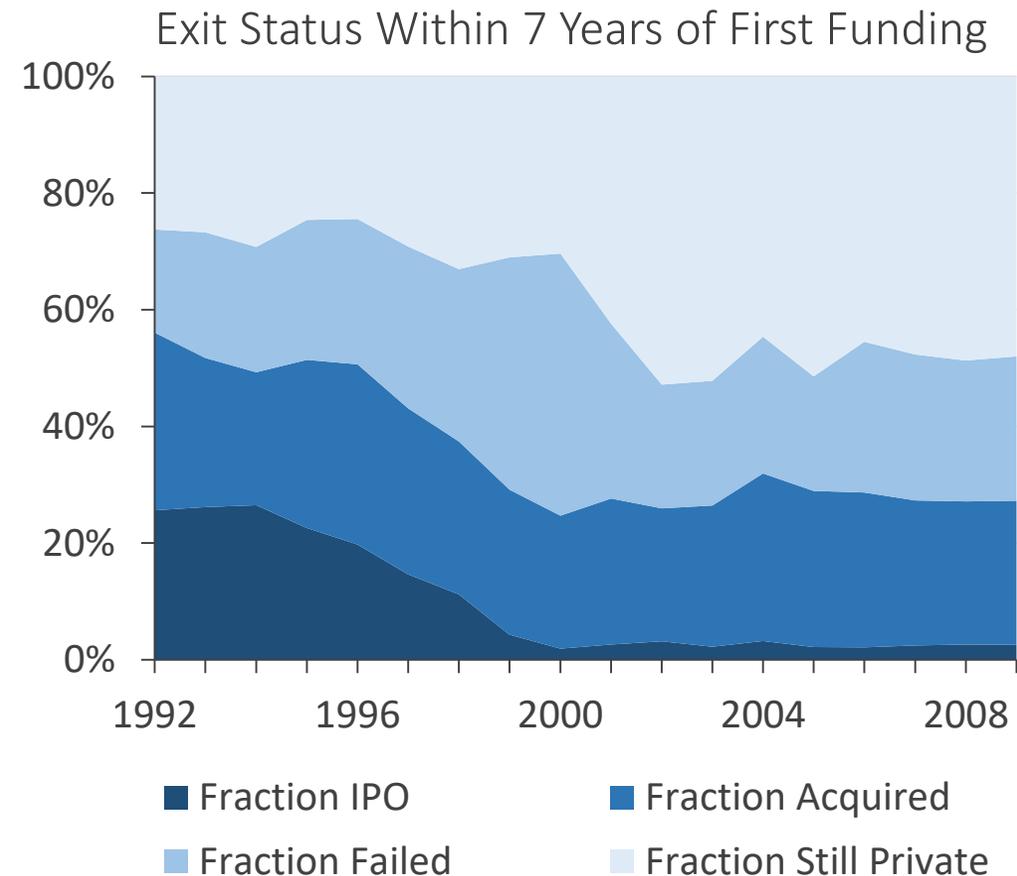
IPOs Growing in Size and Age But Not Number



- Average offer amounts continue to increase.
- Largest IPOs are getting larger.
- Issuing firms are getting older.

IPO Decline is Driving Shift to Private (not M&A or Bankruptcy)

- The trend in U.S. listings is not associated with cyclical trends in the total number of companies or employment.
- M&A and business failures have not changed much over time. In fact, failures have trended down.
- The shift is primarily accounted for by a massive drop in IPO activity that has resulted in an increase in the share of companies remaining private.
- The Ewens & Farre-Mensa analysis indicates that the IPO decline is not a market failure in the process of going public. Rather, it is the result of founders taking advantage of their increased bargaining power and lower cost of being private to realize their preference for control by choosing to remain private.





Steve Kaplan

Neubauer Family Distinguished Professor, University of Chicago Booth School of Business

Professor Kaplan is an expert on issues in private equity, venture capital and entrepreneurial finance. He is a research associate at the National Bureau of Economic Research and an associate editor of the Journal of Financial Economics. Professor Kaplan co-founded the entrepreneurship program at Booth and serves as the faculty director of the Polsky Center for Entrepreneurship and Innovation. With his students, he helped start Booth's New Venture Challenge, which has spawned over two hundred companies that have raised almost \$1 billion and created at least \$6 billion in value including GrubHub, Braintree/Venmo and Simple Mills.

EXPERT INSIGHT

The advantages of staying private, versus going public, likely have increased over time.

- Because of the rise of PE, there is greater potential liquidity to founders and employees as a private company.
- PE firms increasingly bring operational advice and help to their companies.
- Sarbanes-Oxley, headline risk from the Internet and social media make it more costly to be public.
- All things equal, operating executives prefer to work for private companies.

PE fundraising continues to be strong, suggesting these trends will continue.



Mahka Moeen

The Schulze Family Foundation Distinguished Assistant Professor of Entrepreneurship, UNC Kenan-Flagler Business School

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EXPERT INSIGHT

Technology entrepreneurs might favor being acquired by another technology incumbent, rather than pursuing an IPO.

- It is becoming increasingly challenging for technology entrepreneurs to advance their emerging technologies toward commercialization and revenue generation. Absent a revenue stream, they have difficulty proving their value in public markets.
- Challenges in revenue generation arise because technology entrepreneurs can lack resources to go it alone. Some intellectual property rights might be already granted to other firms, or it could be difficult to build scalable distribution and manufacturing assets. Acquisitions can address these problems if another technology incumbent that already possesses some of these missing resources is willing to buy them.
- As emerging technologies are increasingly protected by strong and overlapping intellectual property rights, more and more acquisitions become inevitable.
- Technology entrepreneurs in areas that compete with or disrupt incumbents with reputable distribution and manufacturing assets can find more acquisition opportunities.

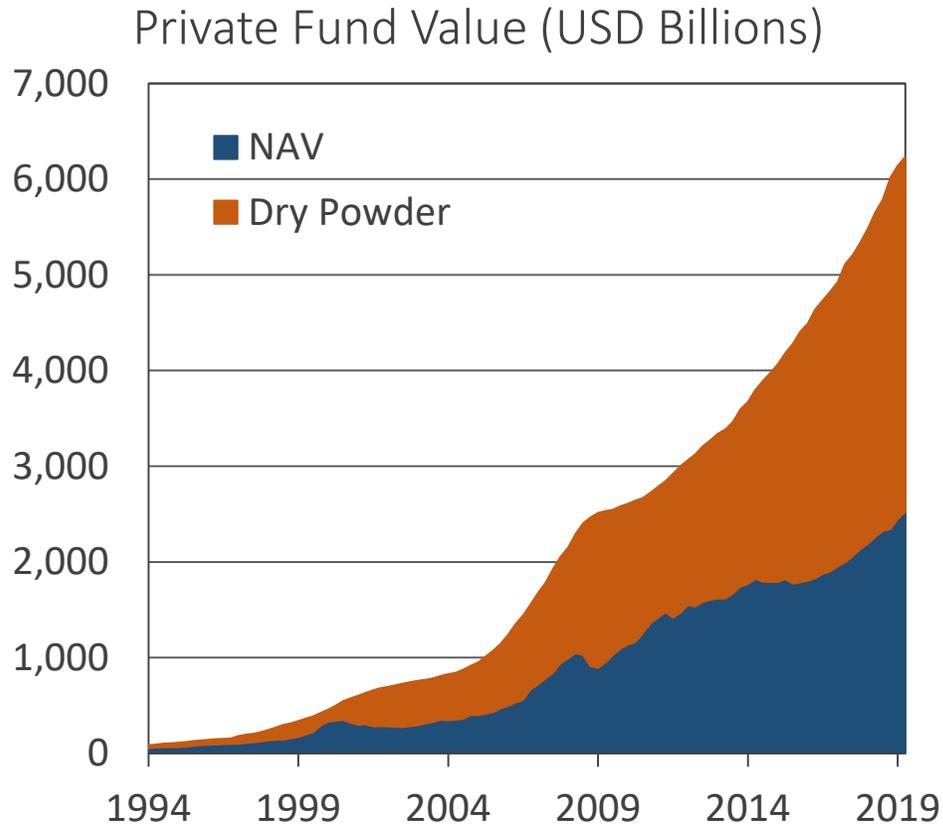
The Continued Rise of Private Capital



Notable Trends

- Overall growth in private capital has been exponential during the last decade.
- Growth of venture capital (VC) funds has outpaced buyout and other private equity strategies.
- Firms are raising more money in later VC rounds to stay private longer.
- Valuations and leverage have risen over the last several years, but not to the levels seen in the dot-com bubble of the late 1990s or the buyout surge prior to the financial crisis.

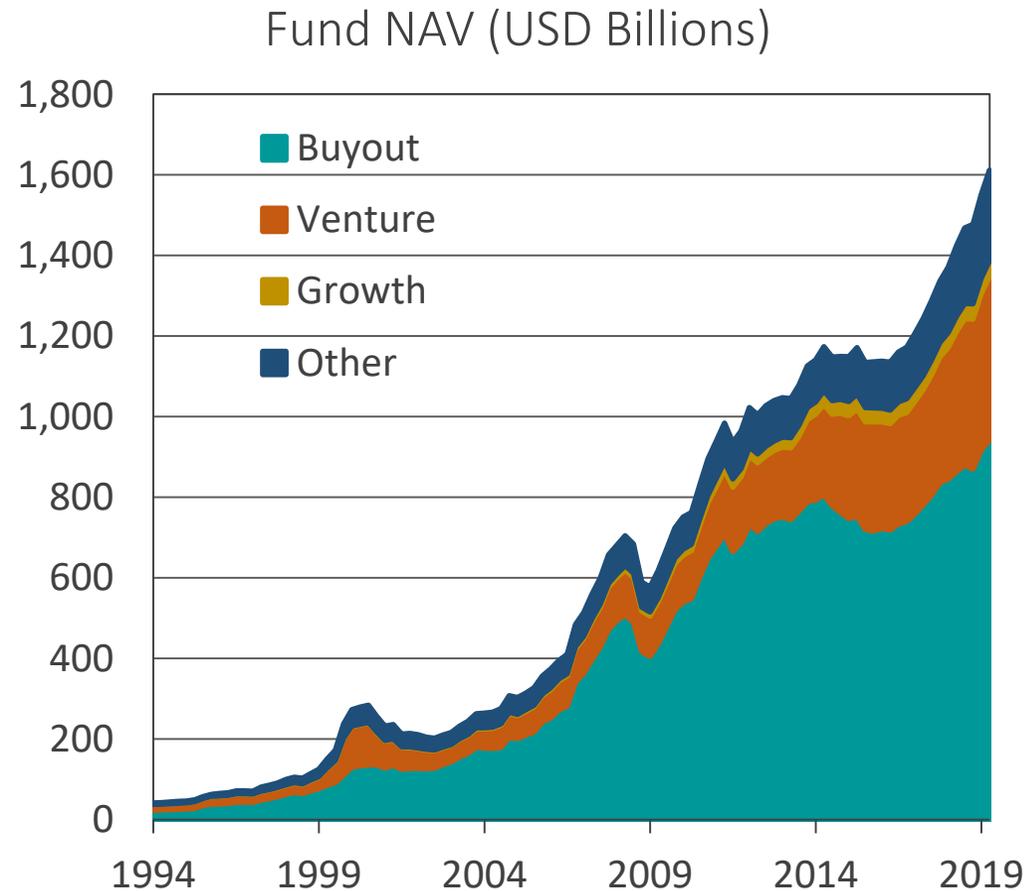
Exponential Growth of Global Private Fund Industry



Net Asset Value (NAV): Total value of the fund assets minus the total value of its liabilities
Dry Powder: Uncalled capital committed to funds

- The private fund industry has grown exponentially in the last three decades.
- The capital formation process is rapidly changing in the U.S. and globally.
 - From 2017-2019, more new equity was raised in private funds than in public markets, something which had never previously occurred.

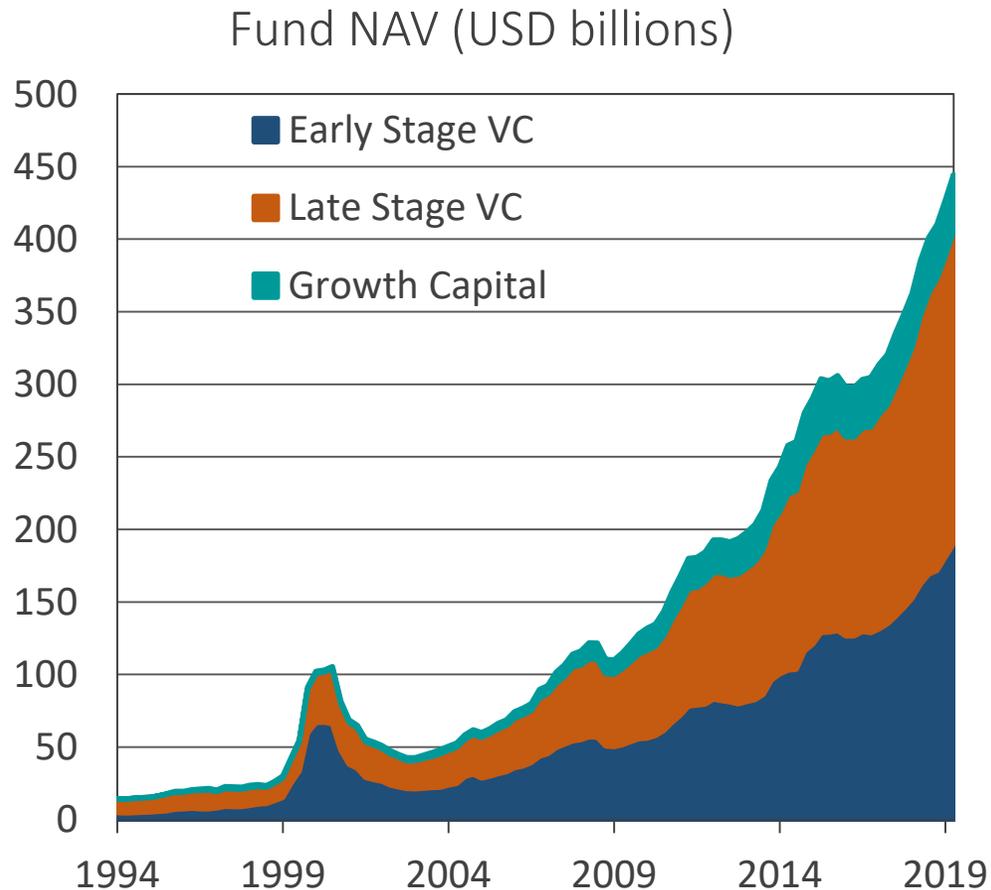
Global Net Asset Values by Type of Equity Fund



Note: "Other" includes generalists with portfolios spread across other categories

- Assets committed to buyout funds remain the largest share of private equity.
- However, venture has substantially expanded its share of the total private equity since the global financial crisis from 15.8% in 2009 to 25.2% in 2019.
- Growth capital is still a niche but increasingly, the lines are blurring among VC, growth and buyouts as top firms raise funds in multiple segments.

Global Net Asset Value for VC and Growth Funds



- Early stage and late stage are about evenly split in capital deployed.
- Growth capital is expanding more slowly.

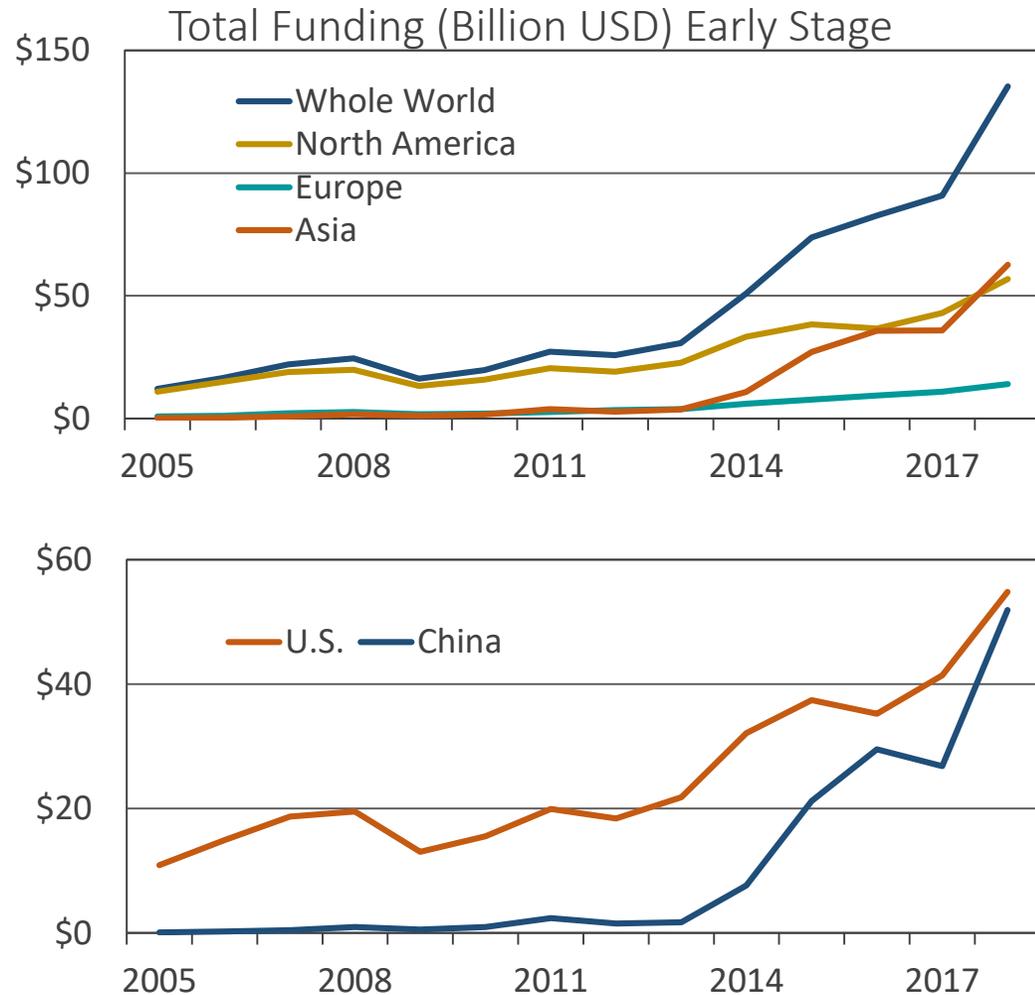
VC Markets Are Now Global



Notable Trends

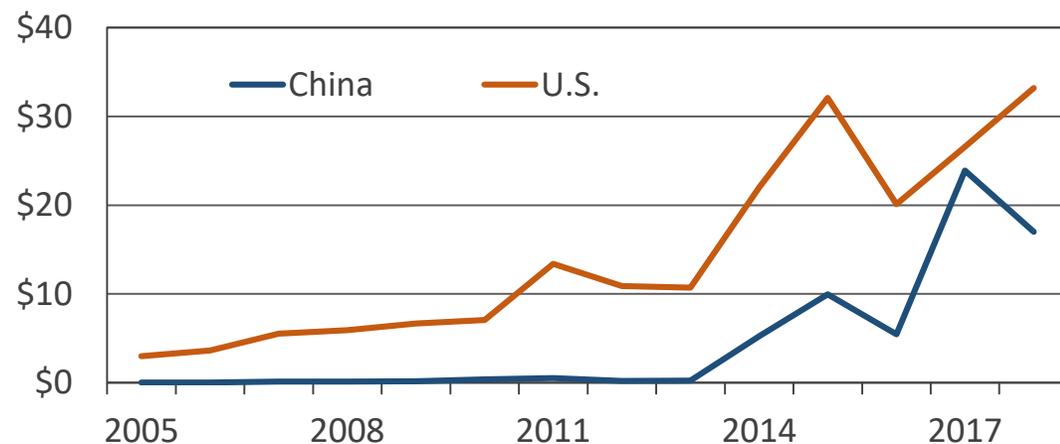
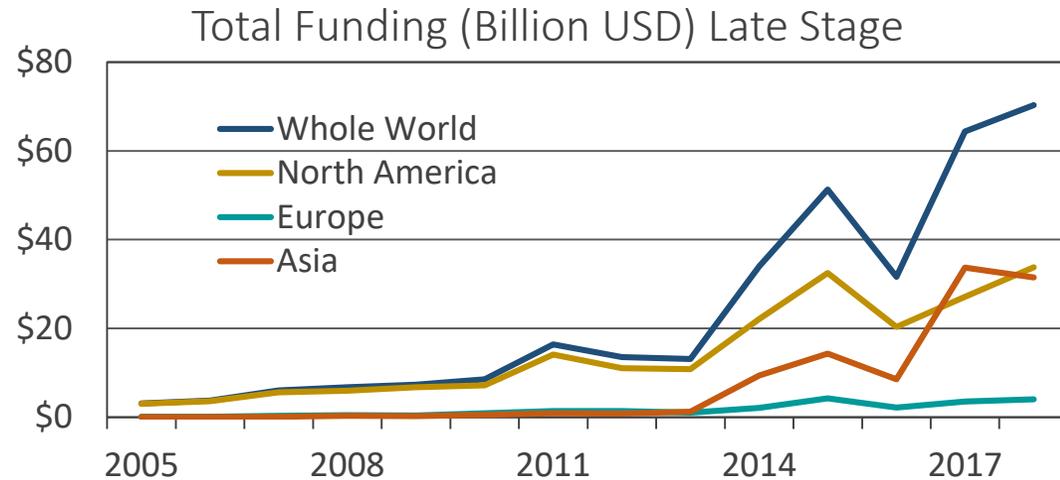
- Driven by China, Asia is emerging as a VC power player. (The U.S. now accounts for less than half the early-stage VC market.)
- Average deal size trended up significantly starting in 2014, especially in China.
- Europe lags behind in both amount of VC funding and returns to investors.
- Exploding unicorns: WeWork and other signs of stress in most highly valued companies suggest some key investors in this segment do not understand ownership and exit strategy.
- Both the rise of U.S.-based global funds and domestic/regional funds outside the U.S. demonstrate an important move toward broader access to early-stage capital around the world.

Early-stage VC – Total Funding



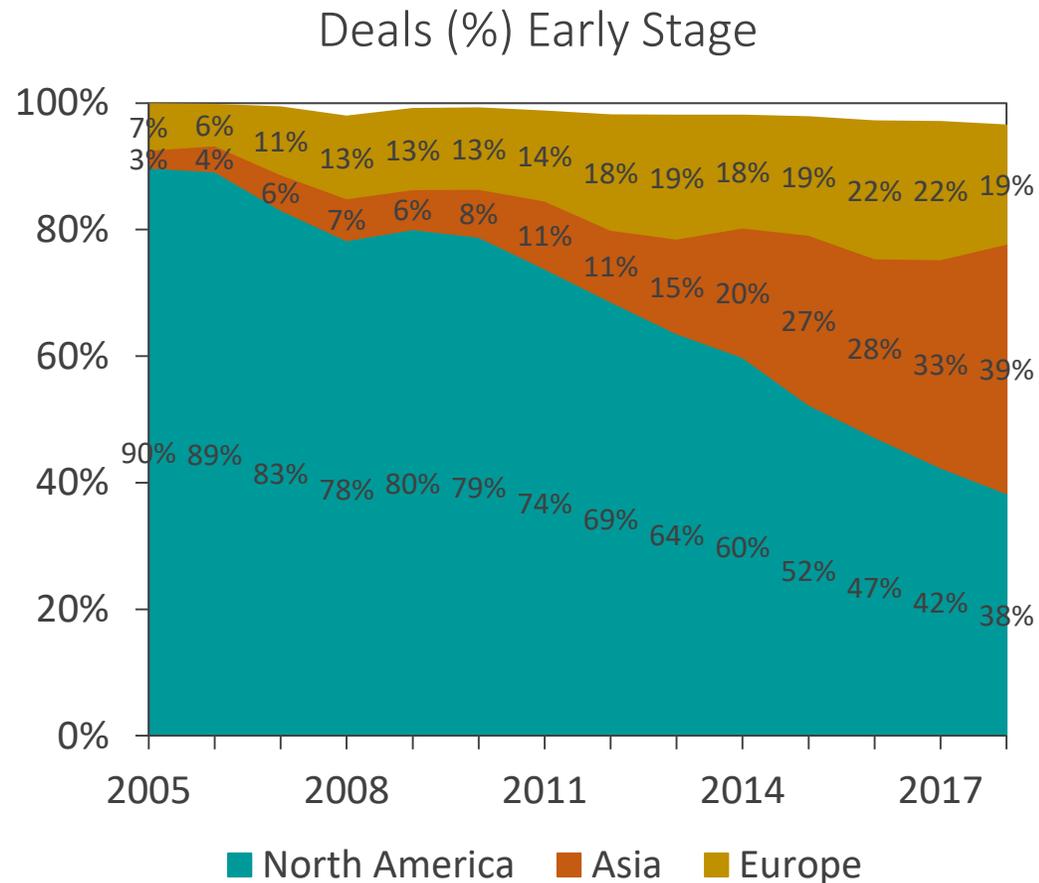
- Global early-stage VC funding starts to accelerate markedly in 2014.
- Rapid growth in early-stage VC in Asia led to higher funding than in the U.S. in 2018.
 - Almost all the growth in Asian VC is in China.
- Europe has also grown in recent years but remains a laggard with early-stage VC funding in 2018 below U.S. levels in 2005.

Late-stage VC – Total Funding



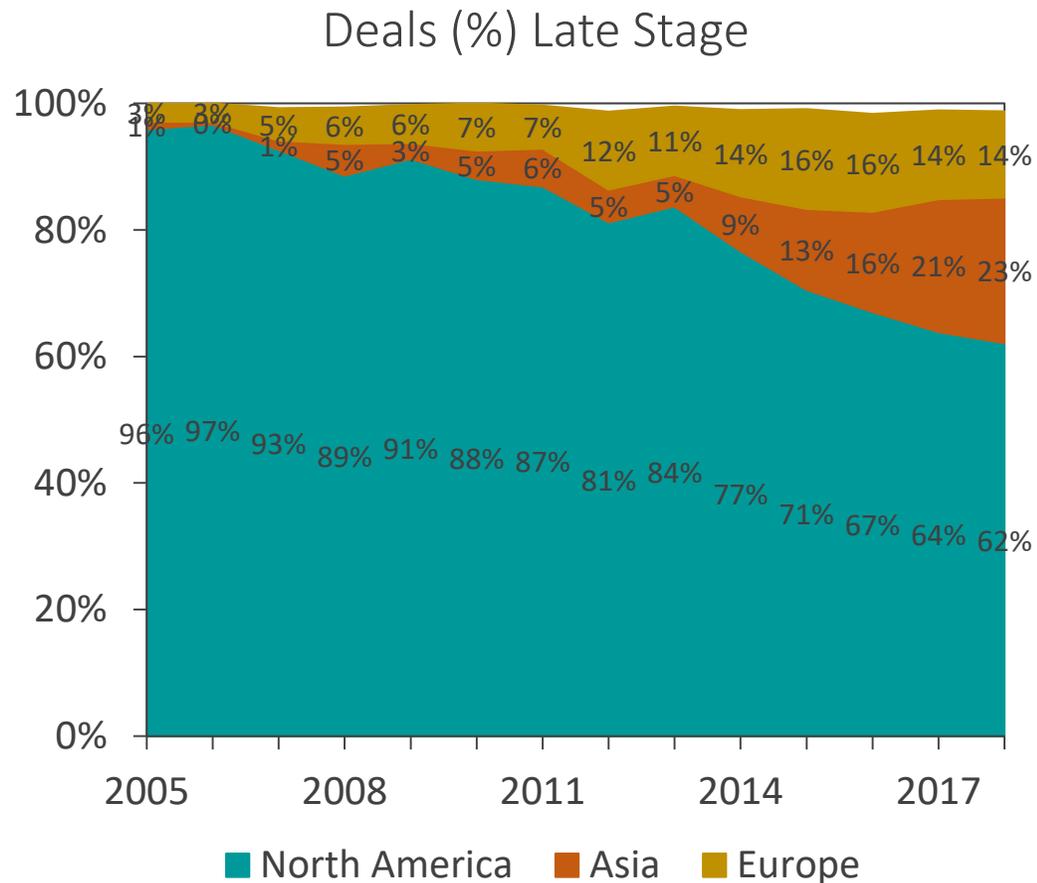
- Late-stage VC is experiencing a global acceleration similar to early-stage VC.
- Since 2014, Asia has experienced a breakout in late-stage financing.
 - Most of the growth in Asia is in China but 2018 was a down year for late-stage VC financing.
- European late-stage financing has not grown since 2015 and accounted for only 5.7% of the global total in 2018.

Early-stage VC – Proportion of Deals



- Growth in number of early-stage VC deals outside the U.S. has been dramatic.
 - Since 2005, the U.S. share has dropped from 90% to 38%.
- The share of early-stage deals in Asia has grown 10x over the last decade and in 2018 was greater than in the U.S. for the first time.
- Growth in Asia's share of early-stage deals is accelerating whereas Europe's growth has stalled.

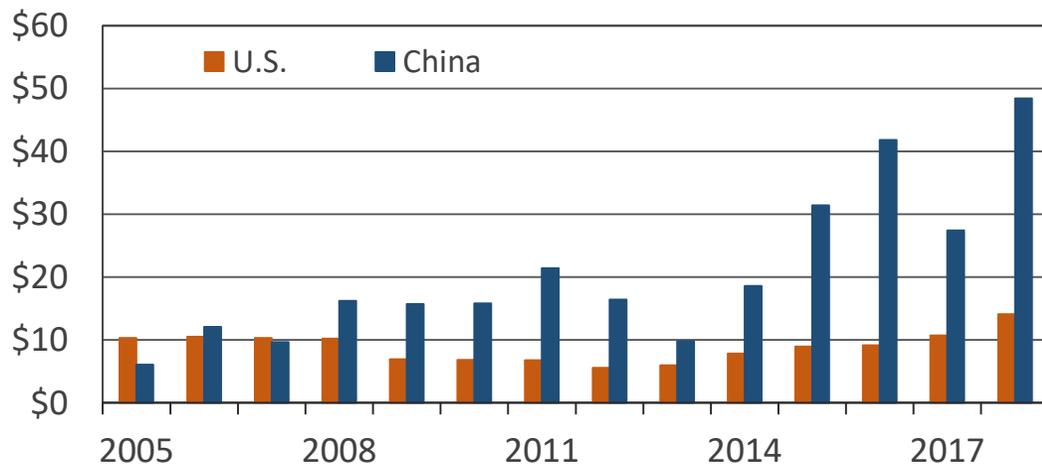
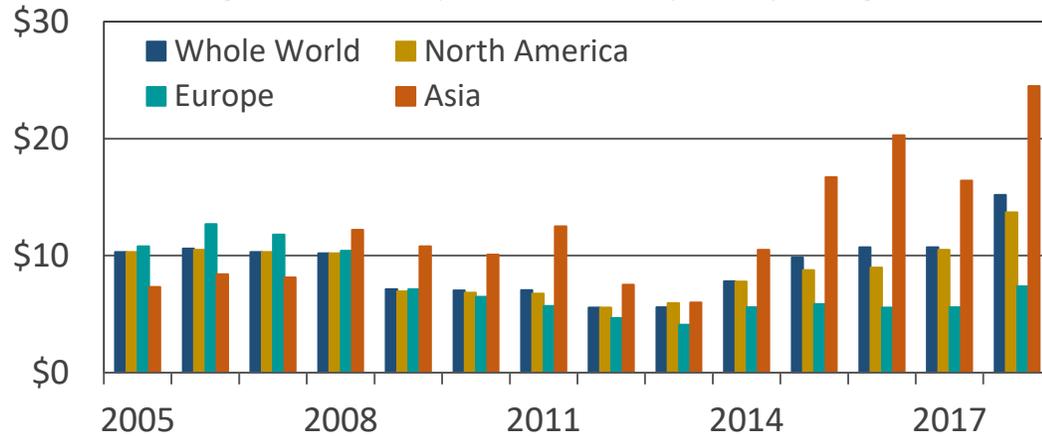
Late-stage VC – Proportion of Deals



- Late-stage VC deal growth in Asia and Europe has been substantial since the global financial crisis but less pronounced than for than early-stage VC.
 - The U.S. still has the majority of late-stage VC deals.
- Nonetheless, the proportion of global late-stage deals in Asia is up 20x over the last decade driven by very high growth in the last 5 years.
- Europe's share of late-stage deals is stuck around 15% of late-stage deals.

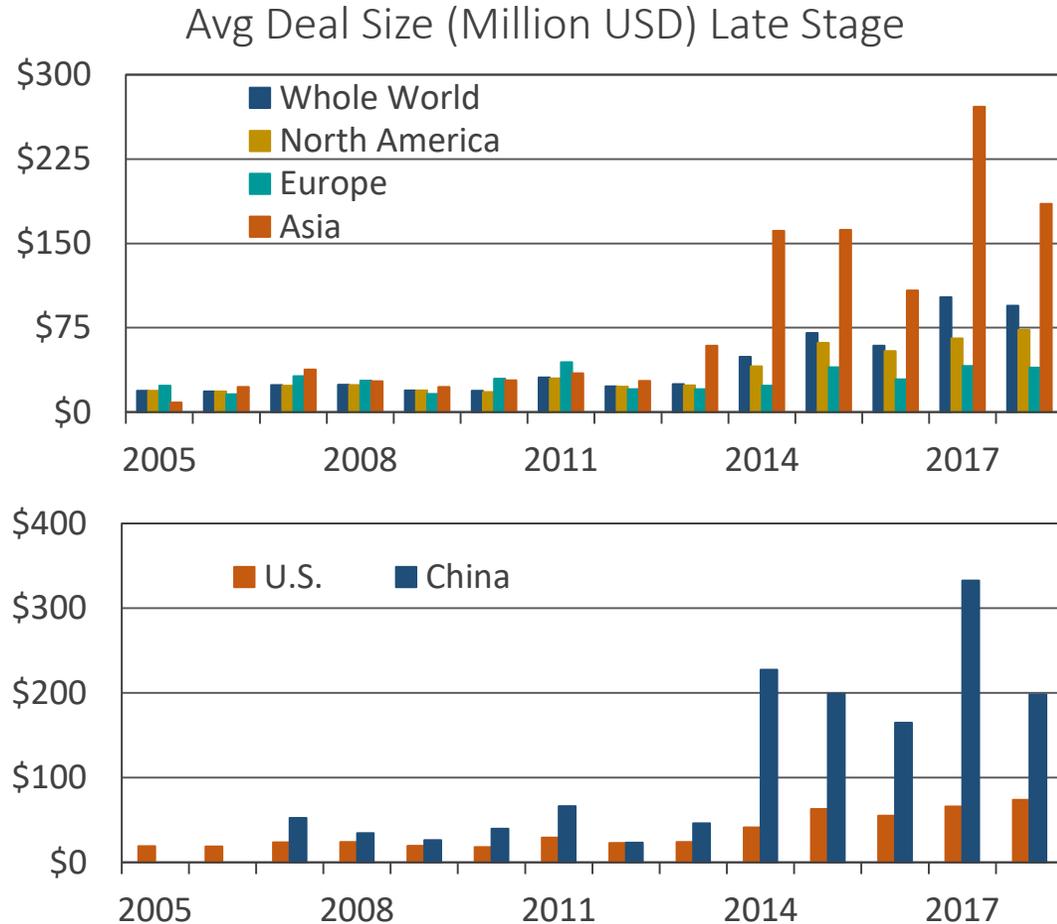
Early-stage VC – Average Deal Size

Avg Deal Size (Million USD) Early Stage



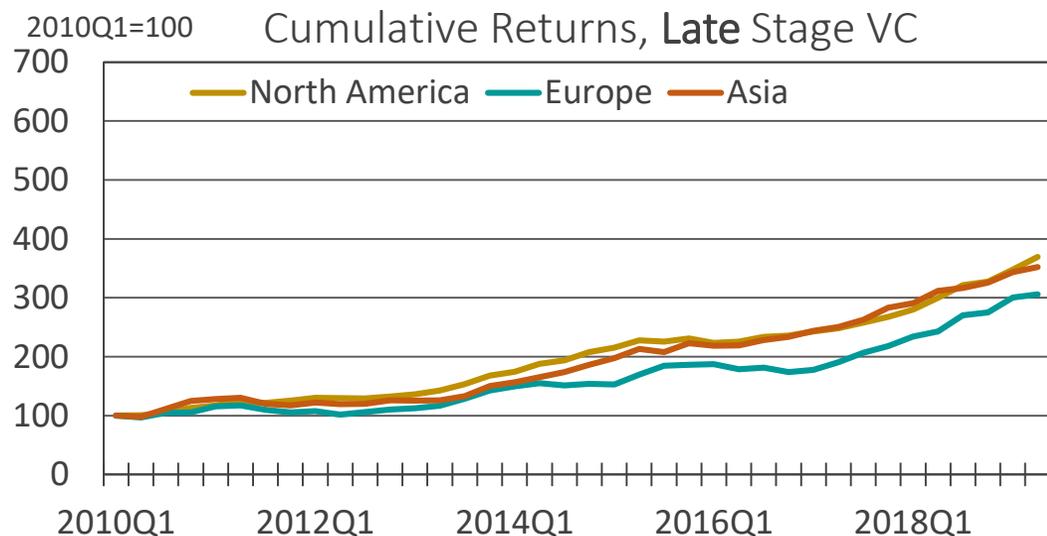
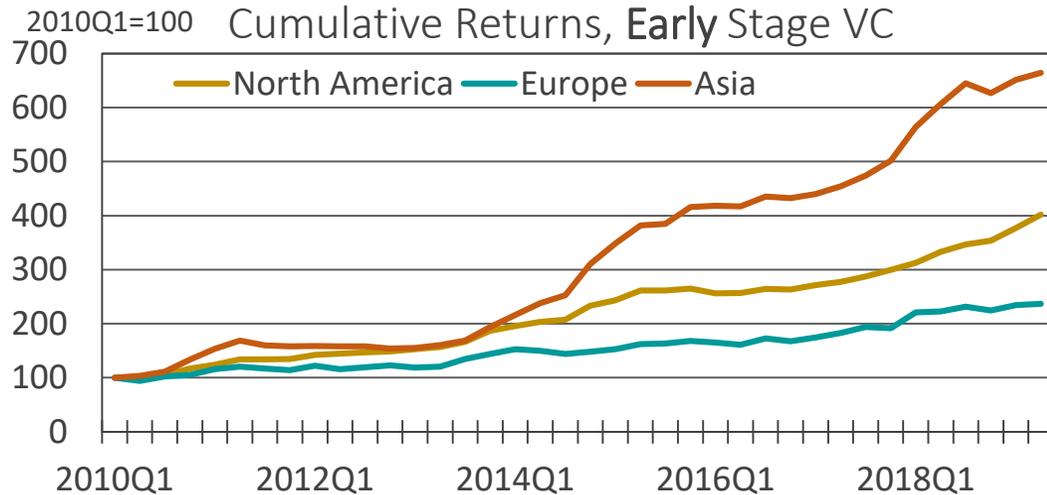
- Average deal size dipped during and immediately after the global financial crisis, but has been steadily trending up since 2014.
- Asia and China lead the way in deal-size growth.
 - Recent deal size in China is 4x the average pre-2014.
- Europe is again the exception.
 - Deal size is still below 2008 levels despite recent growth.

Late-stage VC – Average Deal Size



- Globally, average late-stage deal size has exploded since 2013.
- The trend in late-stage average deal size is driven mostly by massive growth in Asia, and especially China, starting in 2014.
- Yet U.S. late-stage average deal size has more than tripled in the last decade.
- European average late-stage deal size has also grown in recent years, but much more slowly than in the rest of the world.

VC Returns (USD, 2010:Q1-2019:Q2)



- Returns to VC investments since the global financial crisis have been consistently good through the most recent reporting periods.
- Early-stage VC investment returns have shown a wide dispersion with Asian funds providing by far the best returns followed by North America. European returns to VC have been much lower, but still positive.
- Late-stage VC investments have experienced quite similar returns across regions.
- Given current high valuations and potential macroeconomic headwinds, it is unlikely that VC returns during the next decade will meet (or beat) those of the last decade.



Greg Brown

Sarah Graham Kenan Distinguished Professor of Finance, UNC Kenan-Flagler Business School

Professor Brown is executive director of the Frank Hawkins Kenan Institute of Private Enterprise. He also is the founder and research director of the Institute for Private Capital. Professor Brown's research focuses on financial risk and private investment strategies such as venture capital, hedge funds and private equity. His research has been published in all leading academic and practitioner finance journals and he currently serves as an Associate Editor for the *Journal of Alternative Investments*.

EXPERT INSIGHT

- The growth of VC over the last five years is nothing short of amazing. Both the number and value of VC-backed companies are well beyond anything experienced previously.
- The cause of the explosive growth comes from the collision of substantially more capital committed to VC funds and the global adoption of the VC model.
- However, there are legitimate questions about where we are headed next. In many ways the current situation is uncharted territory. In the U.S., the scale of VC-backed companies is new. Globally, the sheer number of VC-backed companies is unprecedented.
- The biggest concern I have is regarding whether good governance practices are keeping pace. The WeWork debacle shows that even the largest, and supposedly most sophisticated, VC funders can sometimes still struggle to impose good standards. Globally, the newness of the VC funding model in places like China means that most funders have little experience with oversight.
- 2020 will see many more VC-backed firms implode because of poor governance and accountability as the industry learns from recent history.

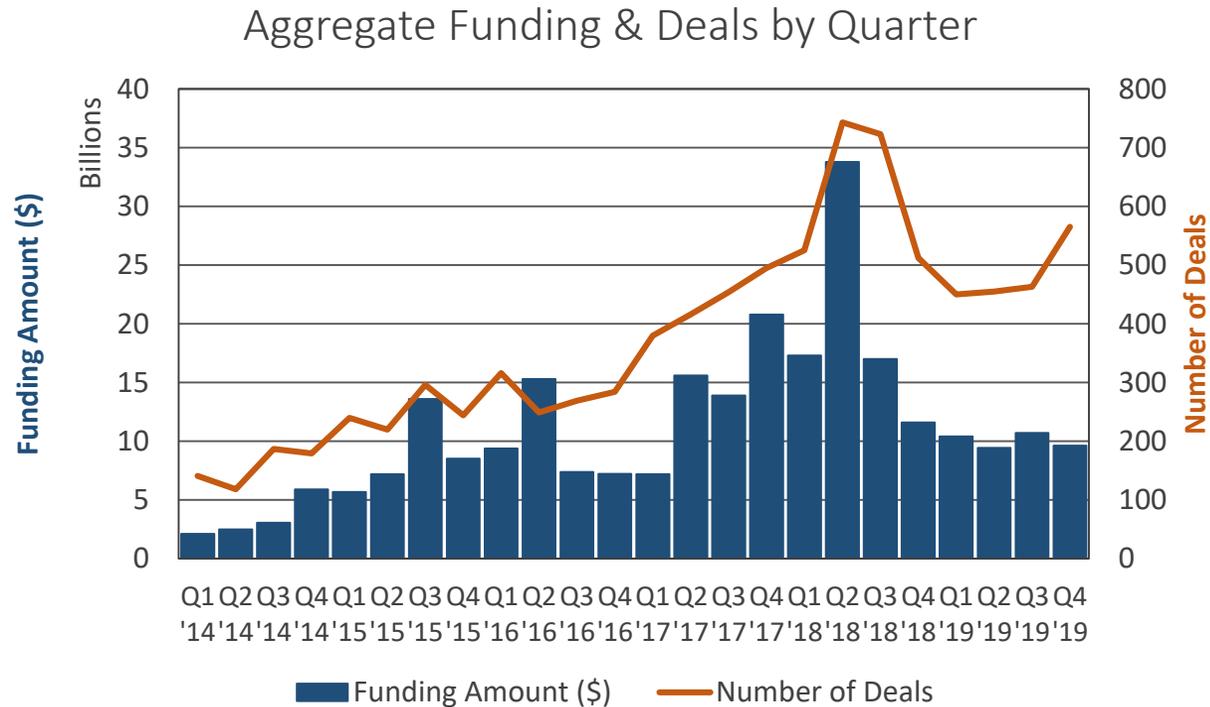
Is the China VC Boom Over or Just Pausing?



Notable Trends

- China VC funding has contracted significantly since mid-2018, but this is a byproduct of U.S. trade policy, some domestic Chinese investment policy, and the usual ups and downs in a developing market.
- Some are now questioning if this is China's "tech bubble." It is unlikely that the downturn will persist given Chinese government strategy on technology investment and the vast pool of capital waiting to be invested.
- In addition, a large and growing Chinese domestic market can support many venture-backed companies without the need for expansion into foreign markets.
- We can expect Chinese VC activity to begin growing again in 2020 and 2021.

Decline in Chinese VC Funding & Deals



- In 2019, Chinese companies raised slightly more than \$40 billion in about 1,900 rounds.
- This represents a substantial decline from 2018 when Chinese companies pulled in nearly \$80 billion in more than 2,500 funding rounds.
- The pull-back actually dates to mid-2018 and coincides with beginning of trade war with the U.S.

China VC Hits a Perfect Typhoon

During the last six quarters, Chinese venture capital has had a multitude of headwinds:

1. Trade war with the U.S. has introduced significant uncertainty about both Chinese domestic economic activity and access to global markets for Chinese firms.
2. The U.S. instigated severe regulatory scrutiny of Chinese technology firms such as Huawei that cut off access to U.S. markets, simultaneously pressuring other governments to initiate restrictions on China.
3. The Chinese government focus in 2018 on reducing debt reduced access to credit that helped domestic VC fundraising.
4. The highly cyclical asset markets in China entered a bear market in 2018 that weakened investor sentiment for high-risk assets. At the same time, global investors worried about trade and regulatory tensions.
5. Political tensions in Hong Kong created uncertainty for business dealings there and IPO exits.
6. Between 2017 and early 2018 was a period of irrational exuberance in the Chinese VC markets. Both the level of funding and deal valuations were out of line with innovative capacity, all but ensuring a pull-back of some type. Some of this was driven by government-sponsored VC investment gone awry.

Why Chinese VC Will Bounce Back

1. VC firms in China (and elsewhere looking to invest in China) have dry powder of about \$200 billion USD. This money must be put to work during the next several years.
2. More recent funding activity has focused on software and social media—which are less capital intensive—so current funding activity overstates the pull-back.
3. Domestic (and other Asian) markets are large enough to support significant growth. There is a shift in funding toward companies targeting Chinese and other Southeast Asian markets that will continue.
4. The pull-back in late 2018 and 2019 is a healthy reset of expectations on funding levels and valuation that had become overheated. In fact, funding levels and number of deals in 2019 were still higher than in any year prior to 2017.
5. Most important, the Chinese government needs the VC industry to be strong. A major theme in China's economic policy is technological dominance. In order to achieve this goal, the government must have a healthy and vibrant VC industry, and is still determining the best path forward after missteps in 2015-2018.



Christian Lundblad

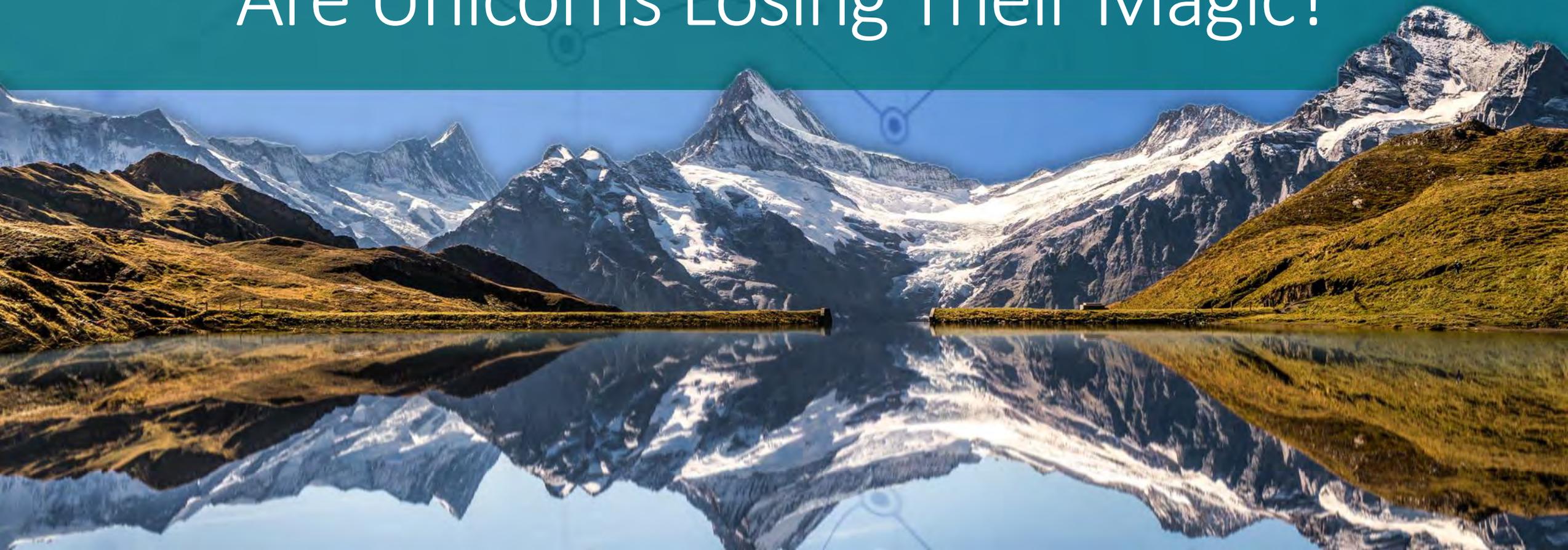
Levin Distinguished Professor of Finance, UNC Kenan-Flagler Business School

Professor Lundblad's research spans asset pricing, investment management, and international finance, with a specialization in emerging market development. He serves as area chair of finance, associate dean of the PhD Program, director of research at the Frank Hawkins Kenan Institute of Private Enterprise and director of the Center for Excellence in Investment Management. He holds a courtesy appointment as a special-term professor at the People's Bank of China School of Finance, Tsinghua University in Beijing. He also served as a financial economist at the Federal Reserve Board in Washington, D.C., where he advised the Board of Governors on international financial market developments.

EXPERT INSIGHT

- While the 2017-2018 Chinese VC figures were likely unsustainable, I expect a rebound in activity from more recent softness. Despite the fact that the VC market in China has grown to rival the U.S., the total value of investments is still small compared to broader business activity and rapidly growing domestic consumption.
- The government (particularly in light of its “Made in 2025” plan to propel China into technological dominance) is decidedly behind tech-based VC activity, providing a clear tailwind.
- However, issues about the allocative efficiency of Chinese VC remain. Are the right projects financed? The Chinese system has traditionally suffered distorted resource allocation.
- Institutional risks (poor corporate governance, misaligned incentives, conflicts of interest and geopolitical vulnerabilities) continually endanger Chinese investment for both domestic and, especially, foreign players. Given its opaque and speculative nature, VC is particularly vulnerable to these risks.
- Nevertheless, every large asset allocator must think deeply about its private market tilt toward Asia and, in particular, China. Do keep in mind that due diligence and good governance remain important ingredients in turning that potential into strong risk-adjusted performance.

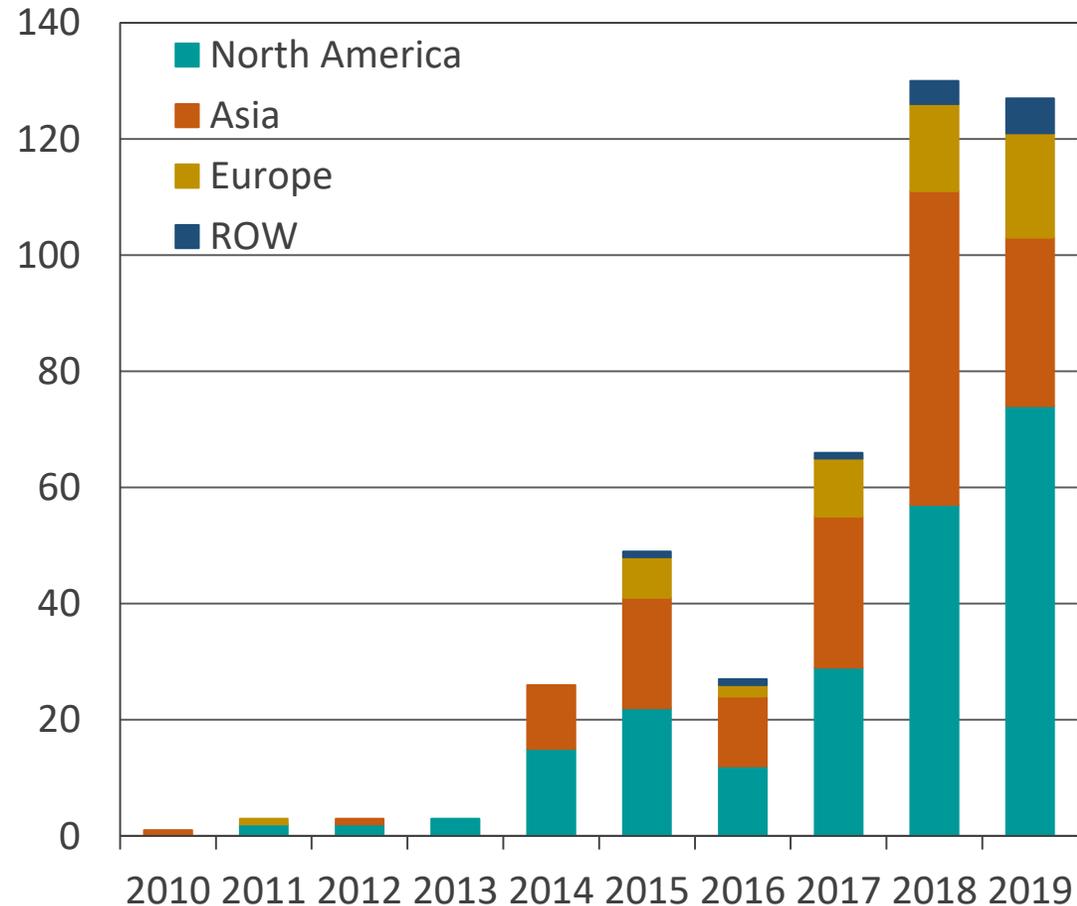
Are Unicorns Losing Their Magic?



Notable Trends

- It is important to address valuation vs. profitability.
- Concerns about profitability are impacting lower valuations.
- Because companies are staying private longer, valuations are being set based on private markets driven by VCs and/or PE firms investing.

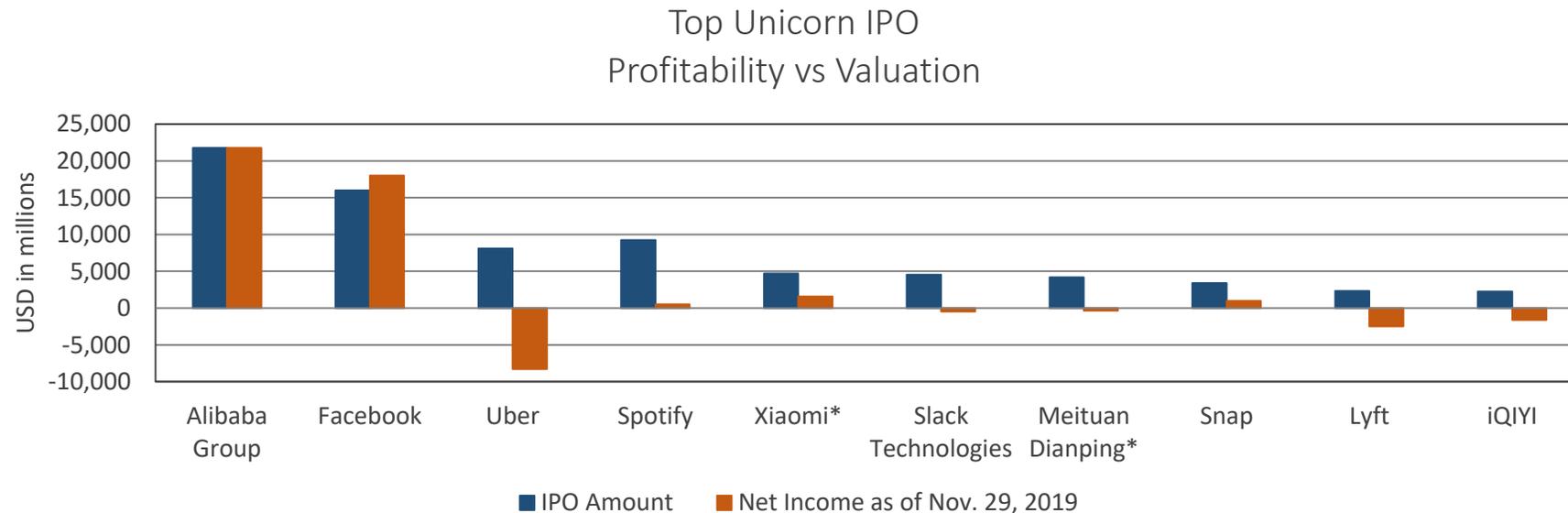
Unicorn Population Growth Around the World



- Unicorn growth has increased dramatically since the financial crisis.
 - 2010-2013: <4 new unicorn firms each year
 - 2014-2017: average of 42 new unicorns each year
 - 2018-2019: 125+ new unicorns each year
- Asia has joined the VC game, peaking in 2018 with 54 new unicorns, 39 of which were in China.
- As companies stay private longer and funding has been plentiful, unicorns are becoming common in other countries.
 - Europe had 18 new unicorns in 2019, and Africa/Oceania/S. America had their first unicorns in 2015 or later.

Valuations vs. Profitability

- Recent concerns about profitability of unicorns is starting to weigh on valuations.
- Many “platform” companies have provided lavish incentives to attract customers at the expense of profits.
 - Concerns are growing about viability of long-term business models and regulatory scrutiny is intensifying.
- While more established platforms like Facebook and Alibaba have achieved strong profitability, many more recent tech companies have struggled to get in the black.
- Because most unicorns remain private, detailed financials are unavailable. Consequently, the scale of the potential problem is largely unknown.



*Converted from HKD to USD using rate as of Sept. 30, 2019



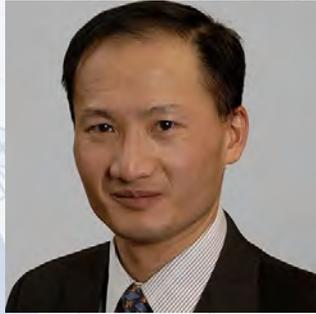
Arlan Hamilton

Founder and Managing Partner, Backstage Capital

Arlan Hamilton is the founder and managing partner of Backstage Capital, a venture capital firm dedicated to minimizing funding disparities in tech by investing in high-potential founders who are people of color, women, and/or LGBT. Started in 2015, Backstage has now invested nearly \$7M into 130 startups led by underestimated founders and has been featured in Forbes, Fortune, Wall Street Journal, CNN Money, Inc., Entrepreneur, and Quartz. In 2018, Arlan co-founded, along with Investment Partner Christie Pitts, Backstage Studio, a new venture studio designed to build products, services, and initiatives that serve the mission of eliminating underrepresentation in tech by empowering founders and their teams to succeed. Backstage is a fully remote team that has quickly scaled to 38 employees working together with an ever-expanding roster of world-class mentors and partners. Also in 2018, Backstage Studio announced the launch of four accelerator programs, in Los Angeles, Detroit, Philadelphia, and London, UK.

EXPERT INSIGHT

There does appear to be a bit of a market correction after WeWork's pulled IPO for more VCs even at the earlier stage who are discussing their desire for company profitability, or a path to profitability, and capital efficiency as criteria for investment. However, this conversation is a recent reaction to some of the mega-unicorns and the extended time to profitability that we are seeing, so it remains to be seen how much valuations will be affected across the industry.



David Hsu

Richard A. Sapp Professor of Management, The Wharton School, University of Pennsylvania

David Hsu is the Richard A. Sapp Professor and a Professor of Management at the Wharton School, University of Pennsylvania. He graduated from Stanford University with undergraduate majors in economics and political science. After a few years working in industry, he received his master's degree in public policy from Harvard University, followed by his Ph.D. in management from the Massachusetts Institute of Technology. Hsu's research interests are in entrepreneurial innovation and management. Within that domain, he has investigated topics such as intellectual property management, start-up innovation, technology commercialization strategy, and venture capital. His research has appeared in leading journals such as Management Science, Journal of Finance, Strategic Management Journal, and Research Policy.

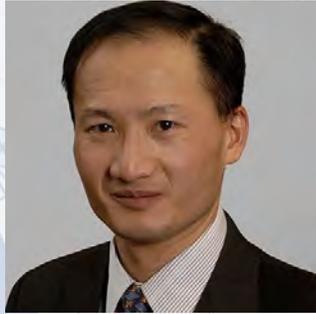
EXPERT INSIGHT

The data on unicorns raises almost as many questions as it answers.

- Most notably, what do these patterns really mean about innovation and investors over time and across geographies?
- Does the recent slowdown say something about all the low-hanging fruit being picked, with the implication that innovation ecosystems should invest more to drive the next cycle of value creation in startups?
- If so, should we be investing more in business model innovation or technological innovation? Or does the recent slowdown mean that we are approaching a saturation point for new ventures in the application of current innovation which could drive a \$1B valuation?

Additional analysis aside from number and geographic distribution of unicorns by year may shed some further light. For example, how old are the companies when they make unicorn status?

- Are the companies making unicorn status largely pioneering a new business model with little innovation on the technical side, or are they creating and applying fundamentally new technologies?
- Are the unicorns coming from locations in which the startup entrepreneurs can best get feedback from customers to accelerate their ability to achieve product-market fit, or do they seem to be coming from the locations which originate the “deep tech” without necessarily having demanding customers? Or do you need to operate in a regulatory environment that is more hospitable for experimentation?



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David Hsu is the Richard A. Sapp Professor and a Professor of Management at the Wharton School, University of Pennsylvania. He graduated from Stanford University with undergraduate majors in economics and political science. After a few years working in industry, he received his master's degree in public policy from Harvard University, followed by his Ph.D. in management from the Massachusetts Institute of Technology. Hsu's research interests are in entrepreneurial innovation and management. Within that domain, he has investigated topics such as intellectual property management, start-up innovation, technology commercialization strategy, and venture capital. His research has appeared in leading journals such as Management Science, Journal of Finance, Strategic Management Journal, and Research Policy.

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- The \$1 billion in private valuation threshold to qualify for startup unicorn status reflects supply and demand conditions. Since we are talking about valuation in private rather than public market conditions, the unicorn trends can interact with the patterns described earlier in this report on the smaller number of IPOs and the rise of private equity.
- It will be interesting to track how many of these unicorns retain their status in 2020 if they go public (with the associated "thicker market") as compared to if those companies remain private or are acquired (which likely reflects firm-specific value to the acquirer).
- Rather than concentrating on the recent slowdown, it is notable that the number of unicorns during the past decade has increased quite rapidly. I read this as evidence that value creation through entrepreneurial activity is alive and well in the U.S. and beyond!

Start-up Funding in the U.S. Remains Highly Concentrated



Notable Trends

- Unsurprisingly, California dominates the volume of startup funding followed by New York, Massachusetts and Texas.
- The pie is getting bigger with all states seeing more startup funding in absolute terms, but the share of the pie for California and New York is growing.
- The flip side is that California is exposed to larger economic shocks from VC where the swings have tended to be larger and startup activity is a greater percentage of overall business activity. Funding in other states, while lower, is more persistent.
- The economics of agglomeration explain the concentrations in a few states and why it is unlikely to change anytime soon.

VC Funding by State, 2009-2018

10-Year Summary



- Since the global financial crisis, more than half of VC funding has been provided to companies based in California.
- The three next most-funded states (New York, Massachusetts and Texas) accounted for another 24% of total VC funding.
- The remaining 46 states accounted for only 22% of VC funding.
- Despite the desire of many to broaden the reach of VC funding, these numbers are unlikely to change much.

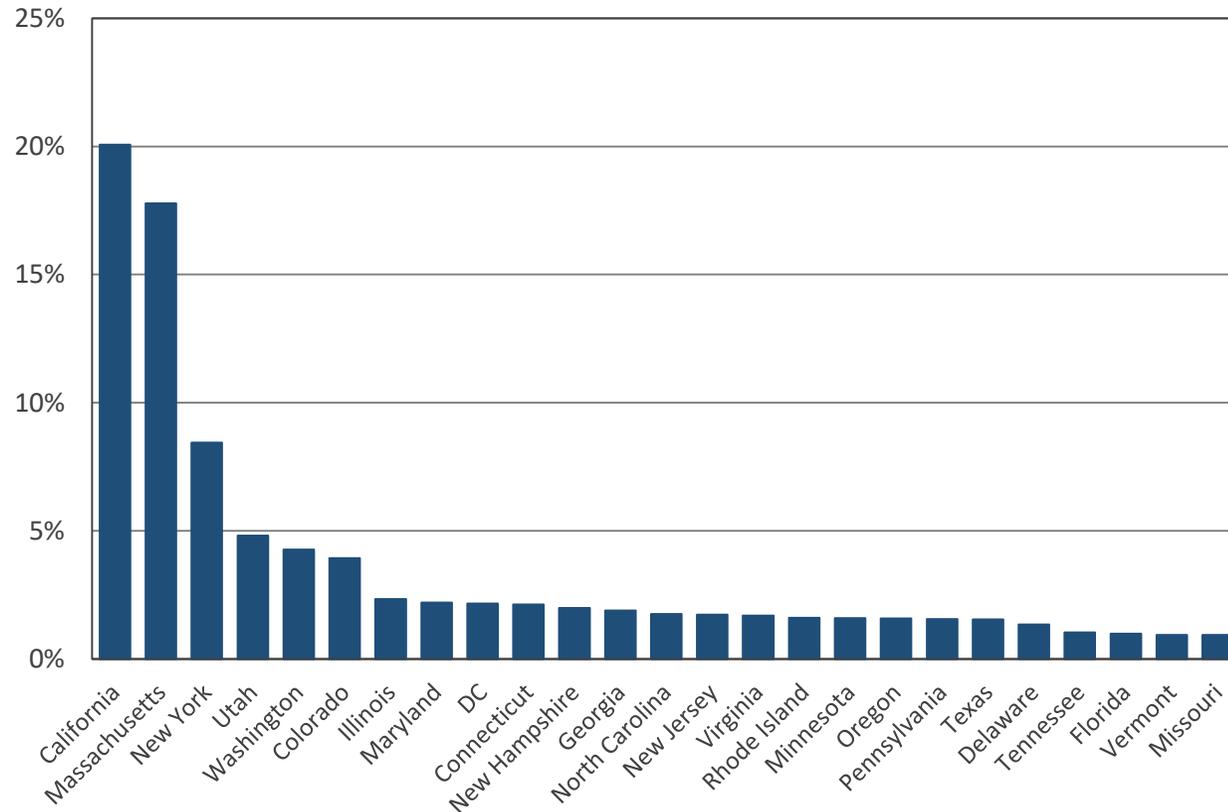
California and New York Gaining Ground in VC Funding

State	2009-2013	2014-2018	Change
California	49.8%	55.5%	5.7%
New York	7.6%	12.1%	4.4%
Massachusetts	10.5%	9.2%	-1.2%
Texas	4.5%	2.5%	-2.1%
Washington	2.5%	2.2%	-0.3%
Illinois	2.7%	2.0%	-0.8%
Colorado	2.3%	1.5%	-0.9%
Florida	1.1%	1.6%	0.5%
Pennsylvania	1.9%	1.1%	-0.8%
Georgia	1.5%	1.3%	-0.2%
	2009-2013	2014-2018	Change
Top 2	57.4%	67.6%	10.2%
Next 8	27.2%	21.3%	-5.9%

- Trends since the global financial crisis actually show increasing geographic concentration.
- Comparing funding for the two most recent 5-year periods (2009-2013 versus 2014-2018) shows that California and New York have recently attracted 9.8% more in share of VC funding whereas the next 8 states lost a 5.7% share.
- While in absolute dollar terms, funding has increased almost everywhere during the last decade, the trend is toward more geographic concentration, not less.

VC Funding by State Per Worker, 2009-2018

VC Funding Scaled by Workforce Participation



- California might be the largest state for VC funding, but isn't as far ahead when scaling by workforce participation. Under this division, California captures 20% of VC funds.
- Massachusetts surpasses New York.
- Several smaller states show significant gains. For instance, Utah has enjoyed only 1.07% of VC funding over the last decade, but 4.82% when scaled by workforce participation.



Olav Sorenson

Frederick Frank '54 and Mary C. Tanner Professor of Management, Yale School of Management

Professor Sorenson's research interests include economic geography, economic sociology, entrepreneurship, organizational ecology, the sociology and management of science and technology, and business and corporate strategy. His most extensive line of research examines how social networks affect transactions, thereby shaping the geography and evolution of industries. Although Professor Sorenson has investigated these issues in a wide variety of settings, including banking, biotechnology, and footwear manufacturing, he has most extensively studied the entertainment industries and venture capital. Prior to joining the Yale School of Management, Professor Sorenson held the Jeffrey S. Skoll Chair in Technical Innovation and Entrepreneurship at the University of Toronto's Rotman School of Management. He has also taught at the University of Chicago, UCLA, and London Business School.

EXPERT INSIGHT

- Venture capital remains highly concentrated. Other forms of entrepreneurial finance, such as angel investments and crowdfunding, have much broader geographic reach.
- Some of the concentration may stem from agglomeration economies, particularly in places where innovation occurs.
- The big problem is that the vast majority of venture capital dollars sit in funds based in the San Francisco Bay Area, Boston and New York, and venture capital is a local business. Venture capitalists tend to invest in startups based near them. When they do find startups elsewhere, VCs sometimes require the startup to move closer to them.

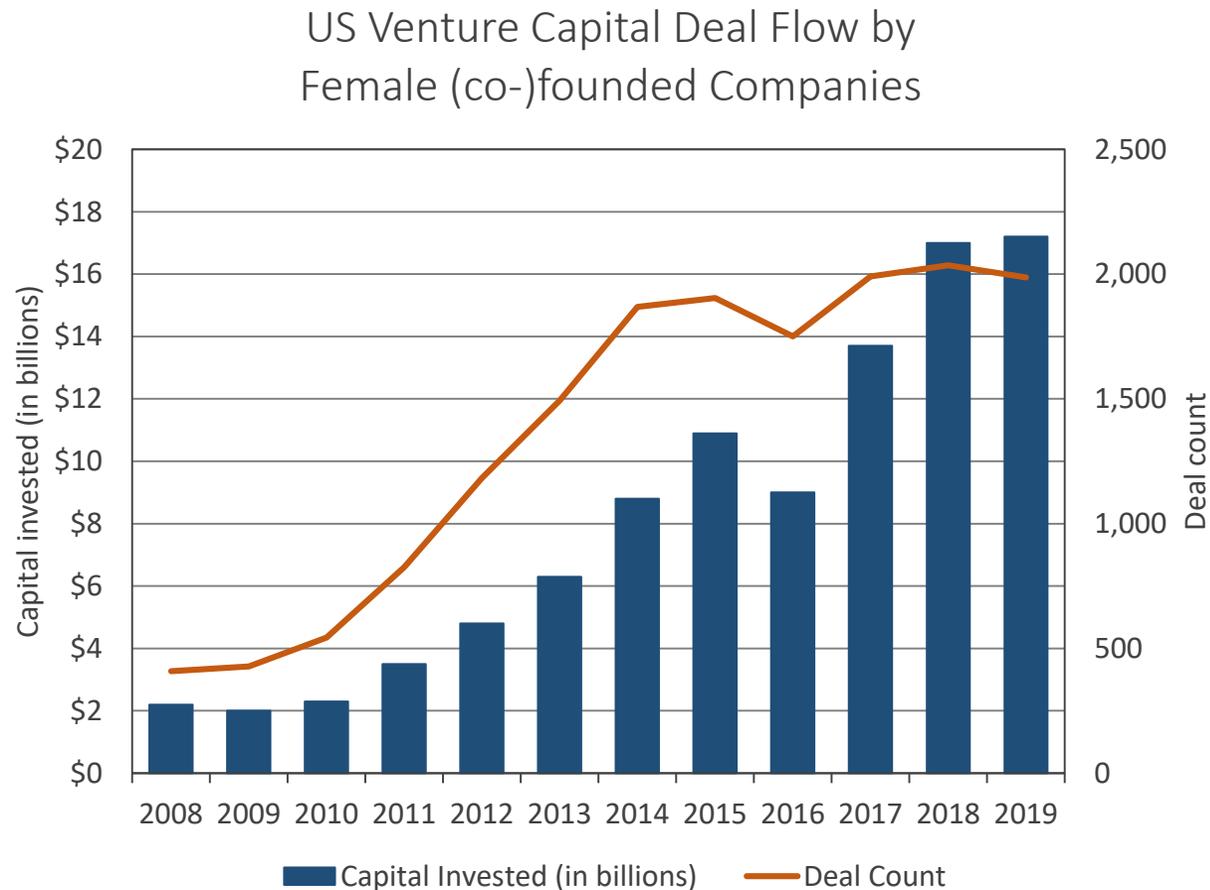
VC Gender Funding Gap



Notable Trends

- During the past decade, VCs have allocated less than 3% of capital to firms with female founders.
- Evidence suggests that gender bias still accounts for up to 35% of this funding gap.
- Although female-founded and co-female-founded firms still represent a small share of total capital invested by VCs, firms with at least one female founder are making gains in deal count and capital invested year over year.

U.S. VC Deal Flow by Female-founded and Co-founded Firms

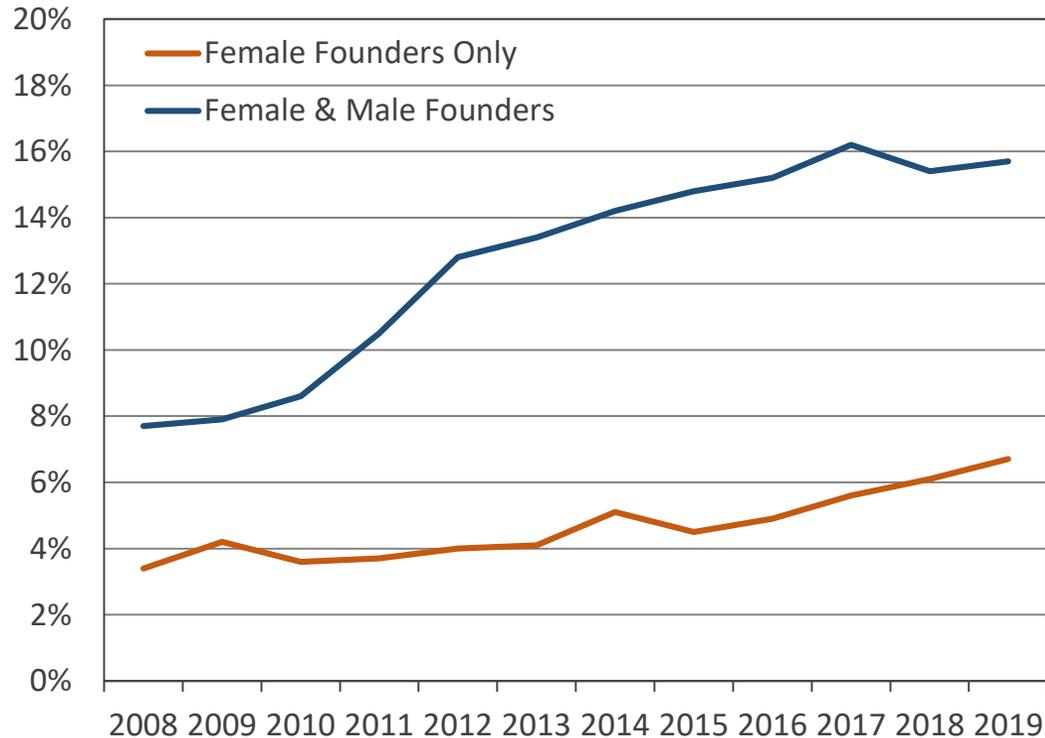


The Good News

- VCs have entered into 5X as many deals with female-founded and co-founded companies since the global financial crisis.
- Deal size has also increased during this period for female founder/co-founder firms, leading to 8X as much capital invested in female founder/co-founder firms.

Percentage of Deals with Female VC Founder/Co-founder

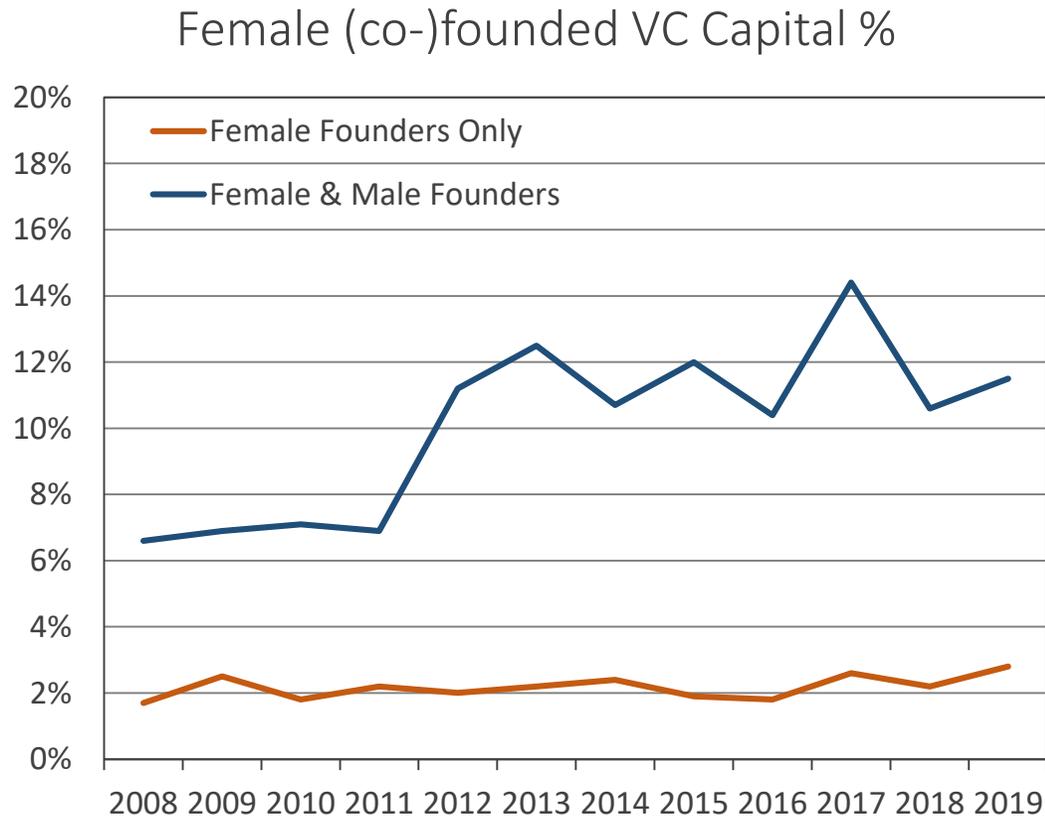
Female (co-)founded VC Deal Count %



The Less-Good News

- Trends are less dramatic as a share of total deals.
- During the last decade, the share of VC deals led by firms with female founders or co-founders has doubled, but only from about 8% of deals to 16%.
- This indicates that more than 80% of deals still go to male-only founder teams.

Female Founded & Co-founded VC (Capital %)



The Bad News

- Because average deal size is smaller for firms with female founders than for those with male-only founders, the share of total capital allocated to female-founded firms is smaller than deal share. There have been no meaningful changes to female-founded only share of capital invested.
- In the past decade, less than 3% of venture capital has been allocated to firms with only female founders.
 - Firms with only male founders received 88% of VC capital in 2019.

Can the Gender Gap Be Explained?

Overall, firms with female founders are less likely to receive VC funding. A 2019 study by Guzman and Kacperczyk explored this gap, with the following findings:

- Female-founded startups are 63% less likely to obtain external funding.
- Female-founded firms that receive VC funding are “equally likely as men to achieve exit outcomes, through IPOs or acquisitions.”
- About two-thirds of the difference in funding likelihood (women being 63% less likely to receive funding) can be attributed to lower growth outlook for female founder firms.
 - Specifically, female-founded firms tend to be in industries with lower growth outlook, an important requirement for VCs.
- Further tests show much of the remaining third of the gap is related to statistical discrimination by VCs.

Causes for This Gap: The Signaling Gap

Why are fewer high-growth startups founded by women?

1. Gender segregation and motherhood penalty
 - a. The perception of women as more committed to family obligations and thus less of an “ideal worker” limits advancement opportunities.
 - b. A lack of female advancement into high-level positions and in high-profitability industries limits women’s exposure to necessary resources and opportunities for high-growth ventures.
2. Gendered careers and social norms
 - a. Women’s career choices continue to be constrained by family obligations and household chores. Research indicates a normative expectation remains that family and household obligations are a woman's responsibility. Women are more likely to be pushed into careers that attempt to accommodate these societal obligations.
 - b. Women may use entrepreneurship to obtain better control over their schedules and/or to reduce childcare costs. These ventures are less likely to be high growth, to hold intellectual property rights or to be incorporated.

Causes for This Gap: The Funding Gap

Why do women-founded start-ups receive less funding?

1. Investor bias
 - a. There is a perception of females as less competent entrepreneurs than their male counterparts.
 - b. Negative stereotypes undermine female representation in male-dominated fields.
2. Lack of social capital and the importance of networking
 - a. Women are often excluded from valuable networks resulting in a social network disparity between genders. Women tend not to have access to investor circles and networks.
 - b. Women experience additional network frictions, such as expectation of bias or harassment, that might dissuade women from more proactively reaching out to other networks without a formal introduction.
 - c. Due to smaller networks, women face increased obstacles in gaining support and mentorship for a high-growth venture.

Minority Founders Underrepresented in Attaining VC Backing



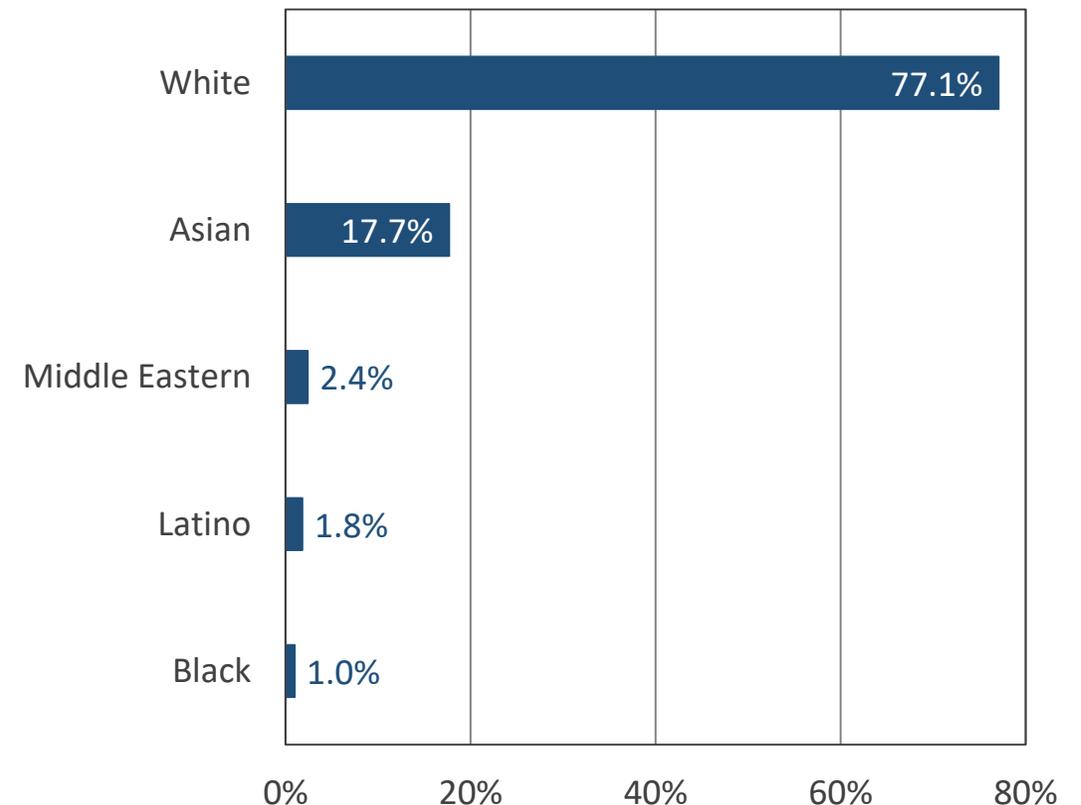
Notable Trends

- The lack of VC funding to minority entrepreneurs is in part due to the underrepresentation of minorities in VC firms.
- Diversity delivers better performance:
 - Research and data indicate that diverse portfolios perform better than homogeneous ones.
 - Research and data also indicate that diverse management teams perform better.
- It is important to recognize that much of the data and literature around minority founders and funders is more heavily studied and applied in industry than in academic research.

VCs Tend to Invest in Founders That Are Similar to Themselves

- May be linked to underrepresentation in VC firms through ethnic matching:
 - Founders seeking VC funding are 21% more likely to match with an investor of the same ethnicity than an investor of a different ethnicity.
 - Co-ethnic matches also see higher likelihood of VC involvement and larger investments.

Ethnicity of VC-Backed Founders



Diversity Matters for Management Teams

Companies with above-average diversity in their leadership teams see:

+9% EBIT

(earnings before interest and taxes)

+19% Innovation

while female-founded or co-founded startups create

2.5× Revenue

per dollar invested, compared to startups with all-male founding teams.

However, gender diversity has a larger effect on performance in countries and industries where gender diversity is already more accepted.



Arlan Hamilton

Founder and Managing Partner, Backstage Capital

Arlan Hamilton is the founder and managing partner of Backstage Capital, a venture capital firm dedicated to minimizing funding disparities in tech by investing in high-potential founders who are people of color, women, and/or LGBT. Started in 2015, Backstage has now invested nearly \$7M into 130 startups led by underestimated founders and has been featured in Forbes, Fortune, Wall Street Journal, CNN Money, Inc., Entrepreneur, and Quartz. In 2018, Arlan co-founded, along with Investment Partner Christie Pitts, Backstage Studio, a new venture studio designed to build products, services, and initiatives that serve the mission of eliminating underrepresentation in tech by empowering founders and their teams to succeed. Backstage is a fully remote team that has quickly scaled to 38 employees working together with an ever-expanding roster of world-class mentors and partners. Also in 2018, Backstage Studio announced the launch of four accelerator programs, in Los Angeles, Detroit, Philadelphia, and London, UK.

EXPERT INSIGHT

As a VC that focuses on investing in these underrepresented demographic groups, we know that there is a large gap between the number of these entrepreneurs that get venture capital, compared to the number of venture-backable entrepreneurs of these demographic groups.

The investment opportunity is huge and driven by some of the following data points that investors should note:

- The U.S. population is changing and will not look the same 20 years from now as it did 20 years ago. Specifically, the U.S. will be a minority-majority country in the 2040s.
- Currently, women hold 51% of the U.S. household wealth, and the \$1.3 trillion black buying power and \$1.7 trillion Hispanic buying power is increasing faster than the national average.
- Market opportunities addressing minority populations will only get bigger. There is capacity to spend, yet many of these markets are currently underserved and untapped.
- Access to technology, as users and builders, across all of these demographic segments has been increasing and will continue to grow—resulting in more innovators from these groups.
- Women of color are already the fastest-growing demographic group of entrepreneurs, and we see this continuing into the future.
https://about.americanexpress.com/files/doc_library/file/2018-state-of-women-owned-businesses-report.pdf

Odds are that future innovation will be driven by entrepreneurs who have not been VC-funded in the past. Historical VC funding has been driven by pattern-matching for founder demographics with characteristics that succeeded in the past.

Underrepresentation in VC Firms



Notable Trends

- Women and people of color are significantly underrepresented as decision-makers in venture capital firms.
- In the fund manager industry, women and people of color feel that their gender or race has a negative impact on their professional progress.
- Evidence points to VC funds led by accomplished black individuals being viewed less favorably by investors than similarly accomplished white-led firms.

Diversity in Venture Capital

Women and people of color are greatly underrepresented in the venture capital industry.

- Fewer than 1.3% of all global assets are being managed by people of color or women.
- In a review of 280 firms, Axios/Crunchbase found that women made up only 10% of decision-makers in VC firms in 2019. This percentage is up from 6% in 2016.
- A review of nearly 200 venture capital firms found the following demographic breakdown of investors:

(%)	White	Asian	Black	Hispanic	Male	Female
2016	74	23	2	1	89	11
2018	70	26	3	1	82	18

Racial Bias Impacts Black-led VC Firms

- Research has shown that when faced with uncertainty, people rely more on their implicit biases.
- In the fund manager industry, more than half of women and people of color believed that their gender or race has hindered their professional progress.
- One study found that VC funds led by accomplished black individuals are viewed less favorably by investors than similarly accomplished white-led firms.

Racial Bias Costs Millions and Limits National Growth

Relative to labor force demographics, U.S. businesses owned by people of color remain proportionally underrepresented.

If businesses owned by people of color were proportional to their share of the labor force, it would create:

- 1.1 million businesses
- 9 million jobs
- \$300 billion additional national income

Diversity Matters for VC Investors

- Homogeneous VC investment partnerships perform worse:

Shared school background	Shared ethnicity
-11.5%	-26.4%
Success rate of acquisitions and IPOs	

- VC firms with more women perform better:
 - Increasing the proportion of female partner hires by 10% saw a 1.5% increase in overall fund returns and 9.7% more profitable exits.



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EXPERT INSIGHT

The lack of VC going to diverse founder groups is mirrored by the lack of diversity within the venture capital industry. Increasing diversity within VC is imperative to increasing funding to more diverse entrepreneurs. More diverse decision-makers within venture firms opens up sourcing networks, strengthens the ability to understand and relate to different markets and reduces bias toward diverse groups within the firm's investment process. Where a white male VC might not know any women or minority entrepreneurs or truly understand the market potential of what they are solving, having diversity on the investment team can open up that firm's ability to find and invest in more women and minorities.

Federal Government Business Funding



Notable Trends

- Some government funding is more geographically dispersed and is targeted to more female-owned firms as compared to VC.
- Local, state and federal governments all have a role to play in facilitating entrepreneurial growth.
- Policy has an impact on funding mechanisms (JOBS Act, Tax Cuts and Jobs Act, etc.) and has stimulated alternative funding mechanisms.
- The total awarded through government funding is still very small when compared to VC.

The Federal Government Supports Firm Growth and Innovation Through Various Funding Programs

The federal government has several funding mechanisms to support business growth. Some states also supplement federal funding with additional state funds. The federal programs include:

Small Business Administration (SBA)-Guaranteed Loans: A loan, guaranteed by the SBA, made by a private or other institutions to a small business that is unable to obtain credit elsewhere.

Loan programs include:

- 7(a) Loan Program: Maximum loan amount of \$5 million to assist in purchasing fixed assets or an existing business, start-up financing or working capital
- CDC/504 Loan Program: Long-term fixed-rate loans for large fixed assets such as land and machinery
- Microloan Program: Direct loans to nonprofit microloan lenders

Small Business Investment Company (SBIC): Provides alternative source of financing for small businesses that are unable to obtain capital from traditional lenders. SBICs use a combination of private equity investments and SBA-guaranteed loans.

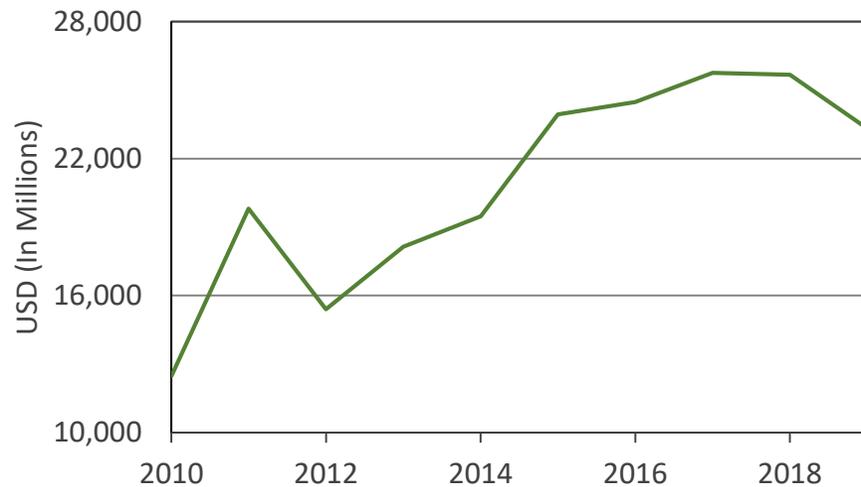
The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR): Provides federal research funding for small high-technology firms with commercialization potential.

SBA Loans: Quick Facts and Trends

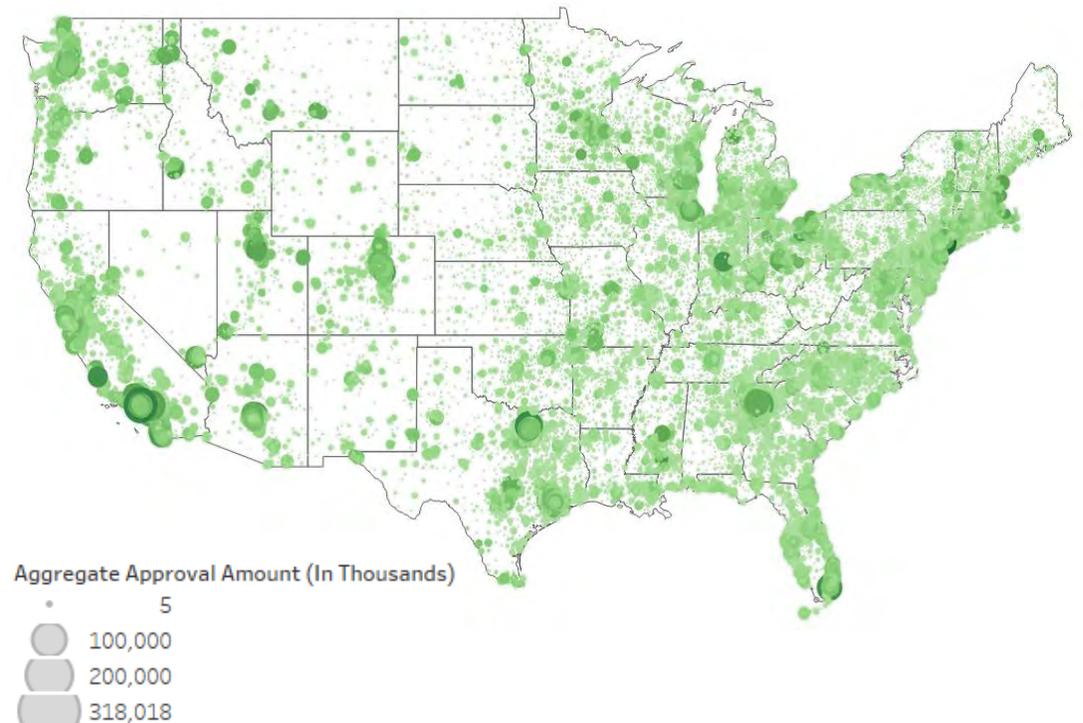
- During the last decade, there has been an upward trend in the amount of SBA loan funding awarded.
- The aggregate loan amount has increased from roughly \$12 billion USD in 2010 to \$23 billion in 2019.

- SBA loans have a broad geographic reach across the United States.

SBA Loan Aggregate Amount by Year, 2010-2019

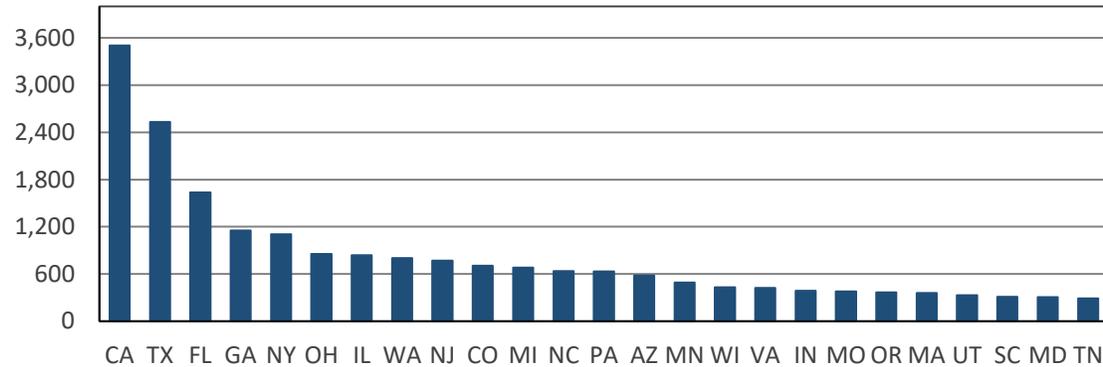


SBA Loan Aggregate Amount by Zip Code, 2010-2019

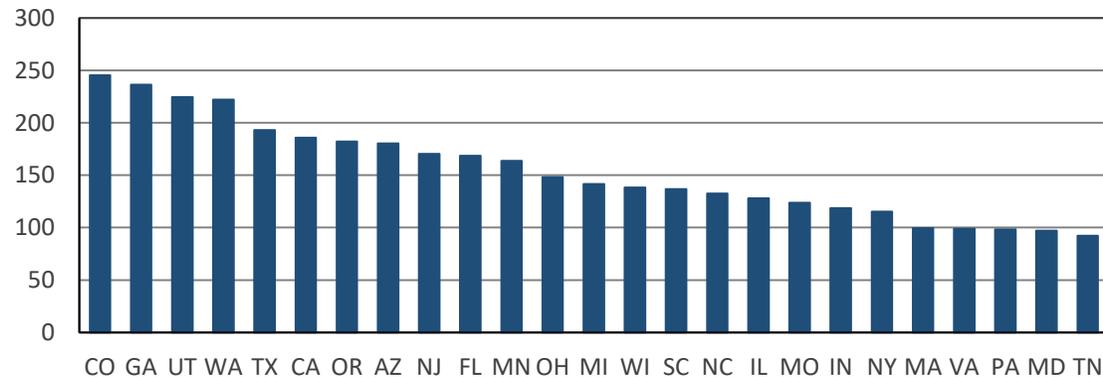


Total SBA Lending is Concentrated in a Few States

Total Top SBA Funded States (USD Millions)
2010-2019



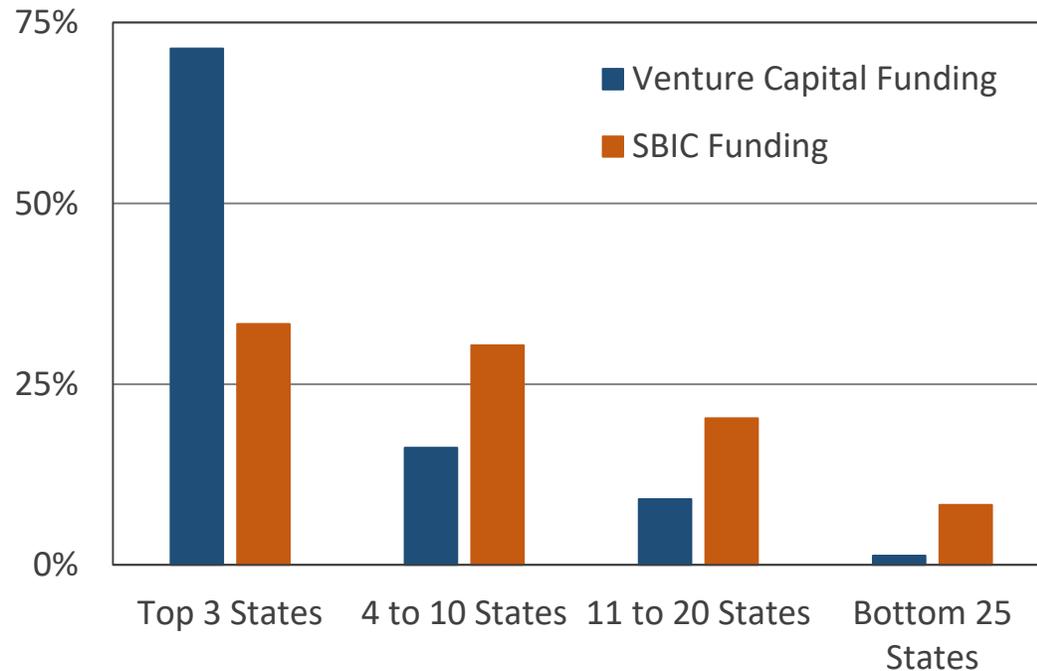
SBA Loans Controlled for by State Labor Force
2010-2019



- The top states for SBA lending are California, Texas, Florida, Georgia and New York.
 - California and Texas stand out from the rest. For example, California receives about 6X as much as Colorado, the 10th ranked state.
- However, when lending is adjusted by size of the labor force, SBA lending is much more even across states. Top states are then Colorado, Georgia and Utah.
 - Now, Colorado receives less than twice the funding per worker as Florida, the 10th ranked state.

Compared to VC, SBICs Invest in More Diverse Entrepreneurs

Total Funding Percentages by State Rank, 2014-2018

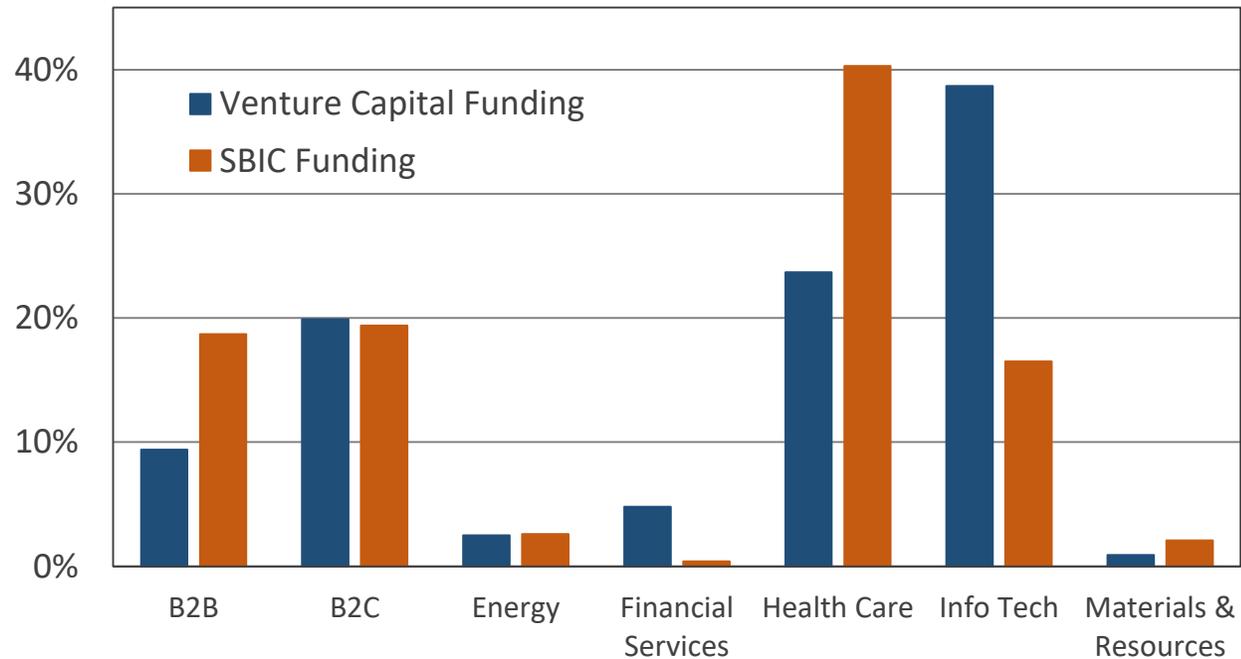


*SBIC data represent only 18.2 percent of total SBIC financings during this period.

- SBIC lending provides capital to more geographically diverse companies than VC funds.
- Female-founded companies receive more funding through SBIC funds than through VC funds. Between 2014 and 2018, 9.7% of VC funds were received by companies with at least one female founder vs. 43.7% of SBIC funds.

SBICs Invest More Outside of Tech than VCs

Total Capital Invested by Industry Sector,
2014-2018

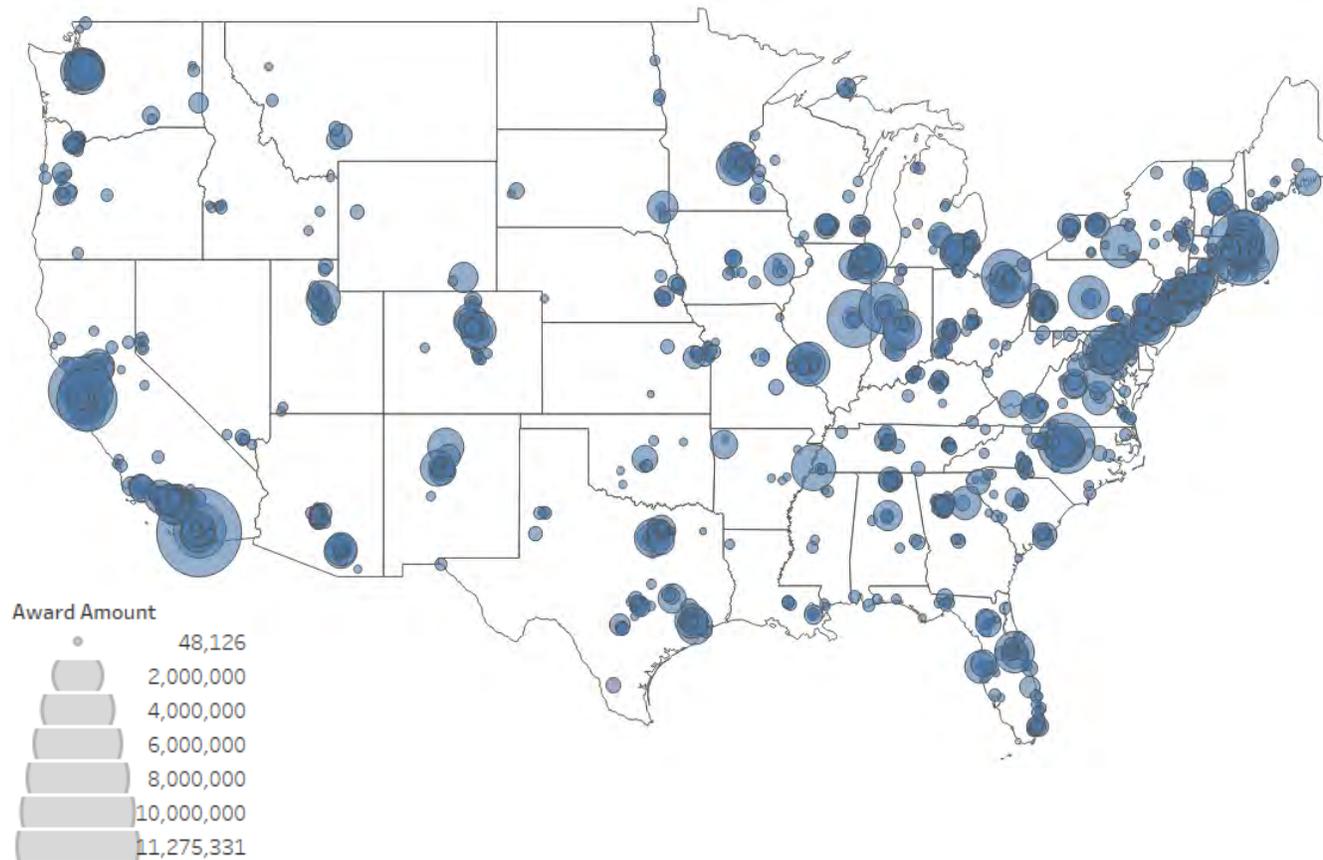


*SBIC data represent only 18.2 percent of total SBIC financings during this period.

- SBICs invest in a range of industries, with the largest amount invested in the healthcare sector.

Role of Government Funding – SBIR

Total Award Amount by Zip Code, 2014-2018*



*2018 data is only through April

- In fiscal year 2017, SBA-participating agencies obligated a total of \$2.67 billion of SBIR and \$369 million of STTR funding.
- Award activity tends to be concentrated around universities, national labs and other major research centers.
- While total award amounts are small (\$150,000 for Phase I and \$1 million for Phase II), many of these firms develop relationships with their awarding agencies by filling niche research capacities that serve agency mission needs.
- SBIR/STTR winners also receive other forms of commercialization assistance and opportunities to collaborate with universities and other research partners through the program.

Break Out of Government Funding – SBIR

Among all companies awarded SBIR between 2014 and 2018*:

- **6.7%** are woman-owned firms
- **4.4%** are underrepresented minority-owned firms
- **3.8%** are in HUBZone areas**

*2018 data is only through April

**In order to qualify for the HUBZone program, the business must be located in an area designated as a Historically Underutilized Business (HUB) Zone and at least 35% of its employees must reside in a HUBZone.

- The program has done a poor job of reaching firms owned by women and underrepresented minorities.
- This varies across agencies and across program offices within agencies.
- There has not been much improvement since the 2012 SBIR/STTR Re-Authorization.
- Despite this, it is a major goal of the program to fund entrepreneurs from underrepresented groups and living in underrepresented areas.



Maryann Feldman

Faculty Director, CREATE; Professor of Finance, UNC Kenan-Flagler Business School; Heninger Distinguished Professor in Public Policy, UNC Chapel-Hill

Professor Feldman directs CREATE, an economic development research center at UNC Chapel Hill's Kenan Institute of Private Enterprise. She also teaches in the UNC Department of Public Policy and at the UNC Kenan-Flagler Business School. Her research and teaching focus on the geography of innovation, the commercialization of academic research and the factors that promote technological change and economic growth. She leads CREATE's Economic Development Lab, which works to create and curate a body of research that examines the fundamental determinants of shared economic prosperity. Among her honors, Prof. Feldman was awarded the 2013 Global Award for Entrepreneurship Research. She is the editor of *Research Policy*, and has written for numerous journals, including the *American Economic Review* and *The Brookings Papers on Economic Policy*. Prof. Feldman earned a doctorate in economics and management and a master's degree in public policy analysis from Carnegie Mellon University. She also holds a bachelor's degree from Ohio State University.

EXPERT INSIGHT

The government has an important role in supporting innovative firms. A substantial body of research suggests that ambitious new businesses often face daunting barriers when they seek investment. Sabrina Howell finds that even after adjusting for the risk inherent in commercializing new discoveries, severe financial frictions put innovative small firms at a disadvantage. Bank borrowing is rarely an option because innovative new businesses lack revenue and assets to use as collateral. Venture capital has been flowing toward deals that are larger and later stage, often after the viability of a product has already been demonstrated. Over the past three years, the number of seed deals declined by approximately 50%. Venture capital also favors certain sectors, with 80% of recent investments in IT firms, with modest upfront investments and the potential for large returns in a relatively short time frame.

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EXPERT INSIGHT

- The federal government's SBIR program, which the U.S. Small Business Administration (SBA) has labeled "America's Seed Fund," deploys more than \$3 billion annually. The program has been around since 1982 and has provided seed funding for companies such as CREE, Qualcomm, Symantec, and 23andMe. The SBIR program has been copied by 17 countries around the world.
- The SBIR program also invests in a broad portfolio of technologies through the extramural research programs of the federal mission agencies. Currently, 98% of SBIR awards are funded by the five largest agencies: the Department of Defense (DOD); Department of Energy (DOE); Department of Health and Human Services (HHS); National Aeronautics and Space Administration (NASA); and the National Science Foundation (NSF).
- The SBA website reports that in over 35 years of funding, the SBIR has helped enable awardees to generate 70,000 patents, found nearly 700 publicly traded companies and garner approximately \$41 billion in VC investments.
- While SBIR invests in individual companies, focusing only on subsidy recipients can significantly understate the return on the government's investment. The program also defines the technological frontier as federal agencies satisfy their mandated missions. In a study of the DOE SBIR program, Kyle Myers & Lauren Lanahan document that 75% of the patents associated with topics pioneered by the agencies come from inventors who did not directly receive grants, but subsequently worked on the topic. This work identifies significant positive technological spillovers and is an example of the visible hand of government seeding technological progress.

Alternative Sources of Funding Arise to Support Non-traditional Ventures



Notable Trends

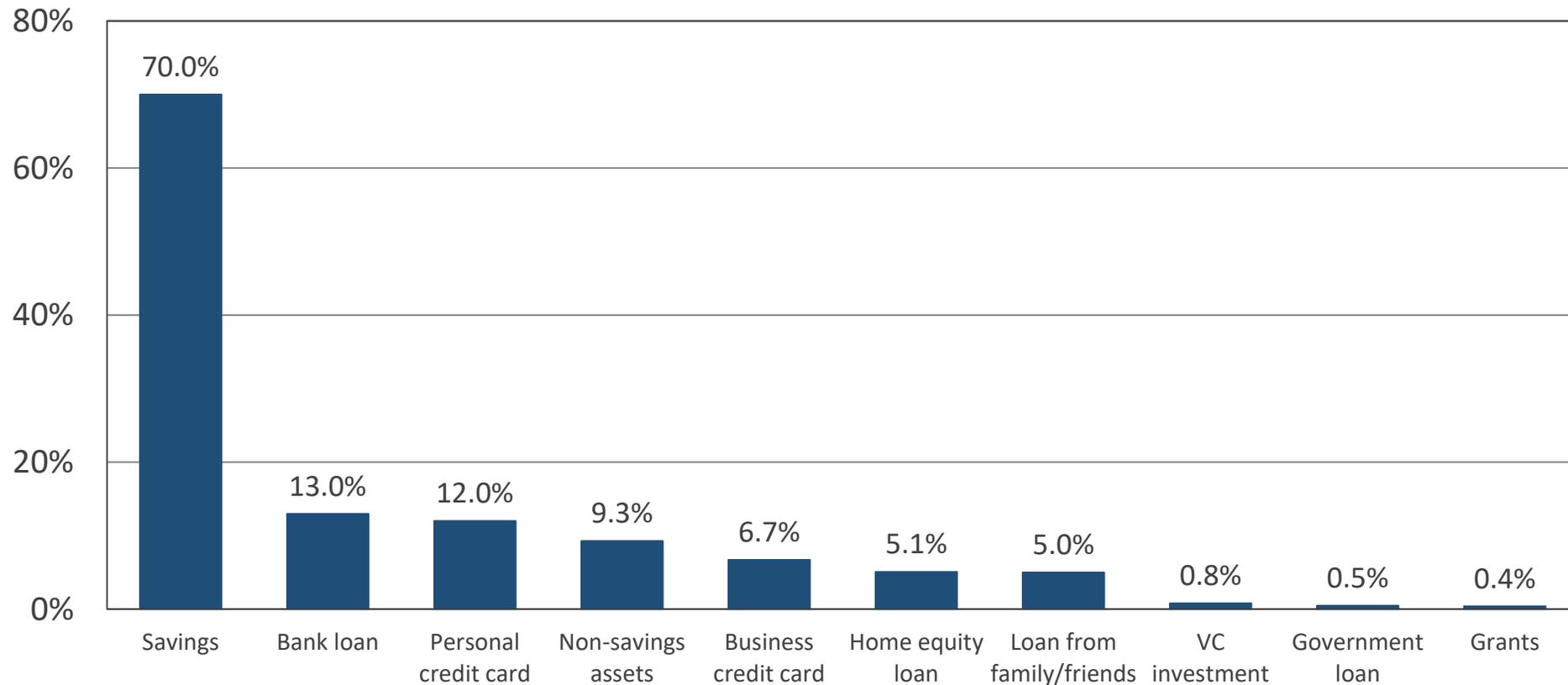
- Traditional funding sources, such as personal/family wealth and bank loans, remain the major source of capital for most startup companies.
- Traditional and VC funding remains less accessible for women and minority entrepreneurs due to historical systemic issues.
- Crowdfunding has emerged to fund projects less suited to traditional funding methods, allowing the general public to invest in loans and startups, but at the cost of fewer assurances and high information asymmetry.

Traditional, Private Investment & Wild West Sources

Traditional Sources	VC/Angel Sources	Crowdfunding
<ul style="list-style-type: none">• Depend on family or business relationships for information, advising, etc.• Solid, dependable business idea• Collateral, just in case things don't work out well	<ul style="list-style-type: none">• Only for ideas that transform an industry or service• Potential for large future market cap• VCs seek to understand founder and form relationship where they influence product	<ul style="list-style-type: none">• Less information about founders and projects• Ideas important to a niche group of individuals• Lower requirements for prior relationships, collateral or a specific background

Traditional Sources Provide Most of the Capital

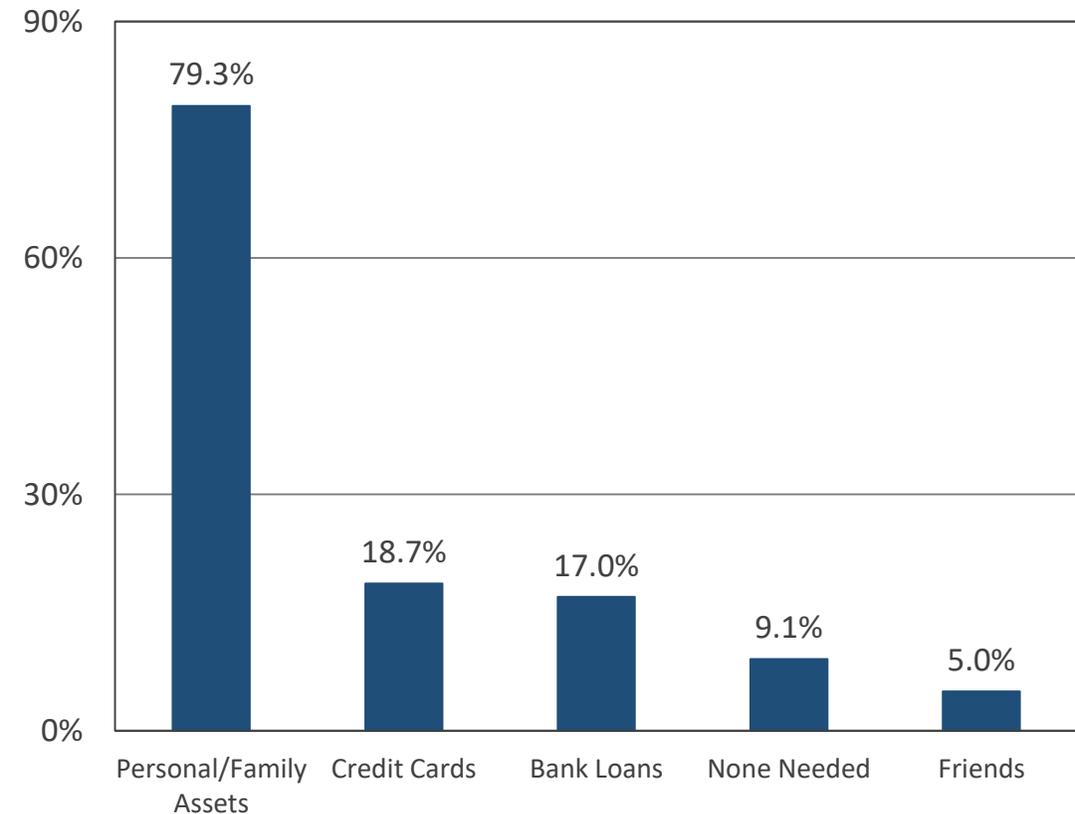
Sources of Capital to Start/Acquire the Business



Traditional Sources

- Traditional sources have strong informational advantages, using area knowledge to efficiently allocate, as well as to advise, local startups.
- These sources are also great for the economy broadly. Early research shows community banks reduce both the recession risk and length of recessions for counties they are in.
- Not everyone can access traditional sources:
 - Only available to those with personal wealth, collateral or connections.
 - Often carry personal risk in case of startup failure.
 - The Minority Business Data Agency found that minorities received fewer loans, and with less-optimal rates, than similar-sized white-owned businesses.

Funding Sources for Young Companies



Capital Access for Minority-Owned Startups

- Black-owned startups have less access to overall capital compared to white-owned startups. This difference is driven primarily by black-owned firms having less access to outside debt.
- Only 20% of this difference is explained by experience, gender, education, credit score, industry, personal wealth or previous years of experience.
- There is evidence to suggest that racial bias in capital markets contributes to the disparity.

Mean financial capital at startup		
	White	Black
Owner's Equity*	\$34,426	\$19,562
Informal Equity	\$2,139	\$440
Formal Equity	\$18,543	\$536
Owner Debt	\$5,228	\$1,010
Informal Debt	\$7,195	\$2,849
Formal Debt*	\$56,663	\$10,089
Total Financial Capital*	\$106,720	\$35,205

*Represents differences significant at $p < .05$

A Closer Look: Debt Sources at Startups by Race

- Black-owned startups are significantly less likely than white-owned startups to use nearly every form of debt captured by the survey.
- Personal and business bank loans are the forms of debt with significant racial differences in average funding amount.

	White	Black
Percent Using:		
Personal Credit Cards*	49%	34%
Personal Bank Loans*	18%	14%
Business Credit Cards*	30%	15%
Loans from Family Members*	9%	14%
Business Bank Loans*	7%	1%
Average Dollar Amounts:		
Personal Bank Loan*	\$14,497	\$6,971
Personal Loans from Family	\$2,571	\$1,801
Personal Loans, Other Sources	\$4,659	\$2,161
Business Bank Loan*	\$10,551	\$1,106
Business Non-bank Loans	\$6,035	\$866

*Represents differences significant at $p < .05$

A Closer Look: Attitudes Toward Formal Debt

- Black-owned startups – even in the top 25% of credit scores in the sample – were:
 - Less likely to apply for a loan.
 - More likely to avoid applying for a loan for fear of rejection.
 - Less likely to have all loans approved in full, if they applied.
 - More likely to have unmet needs regardless of whether they applied for a loan.

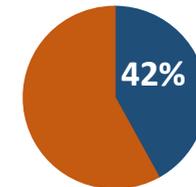
		Overall	Top 25% Credit
Applied for a Loan	White	12.0%	16.2%
	Black	7.9%	11.25%
Did Not Apply for Fear of Rejection	White	16.2%	15.0%
	Black	41.8%	32.3%
Loan Always Approved	White	68.3%	72.2%
	Black	22.4%	25.3%
Unmet Need	White	16.3%	15.3%
	Black	43.0%	31.7%

VC Investments Are High Impact

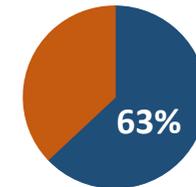
- Venture capital, although a small asset class relative to buyout, hedge-fund, etc., punches well above its weight. Although VC invests only a small share of GDP, VC has tremendous outputs.
- VCs also have high involvement in their portfolios, often acting as advisors and board members.
- VC funding targets very specific things in investments, including a product dramatically better than the competition, astronomical potential valuations, and the right team to do it.
 - While VC is right for many companies, not all ideas and teams worth funding match the VC model.
 - VC investing is also restricted to accredited investors.

Among IPOs since 1974

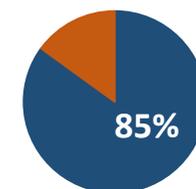
% Venture-backed



% of Market Cap



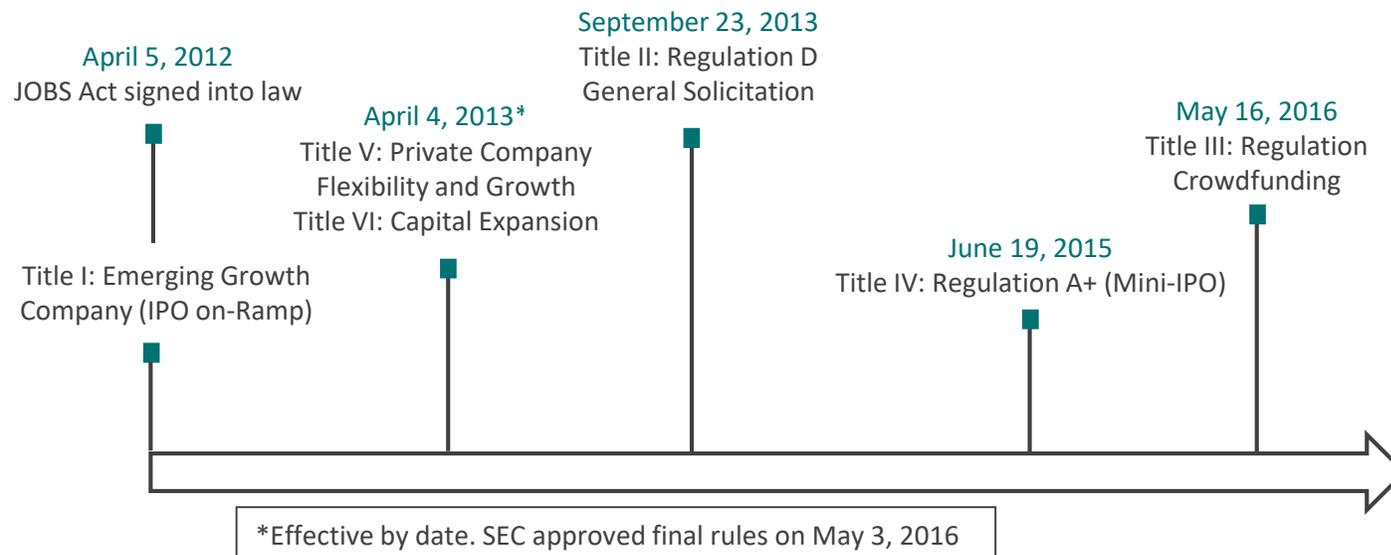
% of R&D Spend



JOBS Act of 2012 Sets Stage for Crowdfunding

The JOBS Act:

- Enables non-accredited investors to make limited investments in new ventures through equity crowdfunding.
 - Through Regulation Crowdfunding (2015), allows up to \$1,070,000 to be raised from non-accredited investors annually for company equity.
- Relaxes IPO regulatory and disclosure requirements for “emerging growth companies,” creating an IPO on-ramp.
- Decreases promotional communications restrictions for private offerings to accredited investors.
- Exempts qualified small- and medium-sized firms from certain registration and disclosure requirements when selling securities. This is commonly referred to as a “mini-IPO.”
- Increases shareholder number threshold to trigger public company reporting requirements.



Academic literature has begun to show a lack of evidence of increased IPOs due to the JOBS Act.

Crowdfunding to Fill Gaps?

Crowdfunding has emerged as a solution for projects and teams that don't match the traditional or VC models described earlier. Crowdfunding offers several potential advantages:

- Greatly expands pool of possible contributors. You don't have to be a VC to invest in startups or a banker to give a loan.
- Available to everyone – all races, genders, backgrounds, credit scores, etc. – to give or receive.
- Depending on platform, allows ventures in early or later stages of the project.

Crowdfunding Type	Angle	Example
Equity	Allows non-accredited investors to buy shares and get in on VC action.	AngelList, WeFunder, CircleUp
Rewards and Pre-Purchase	Allows entrepreneurs to sell their project idea to interested customers, getting upfront project contributions in exchange for future product.	Kickstarter & Indegogo
Peer-to-Peer (P2P) Lending	Investors give as little as \$25 to finance any number of loans from online borrowers. Investors get a diversified portfolio of small, non-standard loans.	LendingClub & Prosper
Donation	Donors have easy access to a large number of charities in many locations.	GlobalGiving

Crowdfunding Class Growing

- With legal framework in place via Regulation Crowdfunding (RegC), growth has been swift. As of September 2019, Equity Crowdfunding (ECF) had raised \$245 million via RegC.
- ECF is growing quickly. The second largest platform, StartEngine, reported \$44 million invested in 2019, a 67% increase from 2018. Absolute user count is also up, with 28,000 customers investing through their platform for the first time.
- ECF is much less concentrated than VC. Since RegC passed, California, New York and Massachusetts have received more than 78% of VC funds. These three receive less than half of total ECF funds.
- 24% of RegC offerings have a female co-founder, with some evidence suggesting that deals with female founders and cofounders raise *more* than all-male teams.
 - This is a stark contrast to traditional VC funding, where fewer than 10% of deals go to female founders, and they traditionally raise less than half of those by males.

Equity Crowdfunding – Recent Campaigns

Regulations provide a ceiling limit of \$1,070,000 for Equity Crowdfunding. Three open projects had maxed in July 2019.

InnaMed	misterb&b	Jet Token
<ul style="list-style-type: none"> • Developing connected home medical devices that improve post-treatment care by sending data to docs, encouraging adherence, etc. • Campaign run via Republic. 	<ul style="list-style-type: none"> • Billed as AirBNB for the LGBTQ+ community, provides access to safe housing and vacation suggestions for LGBTQ travelers. • Campaign run by WeFunder. 	<ul style="list-style-type: none"> • An aircraft booking and membership platform with the goal of democratizing private jet travel. Sells flights and memberships. • Campaign run via StartEngine.

Crowdfunding Projects

- Crowdfunding platforms like Kickstarter and Indiegogo allow creators to get funding without cash or collateral upfront and with low personal risk. Many projects can simultaneously advertise and make initial sales *before production*. Products that thrive are those where consumer interest is high, and supporters can be excited by initial images and descriptions of the project. “Investors” here get to be first adopters of the new project.
- The two main companies, Kickstarter and Indiegogo, have both supported thousands of projects.
- Kickstarter has raised a total of \$4.7 billion for projects (as of January 13, 2020).
- Indiegogo reported in April 2018 that they were passing \$1.5 billion total raised for projects.

Top 5 Product Types and success rates for Kickstarter:

Product Type	% Successfully Funded	Total Funding Pledged
Product Design	42.62%	\$611,518,034.61
Tabletop Games	66.98%	\$451,154,249.46
Video Games	25.58%	\$205,605,716.18
Hardware	38.72%	\$151,735,701.49
Documentary	40.79%	\$136,518,587.75

Every Kickstarter and Indiegogo project has a minimum funding amount. If a project has a minimum of \$10,000, then all money is returned if only \$7,000 is raised. This chart shows top categories by amounts pledged and the percentage of projects that are actually funded. All Kickstarter tabletop games have together received over \$450 million in pledges, and 67% of tabletop games projects have been fully funded.

Crowdfunding – Not Only Small Products



Three of the largest Kickstarter campaigns have been for Pebble Watches, with \$20.4 million, \$12.8 million and \$10.2 million raised. Pebble has since been acquired by FitBit for \$23 million.

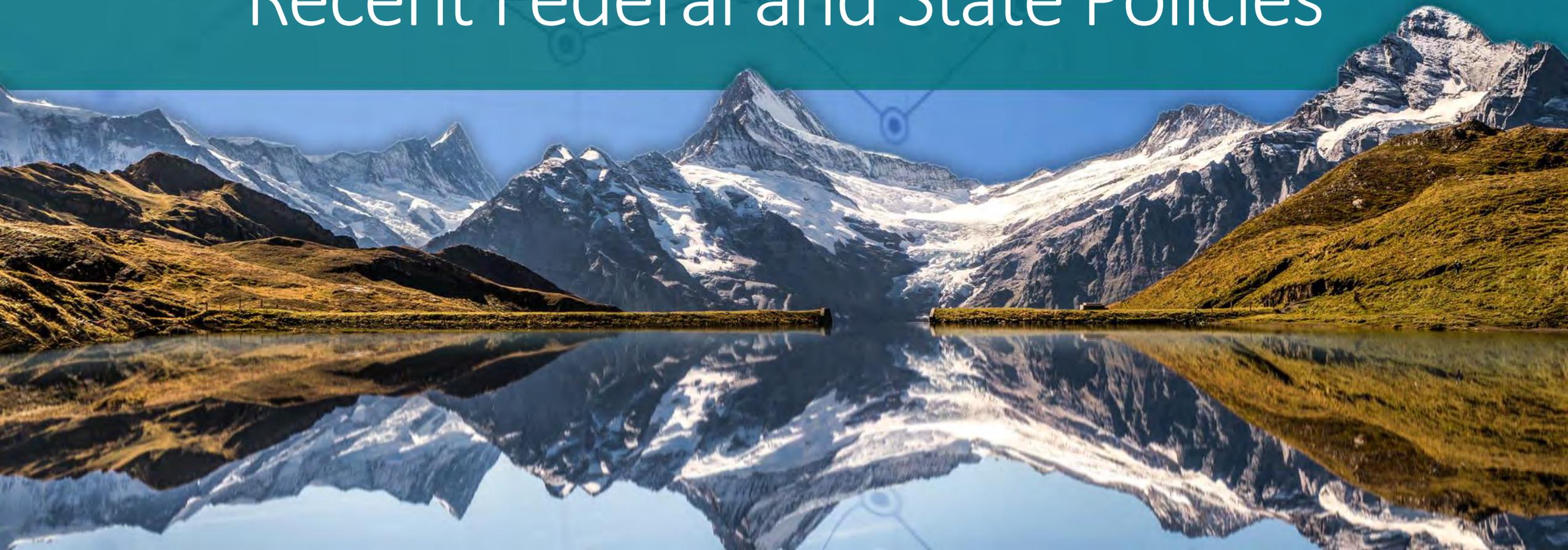


Board games are the second largest sub-category by dollars raised, but aren't just small campaigns. The horror board game Kingdom Death raised \$12.4 million, and whimsical card game Exploding Kittens raised \$8.8 million, promising early access to unique games.

Crowdfunding – Challenges and Opportunities

- Crowdfunding departs from the typical model by democratizing the process of seeking funds. Projects can reach large groups of individuals and potentially find those with aligning interests. A banker might never fund the “Pi Pie Pan,” but Kickstarter allowed the product to reach enough people so that 741 backers invested \$17,542 to make that dream a reality.
- Crowdsourcing has significant challenges to overcome. While banks and families can sidestep many informational asymmetries, crowdfunding investors are left in the dark.
 - Platforms risk proliferation of bad actors and adverse selection problems where the best companies seek actual banks and VCs. The challenge for these platforms is to provide screening, funding processes, and follow-up to ensure investors trust the process and get promising results.

Recent Federal and State Policies



Notable Trends

- Policy has affected new firm formation in various industries throughout history. The policy impact includes types of government research funding that enables private industry to invest in research.
- It is important to examine the relationship between regulation and innovation across different industries to better support nascent industries and entrepreneurs.

2019 Legislation Affecting Entrepreneurship

New Caucuses:

Bipartisan Senate Entrepreneurship Caucus

Co-Chairs: Senators Tim Scott (R-SC) and Amy Klobuchar (D-MN)

Bipartisan House Entrepreneurship Caucus

Co-Chairs: Representatives David Schweikert (R-AZ), French Hill (R-AR), Bill Foster (D-IL), Steve Chabot (R-OH), Stephanie Murphy (D-FL), and Marc Veasey (D-TX)

Bipartisan Caucus on Innovation and Entrepreneurship

Co-Chairs: Representatives Joe Neguse (D-CO) and Van Taylor (R-TX)

116th Congress:

Senate:

S.294 - Native American Business Incubators Program Act
Status: Passed Senate

S.972 - Retirement Enhancement and Savings Act of 2019
Status: Introduced

S.2207 - Research and Development Tax Cut Expansion Act of 2019
Status: Introduced

S.2535 - Enhancing Entrepreneurship for the 21st Century Act
Status: Introduced

2.2738 - Providing Real Opportunities for Growth to Rising Entrepreneurs for Sustained Success (PROGRESS) Act
Status: Introduced

House:

H.R.539 - Innovators to Entrepreneurs Act of 2019
Status: Passed House

H.R.116 - Investing In Main Street Act of 2019
Status: Passed House

H.R.1992 - Setting Every Community Up for Retirement Enhancement Act of 2019
Status: Passed House; elements included in H.R. 1865 - Further Consolidated Appropriations Act, 2020 which became law

H.R.4405 - Women's Business Centers Improvements Act of 2019
Status: Introduced

Pending Bills and Most Recent Bill Passed

It is important to note that all the bills that are pending and those that have been signed into law are bi-partisan and supported by both parties.

- The **SECURE Act** was signed into law by President Trump on December 20, 2019, as part of federal government's year-end spending bill. The legislation modernizes retirement security law to enable small businesses and startups to band together to provide multiple-employer, 401(k)-like retirement savings products to their employees.
- **The Research and Development Tax Credit Expansion Act:** [Introduced](#) on July 23, 2019 by Senators Maggie Hassan (D-NH) and Thom Tillis (R-NC), the bill will expand startups' ability to apply the R&D tax credit to their payroll taxes rather than income taxes, which many startups don't have.
- **The Enhancing Entrepreneurship for the 21st Century Act.** [Introduced](#) in the Senate on September 24, 2019, by Senate Entrepreneurship Caucus co-chairs Senator Amy Klobuchar and Senator Tim Scott, the legislation directs the U.S. Department of Commerce secretary to conduct a two-year analysis of the multi-decade decline in new business formation rates, including likely contributing factors and economic implications. The analysis will be the most comprehensive ever conducted of the state of American entrepreneurship, bringing to bear all the data and analytic capacities of U.S. government agencies. The legislation was [introduced](#) in the House of Representatives by the six co-chairs of the new House Entrepreneurship Caucus on November 1.
- **The Workforce Mobility Act:** [Introduced](#) on October 16, 2019, by Senators Todd Young (R-IN) and Chris Murphy (D-CT), the bill would ban the enforcement of noncompete agreements in all but the most necessary of circumstances.
- **The PROGRESS Act:** [Introduced](#) on October 30, 2019, by Senator Ron Wyden (D-OR), ranking member of the Senate Finance Committee, the bill will improve startups' access to capital by providing a first employee tax credit up to 25 percent of the first employee's wages, and by providing angel investors with a tax credit for investing in new businesses.

Opportunity Created by Tax Cuts and Jobs Act (TCJA)?

Intended to spur investment in economically distressed communities, “opportunity zones” provide preferential capital gains tax treatment on certain investments.

Investors may take advantage of this program by investing in real estate or businesses in communities designated to be opportunity zones.

Effects:

- Ultimately unknown
- Slower adoption of and investment in opportunity zone program than expected
- Questions linger regarding whether investment is truly in areas of need and if those investments will have a positive effect on creating economic development:
 - 57% of American neighborhoods qualified to be an opportunity zone
 - Many college towns considered opportunity zones
 - See Mecia, T. (2019, September 13). Opinion | Opportunity Zones Knock Where They’re Needed Least. *The Wall Street Journal*. <https://www.wsj.com/articles/opportunity-zones-knock-where-theyre-needed-least-11568412633>

Entrepreneurship Policy in State Legislatures

Most common types of industry-specific bills passed in the 2018-2019 session

High-tech	Main Street
<ul style="list-style-type: none"> • Study groups for possible regulations and use cases in industries like aerospace, AI, and blockchain • More computer science education in K-12 schools • Funding programs including equity financing, grants and loans 	<ul style="list-style-type: none"> • Loosened restrictions on the cottage food industry • New licensure requirements for child daycare centers • Expanded access to association health plans, allowing small businesses to band together to purchase health insurance

*More than any single high-tech industry, the hemp/marijuana/cannabis industry saw the most interest from state lawmakers. Many states moved to loosen production restrictions or create licensing provisions.

Entrepreneurship Policy in State Legislatures

(continued)

Most common types of workforce development bills passed in the 2018-2019 session

Higher Education	Underserved Populations
<ul style="list-style-type: none"> • Technical and trade workforce development through community colleges • University entrepreneurship and economic development centers • Industry-specific centers of excellence at higher education institutions 	<ul style="list-style-type: none"> • Entrepreneurship training programs for people over 50 • Increased focus on rural, veteran-, minority- and women-owned businesses in state workforce innovation boards • Worker retraining tax credit

*A few states took a more holistic approach to workforce development, creating task forces or committees to advise the legislature on workforce development issues.

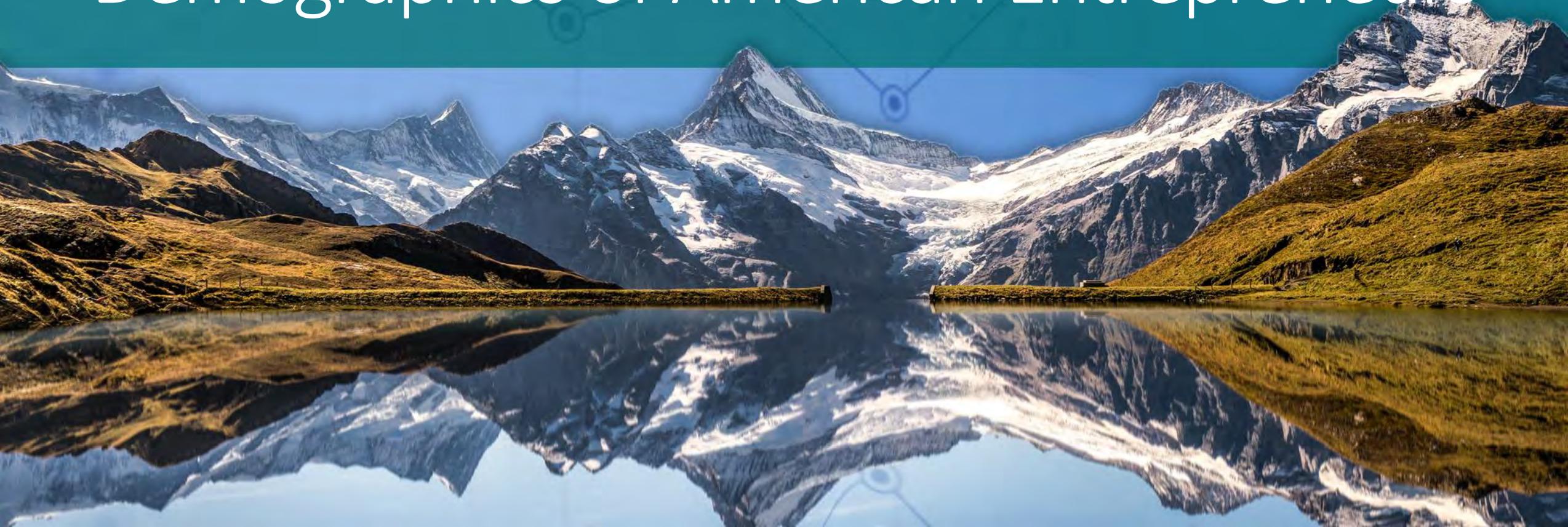
Highlight: Association Health Plans

- A 2017 [executive order](#) tasked the U.S. labor secretary with expanding access to association health plans, which allow multiple employers to band together to purchase health insurance as one entity—increasing bargaining power and economies of scale while reducing costs.
- Since then, states have enacted legislation clarifying that small employers, including sole proprietors and working owners, are eligible for association health plans. In 2019, this included:

Arkansas HB 1837	Arizona SB 1085	North Carolina SB 86
Oklahoma SB 943	Virginia HB 2719/SB 672	

- Job-seekers highly value health care, with 88% willing to consider lower pay if a job offers better health care. Yet, according to the Annual Survey of Entrepreneurs, only 19% of startups pay for healthcare. Association health plans could help increase this number.

Demographics of American Entrepreneurs

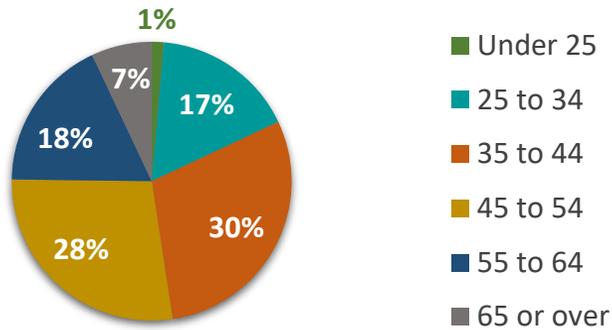


Notable Trends

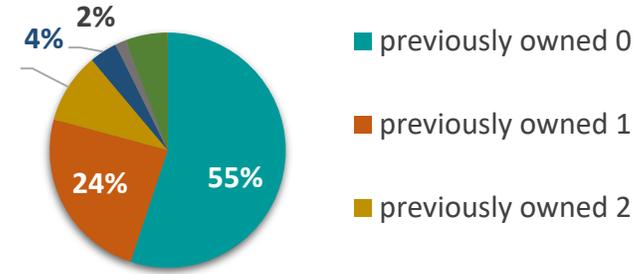
- More than half of entrepreneurs are between the ages of 35 and 54; most are white and male.
- 25% of entrepreneurs are immigrants.
- About 50% of entrepreneurs are serial entrepreneurs; serial entrepreneurs in the same industry are more successful.
- Data shows that older entrepreneurs have more successful ventures.
- Some of the most valuable companies today were started in dorm rooms and garages, but these are outliers and not typically where/how most successful ventures start.

Statistics on U.S. Entrepreneurs in Business Less Than Two Years

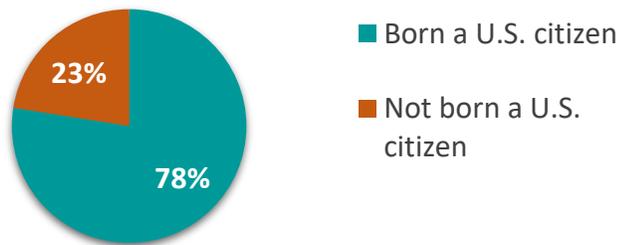
Owner's Age



Number of Businesses the Owner Previously Owned



Whether the Owner Was Born a U.S. Citizen



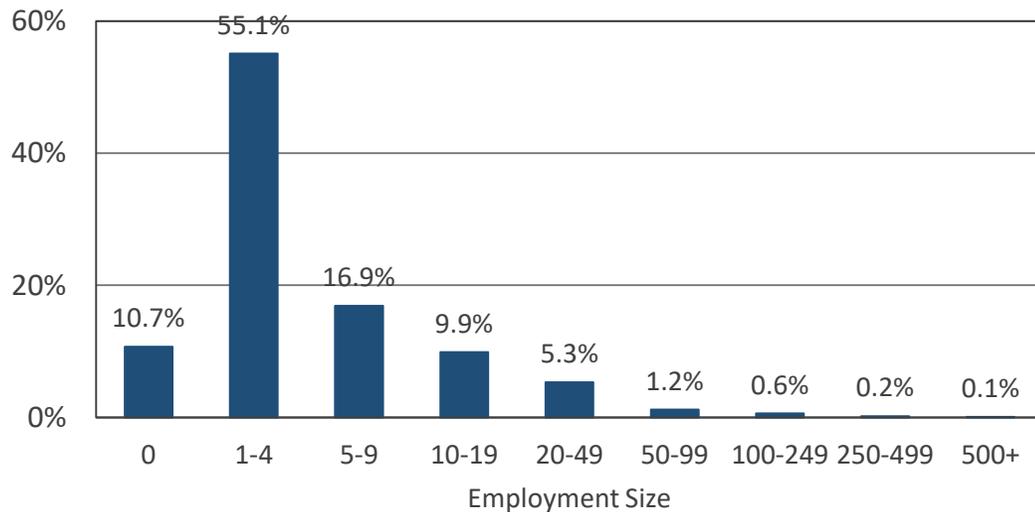
- More than half of owners establish or acquire the business between the age of 35 and 54.
- More than 50% of owners have no prior experience owning a business.
- Nearly one-in-four (23%) respondent owners of U.S. employer firms were not born a U.S. citizen.

Statistics about U.S. Employer Firms by Size of Firm

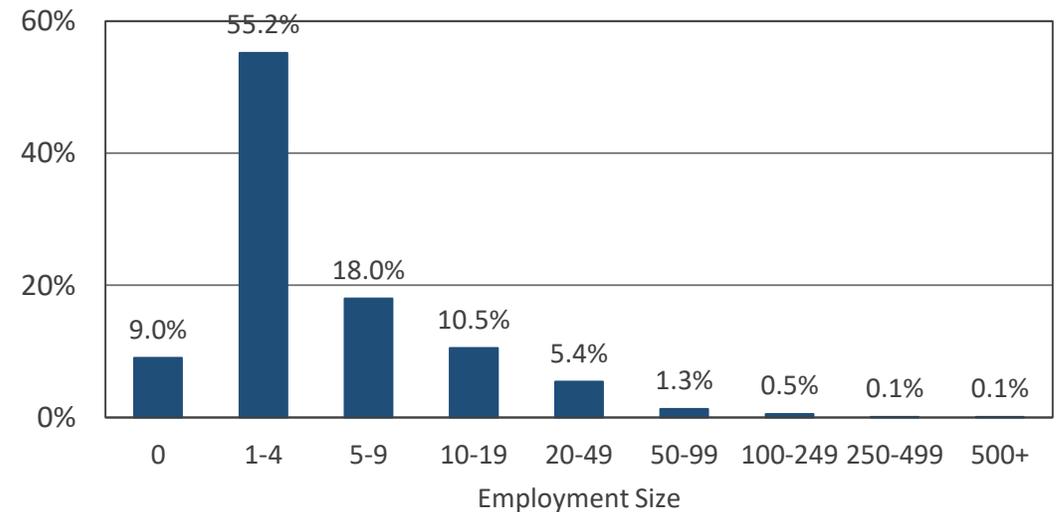
	# of Firms	% of Firms
Female-owned	1,118,863	21.0%
Male-owned	3,434,782	64.4%
Equally male-/female-owned	779,799	14.6%

	# of Firms	% of Firms
Minority-owned	1,054,575	19.8%
Non-minority-owned	4,197,617	78.7%
Equally minority/non-minority-owned	81,252	1.5%

Female-owned Firms



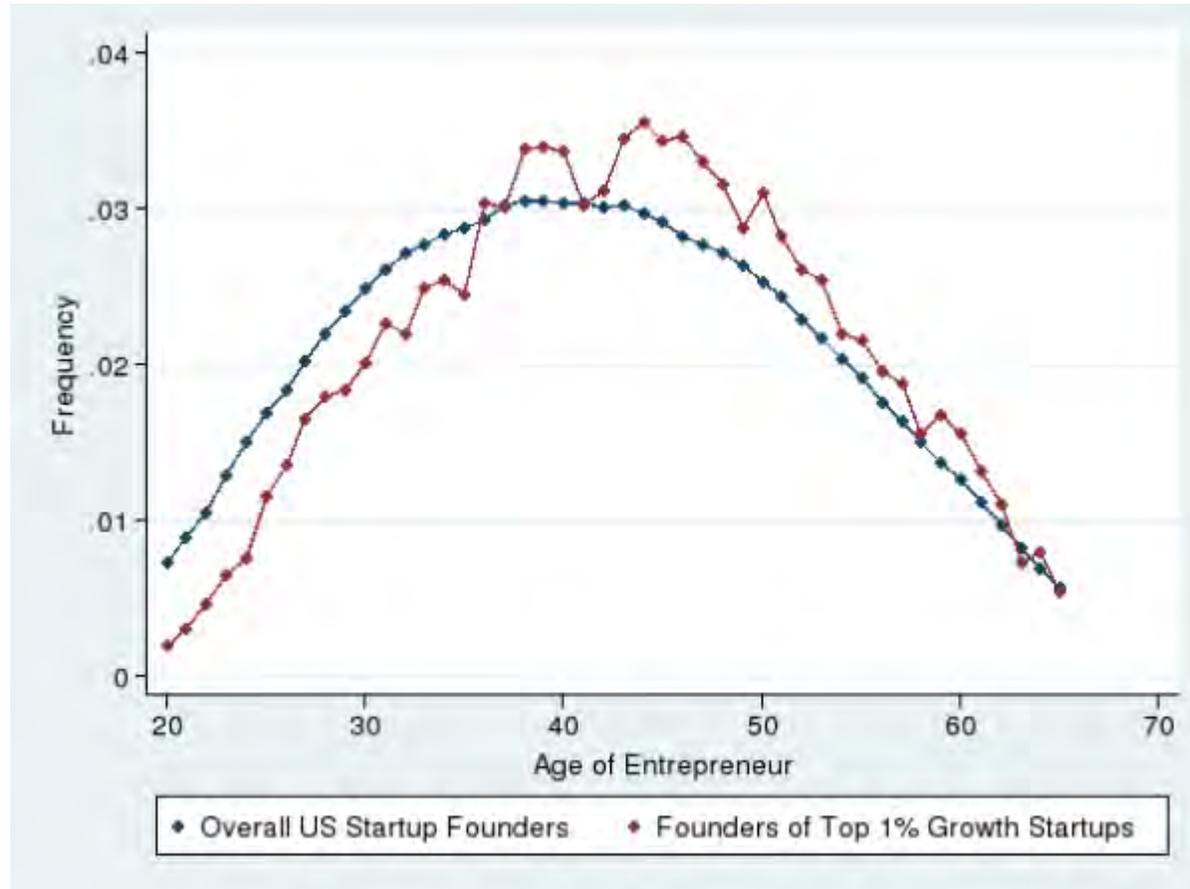
Minority-owned Firms



Who Are the Successful Entrepreneurs?

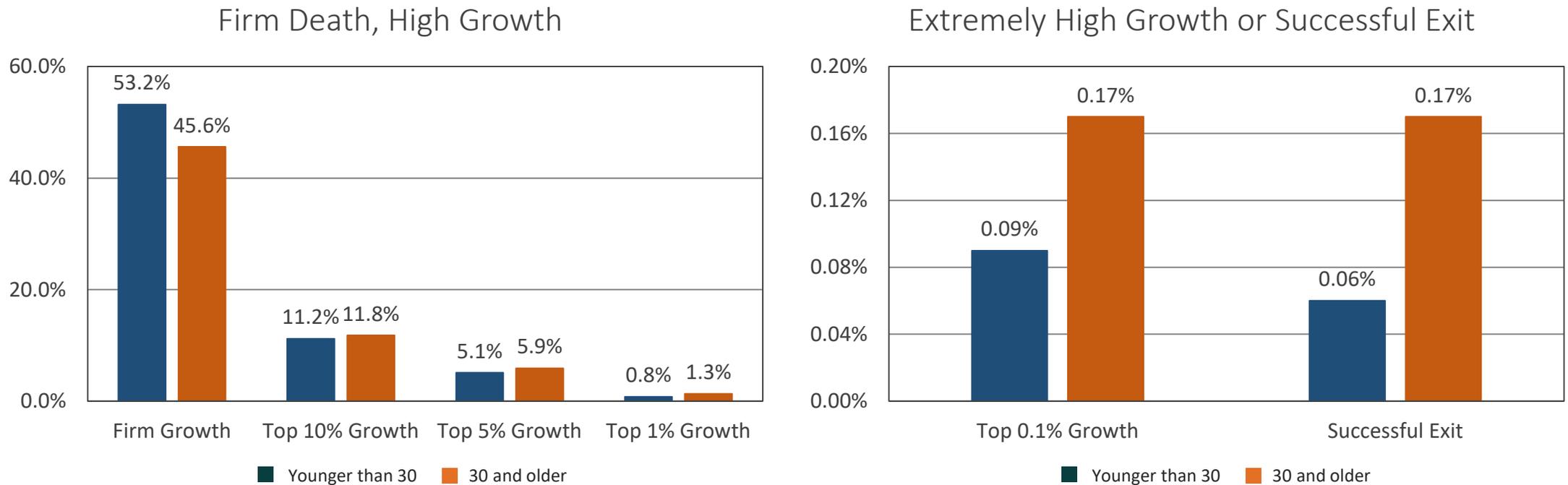
- Successful entrepreneurs are middle-aged, not young.
 - The mean founder age for the 1,000 fastest growing new ventures is 45. The findings are similar when considering high-technology sectors, entrepreneurial hubs and successful firm exits.
- Prior experience in the specific industry predicts much greater rates of entrepreneurial success.
- These findings strongly reject common hypotheses that emphasize youth as a key trait of successful entrepreneurs.
- There is a caveat.
 - This seems to be an equal-weighted average results.
 - Founders like Bezos, Zuckerberg, Brin and Page are not consistent with this trend. It is important to note that this finding does not say that young founders won't be successful. It does make a point that wisdom, experience, and a larger network—all of which might come with age—could be factors that play key roles in the success of an entrepreneur's venture.

Founder Age Distribution: Overall and Top 1%



- The frequency of successful founders who are younger than their late 30s is well below the frequency of these founders in the population.
- Starting in the late 30s, and especially by the mid-to-late 40s, the frequency of successful founders is substantially greater than the frequency of these founders in the population.

Outcomes: Founders Older and Younger than 30



- “Failed” ventures, defined as businesses that cease operations or no longer have employees, exhibit a somewhat higher failure rate for founders younger than 30.
- The likelihood of high-growth ventures and successful exits is lower for founders younger than 30.



Amy Nelson
CEO, Venture for America (VFA)

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EXPERT INSIGHT

It is not surprising that second-time founders in same industry perform better because it is directly related to the fact that older founders perform better.

Further research could explore whether prior experiences (roles, etc.) lead to more successful founders.

Building and Supporting Founding Teams



Notable Trends

- There are pros and cons to both solo founding a company and co-founding a company. The research is mixed on the best practices for founding team size.
- Most successful solo founders are not truly alone. They surround themselves with “co-creators” who support the business in myriad ways.
- Co-founding teams are generally formed out of interpersonal fit between individuals found within their pre-existing networks.

Who Makes Up Founding Teams?

When forming, co-founding teams tend to:

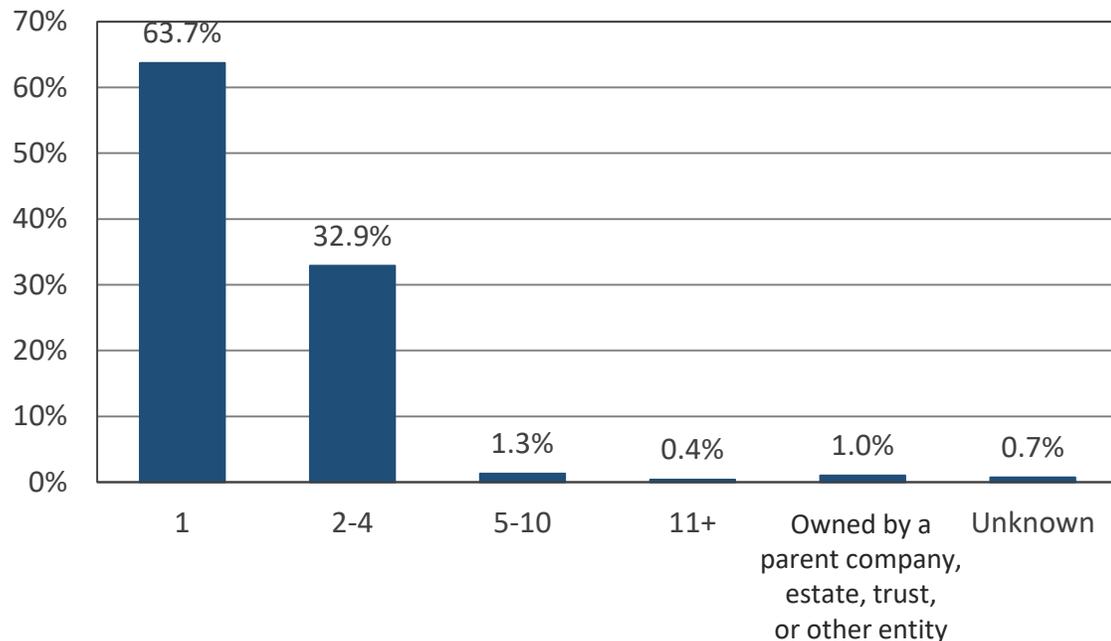
- Gravitate toward individuals with similar backgrounds and/or experiences.
- Place some importance on “chemistry” or interpersonal fit between individuals.
- Rely on their social capital and networks of friends, family members and work colleagues when forming co-founder relationships (i.e., “arranged marriage”).

	Co-founding Teams – Pros and Cons
Advantage	<ul style="list-style-type: none">• Wider skill set and idea creation• More resources (financial, physical, networks)• Shared experience
Disadvantage	<ul style="list-style-type: none">• Disagreement, stress, conflict• Power struggle and distrust• Departure of key member of the founding team

Co-founders: Gift or Curse?

Prior research suggests that larger founding teams perform better because larger teams have access to more resources, more idea generation, etc. But new research challenges that finding.

Number of Owners



Team dynamics on survival:

- Ventures with a sole founder survive longer than those with multiple founders.
- Co-founders are a central cause of startup failure. Up to 65% of startup failures are the result of conflicts among co-founders (Wasserman 2012).

Team dynamics on performance:

- There is no significant difference in firm performance between ventures founded by a solo entrepreneur and those founded by teams.
- Solo founders own about twice as many firms as those founded by teams.
- While significant in non-founder-led firms, team structure had little to no effect on the operating performance of founder-led firms.
- Evidence suggested that the founders were relying more on their own intuition and not as much on their team.

Solo-founder caveat: Many successful solo founders are not actually solo; employees, alliance partners and benefactors act as *co-creators*.



Chris Bingham

Philip Hettleman Distinguished Scholar, Professor and Area Chair of Strategy and Entrepreneurship, UNC Kenan-Flagler Business School

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EXPERT INSIGHT

- While much has been written about how new ventures overcome the liabilities of newness, this literature surprisingly does not distinguish between new ventures founded by a single founder or new ventures launched by co-founders. Rather, the number of founders is overlooked as the literature largely refers to founders as a collective, assuming away differences between single or co-founded firms. Such an omission is problematic because it obscures understanding of which ventures experience greater liabilities of newness than others and which liabilities may be particularly problematic for particular founder types.
- The literature that does exist suggests that solo-founded ventures should experience greater liabilities of newness and so exhibit lower performance. The logic is that founding a venture is too much for one person. Because of this, most new ventures have co-founders vs. solo founders and most VCs are reluctant to fund a company with only one founder (Wasserman, 2012). In addition, research shows that larger founding teams generally have better entrepreneurial performance (Eisenhardt & Schoonhoven, 1990). Indeed, many argue that the selection of co-founders is the most important decision in starting a new venture and that more unicorns – i.e., extremely high-performing new ventures – such as Google, Apple, Microsoft, Intel, YouTube, Skype, Yahoo, Yelp, Twitter and Facebook – have all been started by co-founders, not solo founders.



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EXPERT INSIGHT

- However, the literature is largely silent on whether and when solo-founded ventures would perform as well as or even better than co-founded ventures. For example, some work suggests that co-founder challenges are a central cause for new venture failure. In particular, co-founders often face role dilemmas (e.g., overlapping roles vs. division of labor) as well as reward dilemmas (division of equity and control) that could exacerbate rather than mitigate liabilities of newness. Given these conflicts among co-founders, it might be that solo founders could equal or outperform co-founders. As support, organizations such as Mint, Amazon, Tumblr, ServiceNow, FireEye and RetailMeNot are all solo-founded ventures worth more on average than companies with co-founders. Further, it might well be that some solo founders could address liabilities of newness through their prior knowledge and networks and so be less likely to need or want co-founders. Overall, unpacking liabilities of newness for different types of founders is both important and underexplored.

How Do Entrepreneurs Compete for Talent?



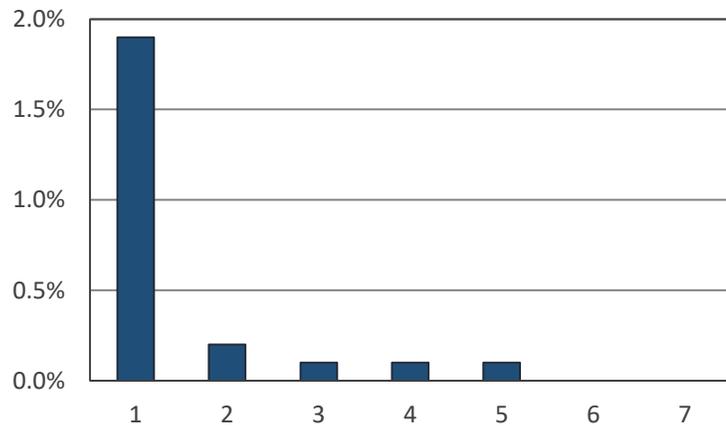
Notable Trends

- Most jobs created at new firms do not require highly skilled employees. But, for new firms which do need highly skilled employees, competing for talent is a top priority.
- There is limited research on initial hiring inside of high-growth startups. This research gap is important since initial teams create an imprint for the organization.
- Given limited resources, entrepreneurs often are not able to optimize needs with available resources when making early hiring decisions.
- While this report previously noted that diversity drives better performance, there is little research on how to grow a diverse startup or what forms of diversity matter most.
- For high-growth startups, there are mixed views regarding whether cash or control is best.

New Area of Research: First Hires

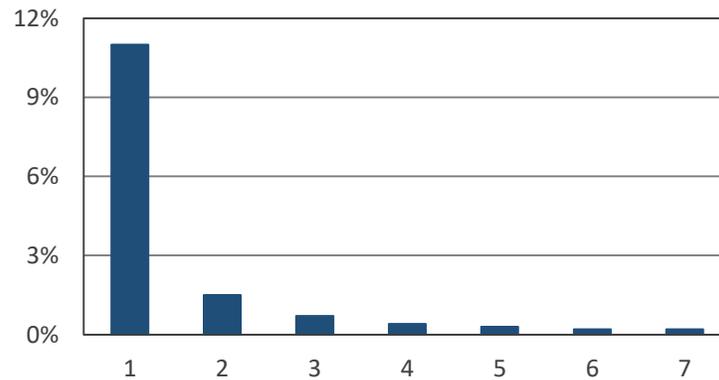
- Limited research exists on first hires, but this is a growing area of academic interest.
- First hires are most likely to take place in the first few years after a venture forms.
- Growth-focused start-ups are more likely to hire employees.
- Firms with intellectual property are more likely to hire a first employee.
- Entrepreneurship training might not increase the likelihood of a first hire.

Distribution of first hires after start-up year for all non-employer firms



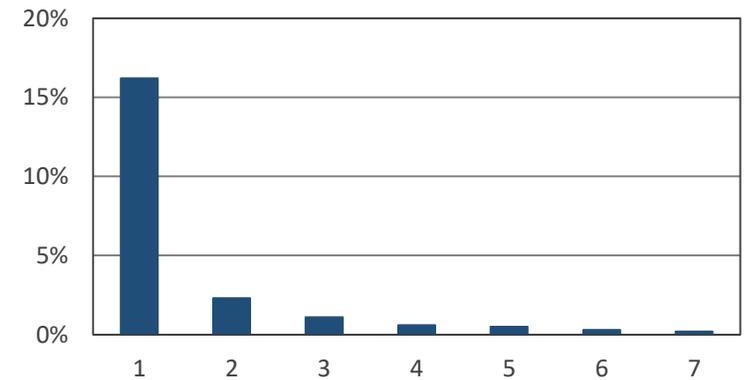
****12.7% had no hire**
84.8% exited before hire

Distribution of first hires after start-up year for non-employer firms who filed for EIN



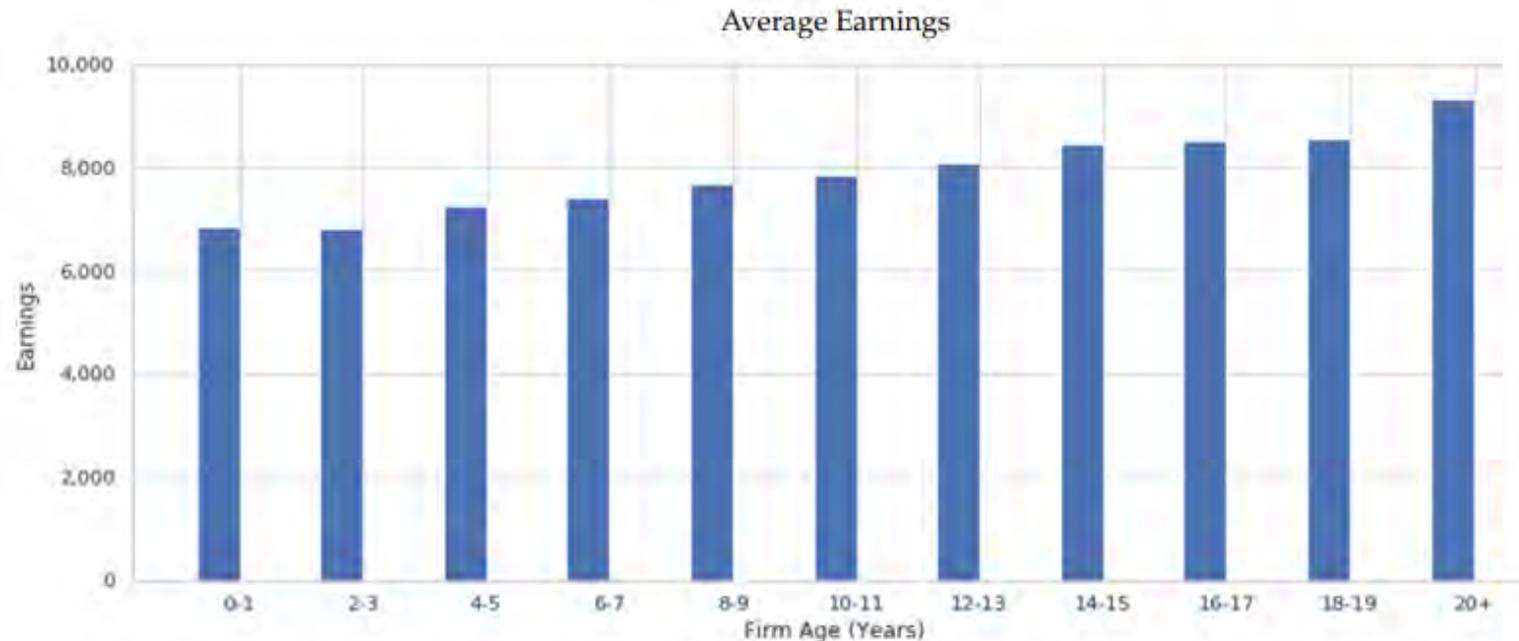
****13% had no hire**
72.7% exited before hire

Distribution of first hires after start-up year for incorporated non-employer firms



****8.8% had no hire**
70.0% exited before hire

Average Earnings Lower for Younger Firms



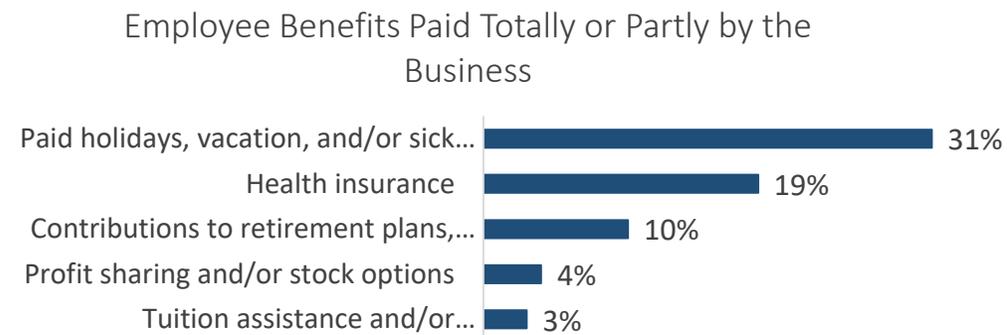
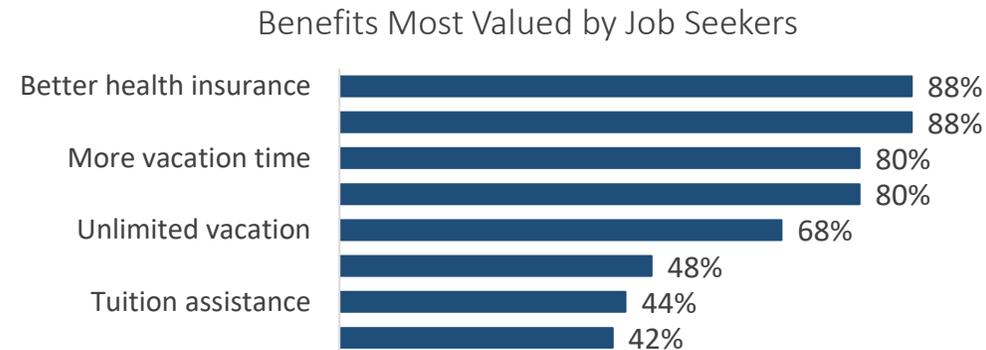
- The figure shows mean worker earnings. The baseline sample is a worker-year panel from 1990 through 2006 with earnings reported quarterly and normalized to real 2014 dollars.
- As the research shows, average earnings are lower for younger firms and grow as the firm gets older.

Why Do Young Firms Pay Less?

There are three competing explanations with empirical support about why young firms pay less. The newest approach, worker and firm selection, identifies a *pay premium* at young firms compared to similar workers at comparable firms.

Preferences	Constraints	Worker and Firm Selection
<ul style="list-style-type: none"> Workers at young firms value flexibility and autonomy more than pay. 	<ul style="list-style-type: none"> Young firms cannot afford high starting wages because of credit constraints. Workers settle for lower wages in order to end costly job searches. 	<ul style="list-style-type: none"> Young firms tend to hire relatively more lower-skilled workers, leading to lower average wages. Young firms, on average, have less profit to share with workers, leading to lower than average wages.

Firms Don't Offer the Benefits Job Seekers Value Most



- Healthcare and flexible hours receive the most consideration when choosing between a high-paying job and a lower-paying job with better benefits.
- Annual Survey of Entrepreneurs data show that only 19% of startup firms (less than two years in business) pay health insurance.
- According to the BLS, 87% of the civilian workforce has access to medical care benefits through their employer.



Paige Ouimet

Associate Professor of Finance, UNC Kenan-Flagler Business School

Paige Ouimet has several research projects looking at income inequality and the role of firms. She also has researched ESOP (employee share ownership plans) and employee stock options and their impact on labor productivity, wages and turnover. Her research agenda is concentrated at the juncture of finance and labor economics. She is interested in how decisions studied in finance impact employee stakeholders – specifically how those effects are reflected in firm performance and, hence, corporate finance decisions. Her work has been published in the American Economic Review, Journal of Finance, Review of Financial Studies and Journal of Financial Economics. Dr. Ouimet worked at The Center for Clean Air Policy, an independent, nonprofit think tank working on climate and air quality policy at the local, U.S. national and international levels. She received her PhD and MBA from the Ross School of Business at the University of Michigan and her BA from Dartmouth College.

EXPERT INSIGHT

- The headline that young firms pay 30% lower wages is attention-grabbing and raises concerns that new jobs being created at these young firms are not paying workers a fair wage.
- However, this does not seem to be the case. For example, nearly two-thirds of this difference in wages can be explained by the fact that new firms hire workers who are permanently lower paid. In other words, these workers would receive the same lower wage regardless of whether they worked at a new or established firm.
- The more important interpretation is not that young firms pay lower wages on average, but that young firms disproportionately employ lower-wage workers.
- This could reflect financial constraints. The typical young firms might not be able to pay the required wages to attract and retain the highest skill, most productive workers in the economy. Alternatively, the typical young firm might need a less skilled labor force compared to more established firms.
- More research is needed to better understand these patterns in the data, especially in light of the fact that young firms disproportionately account for new job creation in the U.S.



Amy Nelson
CEO, Venture for America (VFA)

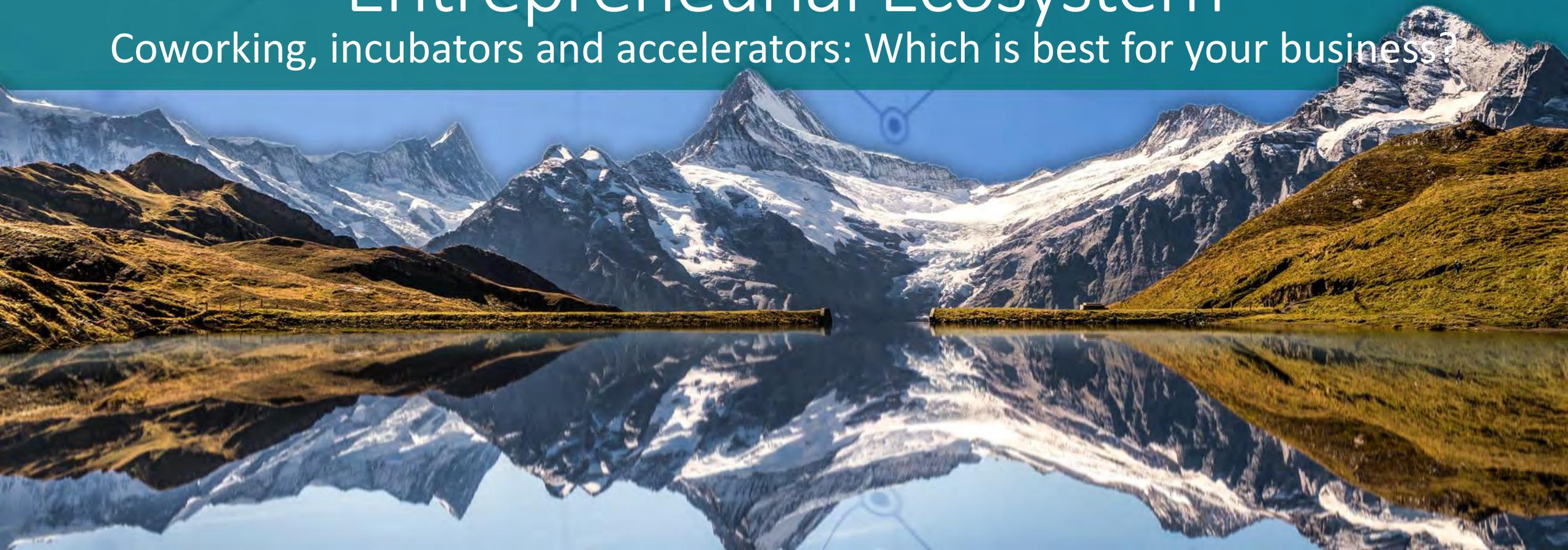
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EXPERT INSIGHT

It is worth exploring how the data on salaries in startups is related to the tight labor market and increased round size, which appear earlier in this report. I have seen that Venture for America (VFA) Fellows' salaries have increased 10-20%+ over the past few years, and that salary expectations are increasing significantly. I am of the opinion that this is directly related to the small number of companies that basically print money and have created an arms race (Facebook, Google, etc.) in conjunction with the cheapness of venture capital. VCs are actively pressuring founders to raise more, which they struggle to spend and default to overpaying employees. This is distorting the market and will probably have some real negative consequences if VC dries up.

Entrepreneurial Ecosystem

Coworking, incubators and accelerators: Which is best for your business?



Notable Trends

- Connection to outside firms is most critical for incubator success.
- For accelerators, learning and outside connections are most influential for success and most easily replicated.

Definitions of Entrepreneurial Collaboration Spaces

Coworking Spaces	Incubators	Accelerators
<p>Paid membership in a shared physical space that offers access to a social and professional community.</p>	<p>Lower than market-rate rent in a shared space, shared basic business services and access to outside assistance for young businesses.</p>	<p>Intensive, cohort-based learning experience, typically offering pre-seed funding in exchange for equity.</p>

Comparing Entrepreneurial Collaboration Spaces

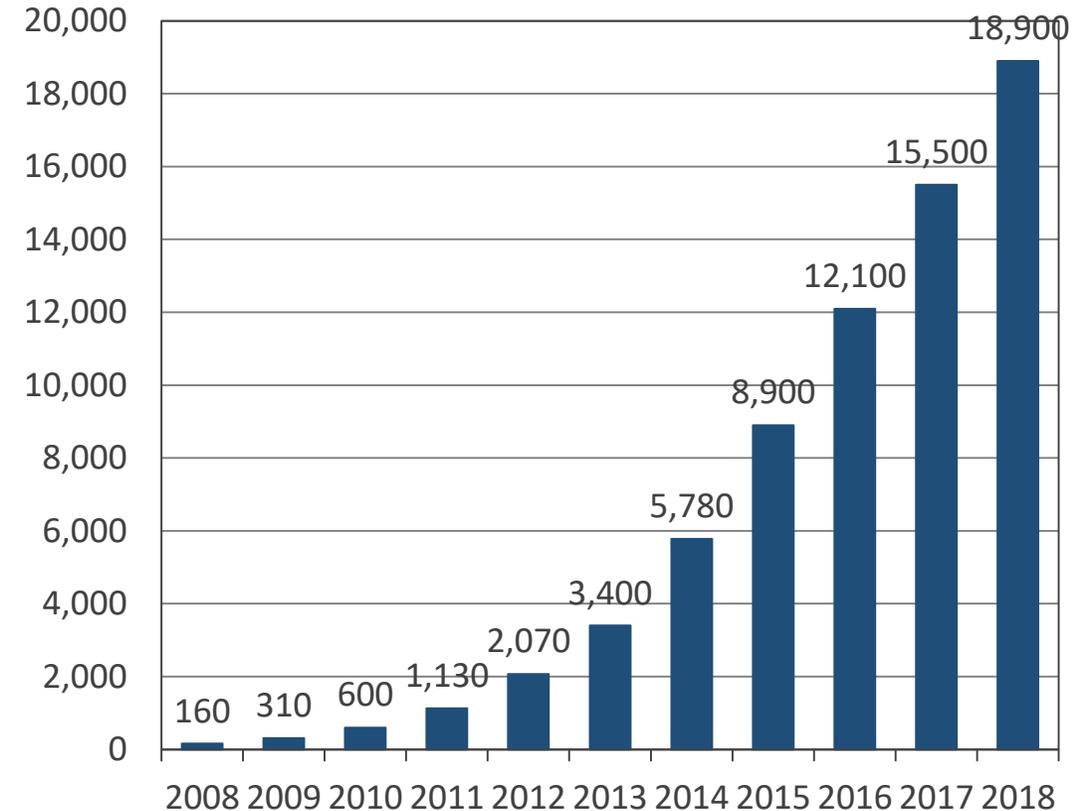
	Coworking Spaces	Incubators	Accelerators
Participants	Startups, small businesses, freelancers, independent workers, remote workers	Startups	High-potential startups
Amount of structure	Low	Medium	High
Application process?	No	Yes	Yes
Limited time?	No (tenants stay as long as they can pay rent)	Yes (typically stay 6-12 months)	Yes (program lasts 3-6 months)
Payment required	Monthly rent	Fee for service (sometimes equity)	Takes portion of equity
Purpose	Space, community	Nurturing development	Rapid growth
Amount of resources provided	Low (space, amenities and occasional events)	Medium (mentoring, service providers, co-working space)	High (seed capital, intensive mentoring/training, service providers, co-working space)

Coworking: Working Alone, Together

- A novel concept just 10 years ago, the global number of coworking spaces has grown dramatically in the past decade.



Number of Coworking Spaces



Does Coworking Work?

There is little empirical literature about the effectiveness of coworking spaces. However, many individuals in coworking spaces consider the community to be more beneficial than the space itself. Startup teams benefit more than individual founders from the community.

Perceived Benefits of Coworking Spaces

Community	Space
Connections: Networking opportunities emerge from close physical proximity and formal activities	Efficiency: Tenants spend less time worrying about facilities and can focus on their company
Solutions: Entrepreneurs rely on other community members to solve problems and answer questions	Flexibility: Coworking offers month-to-month leases and flexible working arrangements
Energy/Motivation: Entrepreneurial passion and intensity are contagious	Legitimacy: Companies appear more established, e.g., by hosting clients in a professional setting
Social support: Friendships help alleviate the isolation of entrepreneurial work	



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Philip Hettleman Distinguished Scholar, Professor and Area Chair of Strategy and Entrepreneurship, UNC Kenan-Flagler Business School

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EXPERT INSIGHT

In the past decade, a relatively new and promising phenomenon has emerged with the potential to offset several of the liabilities of newness. We refer to coworking spaces or membership-based workspaces in which diverse groups of startup companies, small businesses, remote workers, freelancers and independent contractors work together in a shared, communal space (Spreitzer Bacevice, Garrett, 2015). Mostly unheard of 10 years ago, the global number of coworking spaces has grown dramatically in recent years. Due to its prevalence, popularity, and potential for disruptive change, coworking is increasingly relevant to theory, practice, and policy in entrepreneurship, yet it is largely unstudied given the rapid rise of the phenomenon. Additional research is needed to catch up with practice, which is increasingly embracing coworking.

Typology of Business Incubators

Not all incubators are built alike. Different incubator types have developed to address certain gaps.

	Main philosophy: dealing with	Main objective	Secondary	Sectors involved
Mixed incubators	Business gap	Create start-ups	Employment creation	All sectors
Economic development incubators	Regional or local disparity gap	Regional development	Business creation	All sectors
Technology incubators	Entrepreneurial gap	Create entrepreneurship	Stimulate innovation, technology start-ups and graduates	Focus on technology (e.g. fintech, biotech and insurance)
Social incubators	Social gap	Integration of social categories	Employment creation	Nonprofit sector
Basic research incubators	Discovery gap	Blue-sky research	Spin-offs	High-tech

Drivers of Incubator Success: Regional Context

Incubators do not universally increase firm survival. They are successful in:

- Urban environments with many same-industry firms where competition is fierce and there is an abundance of resources that firms need help sifting through
- Rural environments with few same-industry firms where there is a severe lack of general and industry-specific resources and firms need help connecting to outside knowledge

Impact of incubators on chances of firm survival		
	Urban	Rural
Established local industry	+	-
No established local industry	-	+

Drivers of Incubator Success: Social Capital

- Connections to outside groups contribute to greater management efficiency among incubated firms.
- Effective incubator managers proactively hold networking events to:
 - Create a sense of trust, identity and reciprocity within the cohort
 - Bring in outside resources and knowledge



A Focus on Learning Makes Accelerators Effective

Accelerators' unique learning experiences have a larger impact on firm success than the accelerators' perceived status. These learning experiences can be replicated while the accelerator's reputation takes a longer time to build up.

	Learning	Sorting	Signaling
Definition	Broad, intensive, paced consultation with outside parties	Matching firms and accelerators with similar perceived status	High-quality accelerators suggest high-quality firms
Replicable?	Yes	No	No
Relevance of internal activities of accelerator	High	Low	Low

Accelerators Have Impact Beyond the Cohort

When an accelerator arrives in a metropolitan statistical area (MSA), it creates:

104%	1,830%	97%
Increase in number of seed and early stage VC deals in MSA	Increase in total dollar amount of seed and early stage VC funding	Increase in number of distinct investors investing in the region

The effects are strongest in the software and IT services industries.



Chris Bingham

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Chris Bingham's general research interests revolve around organizational learning, adaptation, growth, innovation and strategic decision making in entrepreneurial firms and firms in dynamic markets. He has studied how firms develop alliance, acquisition, product development and internationalization capabilities; how they assimilate new technologies; and how they systematically capture new opportunities and innovate over time. Currently he is studying the processes and outcomes of business accelerators, the evolving form of crowdfunding and the nature of effective synergy capture. Dr. Bingham is an award-winning researcher and teacher. *Administrative Science Quarterly*, *Strategic Management Journal*, *Academy of Management Journal*, *Organization Science*, *MIT Sloan Management Review*, *Strategic Entrepreneurship Journal* and the *Academy of Management Review* have published his work. Most recently, he won the 2015 Award for Excellence in MBA Teaching at UNC Kenan-Flagler.

EXPERT INSIGHT

In the last 15 or so years, more than 8,000 startups have gone through accelerators in the U.S. Along the way, there have been some notable successes, such as Dropbox, Airbnb and email company SendGrid. An estimated one-third of all venture-funded companies that receive series A investments are accelerator graduates. But there's been relatively little research on whether highfliers such as Airbnb or Dropbox are an anomaly, or whether accelerators actually help companies. And, if some accelerators do seem to “accelerate” venture success, why are some better at it than others? In two recently published papers (“Do Accelerators Work? If So, How?” and “The Role of Accelerator Designs in Mitigating Bounded Rationality in New Ventures”) we attempt to address such fundamental questions.



What's Next?



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Tracking Entrepreneurship is Difficult

One of the reasons that we are publishing this report is that analyzing entrepreneurship is important, yet difficult—in part due to the lack of data sources.

- There are no high-quality, public-use data sources that link firm characteristics with owner characteristics, cover the universe (or near-universe) of business activity and are available in a timely manner.
- Access to confidential microdata at the statistical agencies requires a costly proposal process and significant confidentiality restrictions.
- Private sector data sources (such as Dun & Bradstreet) can provide rich detail, but face quality limitations that can preclude the study of certain questions in entrepreneurship research.
- Aggregated public-use data on firm characteristics (age, size, industry, location) are available from a few sources (BLS's BED research products, or the U.S. Census Bureau's BDS and QWI), but generally with nontrivial production lags.
- There are some high-quality, sample-based data resources for studying firm and owner characteristics, but generally they lack coverage over long time periods. (For example, the excellent Annual Survey of Entrepreneurs).
- There are good data available related to high-end entrepreneurship, such as venture capital deal data, but these cover a small fraction of all business formation.

But Data Sources Are Improving

The data outlook is improving, and we need more people working to collect relevant, accurate and timely data, as well as researching and analyzing these topics.

- The U.S. Census Bureau recently introduced the public-use Business Formation Statistics, which track quarterly IRS business applications with a timely release calendar, with state-level tabulations and business quality categories.
- Organizations like the Kauffman Foundation continue to explore ways to create new datasets (or improve access to existing datasets), and to fund researchers using difficult-to-access data and creating new datasets.
- The U.S. Census Bureau continues to open new Federal Statistical Research Data Centers (FSRDC), which provide access to high-quality universe micro (establishment-level) data. While access requires a costly proposal process and special sworn status, the process is doable and not entirely unlike other academic proposal processes. Depending on the dataset accessed, researchers can study firm characteristics, the characteristics and dynamics of workers employed by specific firms, and, in some cases, information about owner characteristics.
- Both the U.S. Census Bureau and BLS have taken steps to improve and expand their public-use data products; for example, the BDS is currently undergoing a redesign, and the U.S. Census Bureau and BLS recently jointly released a new public-use dataset on productivity dispersion within industries, which will likely be used in the study of entrepreneurship going forward.
- Other newly created datasets, such as the MIT [Startup Cartography Project](#), have improved our ability to study entrepreneurship.

Help this Report Expand and Evolve

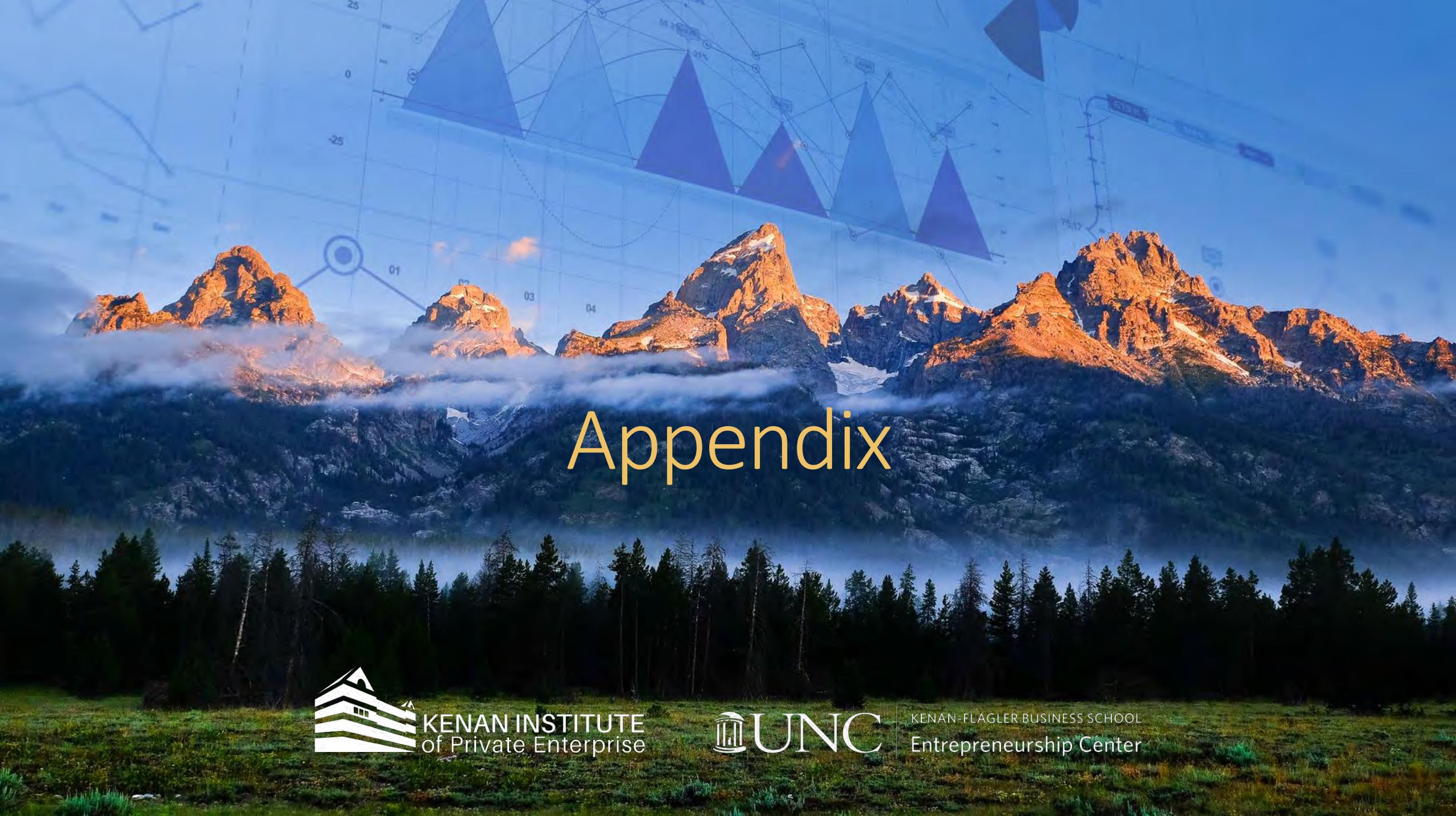
This is the first version of the Trends in Entrepreneurship Report. From here, it will continue to evolve, building on the current analysis and introducing new topic areas that are timely and relevant.

This is how you can use and contribute to this Trends Report:

- **Use It:** This report starts to analyze a number of different subject areas to highlight trends and ensure that the facts around entrepreneurship are presented and well understood.
- **Discuss It:** This report also highlights a number of subject areas that are still under debate by many thought leaders. The hope is that by understanding all sides of those positions, practitioners and policy makers can make better decisions.
- **Help Us With Version 2.0:** This report is meant to highlight gaps in the current research and literature to stimulate further academic and industry exploration and research in these areas. If you have ideas for future research or questions about the report, please reach out to us at frontiers@kenan-flagler.unc.edu.

Contribute to Trends 2.0

- During 2020, we will communicate updates to the report on a consistent and regular basis. This is a great way for us to partner with you to amplify your work as it relates to entrepreneurship trends.
- If you would like to submit a trend to contribute to the next version of this report, please send an email to frontiers@kenan-flagler.unc.edu with the following info:
 - Trends summary (1 slide)—Overview of trend and why it matters to the entrepreneurship community
 - Supporting evidence (typically 2-6 slides)
 - Expert insight (optional 1 slide) – Opinion and interpretation by an expert on the topic
- We will be accepting trends starting February 1, 2020, and they will be reviewed by our Advisory Committee and published on a quarterly basis.



Appendix



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Firm Segmentation: Definitions and Methods

Segmentation: NOT mutually exclusive

General Small Business: Small Business defined as less than 500 employees*. Broad definition that does not capture nuances.

Traded Firms: “Industries that are concentrated in a subset of geographic areas and sell to other regions and nations”. This categorization captures a broad measure of firms in the supply chain system. Following the methodology outlined by Delgado and Mills (2016) and the US Cluster Mapping Project, Traded firms were identified by 6 digit NAICS codes.

Local Firms: Firms within certain industries that mostly sell locally and are present in most (if not all) geographic areas. These firms have the largest number of firms, have historically employed the most people, and are thought of as “Mom and Pop” firms. Following the methodology outlined by Delgado and Mills (2016) and the US Cluster Mapping Project, Local firms were identified by 6 digit NAICS codes. Firms within the Healthcare Services industry were excluded from this calculation, since the healthcare industry

Business to Consumer (B2C):** Firms that sell primarily to personal consumers. Calculated using BEA IO data as firms that sell <2/3 of their good and services outside Personal Consumption Expenditure (PCE)***. These firms are critical to consumer spending.

Supply Chain:** Firms that sell most of their goods to other businesses or the government. Calculated as firms that sell >2/3 of their good and services outside Personal Consumption Expenditure (PCE). Construction industry as identified by NAICS codes are excluded from the sample since there is not a one to one matching of NAICS codes and BEA codes. These firms are part of the larger commercial and governmental supply chain are critical to the economy

High Tech Firms: Based on Roberts and Wolf (2018), industries which contain high concentrations of STEM workers.

Literature continues to segment U.S. Economy in new ways to gain new insights

- Main Street and Traded firms (Delgado and Mills, 2016; Mills, 2016)
- Business to Consumer (B2C) and Supply Chain Firms (Delgado and Mills, 2016)
- High-Tech or High-Growth Firms (Decker, Haltiwanger, Jarmin, & Miranda, 2018; Guzman and Stern, 2016)

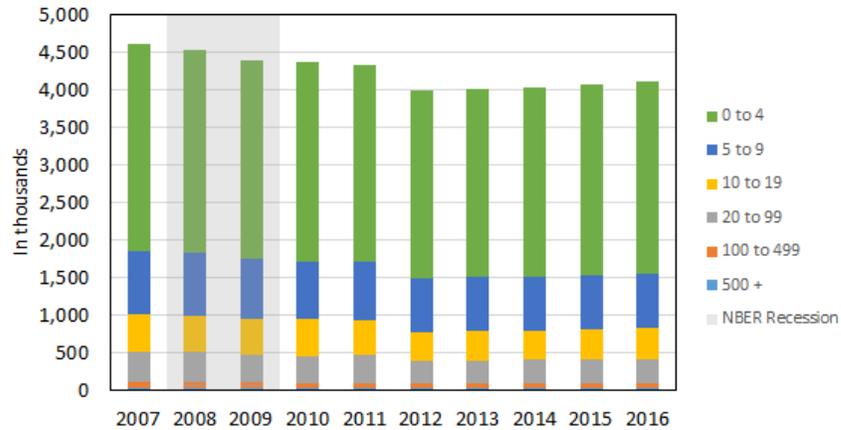
*As defined by U.S. Census Bureau, BLS, Federal Reserve, and SBA

** Excluded construction Industry as defined by NAICS code

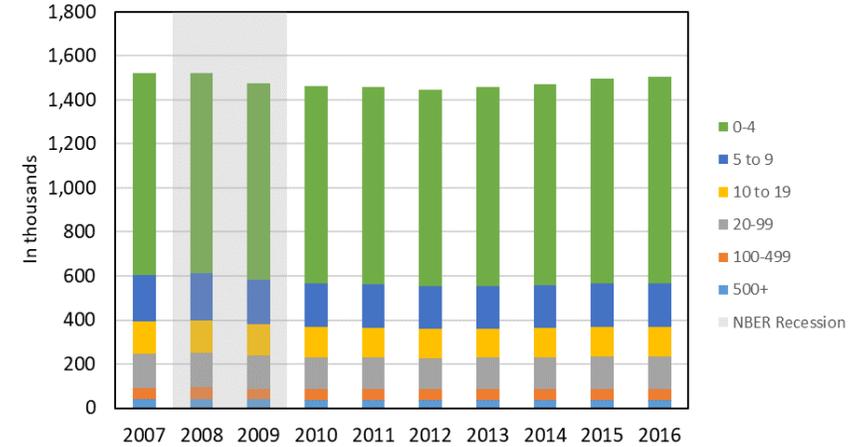
*** “The value of the goods and services purchased by, or on the behalf of, U.S. residents” (BEA definition). I.e. cars, food, clothing etc purchased directly by households.

Firm Segmentation: A Closer Look

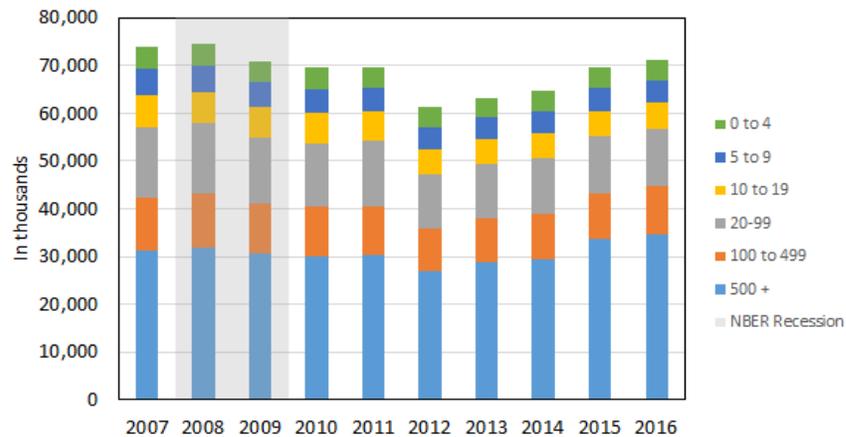
Local Firms by Size



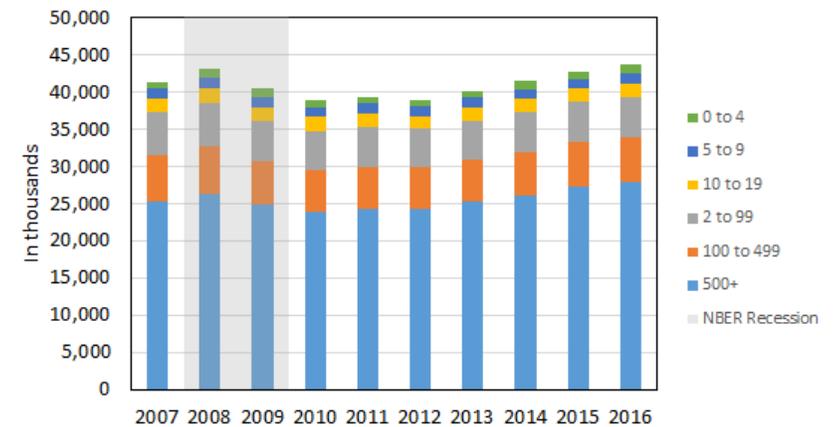
Traded Firm by Size



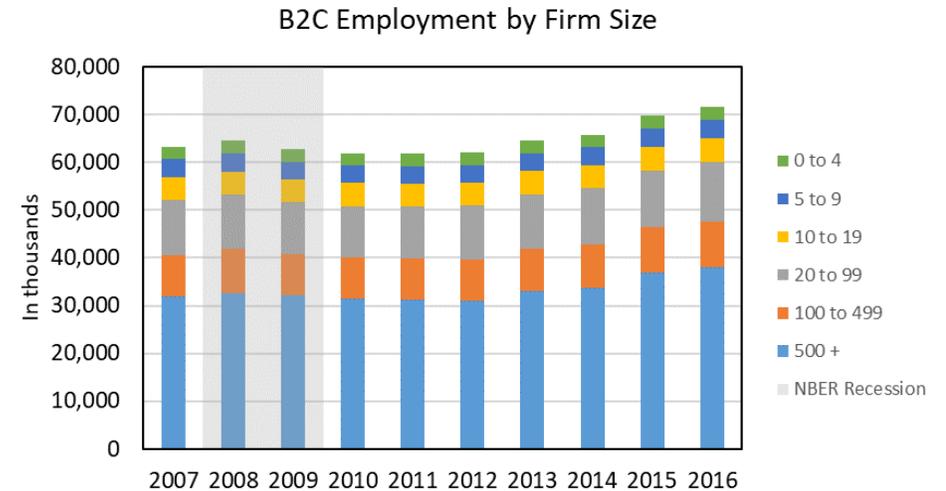
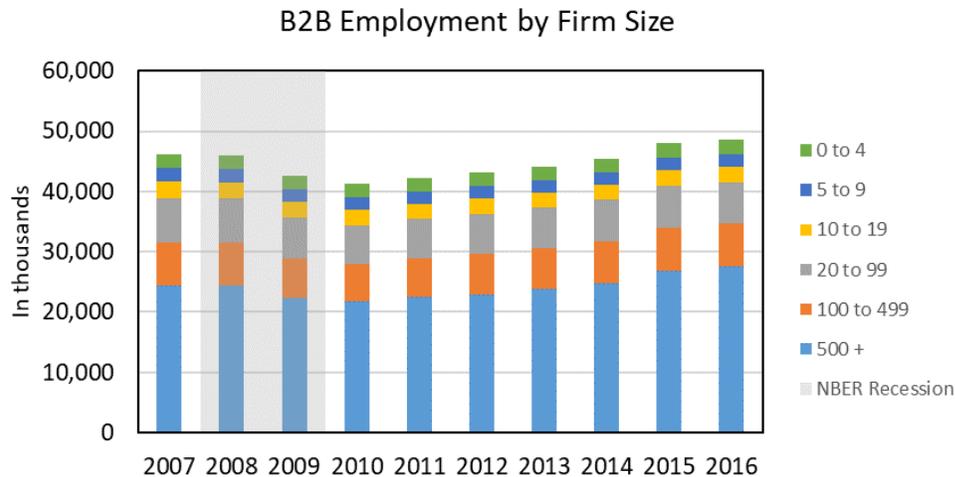
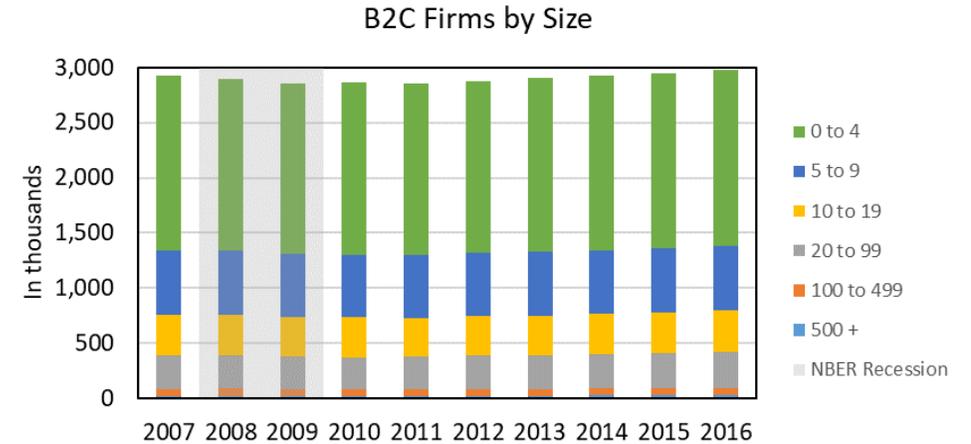
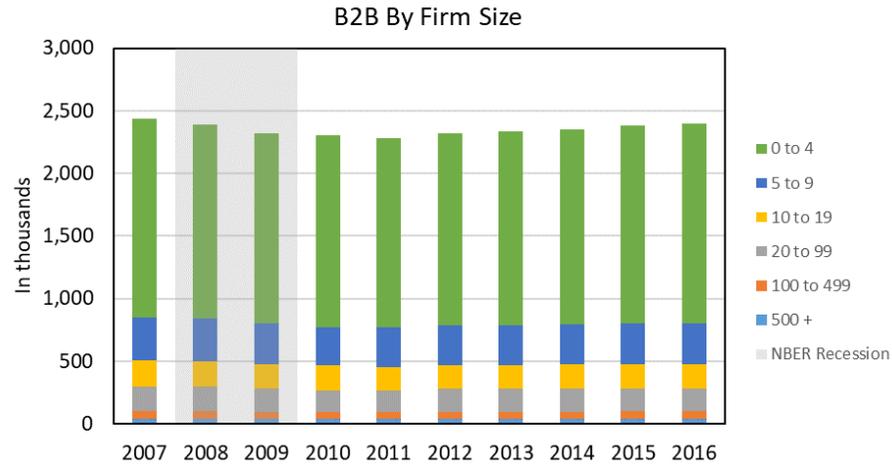
Local Employment by Firm Size



Traded Employment by Firm Size

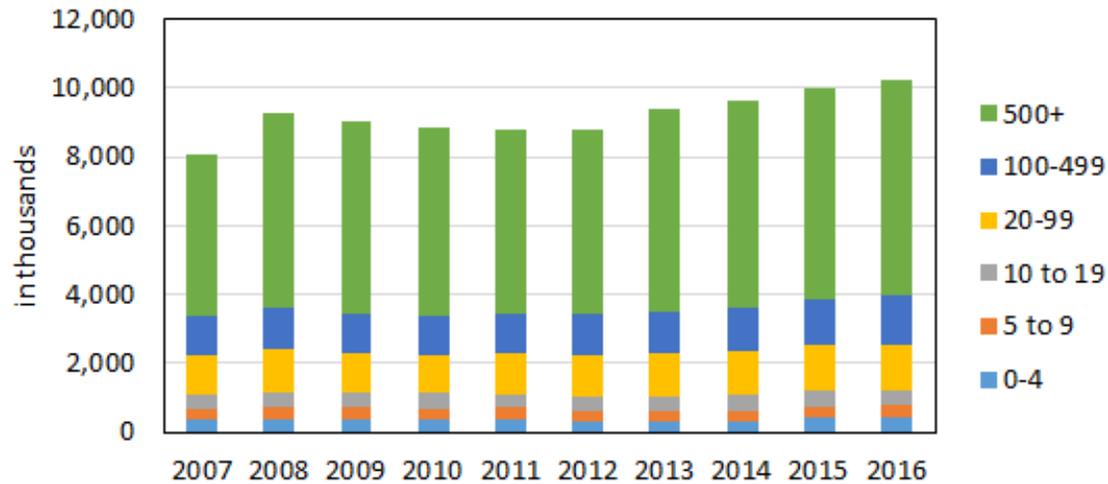


Firm Segmentation: A Closer Look (continued)

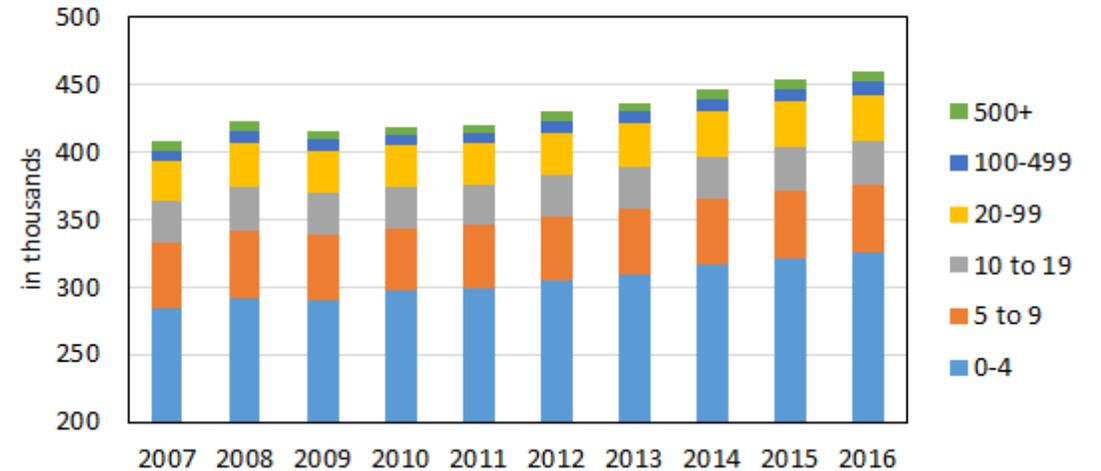


Firm Segmentation: A Closer Look (continued)

High Tech Employment by Firm Size



High Tech Firm Number by Employee Size



JOBS Act

Title I: Emerging Growth Company (IPO on-Ramp)

The JOBS Act created a new category of firm, an **Emerging Growth Company (EGC)**, which is exempt from certain regulatory requirements.

A firm can elect to be an EGC firm “until the earliest time it meets any one of the following conditions:

- (1) It reports \$1 billion or more in annual gross revenues – an amount that will periodically be indexed for inflation;
- (2) It becomes a “large accelerated filer,”²⁸ which SEC regulations define, among other factors, as a company with a global market float²⁹ of \$700 million or more;
- (3) The company reaches the fifth anniversary of its IPO’s offering date; or
- (4) The date on which the company has, within the previous three years, issued more than \$1 billion in non-convertible debt”

IPO-on Ramp: A “scaled down alternative to standard IPOs” for EGCs, the IPO-on ramp reduces regulatory requirements for an EGC participating in an IPO.

JOBS Act

Title II: Regulation D General Solicitation

Allows firms to engage in general solicitation or general advertisement for securities offering.

Specifically Title II:

- Applies to securities offerings that are relying on exemptions outlined in Rule 506
- Permits firms to engage in general solicitation or general advertising if all investors of the “securities are accredited investors”
- Mandates that firms must “take reasonable steps” to verify that investors are accredited in order to engage in such solicitation.

JOBS Act

Title III: Regulation Crowdfunding

Under the Securities Act of 1933, firms are prohibited from offering or selling non SEC registered securities to members of the public.

Title III establishes exemptions from the registration requirement of the Securities Act of 1933 for crowdfunding. The Act establishes rules for non-accredited investors to purchase securities.

Specifically for qualifying firms and investors Title III:

- Allows a maximum of \$1,070,000 million to be raised with 1 year by a company through crowdfunding
- Limits the amount of investment allowed by individual investors within a 1-year period, depending on the individual's annual income level or net worth

JOBS Act

Title IV: Regulation A+ (the Mini-IPO)

Mini-IPOs: Exempts qualified small and medium firms from certain registration and disclosure requirements when selling securities.

Specifically Title IV:

- Increases offering limit from \$5 million to \$50 million
- Considers the securities “covered securities” if the “securities are offered or sold on a national securities exchange, or are offered or sold to “qualified purchasers,” thus exempting them from state security regulation
- Firms that qualify for Title IV regulations fall into two tiers:
 - Tier 1: Caps offering up to \$20 million in securities within a 12-months period. “These offerings are subject to both state and federal registration, but have fewer federal-level requirements relative to Tier 2”
 - Tier 2: Caps offerings up to \$50 million in securities within a 12-months period. “Unlike Tier 1 offerings, Tier 2 offerings are generally not subject to state registration requirements.

JOBS Act

Title V: Private Company Flexibility and Growth

Title VI: Capital Expansion

Under the Securities Act of 1933, private firms must register with the SEC if its holders of records (shareholders) exceed 500 and total assets of the company exceed \$10 million

Specifically Title V and VI relaxes registration regulations by:

- Increasing the shareholder threshold from 500 to 2000 or 500 non-accredited non-employee held stock
- Increasing shareholder threshold for banks and bank holding companies to 2,000 shareholders and applies no limit on non-accredited investors

Tax Cuts and Jobs Act (TCJA) of 2017

Broad legislation with sweeping changes to both corporate and individual tax structure

Investing the effects of the TCJA academic literature has found:

- Potential decrease of long-term debt
- Anticipation of TCJA effected stock valuations
- Short-term benefit to workers: short-term increase in pension contribution and higher wages dues to tax savings
- Sparked renewed interest in the Border Adjustment Tax (BAT) on firm market value

TCJA Corporate Tax Changes

Corporate Tax Changes:

- Decreased corporate tax rate from 35% to 21%
- Eliminated tax on dividends received by U.S. multinational corporations receive from foreign subsidiaries
- Instituted an one-time transition tax of up to 15.5% on all previous untaxed foreign earnings
- Limited deductible interest to 30% of adjusted taxable income
- Decreased dividend received deductions
- Repealed carryback loss ability for most firms
- Allows indefinite carry forward of losses
- Limited net operating loss deduction to 80% of taxable income
- Revised cost recovery and accounting methods used by firms

TCJA Individual Tax Changes

Individual Tax Changes:

- Adjusted income tax brackets from 10%, 15%, 25%, 28%, 33%, and 39.6% to 10%, 12%, 22%, 24%, 32%, 35%, and 37%
- Increased the child tax credit
- Created a \$500 tax credit for dependents not eligible for child tax credit
- Increased standard deduction for married couples filing jointly, single filers, and household heads
- Limited itemized deductions for all state and local taxes to \$10,000 annually
- Repealed itemized deduction for miscellaneous expenses
- limited mortgage interest deduction
- Instituted a 20% deduction limit for pass through income
- Increased gift and estate tax exemption

IPOs in decline

Peak-to-Trough Changes in Global Listings

- 18 countries have seen declines of over 30% from their peak and some have been quite extreme
- These include some of the largest economies in the world such as France, Brazil, Germany, the U.K. and the U.S.
- 2019 is the 5th year in a row to see a decline in global listings.

Country	% Change
Netherlands	-75.0%
Portugal	-74.7%
Russian Federation	-72.9%
Mexico	-67.9%
New Zealand	-66.7%
Argentina	-66.4%
South Africa	-61.7%
France	-61.4%
Belgium	-60.1%
Ireland	-57.0%
United States	-49.3%
Greece	-46.0%
Brazil	-43.6%
Germany	-40.9%
Austria	-40.2%
Denmark	-39.8%
Israel	-36.7%
United Kingdom	-36.3%

Entrepreneurship in Decline? Methods Explanation

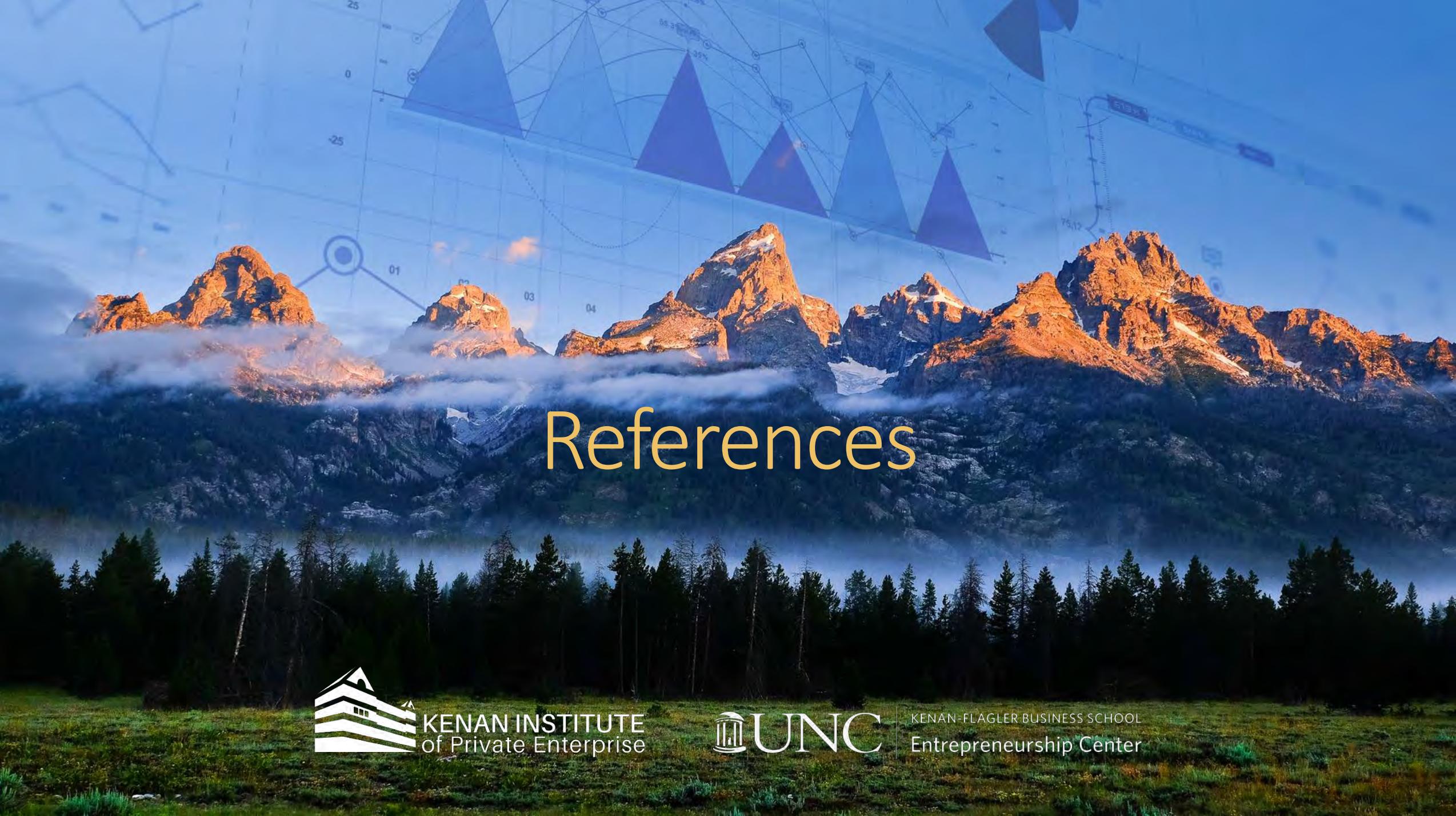
Research Approach 1:

Entrepreneurship is in decline as represented by the downward trends in U.S. Business Dynamics Statistics.

This approach uses the U.S. Business Dynamics Statics to determine health of entrepreneurship environment.

Research approach 2: Entrepreneurship quality is increasing.

This approaches uses predictive analytics to measure both quantity and quality of start-ups to determine the health of the entrepreneurship environment.



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