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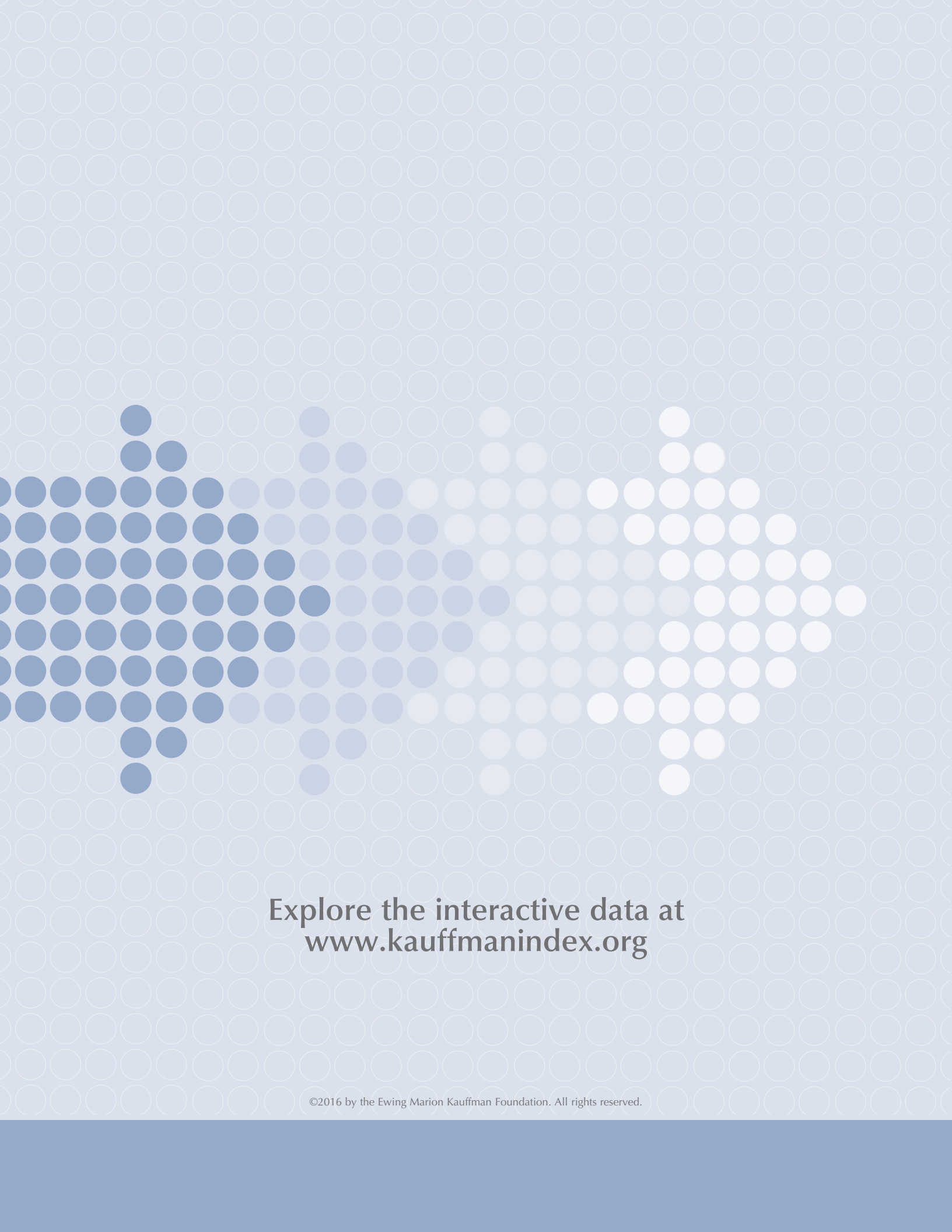
startup activity

METROPOLITAN AREA AND CITY TRENDS

E.J. Reedy
Robert W. Fairlie

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2016 THE KAUFFMAN INDEX

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A Word about Ecosystems

What makes entrepreneurship grow? That is arguably the most important challenge in economics today. The Kauffman Index of Startup Activity is a critical piece to solving that puzzle.

The data suggest that something new is happening. For the second year in a row, key measures of new business creation in the United States point upward, rising 0.38 in 2016, according to this Index. This new positive trend comes just two years after the Index plunged to its lowest level in two decades. Entrepreneurship is finally recovering, with new business creation reaching close to the peak preceding the drop from the Great Recession.

Understanding this latest trend requires a close look at the underlying data for individual states and major metropolitan areas. That's what this report provides. It's a tool for policymakers, practitioners, and entrepreneur support organizations, among others, to understand developments in their areas—whether national, regional, or local—so that they can take needed steps to improve startup activity.

Entrepreneurship is up in many states and metropolitan areas, and the report highlights the biggest increases and declines. Recognizing how those ups and downs are concentrated geographically is particularly illuminating and instructive.

But why does entrepreneurship thrive in some places, not in others?

The answer matters because entrepreneurship has affected the well-being of every human on this tiny planet. Thus, entrepreneurship should not be a privilege of the few. Indeed, one of the most powerful things about entrepreneurship is its universality. All communities, cities, and states can become "ecosystems" of entrepreneurial innovation to generate new businesses and jobs. They can all connect ingredients to create environments that spawn businesses in new, impactful ways.

Our hypothesis is this. The key to building successful ecosystems is a culture that connects people and enables them to share unique experiences, skills, and insights in collaborative ways. That's why trust is so important. Trust girds the invisible infrastructure of a community. That's why diversity is so vital. Diversity leads to the serendipitous interactions that invigorate ecosystems. And that's why immigrants, and other "boundary crossers," are so essential. Immigrants have played prominent roles in the development of so many high-growth companies in our nation. That beautiful mixing of backgrounds, knowledge, and perspectives—it's what feeds the dynamism of entrepreneurial communities everywhere.

These latest reports on startup activity in the United States and major metropolitan areas highlight those places where new business activity is especially vibrant and encourages us to understand their approaches further. But there's still not enough startup activity. The nation is below its peak of a generation ago. And far too many Americans are in need of work.

The good news is that every community has the capacity to increase startup activity. This report is an essential tool to understanding how new business creation is spreading across the nation. More importantly, it points the way forward. By measuring where strengths and weaknesses are happening, we hope to empower communities everywhere to make entrepreneurial success a universal, not a scarce, phenomenon.

Victor W. Hwang
Vice President of Entrepreneurship
Ewing Marion Kauffman Foundation

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Foundation

TABLE OF CONTENTS

Foreword

John Hickenlooper
Governor, Colorado

Entrepreneurs and the businesses they start are at the very core of the American economy. Startups and growing firms create most net new jobs in America, provide opportunities for workers to advance up the economic ladder, and drive innovation forward. There is little doubt startup activity is essential to the economic health of America.

Yet, what's easy to miss from this 30,000-foot view is how essential startup activity is to the communities that make up America—creating local jobs, vibrancy, a culture of innovation, and a better place for future generations. In many ways, all entrepreneurship is local. And we have experienced that reality in Colorado.

As a laid-off geologist in the 1980s, I partnered with group of colleagues to launch a startup—Colorado's first brewpub—in a downtown Denver neighborhood known as LoDo. The former warehouse district had fallen on tough times and was largely empty and abandoned. Together with other entrepreneurs, we invested in a neighborhood that we believed could become a vibrant hub for social interaction and business. Since then, we have seen businesses and startups continue to contribute to a downtown and regional renaissance—inspiring a change in a forgotten neighborhood.

It's clear from my experience and the experience of countless other entrepreneurs that startups shape their communities. But, it's a two-way street as communities also shape their startups. Day in and day out, much of what really matters for entrepreneurs is what is happening where they live and work—the connections they make, the leaders and mentors in the community, the skilled talent they access, the local infrastructure they use, and the quality of life in their community.

Colorado and many of its cities have consistently been among the top places in the nation for startup activity, and there are many reasons why. For one, the risk-taking of entrepreneurs is part of the spirit of Colorado and the West. Pushing the frontiers of innovation, technology, and job creation are part of our cultural DNA. Moreover, our state has the talent, great quality of life, and collaborative spirit that people dream of when they are working to make their businesses a reality. We've worked purposefully to strengthen these qualities:

- **Strengthening the Entrepreneurial Community:** Now in its sixth year, the Colorado Innovation Network (COIN) is a public-private partnership, which has grown to a network of over 2,000 innovation leaders from industry, government, higher education, R&D, and the startup community who are defining the new frontiers on a global scale. The network connects entrepreneurs and innovators from across our state, from technology to aerospace and agriculture to outdoor recreation.

- **Supporting New and Growing Business:** Our Advanced Industries Accelerator Programs are designed to help grow burgeoning ideas and companies in industries with high potential for growth, such as technology and advanced manufacturing. The programs provide grant funds to support promising ideas with high potential for commercialization, supporting early-stage capital needs, and building infrastructure capacity and workforce in areas of high need.

- **Building Talent:** The Business Experiential-Learning Commission, known locally as the BEL Commission was created to explore and develop work-based learning that will support Colorado's ability to meet the demands of current and future businesses. The goal is to create a scalable, industry-driven framework for business engagement in education and workforce development. The shift toward talent is promising and offers the most valuable incentive available to high-growth companies.

All entrepreneurship is local. And the policymakers, entrepreneurship supporters, and communities that overlook this reality do so at their own peril. Keeping the pulse of our communities' startup activity is crucial to any state or city looking to become a better place to live, work, and raise a family. With the Kauffman Index of Startup Activity, the Kauffman Foundation provides the essential data and research that allow us to keep that pulse and leverage the insights we learn from the data to create a better future for our communities.

About the Kauffman Index of Entrepreneurship Series

The Kauffman Index of Entrepreneurship series is an umbrella of annual reports that measures U.S. entrepreneurship across national, state, and metro levels. Rather than focusing on inputs, the Kauffman Index focuses primarily on entrepreneurial outputs—the actual results of entrepreneurial activity, such as new companies, business density, and growth rates. The Kauffman Index series consists of three in-depth studies—Startup Activity, Main Street Entrepreneurship, and Growth Entrepreneurship.

The Kauffman Index of Startup Activity is an early indicator of the beginnings of entrepreneurship in the United States, focusing on new business creation, market opportunity, and startup density. The Kauffman Index of Main Street Entrepreneurship measures business ownership and density of established, local small businesses. The Kauffman Index of Growth Entrepreneurship focuses on the growth of entrepreneurial businesses, as measured by growth in both revenue and employment.

In this release, we present the Kauffman Index of Startup Activity, a comprehensive indicator of new business creation in the United States. The Startup Activity Index integrates several high-quality sources of timely entrepreneurship information into one composite indicator, relying on three components to measure startup activity:

- Rate of New Entrepreneurs
- Opportunity Share of New Entrepreneurs
- Startup Density

The Kauffman Index of Entrepreneurship series represents extensive research and attempts to present a balanced perspective on how to measure entrepreneurship. However, because we recognize that entrepreneurship is a complex phenomenon, we expect to further revise and enhance the Index in the coming years.

The specific indicators from each report help tell America's entrepreneurship story. National, state, and local leaders can access all the reports, along with the data relevant to their locales, at www.kauffmanindex.org.

Startup Activity Executive Summary

The Kauffman Index of Startup Activity is a comprehensive indicator of new business creation in the United States, integrating several high-quality sources of timely entrepreneurship information into one composite indicator of startup activity. The Index captures business activity in all industries and is based on both a nationally representative sample size of more than a half million observations each year and on the universe of all employer businesses in the United States—which covers approximately five million companies. This allows us to look at both entrepreneurs and the startups they create.

Startup activity rose in 2016—continuing an upward trend started in 2015. Only two years ago, the Startup Activity Index was at its lowest point in the last twenty years. Today, it has gone up two years in a row, reaching close to the peak before the Great Recession drop, as show in Figure 1.

A principal driver of this year's uptick is the growth of opportunity entrepreneurship, accompanied by an increase in the rate of new entrepreneurs among women—covered in the *Kauffman Index of Startup Activity | National Trends*. High-performing states on this startup surge include perennial favorites like California, Colorado, and Texas, as well as some less-highlighted places, such as Florida, Montana, and Nevada—covered in the *Kauffman Index of Startup Activity | State Trends*.

In this report, we focus on startup activity at the metropolitan area and city level.

Metropolitan-Area Trends in Startup Activity

Startup Activity Index

- In the 2016 Index, startup activity was higher for twenty-three of the forty metropolitan areas covered in this study when compared to the previous year.

- The five metro areas with the highest startup activity in the 2016 Startup Activity Index were, in this order, the metros centered on the cities of Austin, Miami, Los Angeles, San Francisco, and Las Vegas.

- The biggest upward movement in the Startup Activity Index rankings came in Orlando, Kansas City, Cincinnati, Nashville, Detroit, and San Francisco. Large ranking decreases were seen in Virginia Beach, Chicago, Sacramento, Seattle, Indianapolis, and San Antonio.

Figure 1
Kauffman Index of Startup Activity (1997–2016)
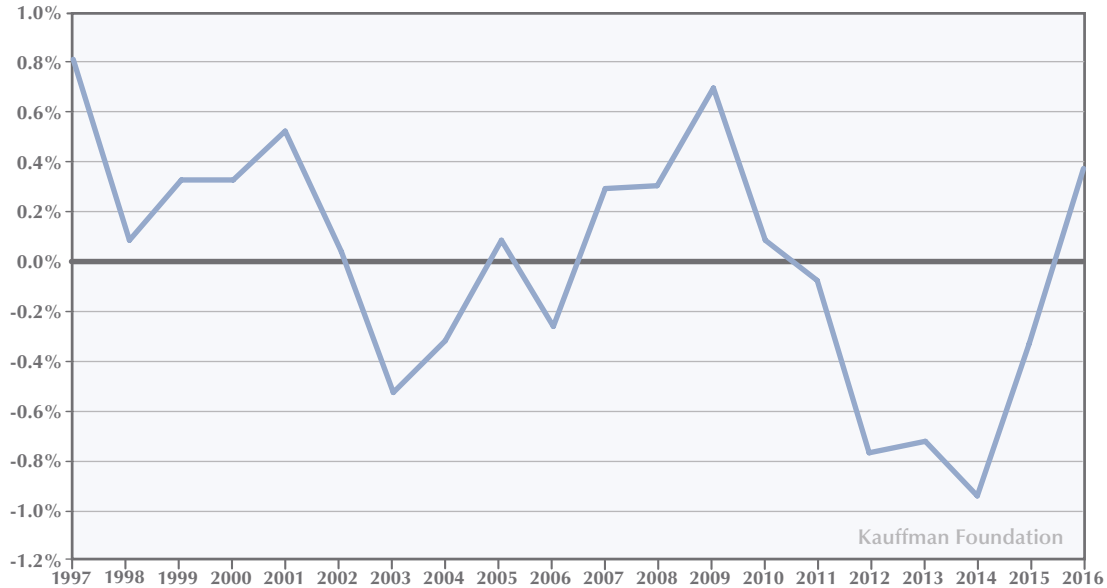
SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

Rate of New Entrepreneurs

- Looking at the first component of the Startup Index, the Rate of New Entrepreneurs varied widely across metropolitan areas in the 2016 Index, going from 100 new entrepreneurs for every 100,000 adults (Milwaukee metro) in a given month, to 600 new entrepreneurs for every 100,000 adults (Austin, Texas metro) in a given month.

Opportunity Share of New Entrepreneurs

- The Opportunity Share of New Entrepreneurs—the second component of the Index—also varied across areas of the country, going from 62.3 percent in the metro area of Charlotte to 94.2 percent in the San Jose metro—often considered the heart of Silicon Valley. This means that, in Charlotte, approximately four out of every ten new entrepreneurs were previously unemployed, while in San Jose only about one out of every twenty new entrepreneurs was previously unemployed.

Startup Density

- Startup Density—a component of the Index measuring the number of startups per 1,000 employer businesses—has high variation across metro areas, ranging from 52.7 startups per 1,000 employer businesses in the Pittsburgh metro to 120.8 startups per 1,000 employer businesses in the Las Vegas metro.

- Startup Density in nine of the forty metropolitan areas studied in the 2016 Index was higher than the previous year, with twenty-four metros outpacing the overall national Startup Density of 80.4 startups per 1,000 employer businesses.

- Despite recent years' good news, longer-term trends are concerning. From 2006 to 2013, Startup Density among the top forty largest metropolitan areas declined by 24 percent, on average, indicating that employer startups remain precariously below historical norms.

The rise in Opportunity Share of New Entrepreneurs has been widespread across demographic groups, but with a notable increase for men from 2011 to 2015 going from 68 percent to 78 percent. This means that, for every hundred new male entrepreneurs, ten fewer are coming directly out of unemployment now than four years ago.

Understanding Startup Activity—A Look at the Indicators

The Kauffman Index of Startup Activity is an index measure of a broad range of startup activity in the United States—across national, state, and metropolitan-area levels. The Index captures startup activity along three dimensions. First, it captures the Rate of New Entrepreneurs in the economy—the percentage of adults becoming entrepreneurs in a given month. Second, it captures the Opportunity Share of New Entrepreneurs, the percentage of new entrepreneurs driven primarily by "opportunity entrepreneurship," as opposed to "necessity entrepreneurship." Third, it captures Startup Density, the rate at which businesses with employees are created in the economy. The combination of these three distinct and important dimensions of new business creation provides a broad view of startup activity in the country, across national, state, and metropolitan-area levels.

The Kauffman of Startup Activity is an early indicator of new business creation in the United States. Capturing new entrepreneurs in their first month and new employer businesses in their first year, the Index provides the earliest documentation of new business development across the country. The Startup Activity Index captures all types of business activity and is based on nationally representative sample sizes of more than a half million observations each year or administrative data covering the universe of employer business entities. The separate components of the Index also provide evidence on potentially different trends in business creation created by "opportunity" business creation relative to unemployment-related ("necessity") business creation over the business cycle. The Startup Activity Index improves over other possible measures of entrepreneurship because of its timeliness, dynamic nature, exclusion of "casual" businesses, and inclusion of all types of business activity, regardless of industry.

The Components of the Kauffman Index of Startup Activity

The Kauffman Index of Startup Activity provides a broad index measure of business startup activity in the United States. It is an equally weighted index of three normalized measures of startup activity.[1] The three component measures of the Startup Activity Index are:

1. The **Rate of New Entrepreneurs** in the economy, calculated as the percentage of adults becoming entrepreneurs in a given month.

2. The **Opportunity Share of New Entrepreneurs**, calculated as the percentage of new entrepreneurs driven primarily by "opportunity" vs. "necessity."

3. The **Startup Density** of a region, measured as the number of new employer businesses, normalized by population.

2016 THE KAUFFMAN INDEX startup activity

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

Startup Density

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1. We normalize each of three measures by subtracting the mean and dividing by the standard deviation for that measure (i.e., create a z-score for each variable). This creates a comparable scale for including the three measures in the Startup Activity Index. We use annual estimates from 1996 to the latest year available (2012 or 2014) to calculate the mean and standard deviations for each component measure (see Methodology and Framework for more details).

Rate of New Entrepreneurs

- Early and broad measure of business ownership.

- Measures the percent of the U.S. adult population that became entrepreneurs, on average, in a given month.

- Includes entrepreneurs with incorporated or unincorporated businesses, with or without employees.

- Data based on the Current Population Survey, jointly produced by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.

- What the number means:

    - For example, the Rate of New Entrepreneurs was 0.33 percent for Colorado in the 2016 Index. That means that, on average, 330 people out of 100,000 adults became entrepreneurs in Colorado in each month.

Before presenting trends in the Startup Activity Index, we briefly discuss each component measure (see Methodology and Framework for more details).

First, the Rate of New Entrepreneurs captures the percentage of the adult, non-business-owner population that starts businesses each month. This component was formerly known as the Kauffman Index of Entrepreneurial Activity and was presented in a series of reports over about a decade (Fairlie 2014).[2] The Rate of New Entrepreneurs as measured here captures all new business owners, including those who own incorporated or unincorporated businesses, and those who are employers or non-employers.[3] The Rate of New Entrepreneurs is calculated from matched data from the Current Population Survey (CPS), a monthly survey conducted by the U.S. Census Bureau and the Bureau of Labor Statistics.

Another component measure of the Startup Activity Index is the percentage of new entrepreneurs driven by "opportunity entrepreneurship," as opposed to "necessity entrepreneurship." The Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

- Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities.

- Measures the percentage of new entrepreneurs who were not unemployed before starting their businesses (e.g., have been previously working for another organization or studying in school).

- This indicator is important for two reasons: 1) Entrepreneurs who were previously unemployed seem to be more likely to start businesses with lower growth potential, out of necessity. Thus, the Opportunity Share of New Entrepreneurs serves as a broad proxy for growth prospects. 2) This measure helps us understand changes in the Rate of New Entrepreneurs motivated by weak job markets, such as the one we had after the recent Great Recession. If the Rate of New Entrepreneurs goes up but the Opportunity Share of New Entrepreneurs is low, we can see that many new entrepreneurs are starting businesses coming out of unemployment, and arguably started their companies largely out of necessity.

- Data based on the Current Population Survey jointly produced by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.

- What the number means:

    - For example, the United States Opportunity Share of New Entrepreneurs was 84 percent in the 2016 Index. That means that approximately eight out of every ten new entrepreneurs in this year started their businesses coming out of another job, school, or other labor market states. Meanwhile, two out of ten started their businesses directly coming out of unemployment.

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2. See http://www.kauffman.org/research-and-policy/kauffman-index-of-entrepreneurial-activity.aspx for previous reports.

3. The U.S. Census Bureau notes that the definitions of non-employers and self-employed business owners are not the same. Although most self-employed business owners are non-employers, about a million self-employed business owners are classified as employer businesses. http://www.census.gov/econ/nonemployer/index.html.

includes businesses of all types, and thus cannot cleanly disaggregate between the creation of high-growth potential businesses and individuals starting businesses because of limited job opportunities.[4] One approximate method for disentangling these two types of startups is to examine the share of new entrepreneurs coming out of unemployment compared to the share of the new entrepreneurs coming out of wage and salary work, school, or other labor market statuses (Fairlie 2014). Individuals starting businesses out of unemployment might be more inclined to start those businesses out of necessity than opportunity (although many of those businesses could eventually be very successful).

The third component of the Startup Activity Index is a measure of the rate of creation of businesses with employees. These employer businesses are generally larger and have higher growth potential than non-employer businesses do. Startup Density is defined as the number of newly established employer businesses to the total employer business population (in 1,000s). Both numbers come from the U.S. Census Bureau's Business Dynamics Statistics (BDS) and are taken from the universe of businesses with payroll tax records in the United States, as recorded by the Internal Revenue Service. Although new businesses with employees represent only a small share of all new businesses, they represent an important group for job creation and economic growth.

In this report, we present estimates of the Startup Activity Index by metropolitan areas first, covering the forty largest metro areas in the United States by population. This includes rankings and maps. We then present trends in each of the three component measures of the Index.

A Big-Tent Approach to Entrepreneurship

The Kauffman Index of Entrepreneurship—the umbrella under which all Kauffman Index reports reside—attempts to view the complex phenomenon of entrepreneurship from many angles, each adding insight into the people and businesses that contribute to America's overall entrepreneurial dynamism.

Entrepreneurship is not a monolithic phenomenon, and it includes many moving parts. Creating new businesses is a different economic activity from running small businesses, which in turn is different from growing businesses. The Kauffman Index attempts to measure concretely these different kinds of entrepreneurship—Startup Activity, Main Street Entrepreneurship, and Growth. The Kauffman Index of Startup Activity focuses on the beginnings of entrepreneurship, specifically new business creation, market opportunity, and startup density. The Kauffman Index of Main Street Entrepreneurship focuses on the prevalence of local small business and local business ownership. The Kauffman Index of Growth Entrepreneurship, focuses on growing companies. Together, these three indices present a more holistic view of entrepreneurship in America.

Each of the indices that make up the Kauffman Index is constructed to give a spectrum of entrepreneurship

Startup Density

- Number of startup firms by total employer firm population.
- Startup businesses here are defined as employer firms less than one year old employing at least one person besides the owner. All industries are included on this measure.
- Measures the number of new employer startup businesses normalized by the employer firm population of an area. Because companies captured by this indicator have employees, they tend to be at a more advanced stage than are the companies in the Rate of New Entrepreneurs measure.
- Data based on the U.S. Census Bureau's Business Dynamics Statistics.
- What the number means:
  - For example, the 2016 Index Startup Density for the New York metropolitan area was 89.1 per 1,000 businesses. That means that, for every 1,000 employer businesses in the New York metro area, there were 89.1 employer startup firms that were less than one year old in this year.

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4. See Fairlie (2011) for more evidence and discussion.

Summary of Components Used Across Reports

Startup Activity	Main Street Entrepreneurship	Growth Entrepreneurship
Rate of New Entrepreneurs The percentage of adults transitioning into entrepreneurship at a given point in time	**Rate of Business Owners** The percentage of adults who are business owners in a locality at a given point in time	**Rate of Startup Growth** The average growth of a cohort of new startups in their first five years
Opportunity Share of New Entrepreneurs The percentage of new entrepreneurs driven primarily by "opportunity" vs. "necessity"		**Share of Scaleups** The number of businesses that started small and grew to employ at least fifty people by their tenth year of operation as a percentage of all businesses ten years and younger
Startup Density The number of new employer businesses, normalized by population	**Established Small Business Density** The number of businesses older than five years with less than fifty employees, normalized by population	**High-Growth Company Density** The number of fast-growing companies with at least $2 million in annual revenue, normalized by business population

measures from an industry-agnostic perspective. Table A summarizes the approach we use across the reports.

While at first pass, one might expect that certain patterns that appear in the Startup Activity Index to be tied to patterns that appear in future years of the Main Street and Growth Entrepreneurship Indices, we have taken steps to mitigate direct relationships. Different locations will have different performances on each of the indices, and high (or low) levels of activity in any given index does not cause or imply high (or low) levels of activity in the others.

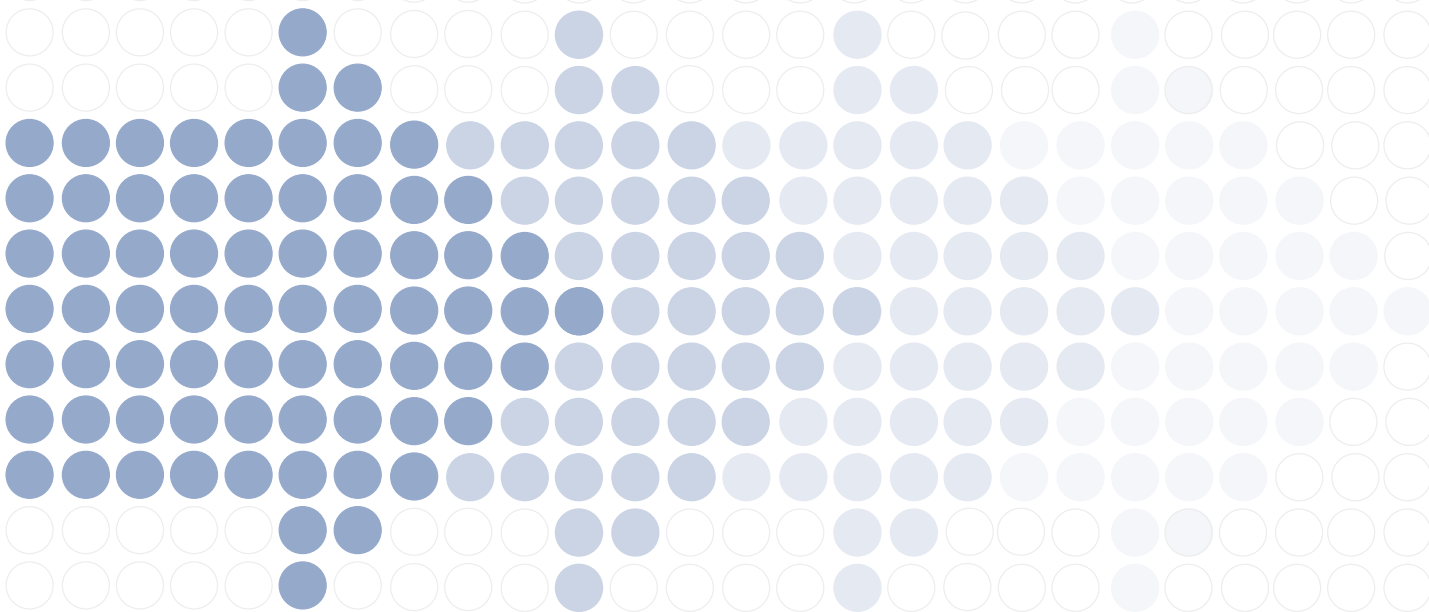# METROPOLITAN AREA AND CITY TRENDS IN STARTUP ACTIVITY

TABLE 1
Metro Rankings—Kauffman Index of Startup Activity

Rank 2016	Index 2016	City (Main)	Metropolitan Area	Rank 2015	Change in Rank	Rate of New Entrepreneurs	Opportunity Share of New Entrepreneurs	Startup Density
1	4.77	Austin	Austin-Round Rock-San Marcos, TX	1	0	0.60%	79.88%	105.2
2	3.16	Miami	Miami-Fort Lauderdale-Pompano Beach, FL	2	0	0.49%	78.08%	113.0
3	2.59	Los Angeles	Los Angeles-Long Beach-Santa Ana, CA	4	1	0.51%	75.82%	91.5
4	2.24	San Francisco	San Francisco-Oakland-Fremont, CA	9	5	0.46%	82.34%	82.7
5	1.67	Las Vegas	Las Vegas-Paradise, NV	6	1	0.38%	77.43%	120.8
6	1.44	New York	New York-Northern New Jersey-Long Island, NY-NJ-PA	10	4	0.39%	82.99%	89.1
7	1.38	Houston	Houston-Sugar Land-Baytown, TX	8	1	0.40%	79.45%	94.2
8	1.33	San Jose	San Jose-Sunnyvale-Santa Clara, CA	3	-5	0.31%	94.18%	87.5
9	1.29	Denver	Denver-Aurora-Broomfield, CO	5	-4	0.36%	85.06%	92.2
10	0.62	Phoenix	Phoenix-Mesa-Glendale, AZ	12	2	0.34%	80.72%	94.5
11	0.39	San Diego	San Diego-Carlsbad-San Marcos, CA	11	0	0.33%	81.85%	88.1
12	0.27	Dallas	Dallas-Fort Worth-Arlington, TX	15	3	0.33%	79.06%	93.7
13	0.09	San Antonio	San Antonio-New Braunfels, TX	7	-6	0.28%	87.33%	84.6
14	0.02	Columbus	Columbus, OH	13	-1	0.37%	77.10%	71.8
15	-0.06	Atlanta	Atlanta-Sandy Springs-Marietta, GA	14	-1	0.37%	70.36%	92.3
16	-0.31	Nashville	Nashville-Davidson--Murfreesboro--Franklin, TN	23.5	7.5	0.38%	69.10%	83.0
17	-0.4	Riverside	Riverside-San Bernardino-Ontario, CA	16	-1	0.29%	78.51%	93.3
18	-0.49	Kansas City	Kansas City, MO-KS	29	11	0.32%	77.72%	77.9
19	-0.51	Tampa	Tampa-St. Petersburg-Clearwater, FL	21	2	0.35%	67.97%	95.2
20	-1.02	Baltimore	Baltimore-Towson, MD	17	-3	0.24%	86.95%	69.0
21	-1.08	Orlando	Orlando-Kissimmee-Sanford, FL	33	12	0.22%	78.34%	106.6
22	-1.1	Boston	Boston-Cambridge-Quincy, MA-NH	23.5	1.5	0.32%	74.45%	68.5
23	-1.21	Charlotte	Charlotte-Gastonia-Rock Hill, NC-SC	25	2	0.36%	62.28%	86.2
24	-1.22	Cincinnati	Cincinnati-Middletown, OH-KY-IN	31	7	0.25%	85.49%	62.1
25	-1.27	Washington	Washington-Arlington-Alexandria, DC-VA-MD-WV	28	3	0.28%	75.76%	78.5
26	-1.4	Seattle	Seattle-Tacoma-Bellevue, WA	19	-7	0.24%	78.21%	86.1
27	-1.42	Sacramento	Sacramento--Arden-Arcade--Roseville, CA	20	-7	0.24%	78.80%	83.3
28	-1.45	Jacksonville	Jacksonville, FL	26	-2	0.18%	84.41%	93.5
29	-1.62	Chicago	Chicago-Joliet-Naperville, IL-IN-WI	22	-7	0.22%	81.34%	78.0
30	-2	Detroit	Detroit-Warren-Livonia, MI	35	5	0.26%	72.69%	74.8
31	-2.05	Portland	Portland-Vancouver-Hillsboro, OR-WA	30	-1	0.26%	70.37%	80.9
32	-2.06	Virginia Beach	Virginia Beach-Norfolk-Newport News, VA-NC	18	-14	0.21%	81.15%	68.9
33	-2.17	Indianapolis	Indianapolis-Carmel, IN	27	-6	0.18%	82.57%	75.7
34	-2.27	Philadelphia	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	32	-2	0.22%	77.22%	70.3
35	-2.3	Providence	Providence-New Bedford-Fall River, RI-MA	34	-1	0.17%	87.33%	60.1
36	-2.45	St. Louis	St. Louis, MO-IL	38	2	0.22%	70.83%	86.1
37	-2.7	Cleveland	Cleveland-Elyria-Mentor, OH	36	-1	0.15%	87.78%	55.1
38	-3.06	Minneapolis	Minneapolis-St. Paul-Bloomington, MN-WI	37	-1	0.19%	73.92%	70.2
39	-3.83	Milwaukee	Milwaukee-Waukesha-West Allis, WI	39	0	0.10%	82.90%	59.3
40	-5.54	Pittsburgh	Pittsburgh, PA	40	0	0.12%	65.07%	52.7

For an interactive version of the rankings, please see: www.kauffmanindex.org.

Metro Trends in Startup Activity

The Kauffman Index of Startup Activity calculates a broad index measure of business startup activity across the top forty metropolitan areas in the United States by population, according to the Bureau of Economic Analysis data. Startup Activity rates have high variability across metropolitan areas. As you can see on the map below, the cities with the most startup activity in 2016 tend to cluster in the western and southern parts of the United States—although with some clear exceptions, primarily New York.

Largely following the trends at the national level—which experienced a rise in startup activity—twenty-three of the forty metropolitan areas studied saw their 2016 Startup Activity Index go up compared to the 2015 Index. Seven of them saw small to no changes in startup activity compared to the previous year, and ten saw their startup activity levels fall in the past year.

Changes in rankings—which measure performance relative to other metros, as opposed to performance relative to a metro's own performance in the previous year—were slightly different. Seventeen metro areas ranked higher than they did last year; five experienced no changes in rankings; and eighteen ranked lower. The five metros that experienced the biggest positive shifts in rank in 2016 compared to 2015, with a tie for fifth place, were:

	Metros with the Biggest Positive Shift in Rank— Kauffman Index of Startup Activity			
City (Main)	Metropolitan Area	Rank 2016	Rank 2015	Change
Orlando	Orlando-Kissimmee-Sanford, FL	21	33	12
Kansas City	Kansas City, MO-KS	18	29	11
Cincinnati	Cincinnati-Middletown, OH-KY-IN	24	31	7
Nashville	Nashville-Davidson-Murfreesboro-Franklin, TN	16	23	7
Detroit	Detroit-Warren-Livonia, MI	30	35	5
San Francisco	San Francisco-Oakland-Fremont, CA	4	9	5

Figure 2
2016 Rank for the Kauffman Index of Startup Activity by Metropolitan Area
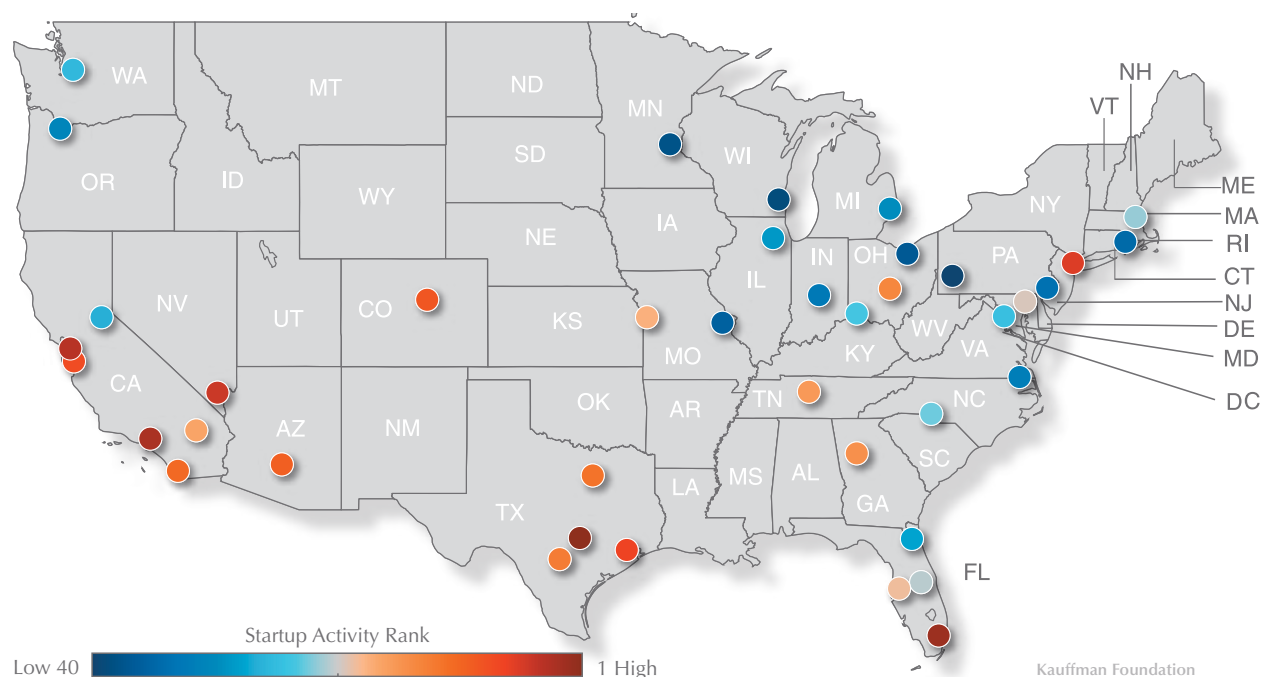
For an interactive version of the map, please see: www.kauffmanindex.org.

The five metros areas that experienced the biggest negative shifts in rank in 2016 compared to 2015, also with a tie for fifth place, were:

Metros with the Biggest Negative Shift in Rank—Kauffman Index of Startup Activity				
City (Main)	Metropolitan Area	Rank 2016	Rank 2015	Change
Virginia Beach	Virginia Beach-Norfolk-Newport News, VA-NC	32	18	-14
Chicago	Chicago-Joliet-Naperville, IL-IN-WI	29	22	-7
Sacramento	San Francisco-Oakland-Fremont, CA	27	20	-7
Seattle	Seattle-Tacoma-Bellevue, WA	26	19	-7
Indianapolis	Indianapolis-Carmel, IN	33	27	-6
San Antonio	San Antonio-New Braunfels, TX	13	7	-6

In the following sections, we discuss metro-level trends for each component of the Startup Activity Index: 1) Rate of New Entrepreneurs, 2) Opportunity Share of New Entrepreneurs, and 3) Startup Density.

Metro Trends in Rate of New Entrepreneurs

The Rate of New Entrepreneurs component of the Kauffman Index is a broad measure of startup activity capturing the percentage of the adult population starting new businesses each month—regardless of incorporation status and how many people they employ, if any. We use the U.S. Census Bureau's Current Population Survey as the data source for this rate. The Rate of New Entrepreneurs is calculated on a three-year moving average for metropolitan areas, from 2008 to 2015—the latest year with data available.

The Rate of New Entrepreneurs provides a very early measure of startup activity—when someone first starts working on a business as his or her main job.

The Rate of New Entrepreneurs varies dramatically across metropolitan areas—from 0.10 percent to 0.60 percent. As you can see on the map in Figure 3, the big cities in the southern half of the country seem to perform well—particularly the metro areas of Austin, Los Angeles, and Miami.
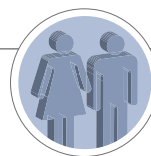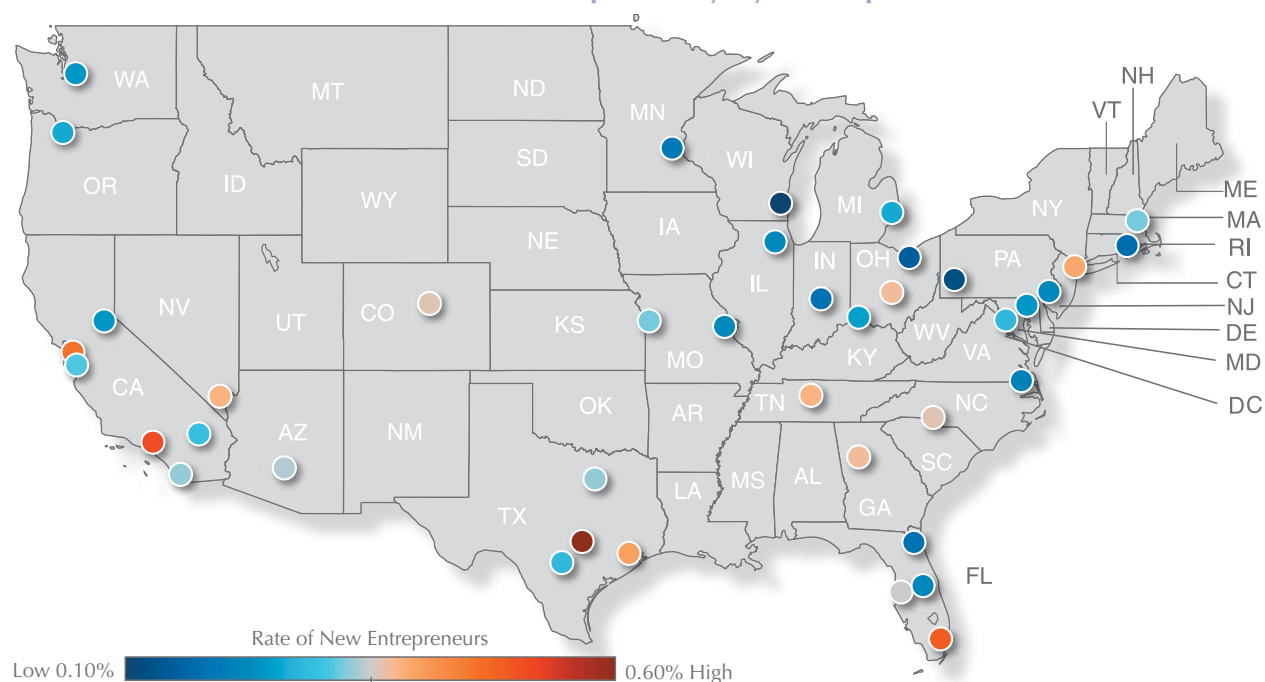
Figure 3

2016 Rate of New Entrepreneurs Component of the Kauffman Index of Startup Activity by Metropolitan Area

Rate of New Entrepreneurs

Low 0.10% ———————————————— 0.60% High

For an interactive version of the map, please see: www.kauffmanindex.org.

Metro Trends in Opportunity Share of New Entrepreneurs

The Opportunity Share of New Entrepreneurs component of the Kauffman Index of Startup Activity measures the percentage of the new entrepreneurs—measured by Rate of New Entrepreneurs as described in the previous section—not coming out of unemployment. For metropolitan areas, we calculate Opportunity Share of New Entrepreneurs on a five-year moving average from 2010 to 2015, the latest year with data available. The data source for this indicator is the U.S. Census Bureau Current Population Survey.

The Opportunity Share provides us additional nuance to understand the Rate of New Entrepreneurs. We posit that entrepreneurs coming from unemployment are more likely to start new companies for necessity reasons rather than for opportunity reasons. Thus, Opportunity

Share is a broad proxy used to identify the new businesses more likely to grow. Of course, entrepreneurs coming out of unemployment also can achieve high growth, but the Opportunity Share can give us an early indicator of potential. Moreover, the Opportunity Share helps us understand changes in the Rate of New Entrepreneurs that potentially are driven by weak job markets.

As with other Startup Activity indicators, there is high variation on Opportunity Share across areas of the country, going from 62.3 percent in the metro area of Charlotte to 94.2 percent in the San Jose metro—often considered the heart of Silicon Valley. This means that, in Charlotte, approximately four out of every ten new entrepreneurs previously were unemployed, while in San Jose, about one out of every twenty new entrepreneurs previously was unemployed.

While western and southern metropolitan areas performed better in other indicators of Startup Activity, the northeastern cities of the United States performed relatively better on Opportunity Share of New Entrepreneurs.
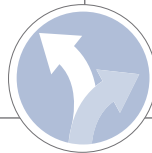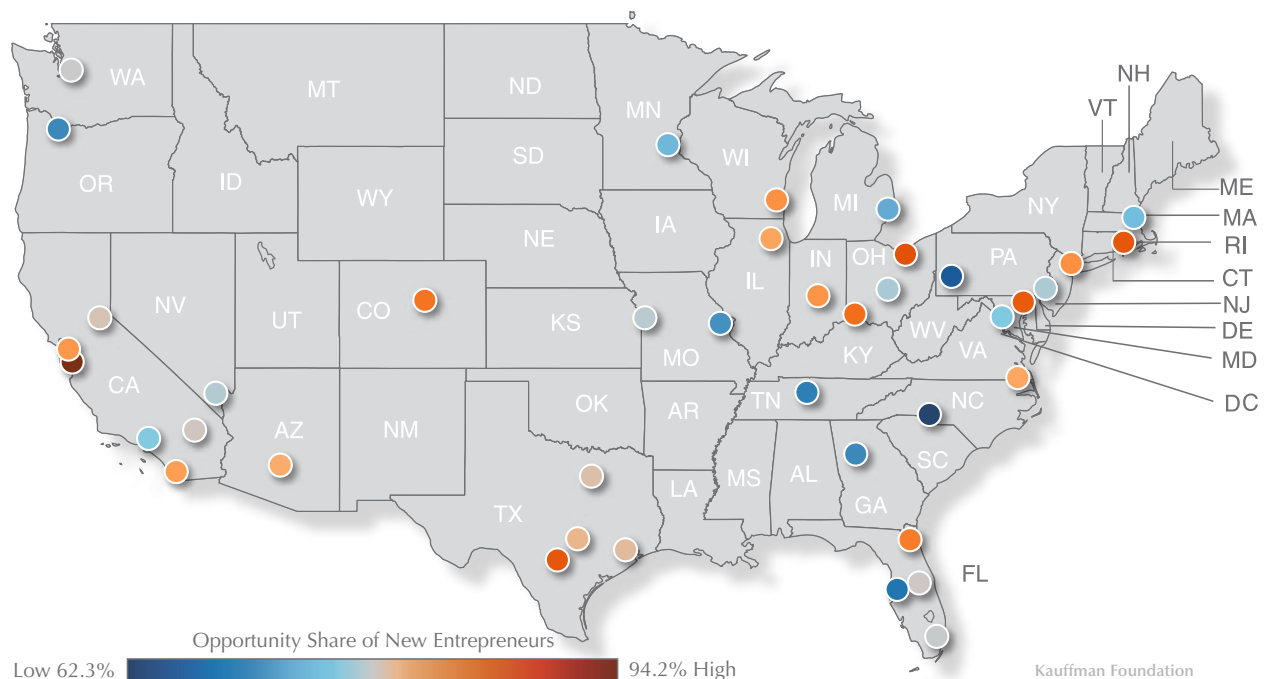
Figure 4

2016 Opportunity Share of New Entrepreneurs Component of the Kauffman Index of Startup Activity by Metropolitan Area

Opportunity Share of New Entrepreneurs

Low 62.3%   94.2% High

Kauffman Foundation

For an interactive version of the map, please see: www.kauffmanindex.org.

Metro Trends in Startup Density

The Startup Density component of the Kauffman Index measures the number of startups per 1,000 employer businesses. Here, we define startups as firms that are less than one year old and employing at least one person. This is a yearly measure calculated from the U.S. Census Bureau's Business Dynamics Statistics.

We present this indicator going back from 1977 to 2013, the latest year for which the data are available. This measure differs from the Rate of New Entrepreneurs in two key ways:

1. The Rate of New Entrepreneurs tracks the percentage of individuals starting new businesses, while the

Startup Density indicator tracks the new businesses themselves; and

2. The Rate of New Entrepreneurs is a very early and broad measure of startup activity, including all entrepreneurs, regardless of how many people their businesses employ, if any.

Startup Density only includes businesses employing at least one person—thus being a slightly more mature measure of startup activity.

Both researchers and entrepreneurs have suggested density as a key indicator of vibrancy in entrepreneurial ecosystems, and there is high variation on this indicator across U.S. metropolitan areas (Stangler and Bell-Masterson 2015 and Feld 2012). For the latest year available, the range of density goes all the way from the lower end of 52.7 startups per 1,000 employer firms in the Pittsburgh metro area to the higher end of

Figure 5
2016 Startup Density Component of the
Kauffman Index of Startup Activity by Metropolitan Area

Startup Density
Low 52.7   120.8 High

Kauffman Foundation
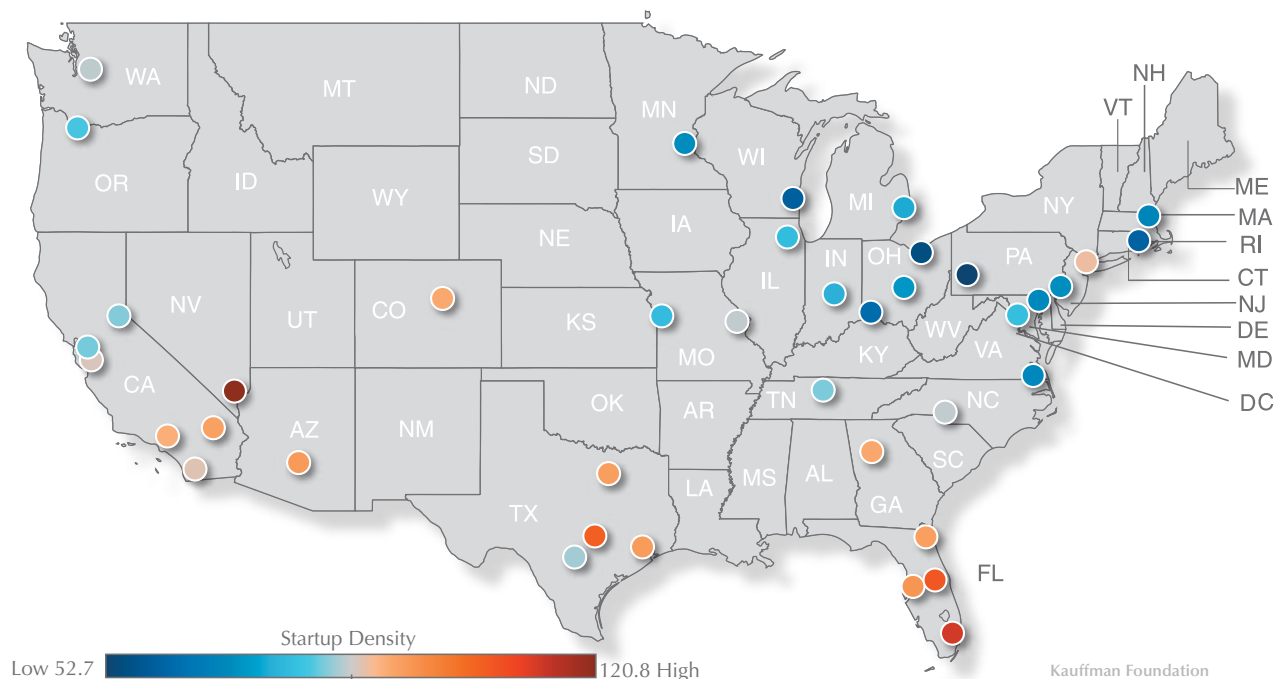
For an interactive version of the map, please see: www.kauffmanindex.org.

120.8 startups per 1,000 employer firms for the Las Vegas metropolitan area. This means that the density of startups in the Las Vegas area is 229.1 percent higher than the density of startups in Pittsburgh.

Compared to the U.S. startup density of 80.4 startups per 1,000 employer businesses for the latest year with data available, twenty-four metropolitan areas out of the forty studied had higher density rates.

Similar to other startup activity indicators, the highest-ranked cities tend to be in the western and southern parts of the United States.

Startup density in the United States overall has been stuck roughly 20 percent lower than pre-Great Recession levels for the last four years. Moreover, when compared to the levels in the 1980s, 1990s, and early 2000s, Startup Density is in a long-term decline. The same is true among most metropolitan areas, with long-term declines in Startup Density seen among most metropolitan areas. From 2006 to 2013, the average metro in our sample declined in Startup Density by 24 percent, indicating that larger startups, those that employ other people, remain precariously below historical norms.

Forthcoming research by the Kauffman Foundation will explore these trends at the metro level.

Longer Term Trends and Going Beyond the Forty Largest Metros by Population

by Derek Ozkal

The Kauffman Index of Startup Activity uses new data available each year to capture the most recent annual change in the rate of new entrepreneurs, the opportunity share of new entrepreneurs, and startup density. It uses these three key metrics to provide a snapshot of startup activity in the United States overall, in each state, and in the forty largest metropolitan areas. This approach provides substantial detail on very recent trends and shows positive year-over-year changes in startup activity at a national level and in the majority of the forty most populous metropolitan areas.

A forthcoming report by the Kauffman Foundation, Ozkal & Russell (2016), uses some of the same data found in this Kauffman Index report, but considers a longer time period in order to understand more about the impact of the Great Recession on new business creation. Ozkal & Russell (2016) focuses on entrepreneurship data in three different time periods: before the Great Recession, during the Great Recession, and after the Great Recession. In each of these time periods, the report considers the number of new startups each year, the firm creation rate, and employment in startups at the national, state, and metro levels. Ozkal & Russell (2016) also incorporates statistics on firm deaths in order to evaluate changes in economic dynamism during these time periods, as well.

In contrast to the optimistic picture presented by the short-term growth in the Kauffman Index, Ozkal & Russell (2016) find cause for concern. Looking over a longer term, this report indicates that firm dynamism in the post-recessionary period does not show a recovery to pre-recessionary levels for most metros. In some recent years, firm births were lower than firm deaths, and employment gains in startups were lower than employment losses through firm deaths. In short, despite the recent growth in startup activity identified in this Kauffman Index report, firm dynamism over the long term, especially outside the forty most populous metropolitan areas, has not recovered to pre-recessionary levels. The two reports complement each other, offering different perspectives and context for the same metrics

APPENDIX: METRO STARTUP ACTIVITY PROFILES, ORDERED BY RANK

TABLE 1
Metro Rankings—Kauffman Index of Startup Activity

Rank 2016	Index 2016	City (Main)	Metropolitan Area	Rank 2015	Change in Rank	Rate of New Entrepreneurs	Opportunity Share of New Entrepreneurs	Startup Density
1	4.77	Austin	Austin-Round Rock-San Marcos, TX	1	0	0.60%	79.88%	105.2
2	3.16	Miami	Miami-Fort Lauderdale-Pompano Beach, FL	2	0	0.49%	78.08%	113.0
3	2.59	Los Angeles	Los Angeles-Long Beach-Santa Ana, CA	4	1	0.51%	75.82%	91.5
4	2.24	San Francisco	San Francisco-Oakland-Fremont, CA	9	5	0.46%	82.34%	82.7
5	1.67	Las Vegas	Las Vegas-Paradise, NV	6	1	0.38%	77.43%	120.8
6	1.44	New York	New York-Northern New Jersey-Long Island, NY-NJ-PA	10	4	0.39%	82.99%	89.1
7	1.38	Houston	Houston-Sugar Land-Baytown, TX	8	1	0.40%	79.45%	94.2
8	1.33	San Jose	San Jose-Sunnyvale-Santa Clara, CA	3	-5	0.31%	94.18%	87.5
9	1.29	Denver	Denver-Aurora-Broomfield, CO	5	-4	0.36%	85.06%	92.2
10	0.62	Phoenix	Phoenix-Mesa-Glendale, AZ	12	2	0.34%	80.72%	94.5
11	0.39	San Diego	San Diego-Carlsbad-San Marcos, CA	11	0	0.33%	81.85%	88.1
12	0.27	Dallas	Dallas-Fort Worth-Arlington, TX	15	3	0.33%	79.06%	93.7
13	0.09	San Antonio	San Antonio-New Braunfels, TX	7	-6	0.28%	87.33%	84.6
14	0.02	Columbus	Columbus, OH	13	-1	0.37%	77.10%	71.8
15	-0.06	Atlanta	Atlanta-Sandy Springs-Marietta, GA	14	-1	0.37%	70.36%	92.3
16	-0.31	Nashville	Nashville-Davidson--Murfreesboro--Franklin, TN	23.5	7.5	0.38%	69.10%	83.0
17	-0.4	Riverside	Riverside-San Bernardino-Ontario, CA	16	-1	0.29%	78.51%	93.3
18	-0.49	Kansas City	Kansas City, MO-KS	29	11	0.32%	77.72%	77.9
19	-0.51	Tampa	Tampa-St. Petersburg-Clearwater, FL	21	2	0.35%	67.97%	95.2
20	-1.02	Baltimore	Baltimore-Towson, MD	17	-3	0.24%	86.95%	69.0
21	-1.08	Orlando	Orlando-Kissimmee-Sanford, FL	33	12	0.22%	78.34%	106.6
22	-1.1	Boston	Boston-Cambridge-Quincy, MA-NH	23.5	1.5	0.32%	74.45%	68.5
23	-1.21	Charlotte	Charlotte-Gastonia-Rock Hill, NC-SC	25	2	0.36%	62.28%	86.2
24	-1.22	Cincinnati	Cincinnati-Middletown, OH-KY-IN	31	7	0.25%	85.49%	62.1
25	-1.27	Washington	Washington-Arlington-Alexandria, DC-VA-MD-WV	28	3	0.28%	75.76%	78.5
26	-1.4	Seattle	Seattle-Tacoma-Bellevue, WA	19	-7	0.24%	78.21%	86.1
27	-1.42	Sacramento	Sacramento--Arden-Arcade--Roseville, CA	20	-7	0.24%	78.80%	83.3
28	-1.45	Jacksonville	Jacksonville, FL	26	-2	0.18%	84.41%	93.5
29	-1.62	Chicago	Chicago-Joliet-Naperville, IL-IN-WI	22	-7	0.22%	81.34%	78.0
30	-2	Detroit	Detroit-Warren-Livonia, MI	35	5	0.26%	72.69%	74.8
31	-2.05	Portland	Portland-Vancouver-Hillsboro, OR-WA	30	-1	0.26%	70.37%	80.9
32	-2.06	Virginia Beach	Virginia Beach-Norfolk-Newport News, VA-NC	18	-14	0.21%	81.15%	68.9
33	-2.17	Indianapolis	Indianapolis-Carmel, IN	27	-6	0.18%	82.57%	75.7
34	-2.27	Philadelphia	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	32	-2	0.22%	77.22%	70.3
35	-2.3	Providence	Providence-New Bedford-Fall River, RI-MA	34	-1	0.17%	87.33%	60.1
36	-2.45	St. Louis	St. Louis, MO-IL	38	2	0.22%	70.83%	86.1
37	-2.7	Cleveland	Cleveland-Elyria-Mentor, OH	36	-1	0.15%	87.78%	55.1
38	-3.06	Minneapolis	Minneapolis-St. Paul-Bloomington, MN-WI	37	-1	0.19%	73.92%	70.2
39	-3.83	Milwaukee	Milwaukee-Waukesha-West Allis, WI	39	0	0.10%	82.90%	59.3
40	-5.54	Pittsburgh	Pittsburgh, PA	40	0	0.12%	65.07%	52.7

For an interactive version of the rankings, please see: www.kauffmanindex.org.

Austin

Metro: Austin-Round Rock-San Marcos | State: Texas

Metro Profile

Startup Activity Rank

2016	2015
1	1

Rate of New Entrepreneurs
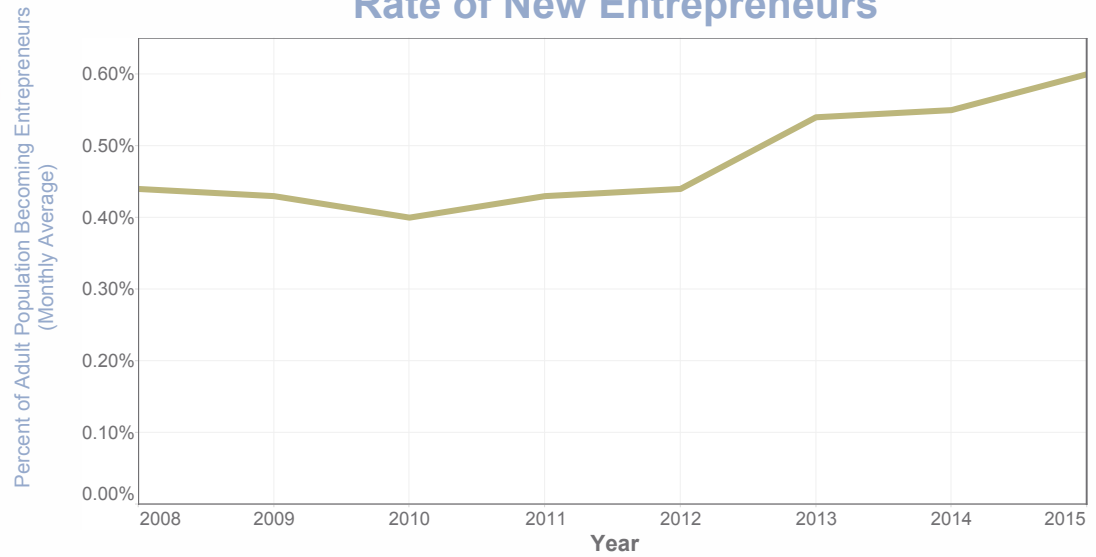
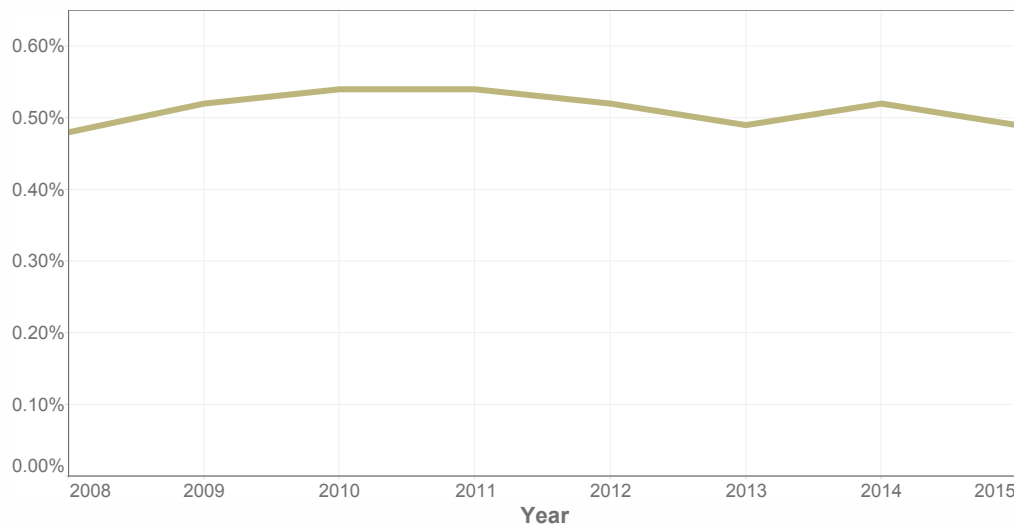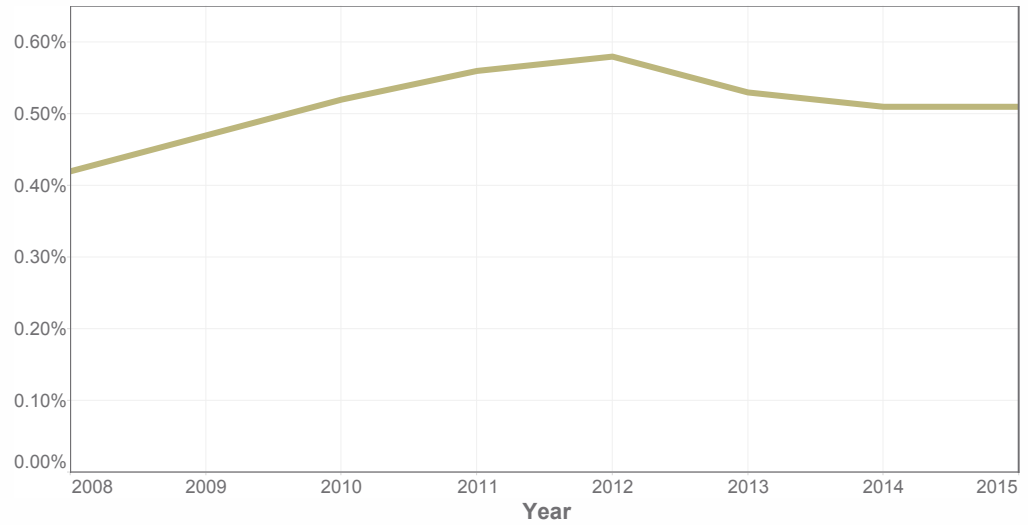| 2016 Component	2015 Component
0.60%	0.55%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
79.88%	79.27%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs
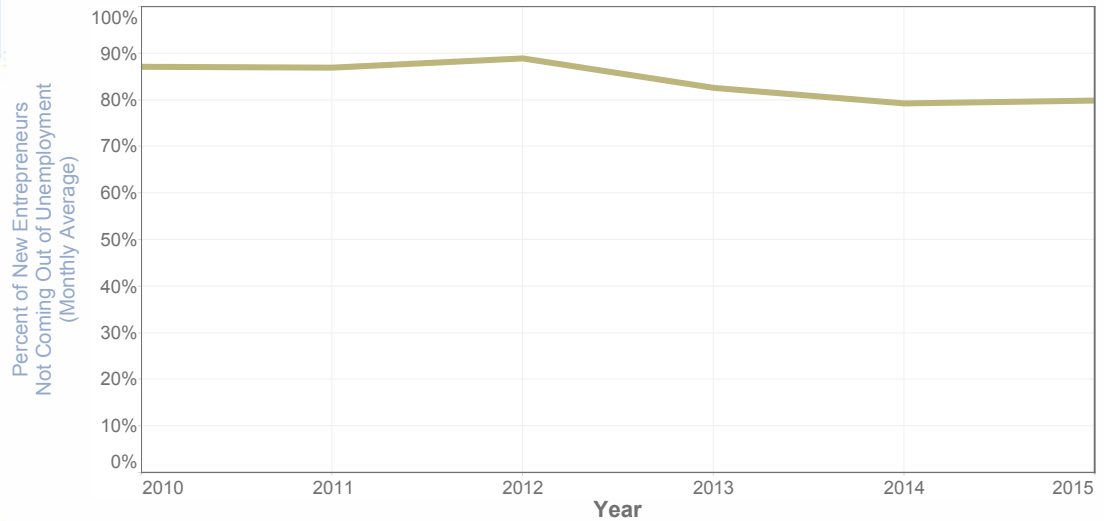
Startup Density

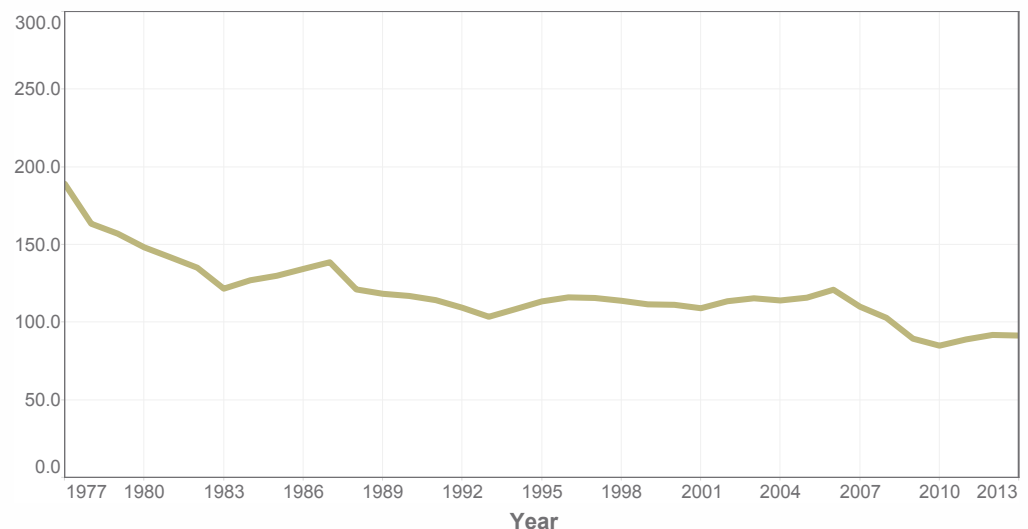| 2016 Component	2015 Component
105.2	107.2

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density
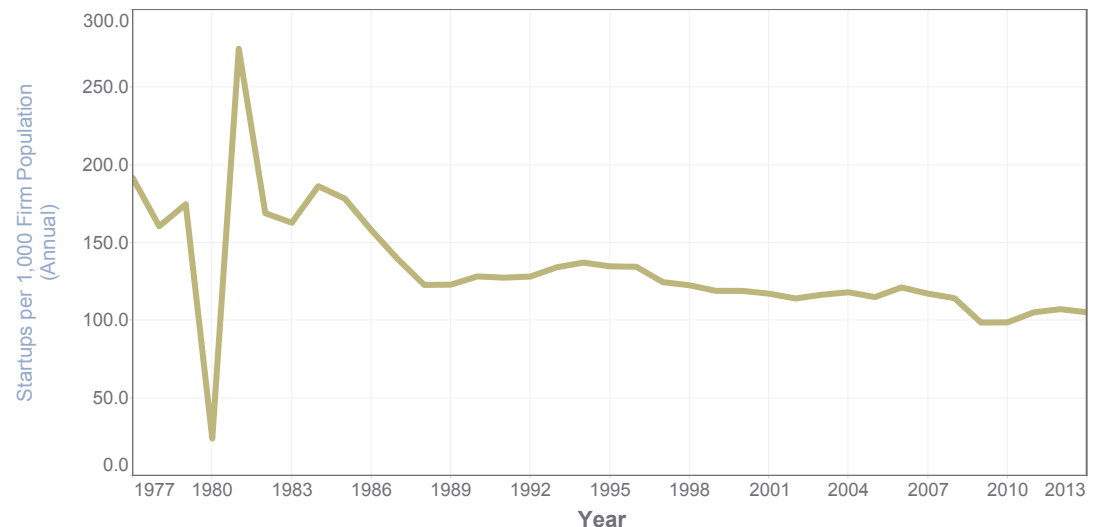
Miami

Metro: Miami-Fort Lauderdale-Pompano Beach | State: Florida
Metro Profile

Startup Activity Rank

2016	2015
2	2

Rate of New Entrepreneurs

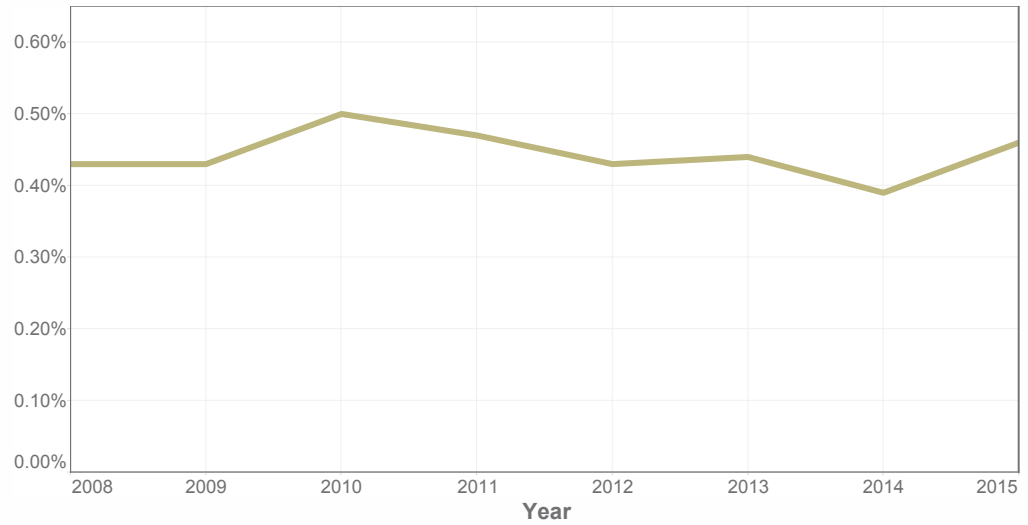| 2016 Component	2015 Component
0.49%	0.52%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

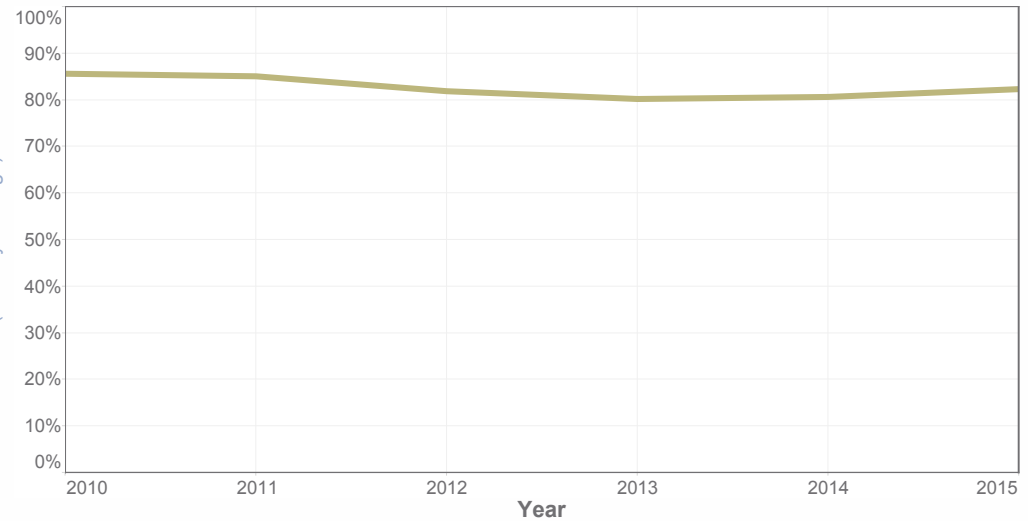| 2016 Component	2015 Component
78.08%	73.91%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

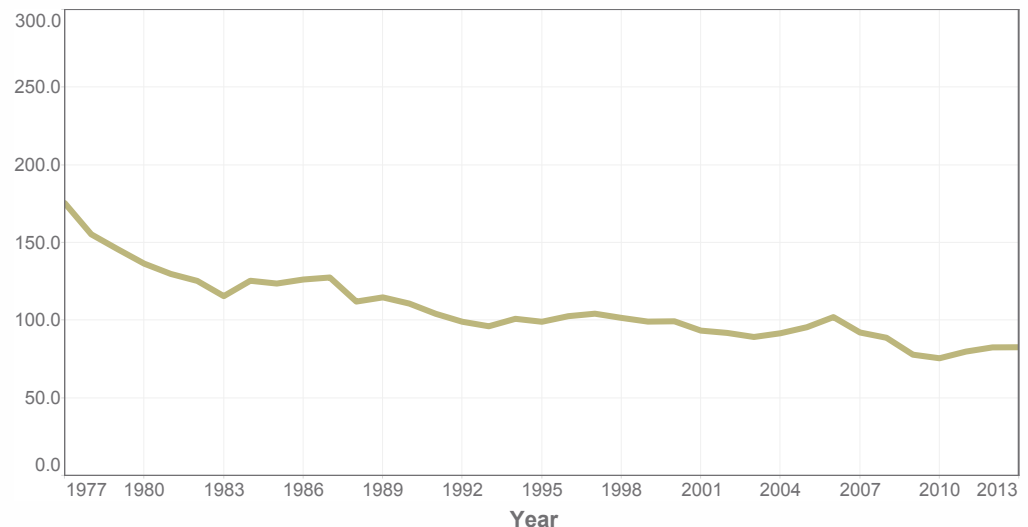| 2016 Component	2015 Component
113.0	117.5

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Los Angeles

Metro: Los Angeles-Long Beach-Santa Ana | State: California

Metro Profile

Startup Activity Rank

2016	2015
3	4

Rate of New Entrepreneurs

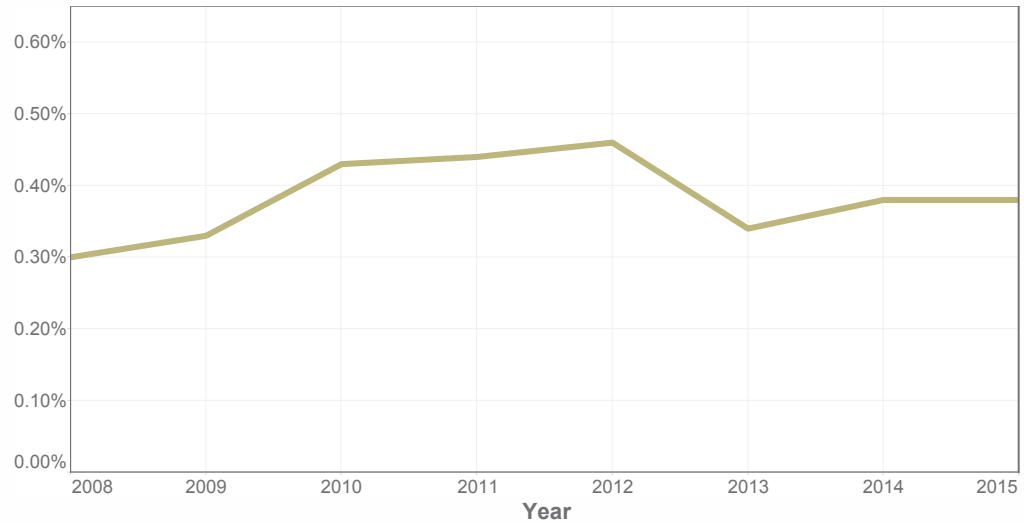| 2016 Component	2015 Component
0.51%	0.51%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

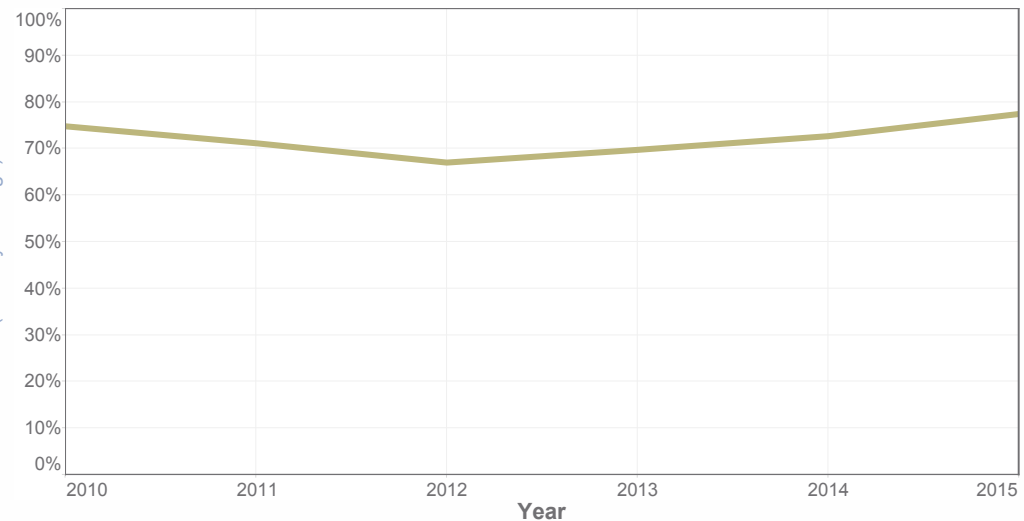| 2016 Component	2015 Component
75.82%	72.03%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

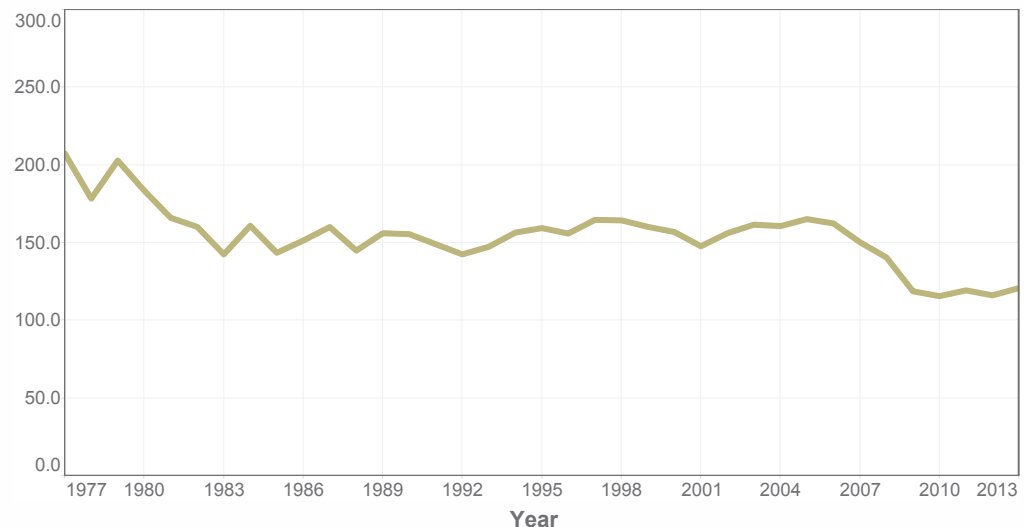| 2016 Component	2015 Component
91.5	91.9

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

San Francisco

Metro: San Francisco-Oakland-Fremont | State: California

Metro Profile

Startup Activity Rank

2016	2015
4	9

Rate of New Entrepreneurs

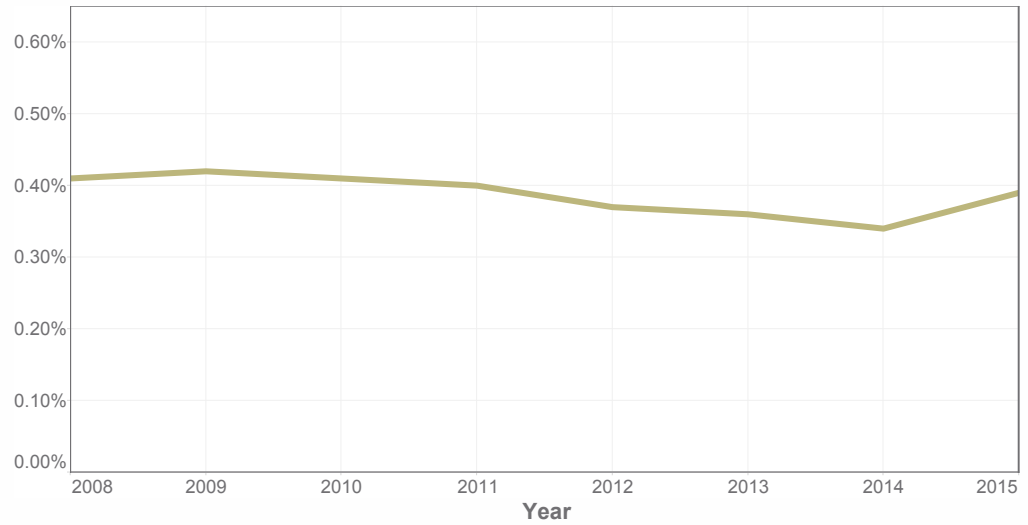| 2016 Component	2015 Component
0.46%	0.39%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

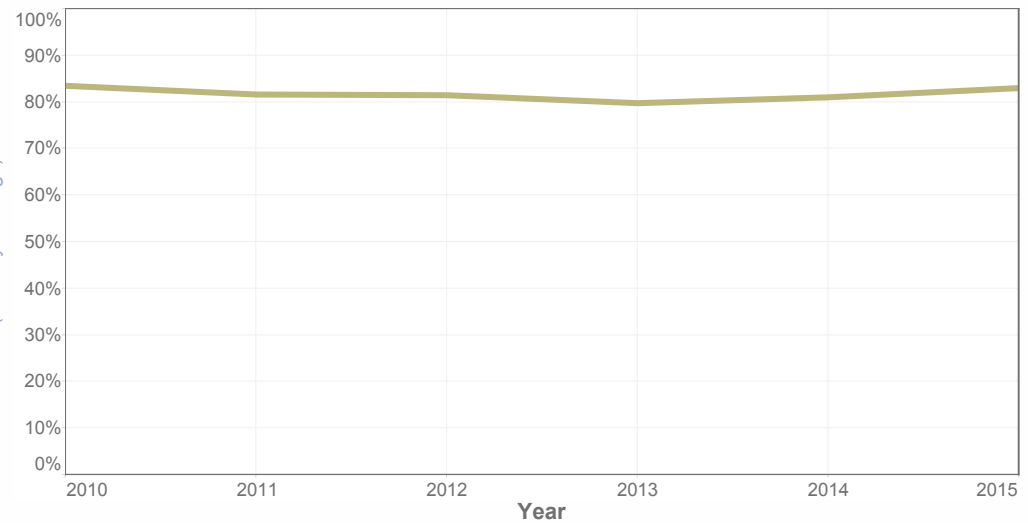| 2016 Component	2015 Component
82.34%	80.66%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

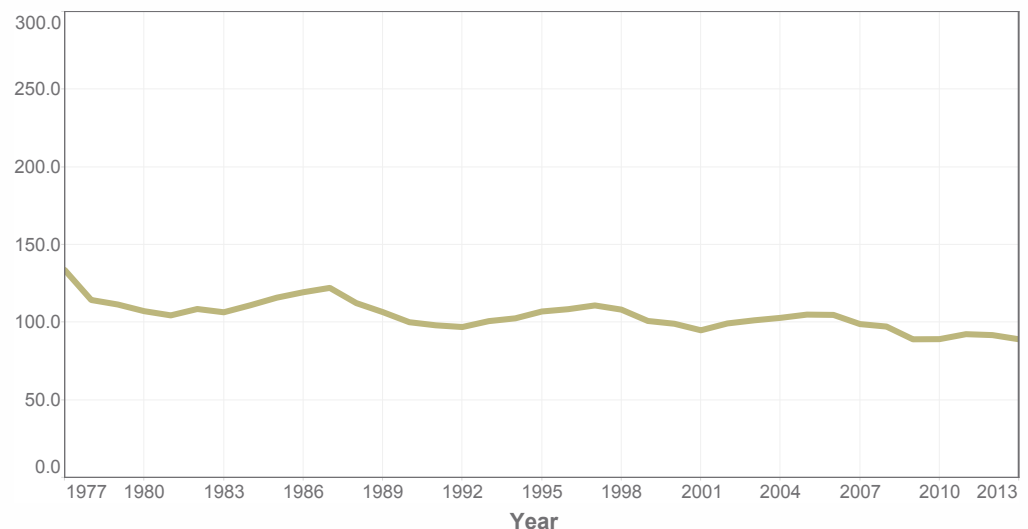| 2016 Component	2015 Component
82.7	82.6

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank

2016	2015
5	6

Las Vegas

Metro: Las Vegas-Paradise | State: Nevada
Metro Profile

startup activity

Rate of New Entrepreneurs

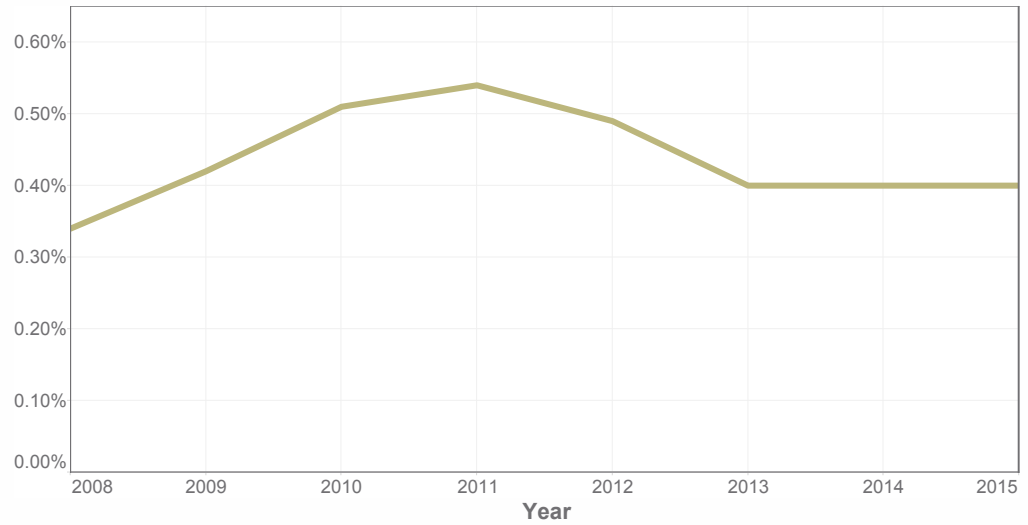| 2016 Component	2015 Component
0.38%	0.38%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

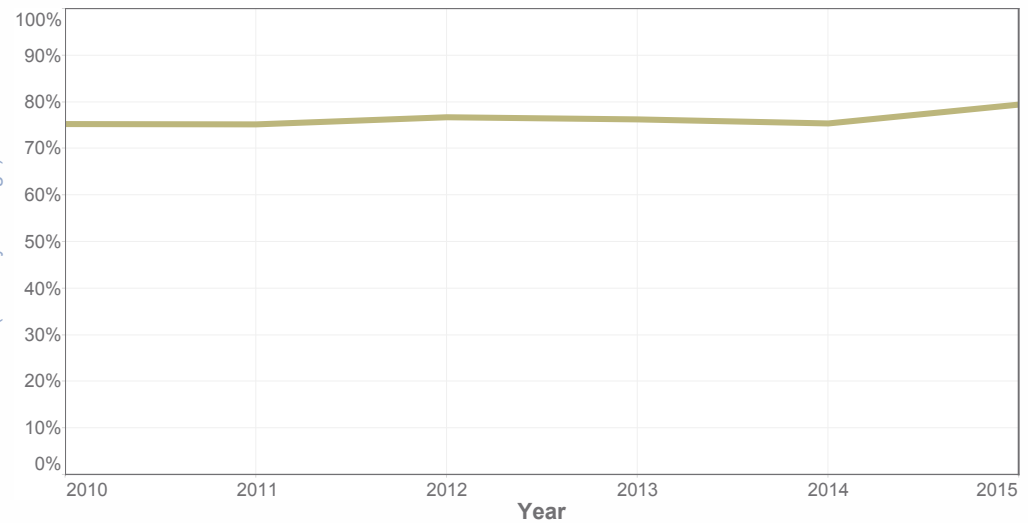| 2016 Component	2015 Component
77.43%	72.67%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

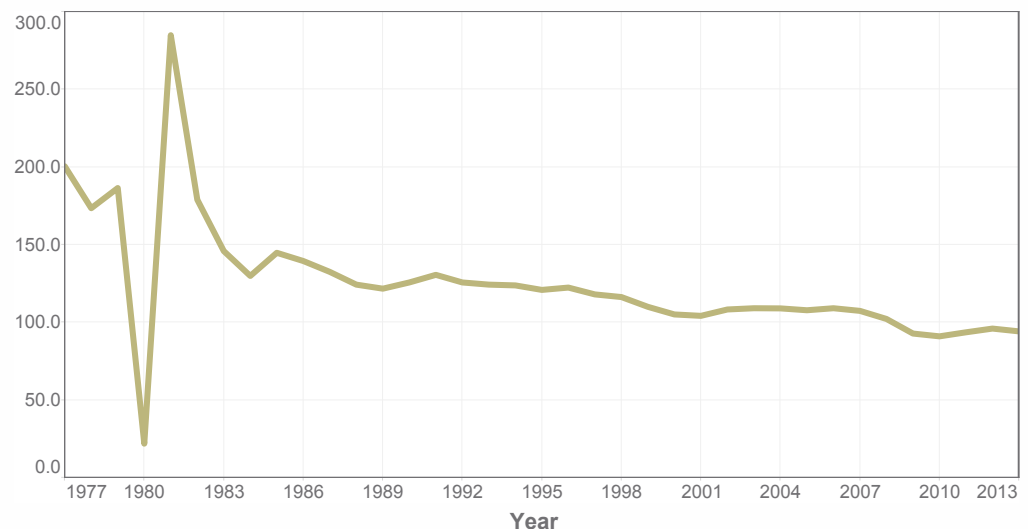| 2016 Component	2015 Component
120.8	116.1

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

2016 KAUFFMAN INDEX

New York

Metro: New York-Northern New Jersey-Long Island | State: New York-New Jersey-Pennsylvania

Metro Profile

startup activity

Rate of New Entrepreneurs

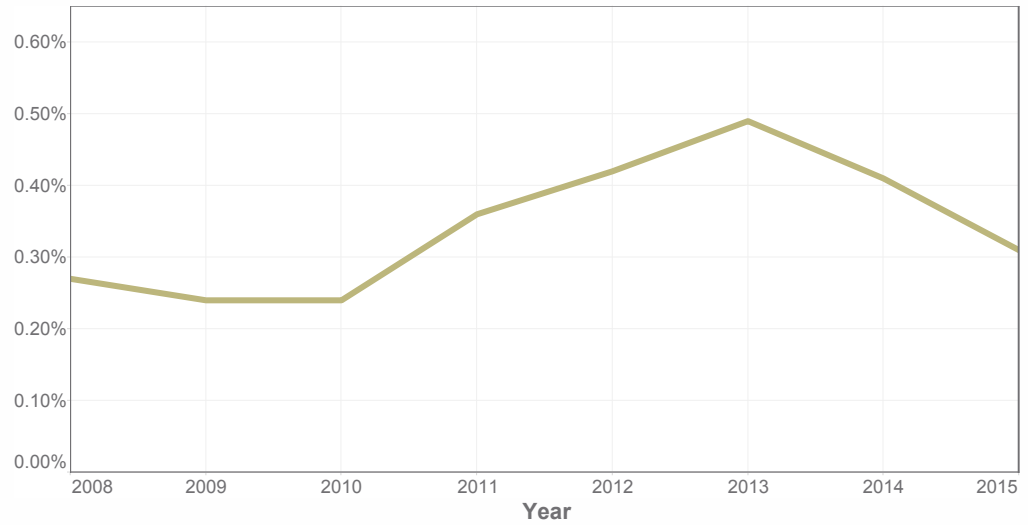| 2016 Component	2015 Component
0.39%	**0.34%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

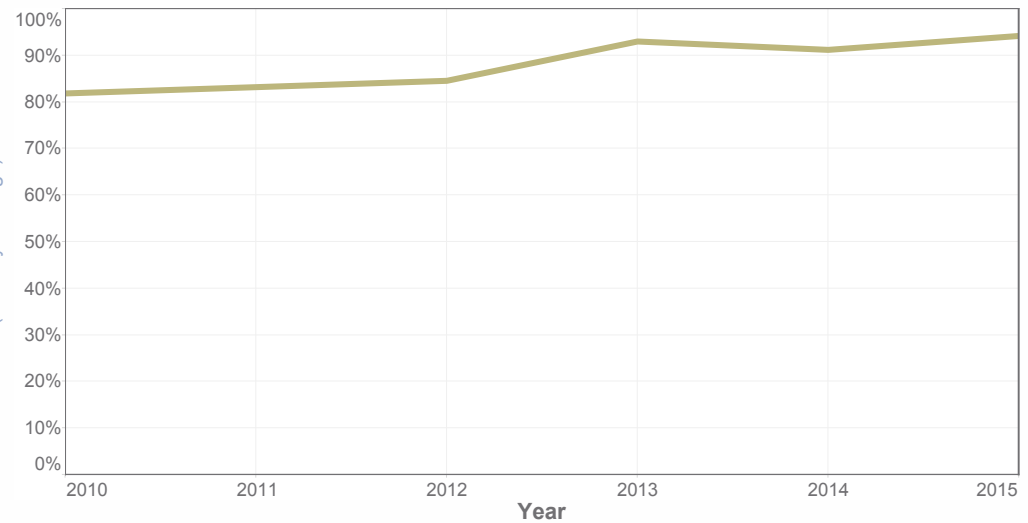| 2016 Component	2015 Component
82.99%	**81.01%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

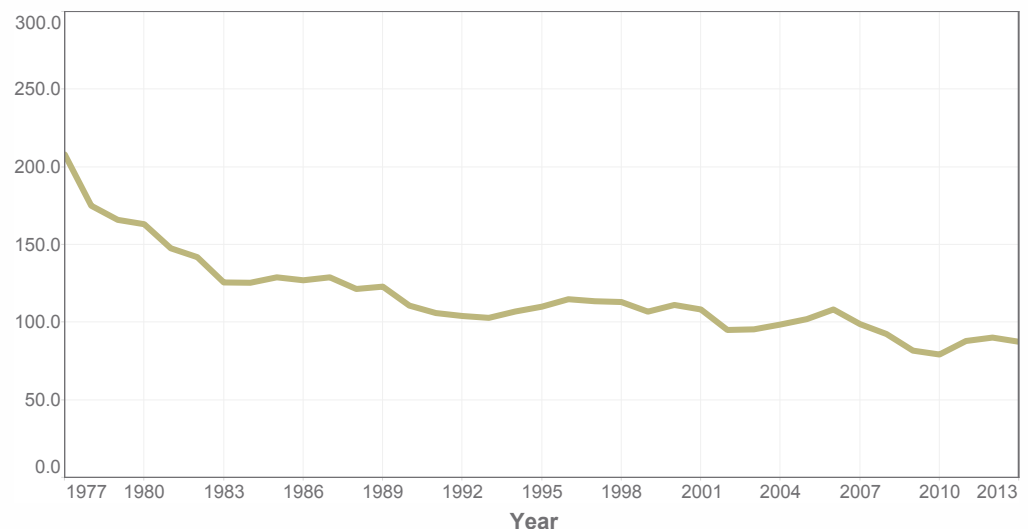| 2016 Component	2015 Component
89.1	**91.8**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Houston

Metro: Houston-Sugar Land-Baytown | State: Texas

Metro Profile

startup activity

Startup Activity Rank

2016	2015
7	8

Rate of New Entrepreneurs

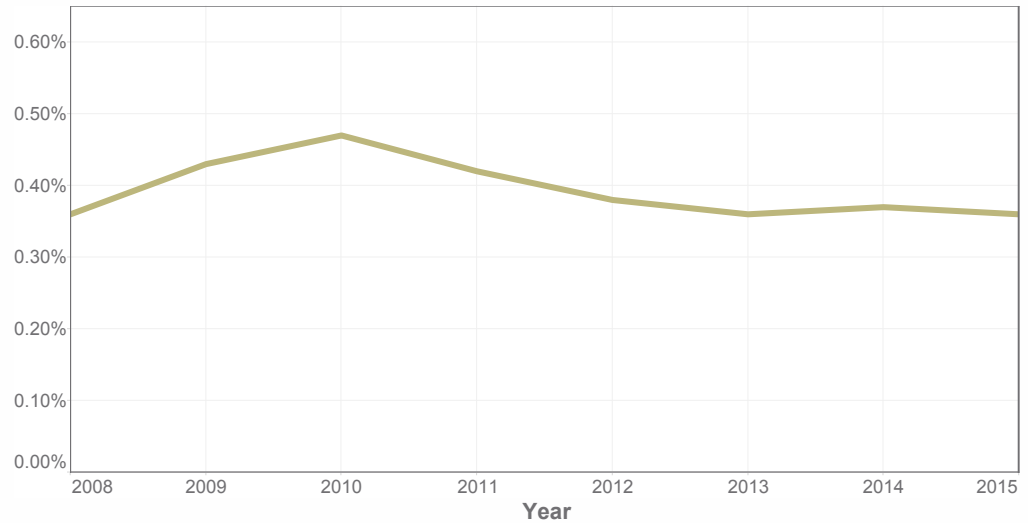| 2016 Component	2015 Component
0.40%	0.40%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

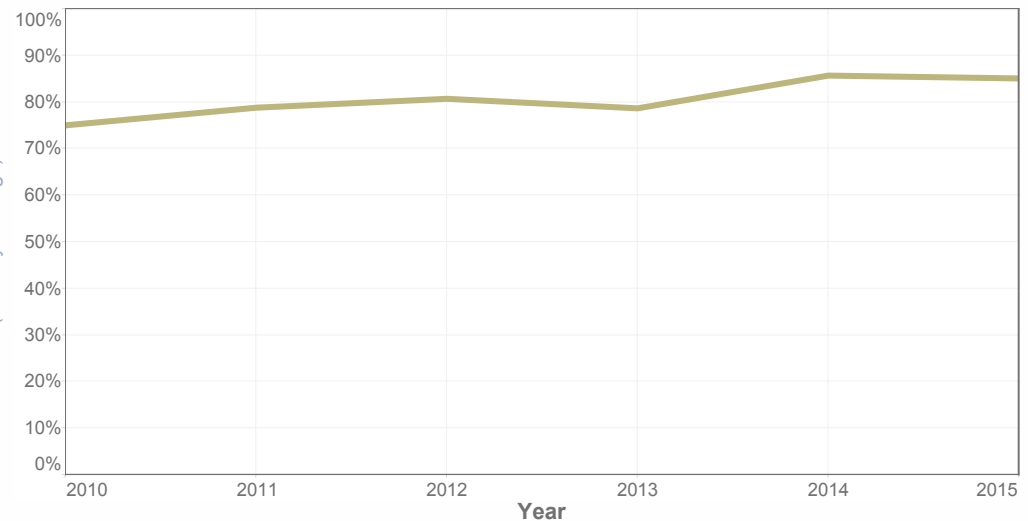| 2016 Component	2015 Component
79.45%	75.40%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

2016 Component	2015 Component
94.2	96.0

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

San Jose

Metro: San Jose-Sunnyvale-Santa Clara | State: California

Metro Profile

startup activity

Startup Activity Rank

2016	2015
8	3

Rate of New Entrepreneurs

2016 Component	2015 Component
0.31%	0.41%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
94.18%	91.19%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

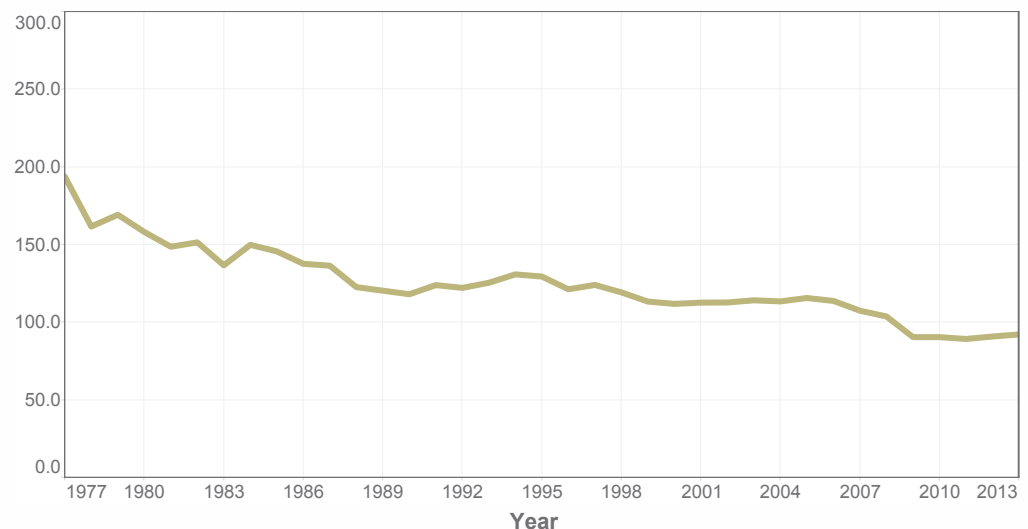| 2016 Component	2015 Component
87.5	90.2

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Denver

Metro: Denver-Aurora-Broomfield | State: Colorado

Metro Profile

Startup Activity Rank

2016	2015
9	5

Rate of New Entrepreneurs

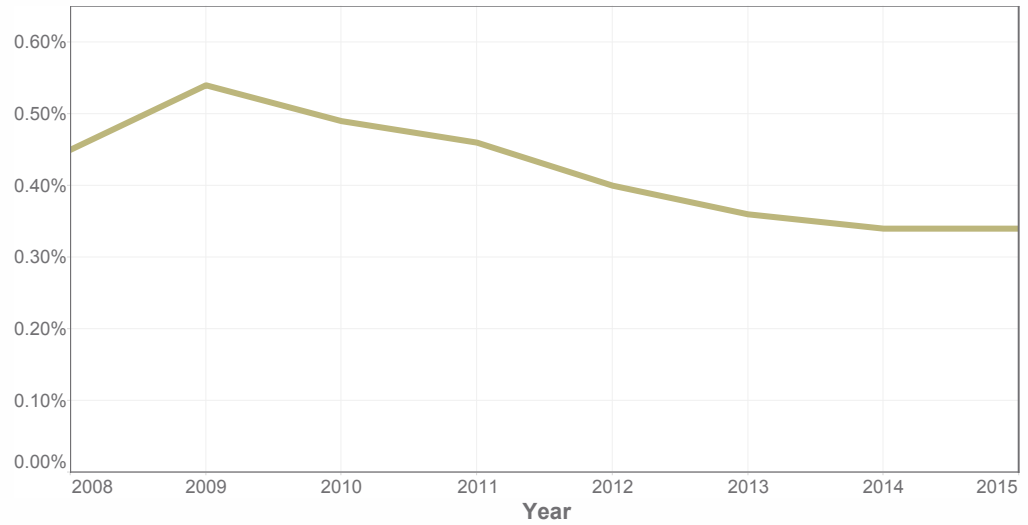| 2016 Component	2015 Component
0.36%	0.37%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

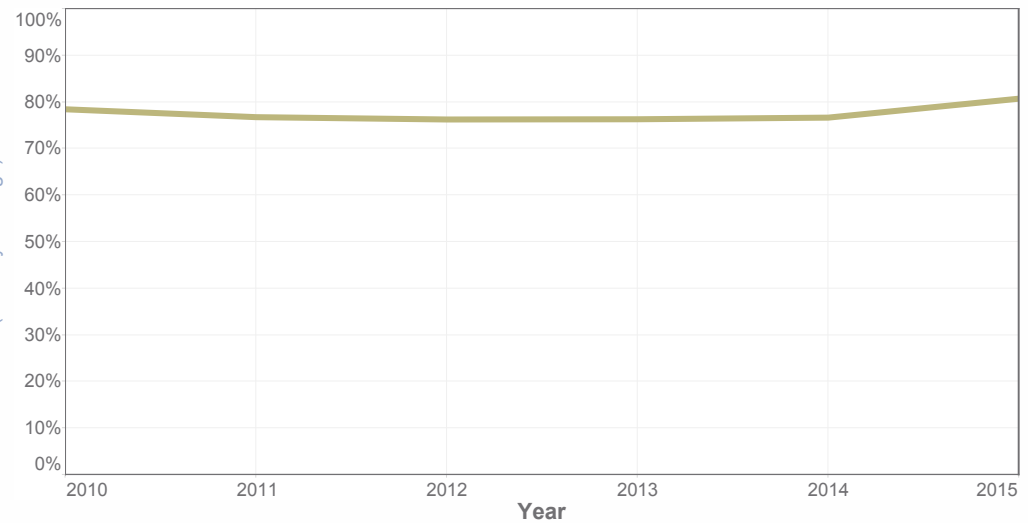| 2016 Component	2015 Component
85.06%	85.67%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

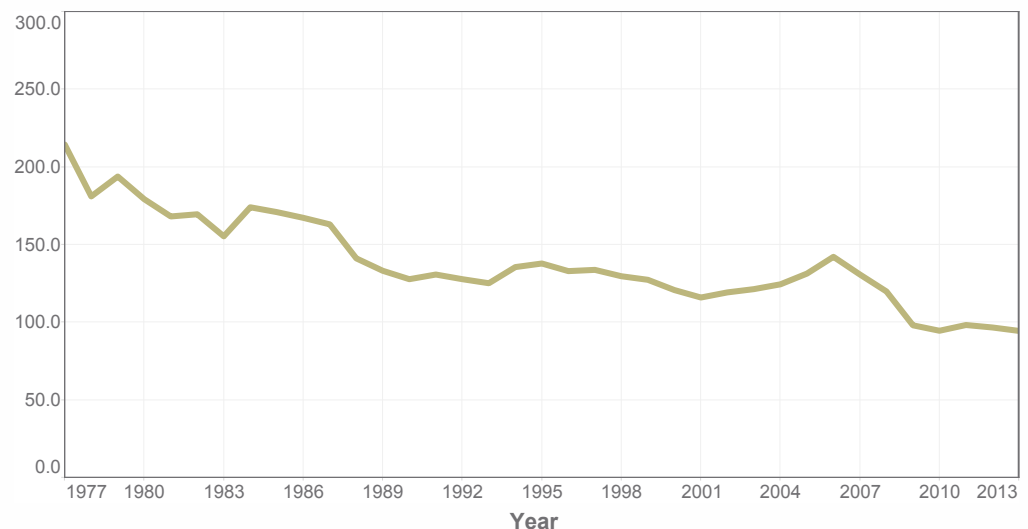| 2016 Component	2015 Component
92.2	90.9

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank

2016	2015
10	12

Phoenix

Metro: Phoenix-Mesa-Glendale | State: Arizona

Metro Profile

startup activity

Rate of New Entrepreneurs

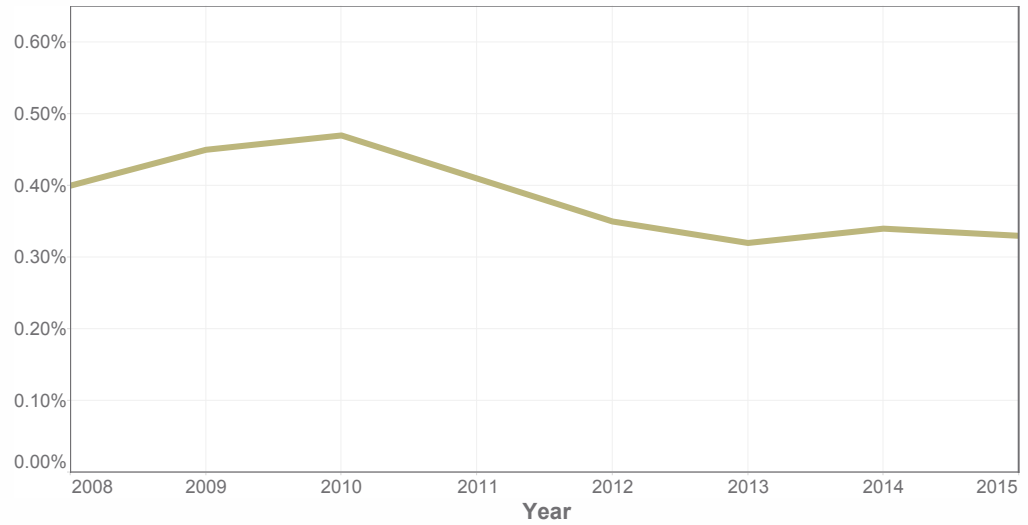| 2016 Component	2015 Component
0.34%	0.34%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

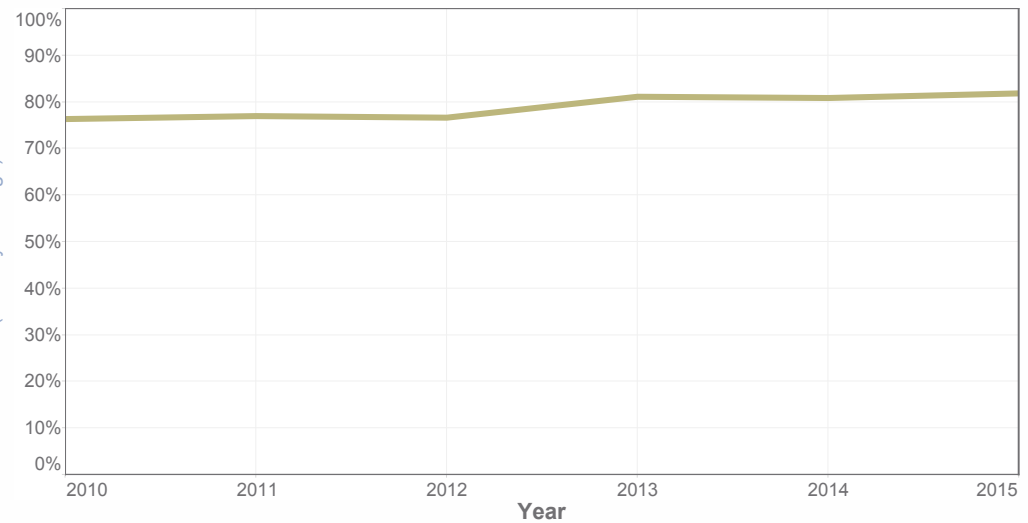| 2016 Component	2015 Component
80.72%	76.65%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

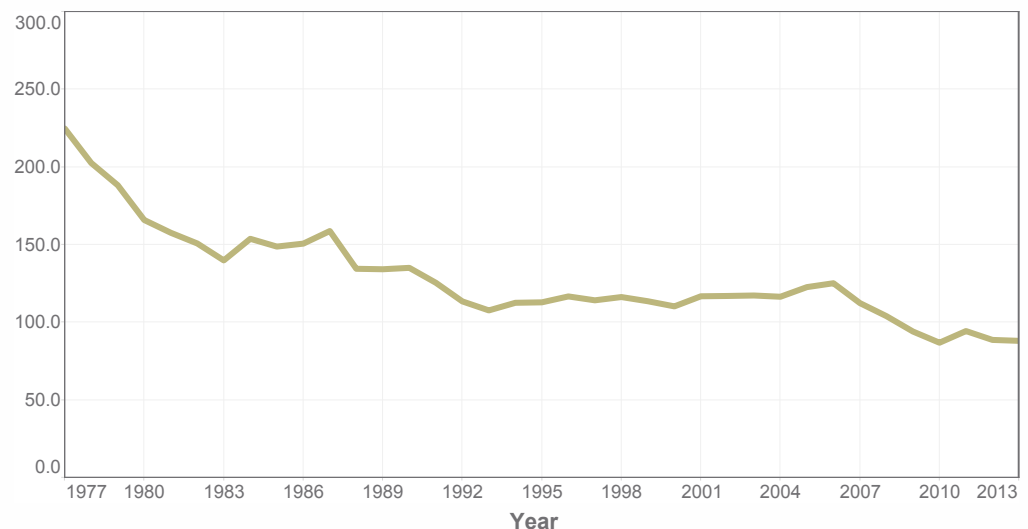| 2016 Component	2015 Component
94.5	96.7

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank	
2016	2015
11	11

San Diego

Metro: San Diego-Carlsbad-San Marcos | State: California

Metro Profile

startup activity

Rate of New Entrepreneurs

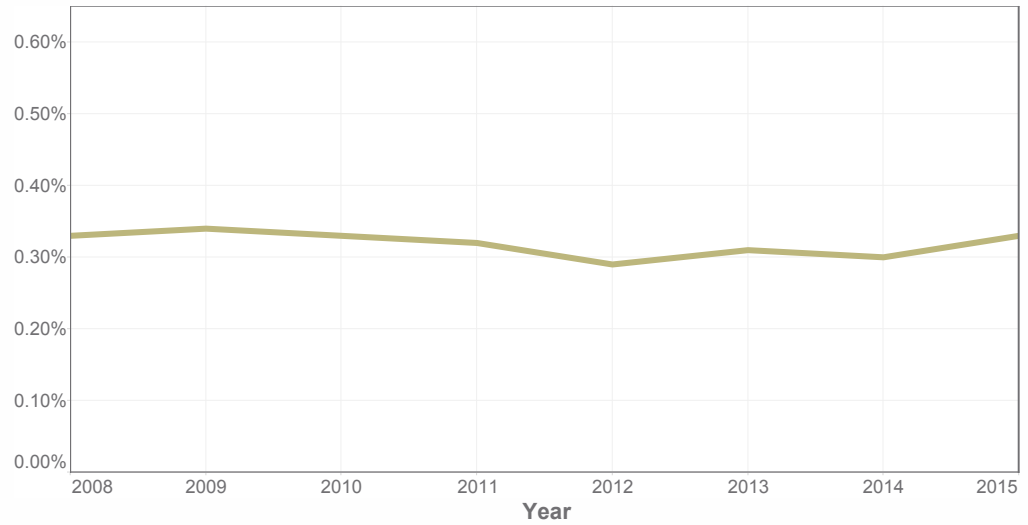| 2016 Component	2015 Component
0.33%	0.34%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

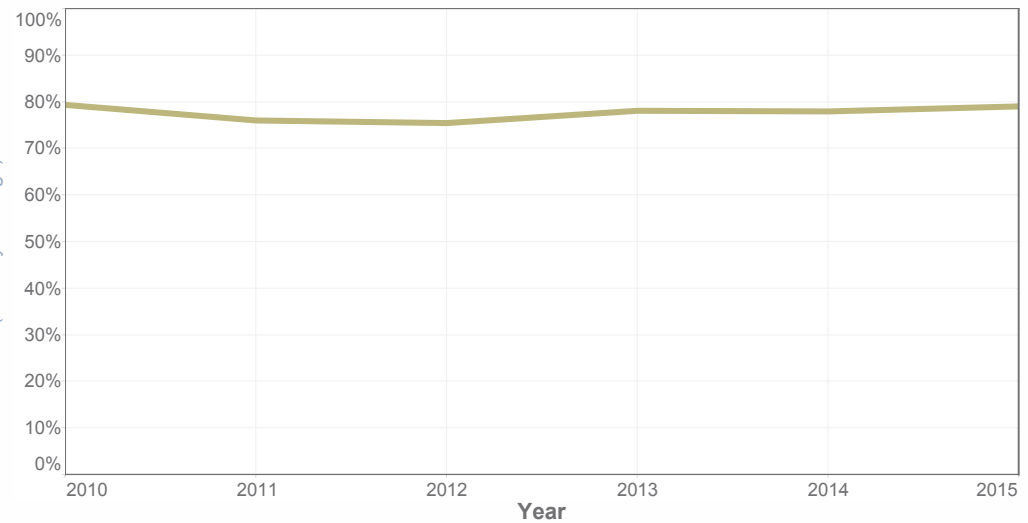| 2016 Component	2015 Component
81.85%	80.86%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density
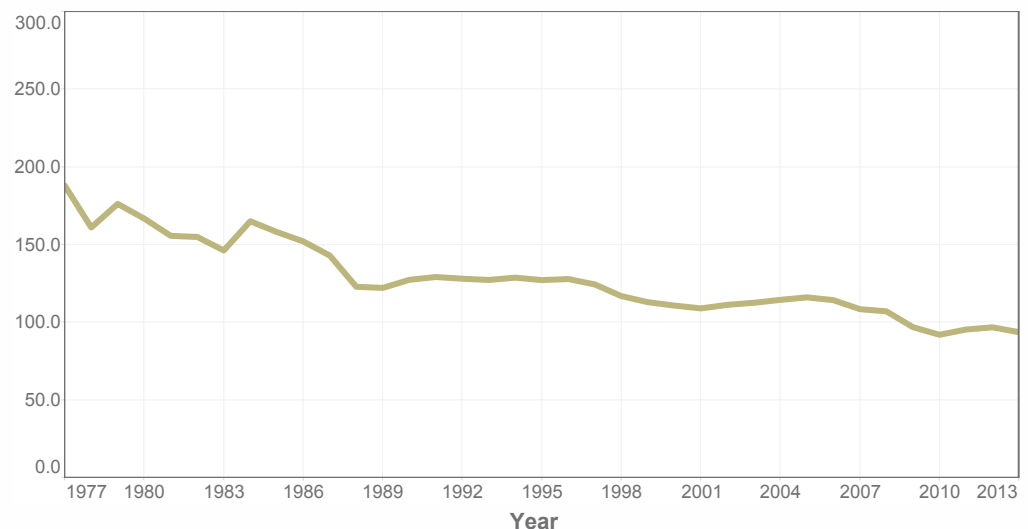
2016 Component	2015 Component
88.1	88.7

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Dallas

Metro: Dallas-Fort Worth-Arlington | State: Texas
Metro Profile

Startup Activity Rank	
2016	2015
12	15

Rate of New Entrepreneurs

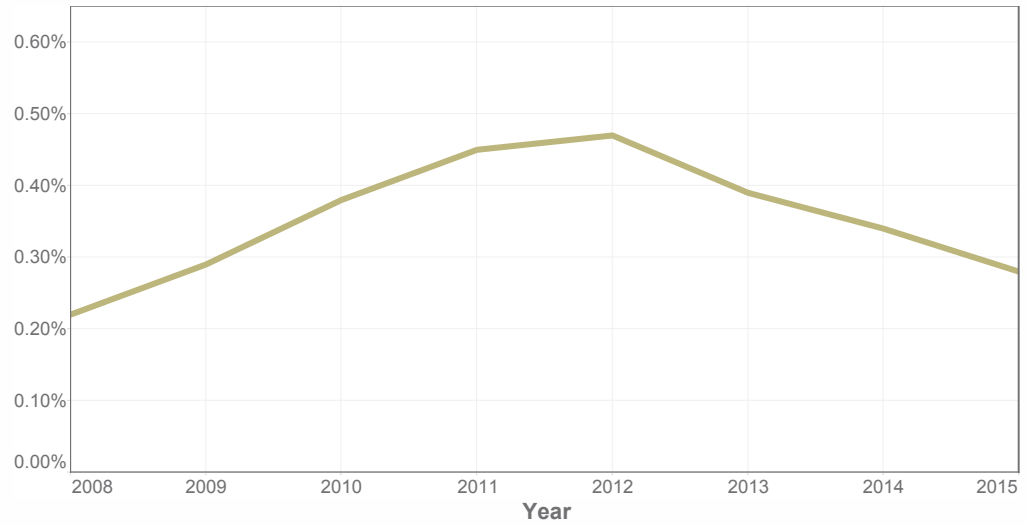| 2016 Component	2015 Component
0.33%	0.30%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

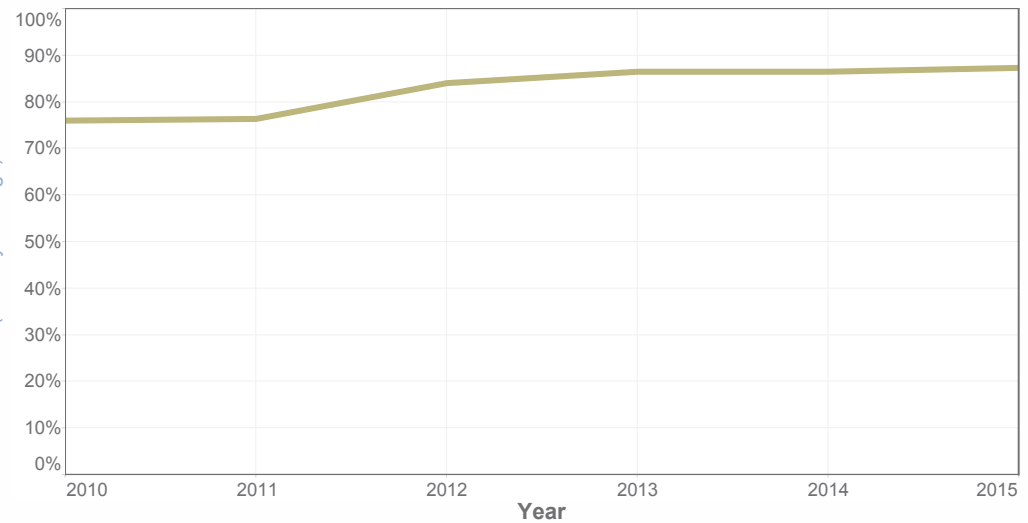| 2016 Component	2015 Component
79.06%	77.98%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density
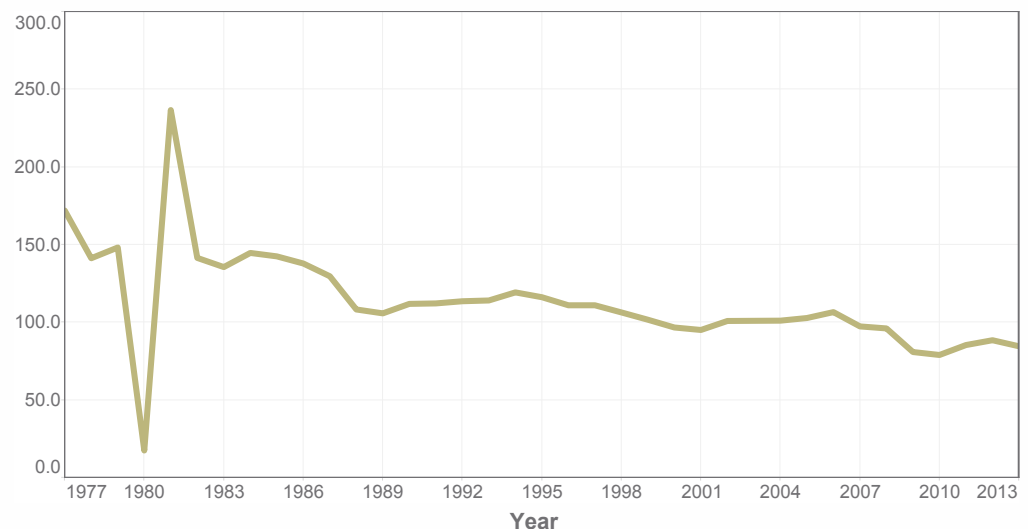
2016 Component	2015 Component
93.7	96.8

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank

2016	2015
13	7

San Antonio

Metro: San Antonio-New Braunfels | State: Texas

Metro Profile

startup activity

Rate of New Entrepreneurs

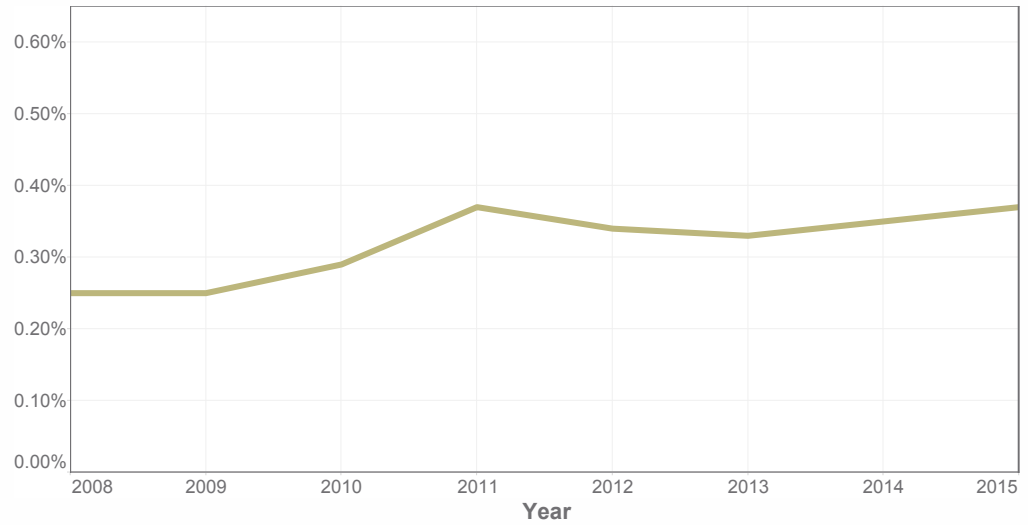| 2016 Component	2015 Component
0.28%	0.34%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

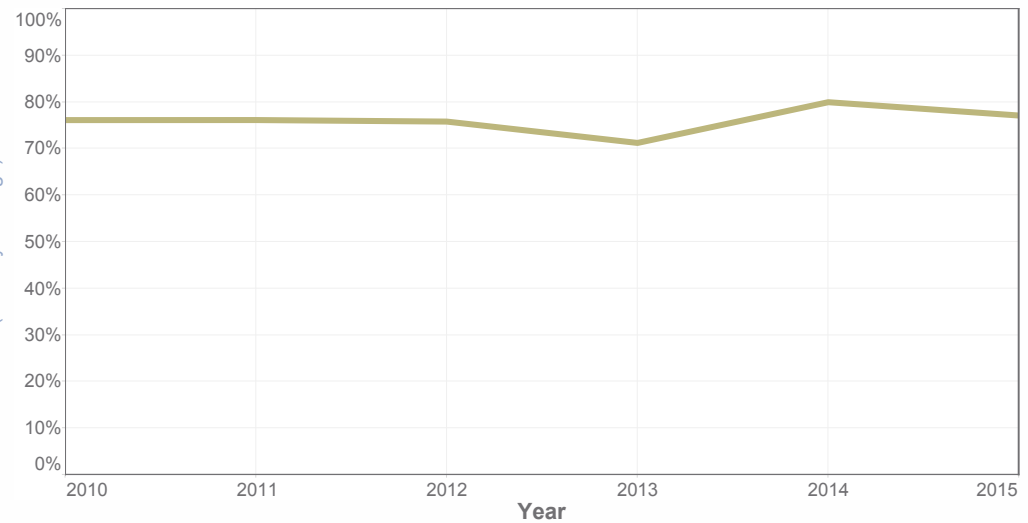| 2016 Component	2015 Component
87.33%	86.50%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

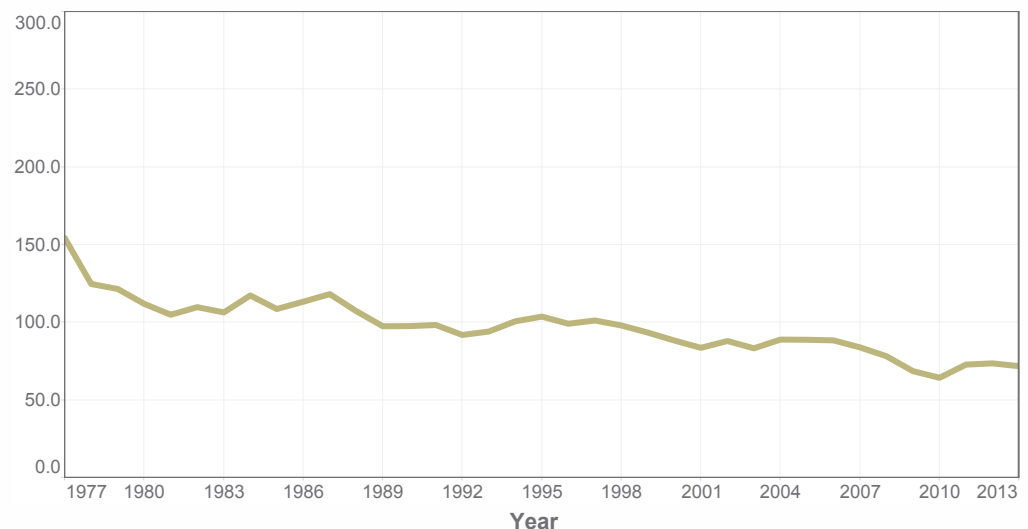| 2016 Component	2015 Component
84.6	88.5

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Columbus

Metro: Columbus | State: Ohio
Metro Profile

Startup Activity Rank

2016	2015
14	13

Rate of New Entrepreneurs

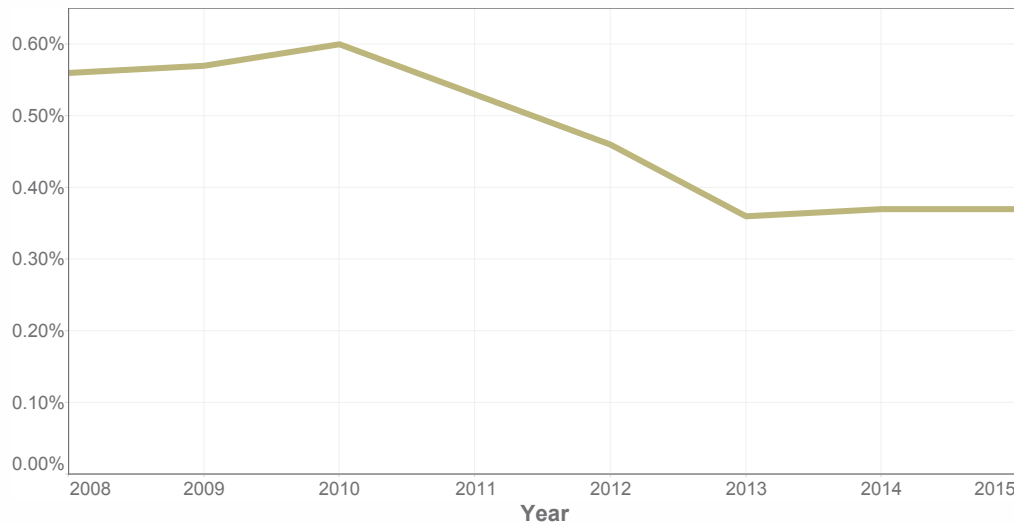| 2016 Component	2015 Component
0.37%	0.35%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

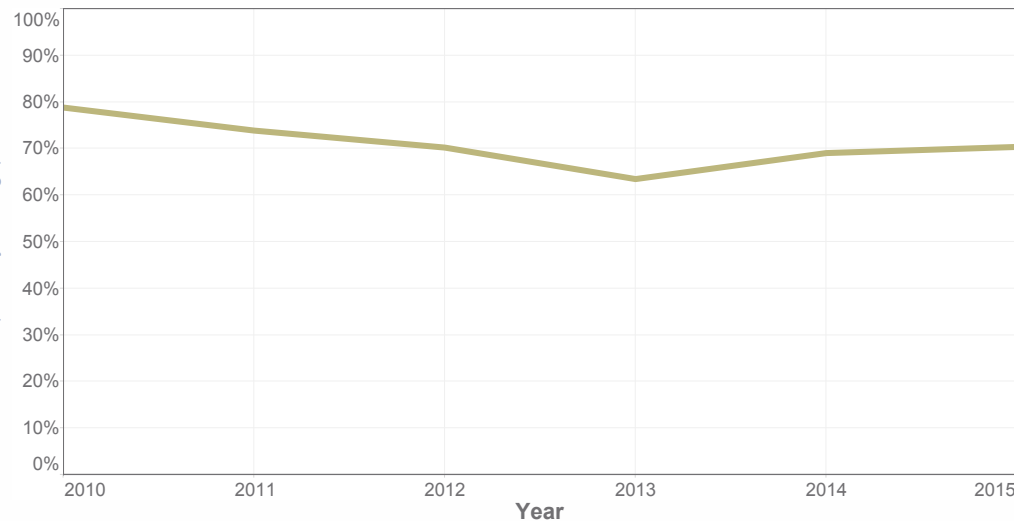| 2016 Component	2015 Component
77.10%	79.96%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

2016 Component	2015 Component
71.8	73.6

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Atlanta

Metro: Atlanta-Sandy Springs-Marietta | State: Georgia

Metro Profile

Startup Activity Rank

2016	2015
15	14

Rate of New Entrepreneurs

2016 Component	2015 Component
0.37%	0.37%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
70.36%	69.04%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

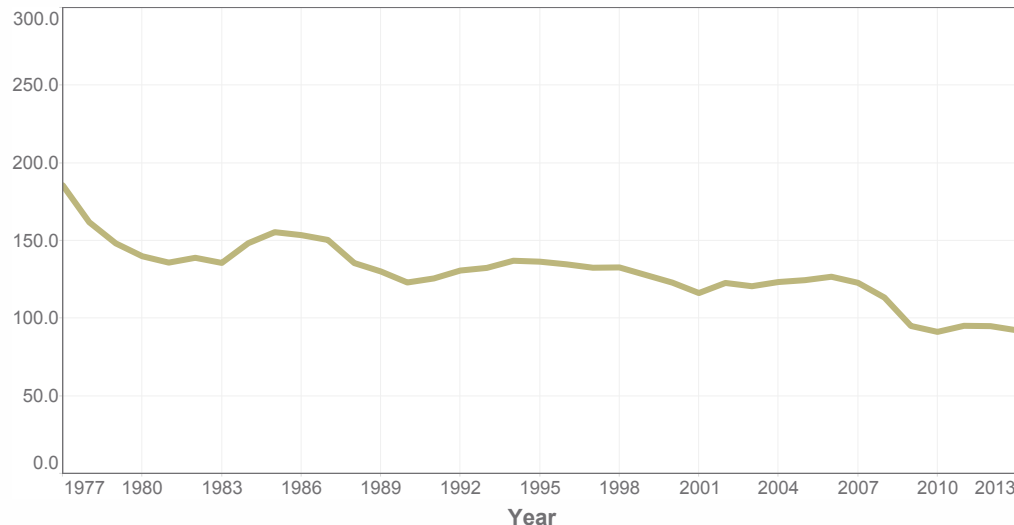| 2016 Component	2015 Component
92.3	95.0

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Nashville

Metro: Nashville-Davidson-Murfreesboro-Franklin | State: Tennessee

Metro Profile

startup activity

Startup Activity Rank

2016	2015
16	23

Rate of New Entrepreneurs

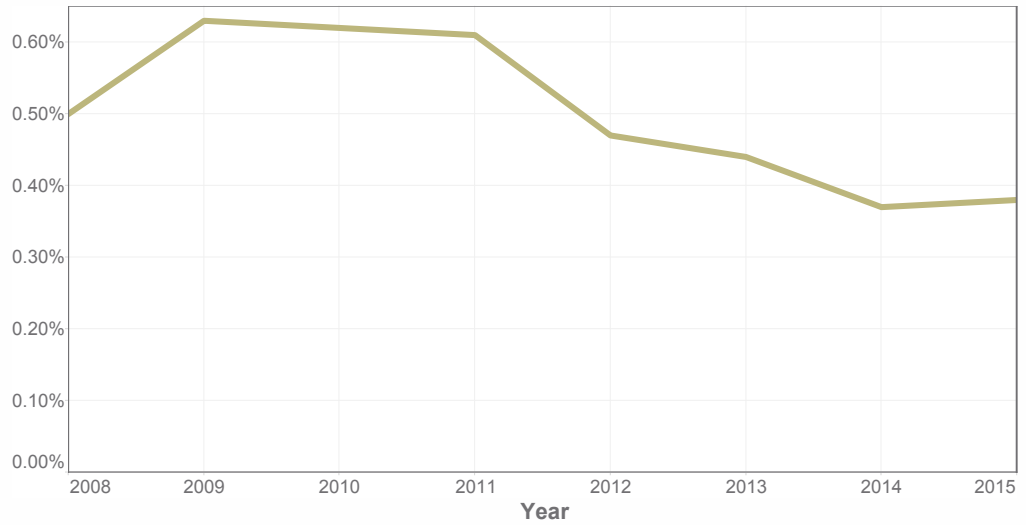| 2016 Component	2015 Component
0.38%	0.37%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

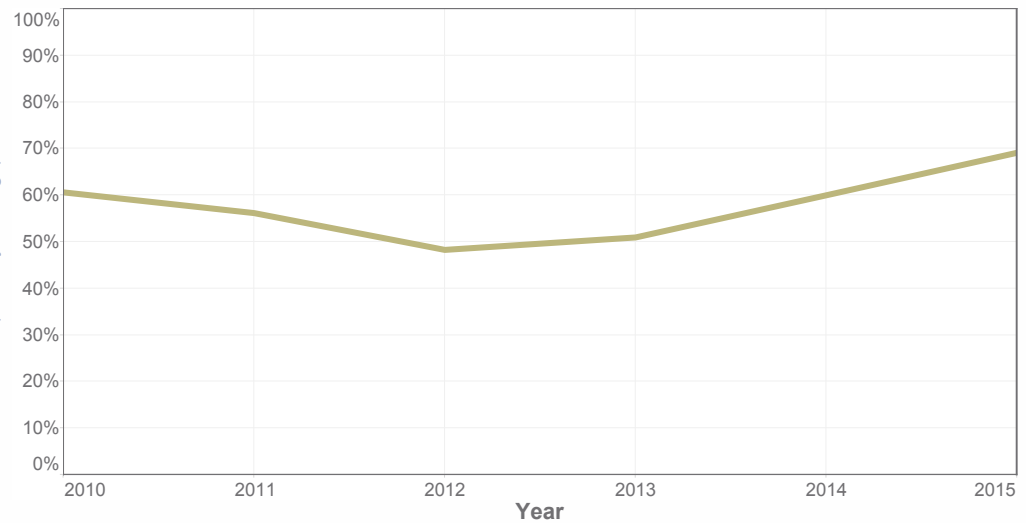| 2016 Component	2015 Component
69.10%	59.98%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

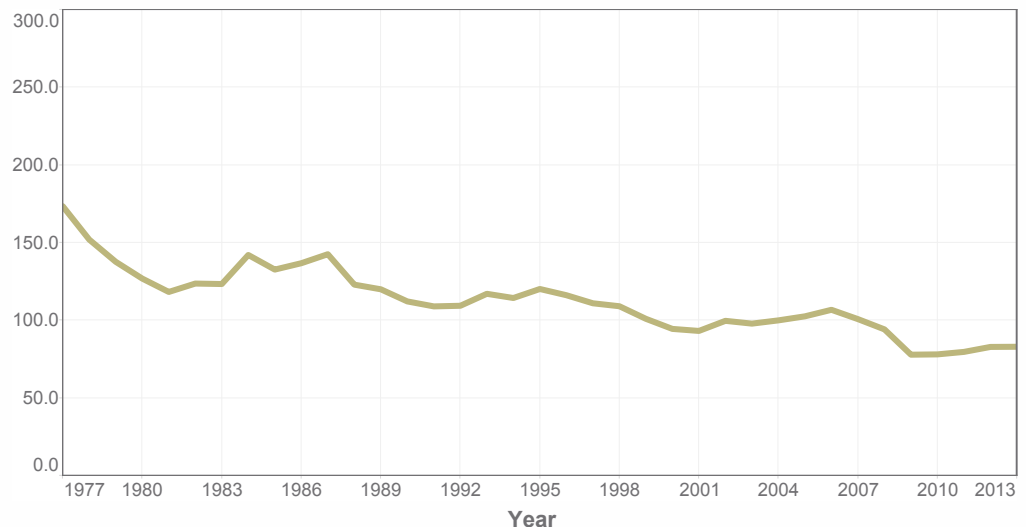| 2016 Component	2015 Component
83.0	82.9

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Riverside

Metro: Riverside-San Bernardino-Ontario | State: California

Metro Profile

Startup Activity Rank

2016	2015
17	16

Rate of New Entrepreneurs

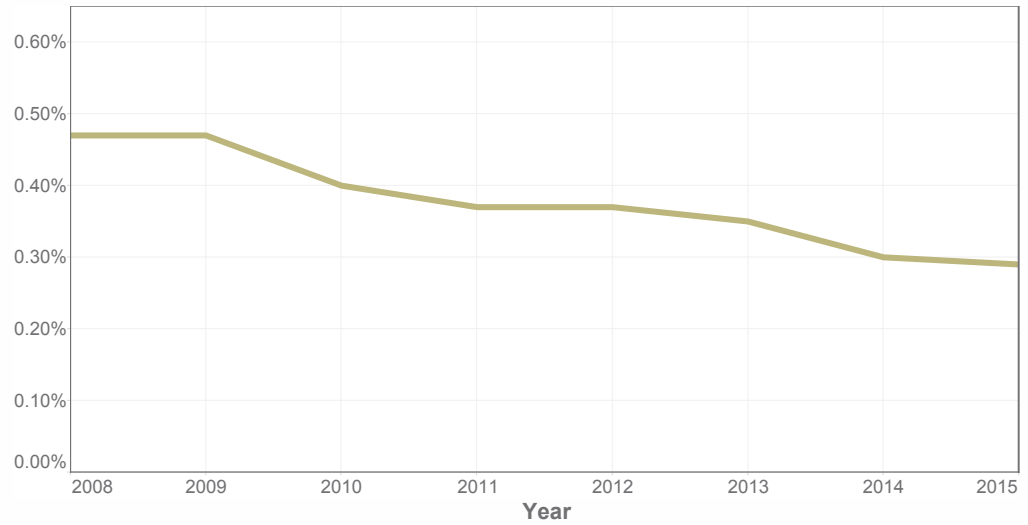| 2016 Component	2015 Component
0.29%	0.30%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

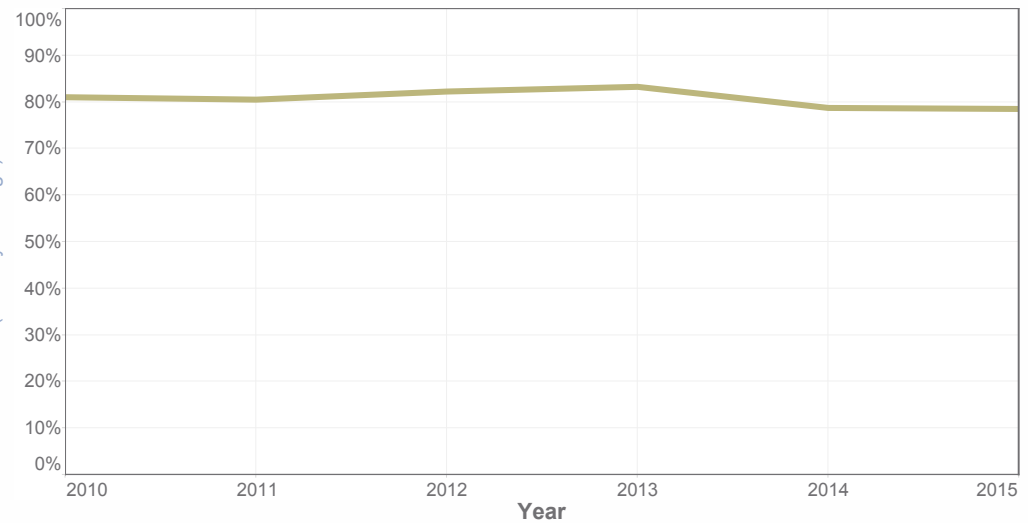| 2016 Component	2015 Component
78.51%	78.73%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

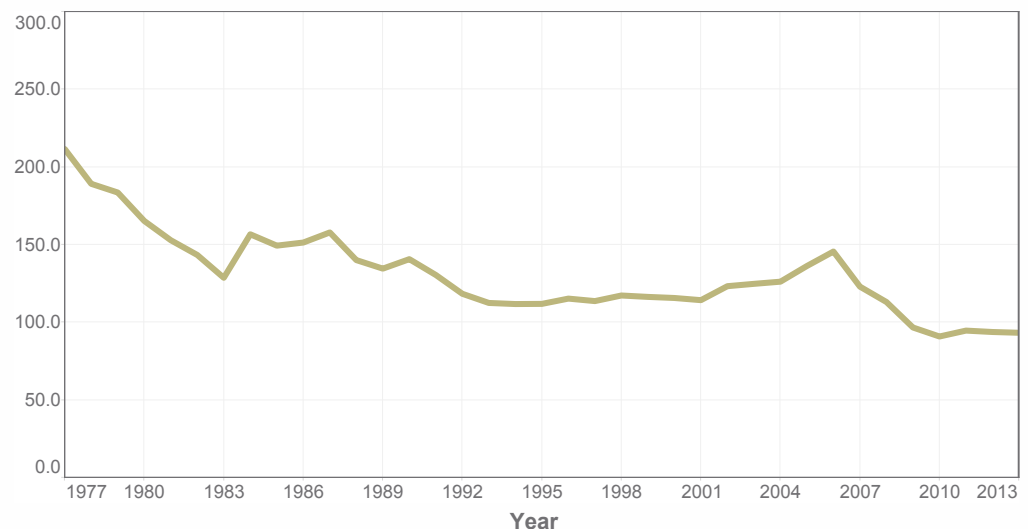| 2016 Component	2015 Component
93.3	93.8

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Kansas City

Metro: Kansas City | State: Missouri-Kansas

Metro Profile

startup activity

Startup Activity Rank

2016	2015
18	29

Rate of New Entrepreneurs

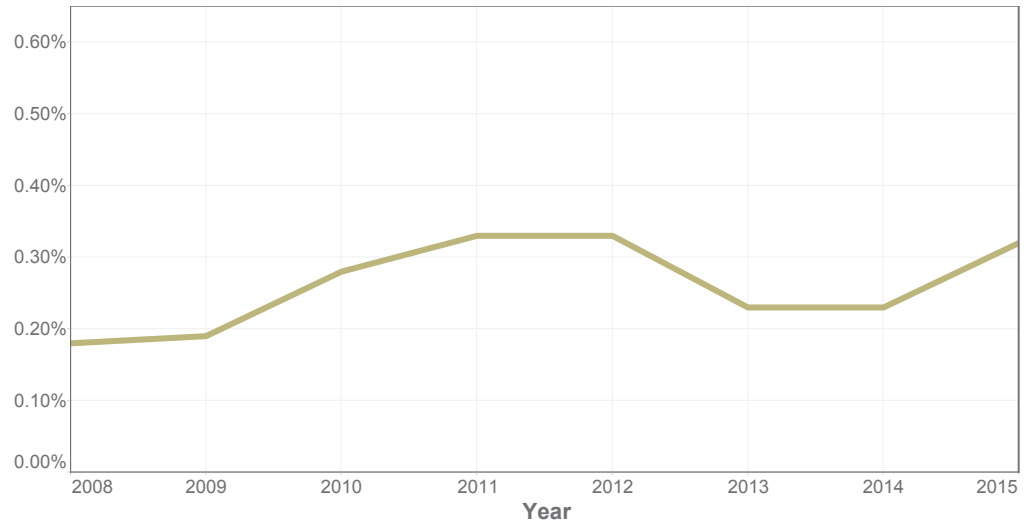| 2016 Component	2015 Component
0.32%	0.23%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

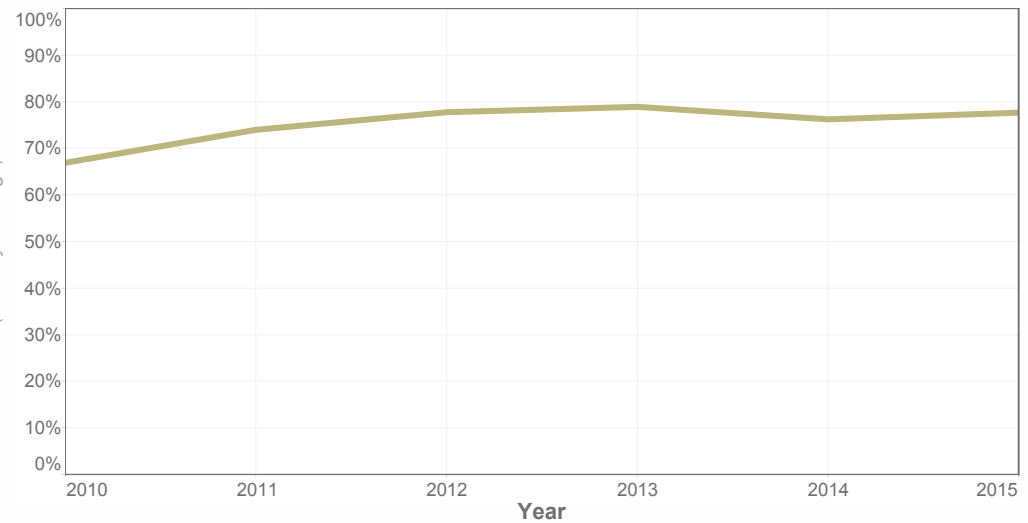| 2016 Component	2015 Component
77.72%	76.28%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

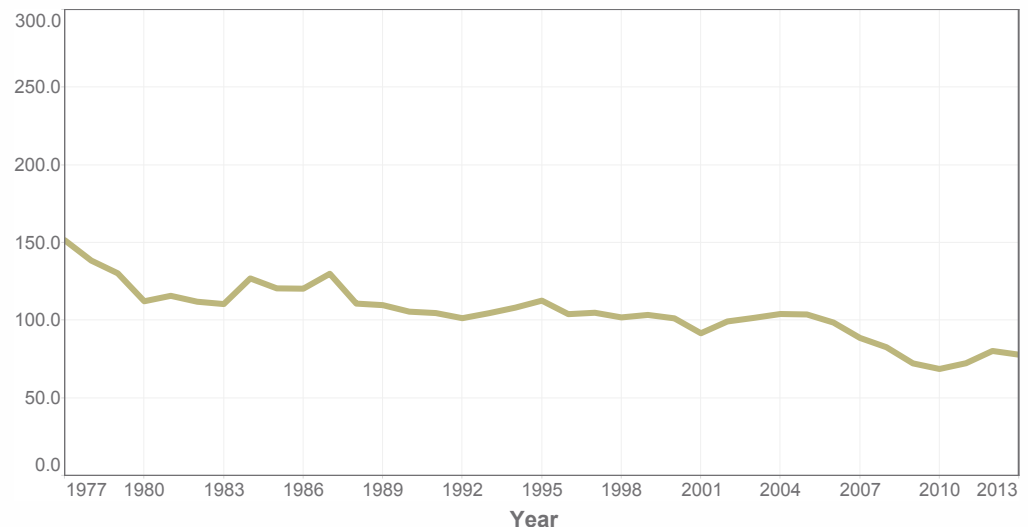| 2016 Component	2015 Component
77.9	80.3

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Tampa

Metro: Tampa-St. Petersburg-Clearwater | State: Florida
Metro Profile

startup activity

Startup Activity Rank

2016	2015
19	21

Rate of New Entrepreneurs

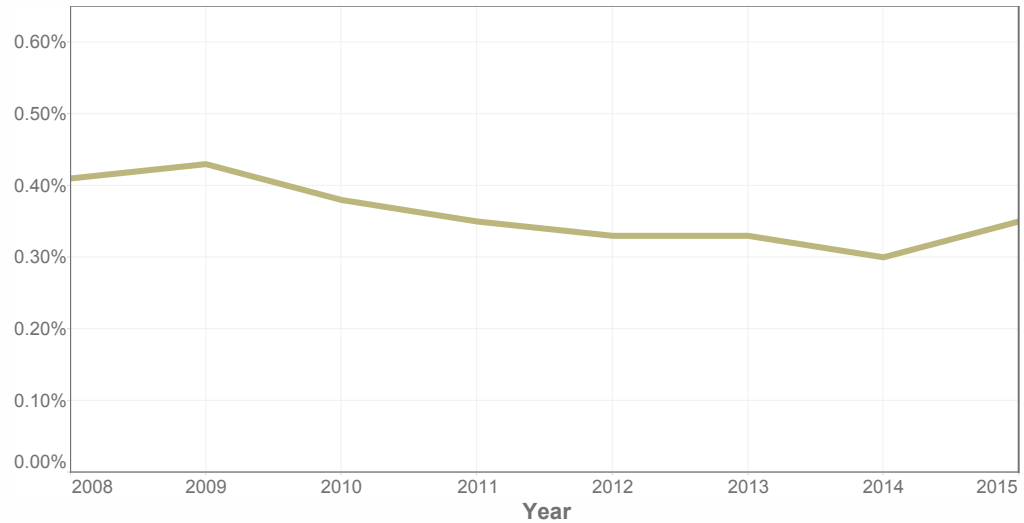| 2016 Component	2015 Component
0.35%	0.30%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

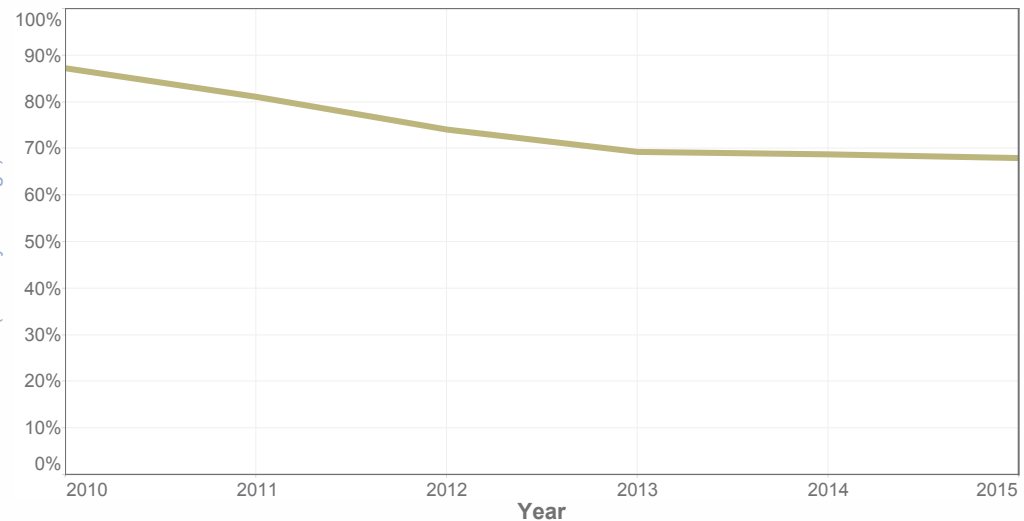| 2016 Component	2015 Component
67.97%	68.77%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

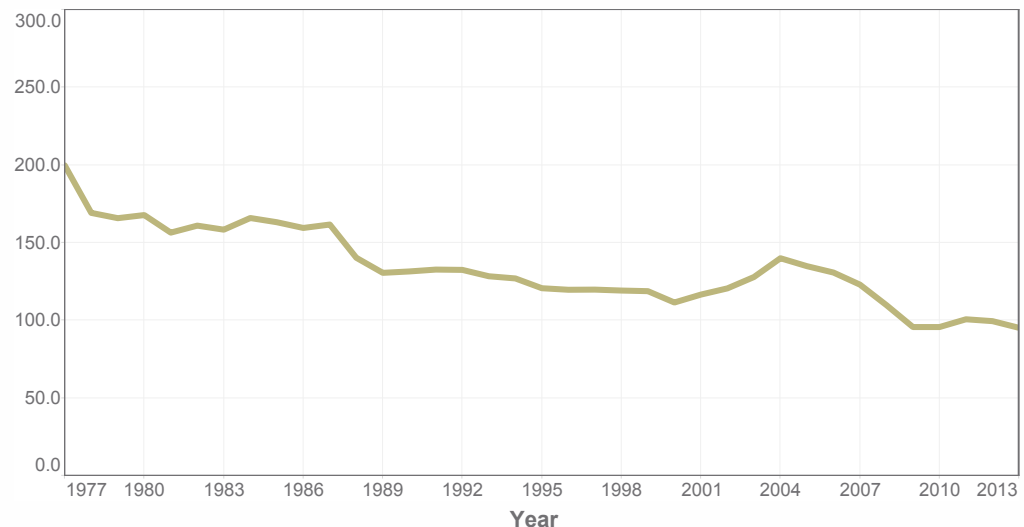| 2016 Component	2015 Component
95.2	99.5

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Baltimore

Metro: Baltimore-Towson | State: Maryland

Metro Profile

Startup Activity Rank	
2016	**2015**
20	**17**

Rate of New Entrepreneurs

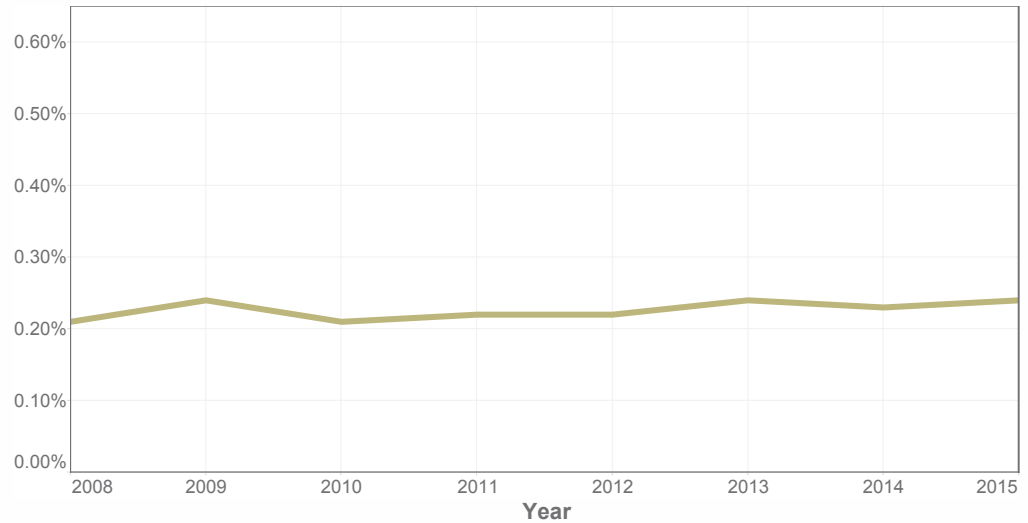| 2016 Component	2015 Component
0.24%	**0.23%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

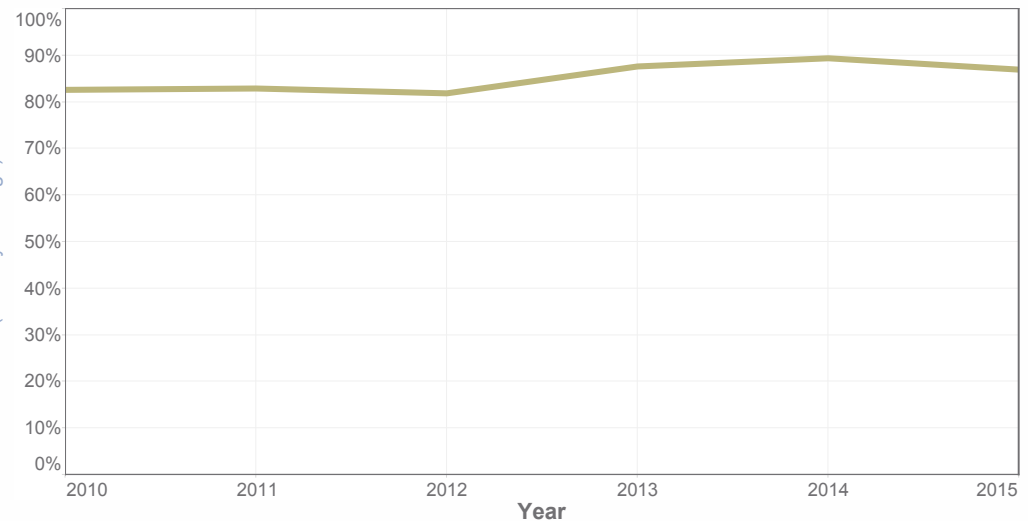| 2016 Component	2015 Component
86.95%	**89.39%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

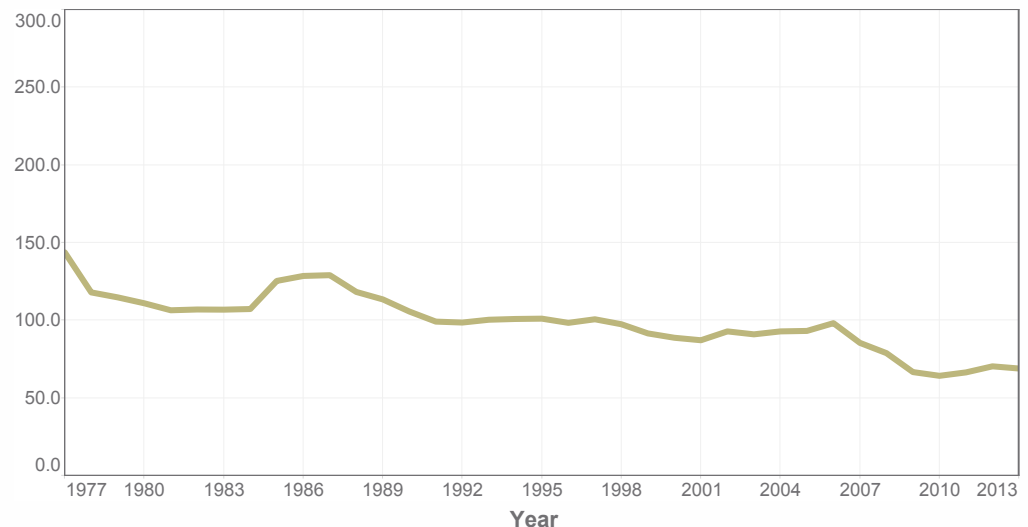| 2016 Component	2015 Component
69.0	**70.4**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Orlando

Metro: Orlando-Kissimmee-Sanford | State: Florida

Metro Profile

Startup Activity Rank

2016	2015
21	33

Rate of New Entrepreneurs

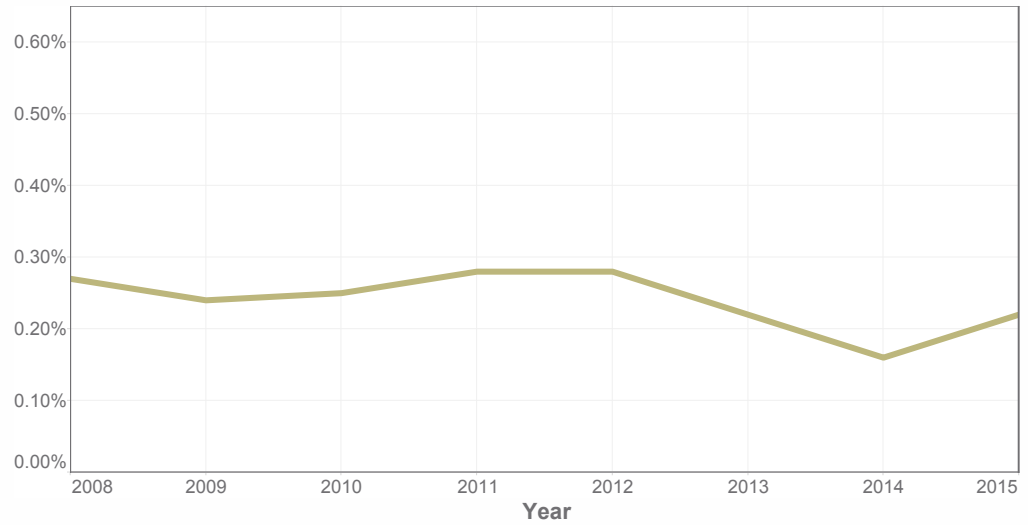| 2016 Component	2015 Component
0.22%	0.16%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

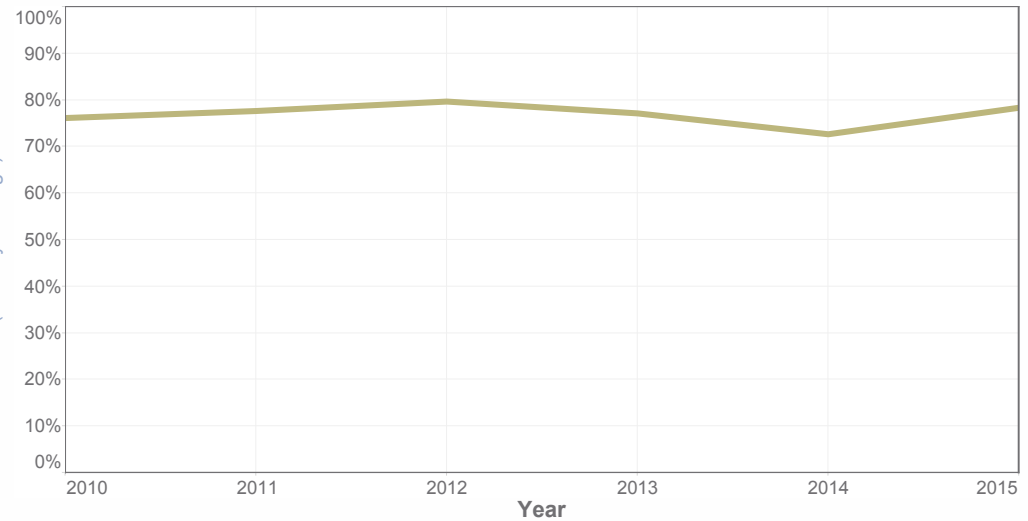| 2016 Component	2015 Component
78.34%	72.65%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

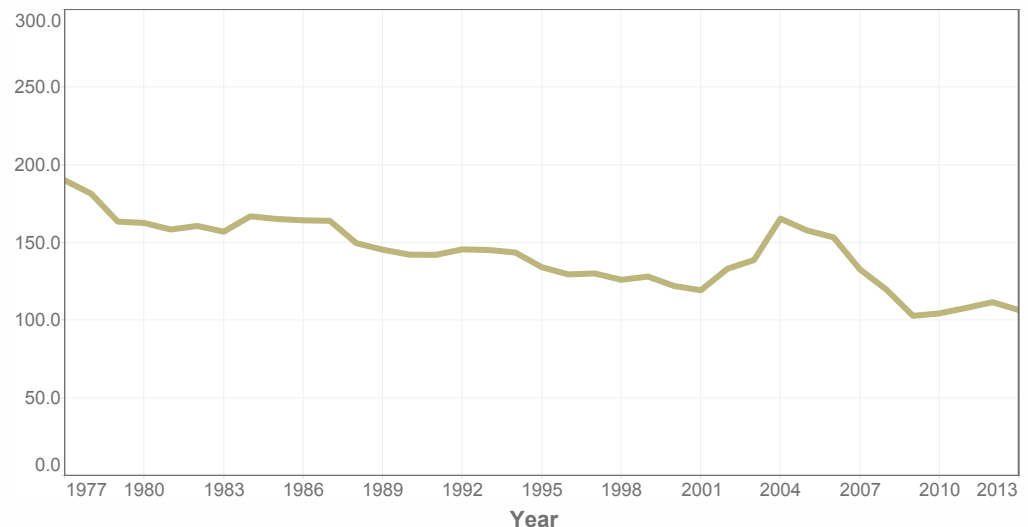| 2016 Component	2015 Component
106.6	111.7

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Boston

Metro: Boston-Cambridge-Quincy | State: Massachusetts-New Hampshire
Metro Profile

startup
activity

Startup Activity Rank

2016	2015
22	23

Rate of New Entrepreneurs

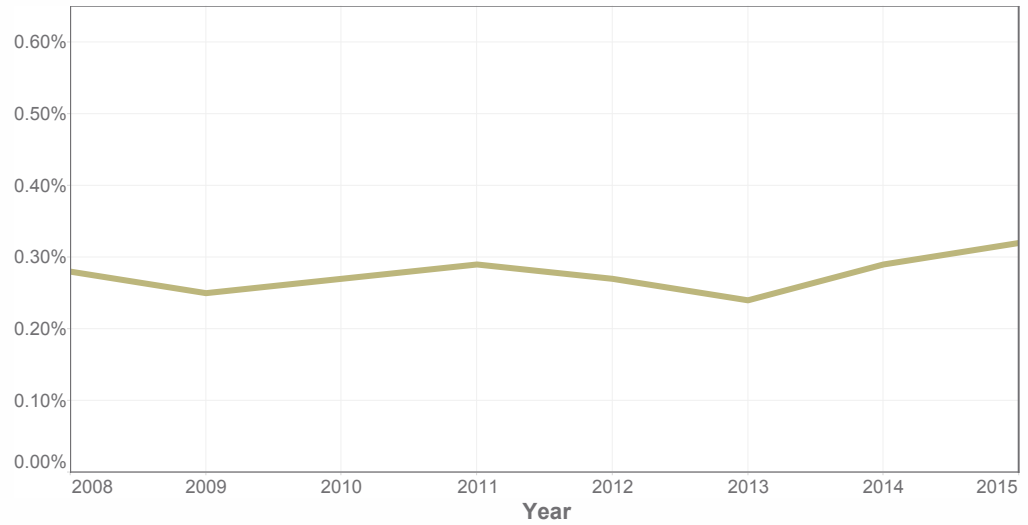| 2016 Component	2015 Component
0.32%	0.29%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Percent of Adult Population Becoming Entrepreneurs (Monthly Average) vs *Year* (2008–2015)

Opportunity Share of New Entrepreneurs

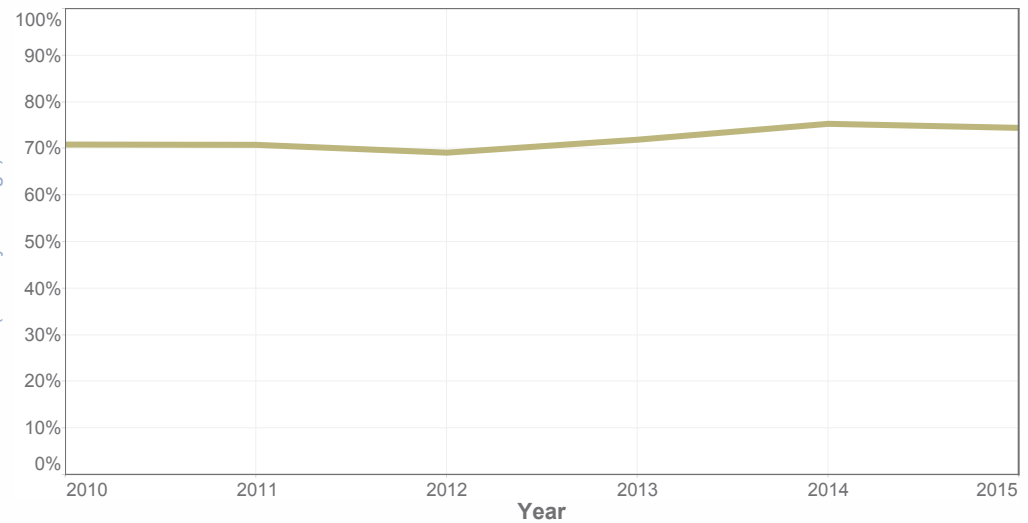| 2016 Component	2015 Component
74.45%	75.32%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Percent of New Entrepreneurs Not Coming Out of Unemployment (Monthly Average) vs *Year* (2010–2015)

Startup Density

2016 Component	2015 Component
68.5	71.0

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startups per 1,000 Firm Population (Annual) vs *Year* (1977–2013)

Charlotte

Metro: Charlotte-Gastonia-Rock Hill | State: North Carolina-South Carolina

Metro Profile

startup activity

Startup Activity Rank

2016	2015
23	25

Rate of New Entrepreneurs

2016 Component	2015 Component
0.36%	0.29%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
62.28%	67.98%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

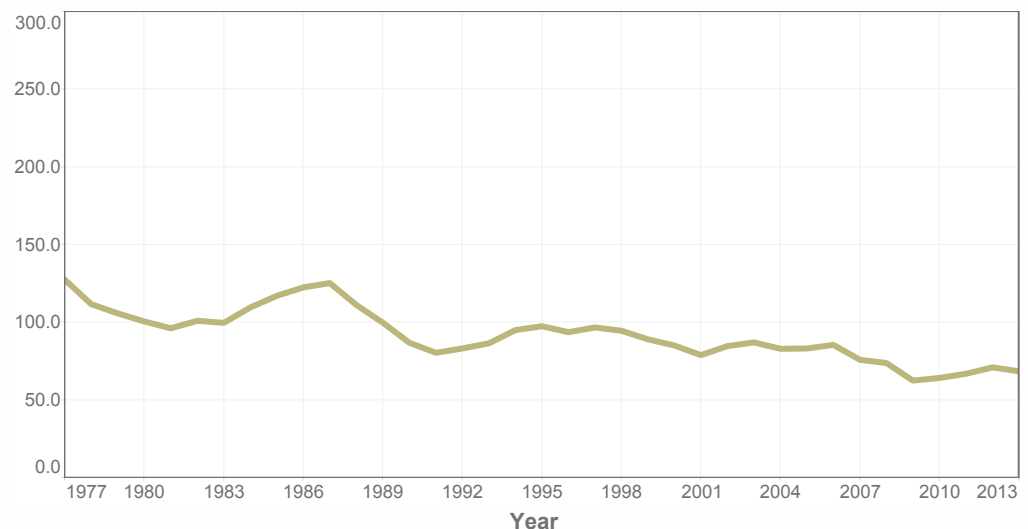| 2016 Component	2015 Component
86.2	89.0

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank	
2016	**2015**
24	**31**

Cincinnati

Metro: Cincinnati-Middletown | State: Ohio-Kentucky-Indiana
Metro Profile

Rate of New Entrepreneurs

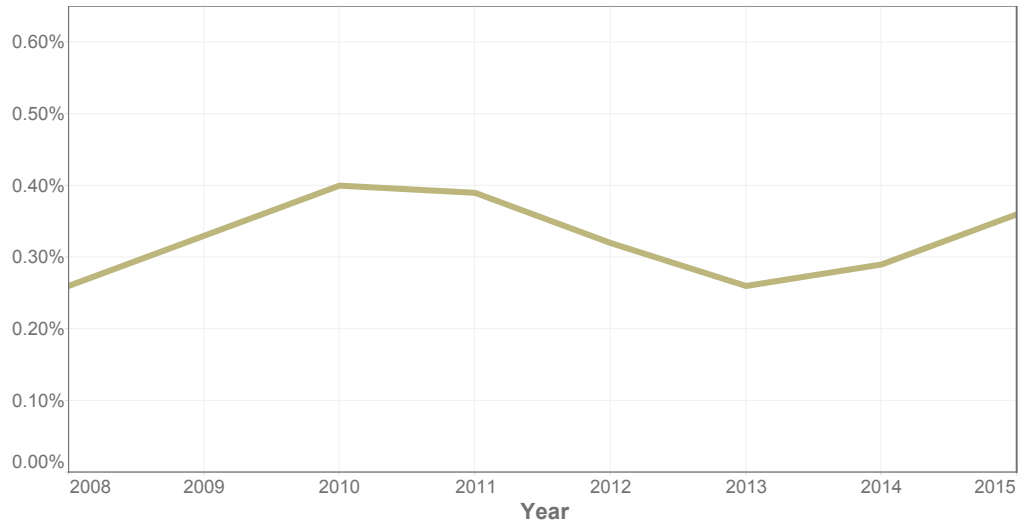| 2016 Component	2015 Component
0.25%	**0.23%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Percent of Adult Population Becoming Entrepreneurs (Monthly Average) vs *Year*

Opportunity Share of New Entrepreneurs

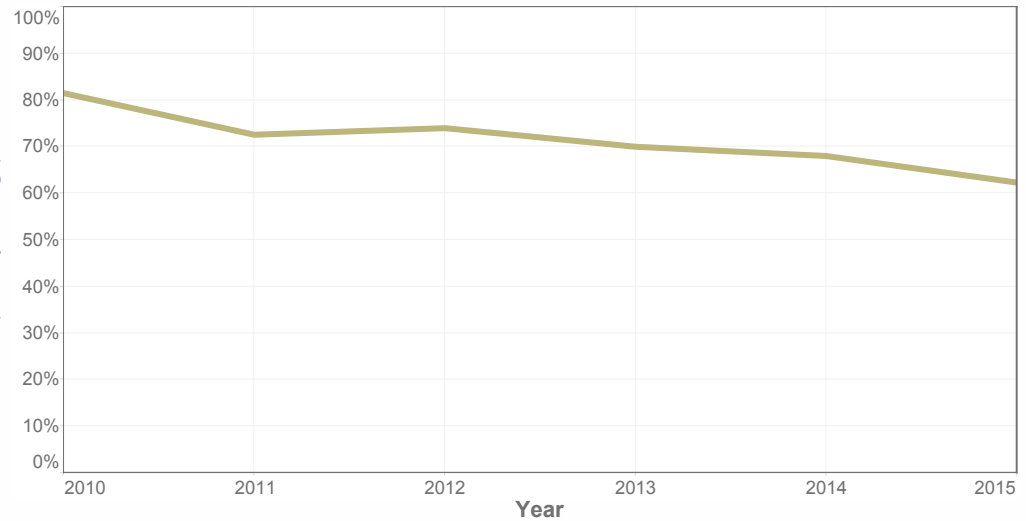| 2016 Component	2015 Component
85.49%	**78.76%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Percent of New Entrepreneurs Not Coming Out of Unemployment (Monthly Average) vs *Year*

Startup Density

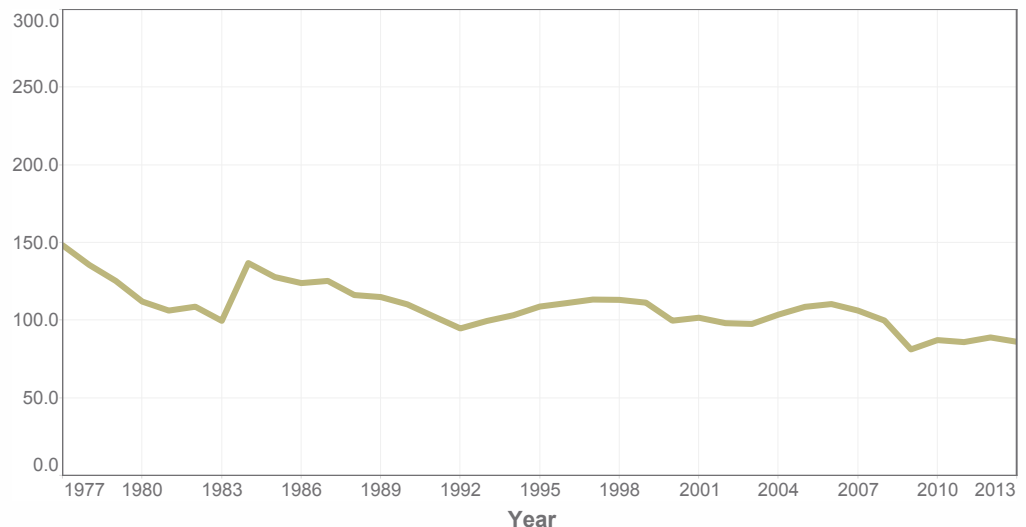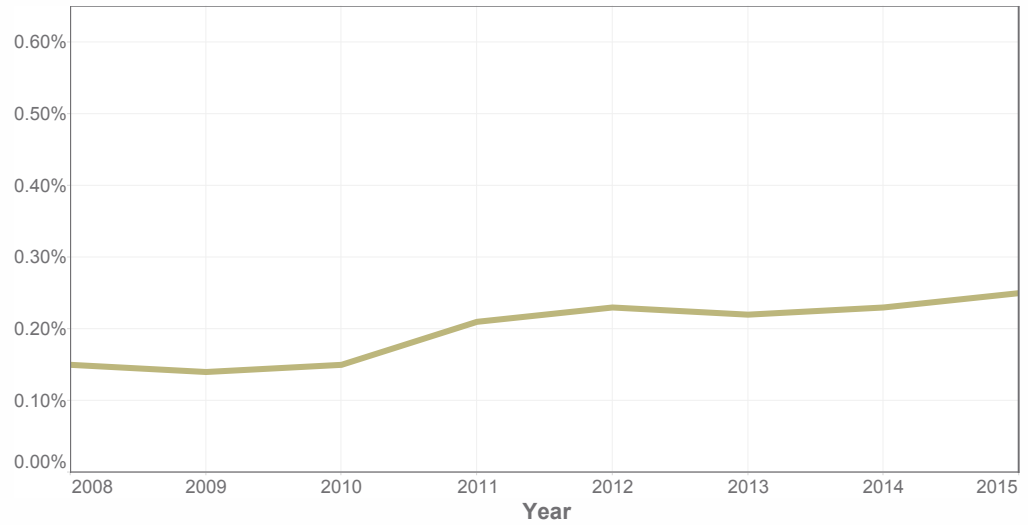| 2016 Component	2015 Component
62.1	**64.9**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startups per 1,000 Firm Population (Annual) vs *Year*

Washington, D. C.

Metro: Washington-Arlington-Alexandria | State: District of Columbia-Virginia-Maryland-West Virginia

Metro Profile

startup activity

Startup Activity Rank

2016	2015
25	28

Rate of New Entrepreneurs

2016 Component	2015 Component
0.28%	0.23%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS.
3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

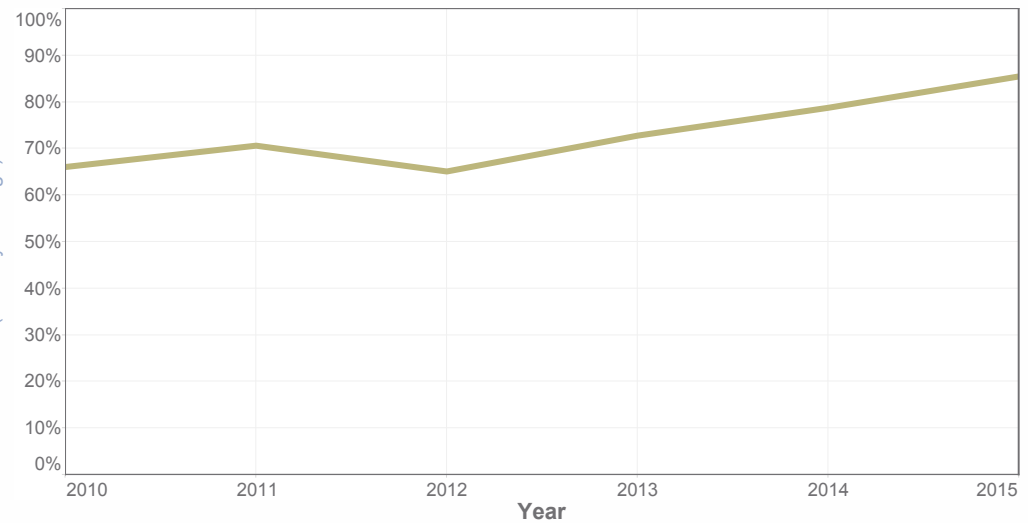| 2016 Component	2015 Component
75.76%	77.53%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS.
5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

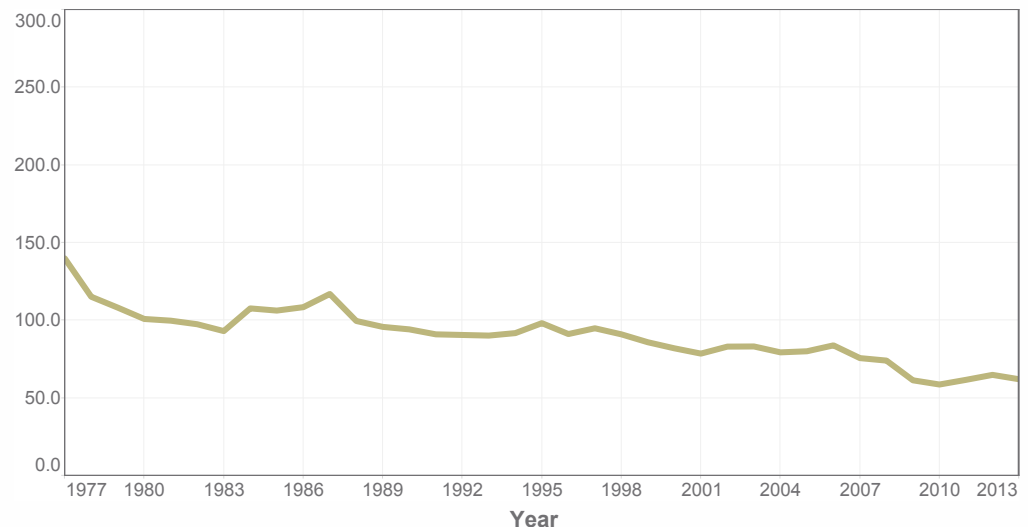| 2016 Component	2015 Component
78.5	78.4

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA.
Yearly measure.

Startup Density

Seattle

Metro: Seattle-Tacoma-Bellevue | State: Washington

Metro Profile

Startup Activity Rank

2016	2015
26	19

Rate of New Entrepreneurs

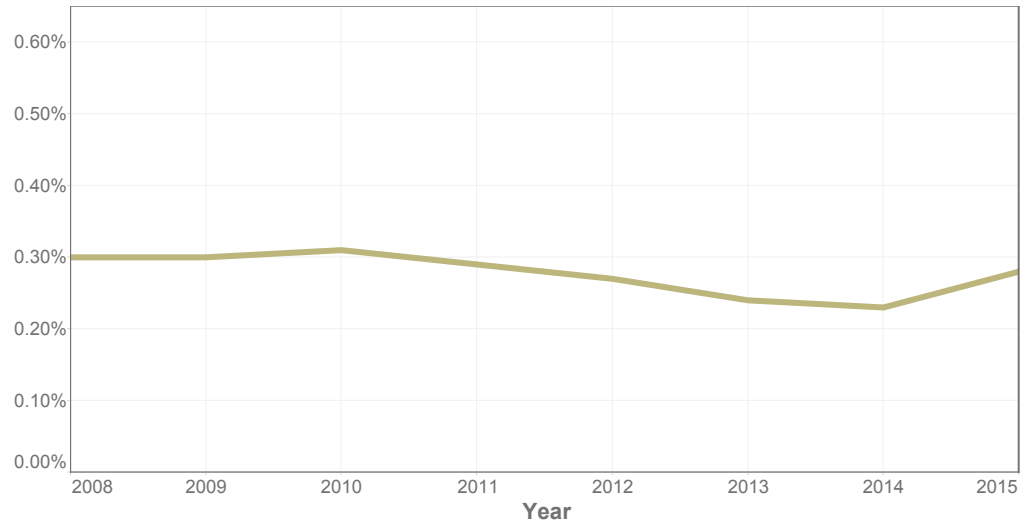| 2016 Component	2015 Component
0.24%	0.28%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Percent of Adult Population Becoming Entrepreneurs (Monthly Average)

Opportunity Share of New Entrepreneurs

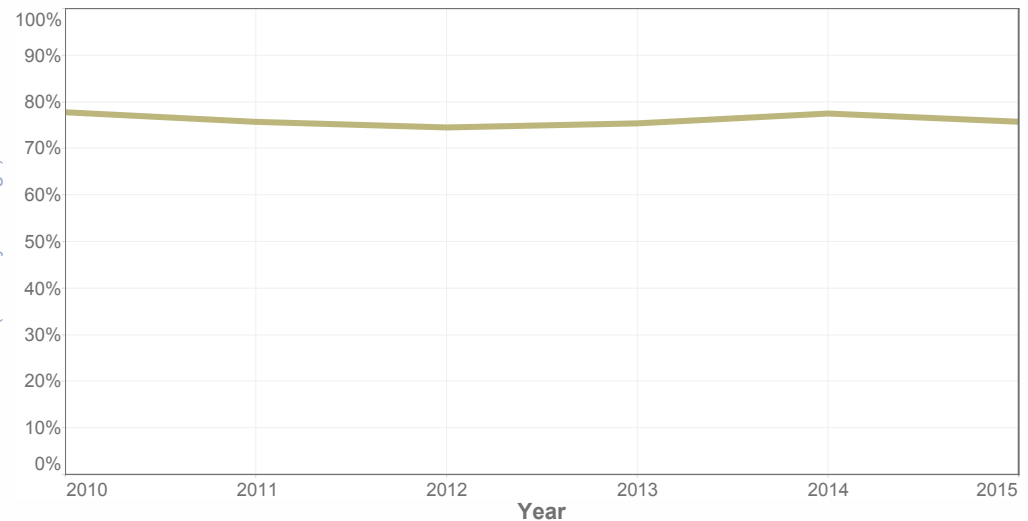| 2016 Component	2015 Component
78.21%	76.84%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Percent of New Entrepreneurs Not Coming Out of Unemployment (Monthly Average)

Startup Density

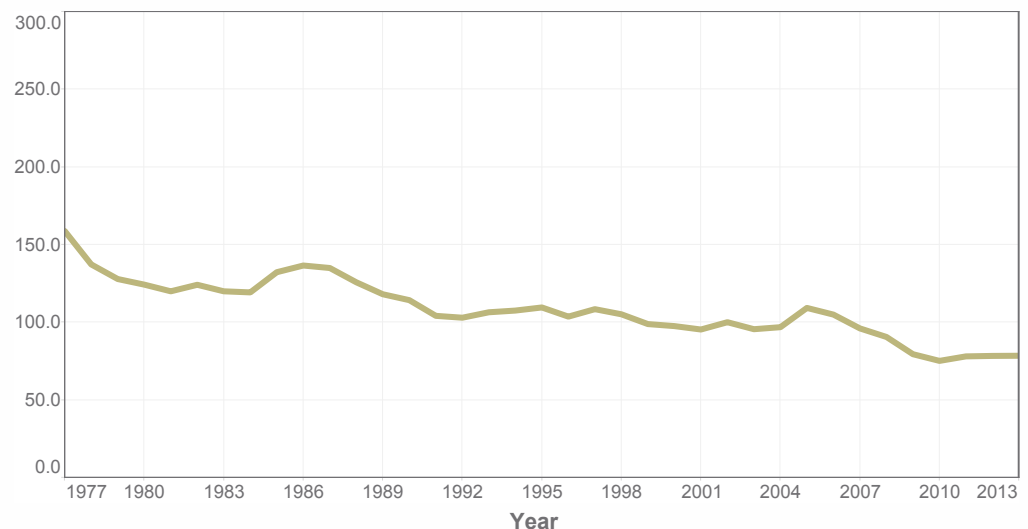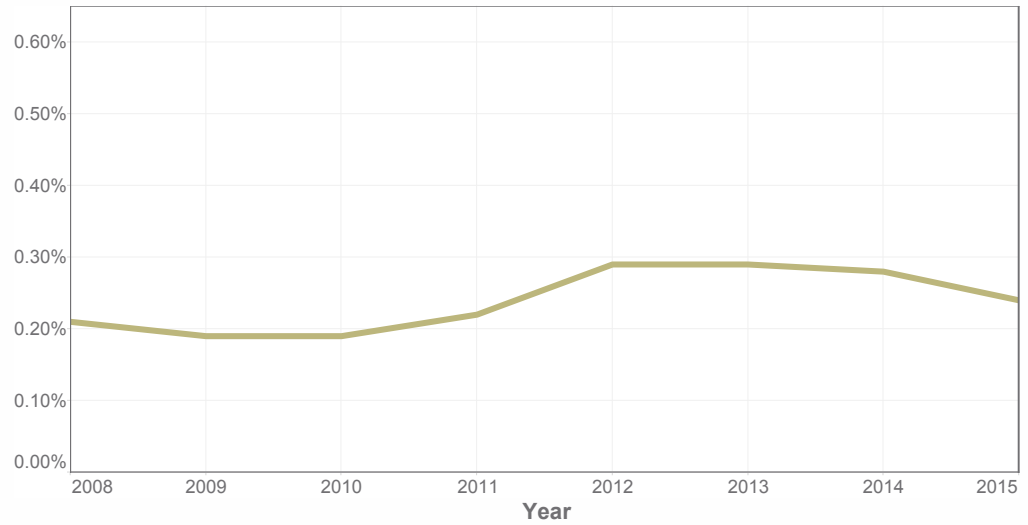| 2016 Component	2015 Component
86.1	85.6

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startups per 1,000 Firm Population (Annual)

Sacramento

Metro: Sacramento-Arden-Arcade-Roseville | State: California

Metro Profile

startup
activity

Startup Activity Rank

2016	2015
27	20

Rate of New Entrepreneurs

2016 Component	2015 Component
0.24%	0.28%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

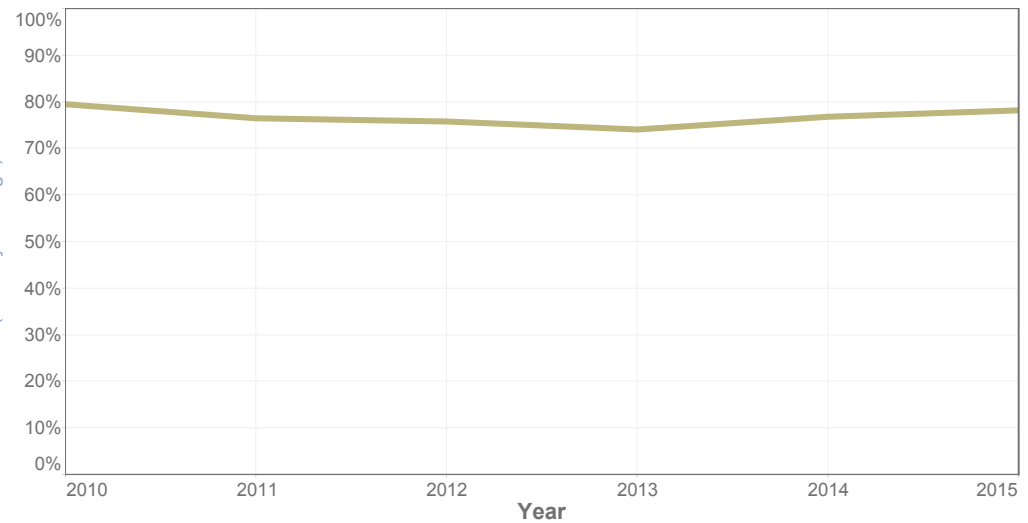| 2016 Component	2015 Component
78.80%	76.38%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

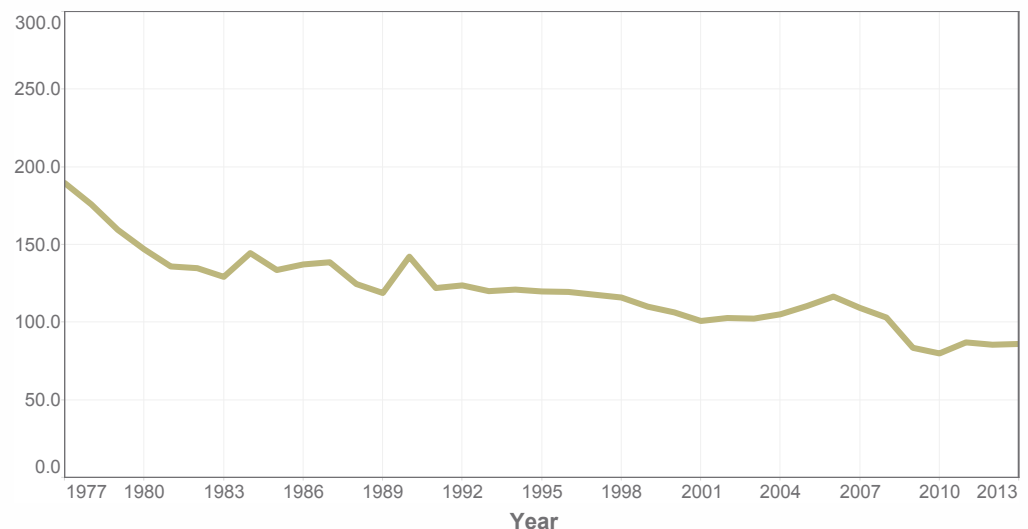| 2016 Component	2015 Component
83.3	86.2

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Jacksonville

Metro: Jacksonville | State: Florida

Metro Profile

startup activity

Startup Activity Rank

2016	2015
28	26

Rate of New Entrepreneurs

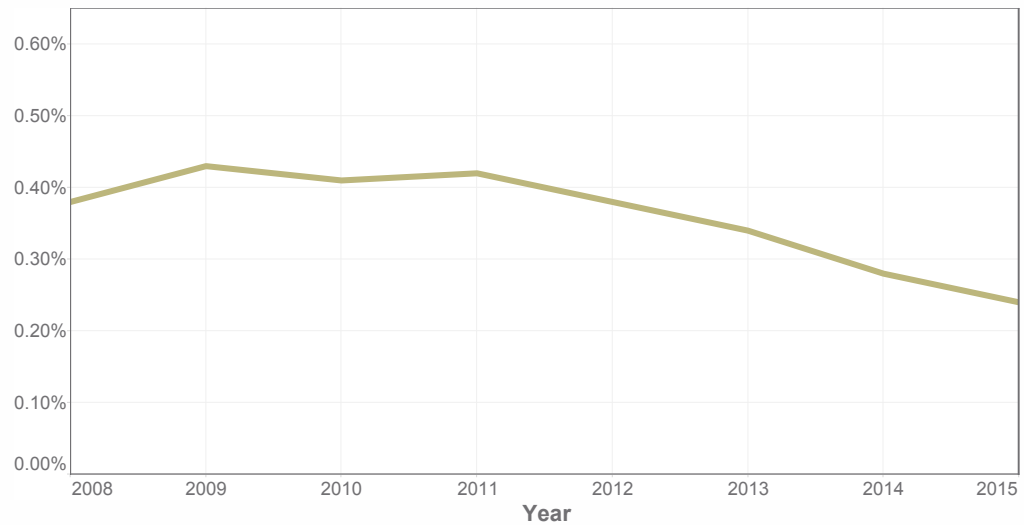| 2016 Component	2015 Component
0.18%	0.21%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

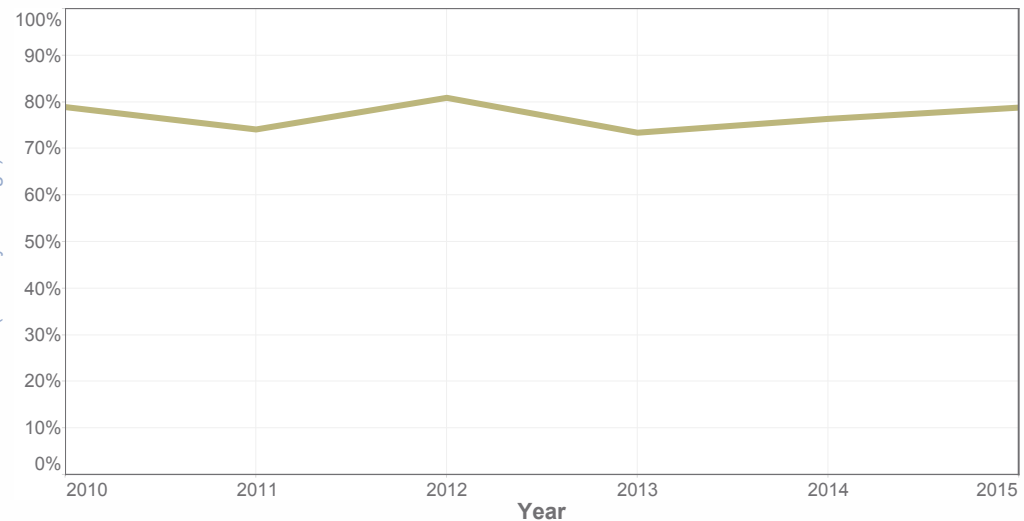| 2016 Component	2015 Component
84.41%	78.18%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

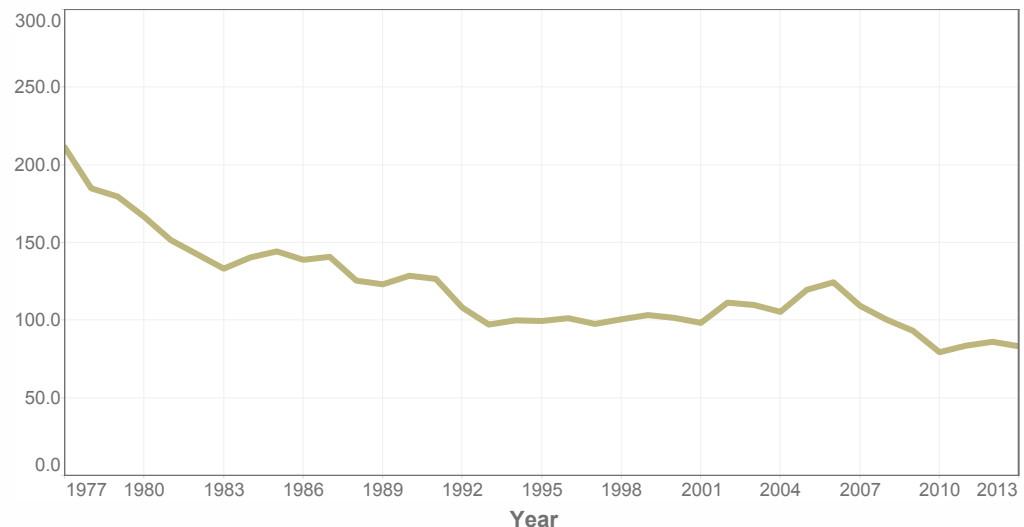| 2016 Component	2015 Component
93.5	91.5

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Chicago

Metro: Chicago-Joliet-Naperville | State: Illinois-Indiana-Wisconsin
Metro Profile

Startup Activity Rank

2016	2015
29	22

Rate of New Entrepreneurs

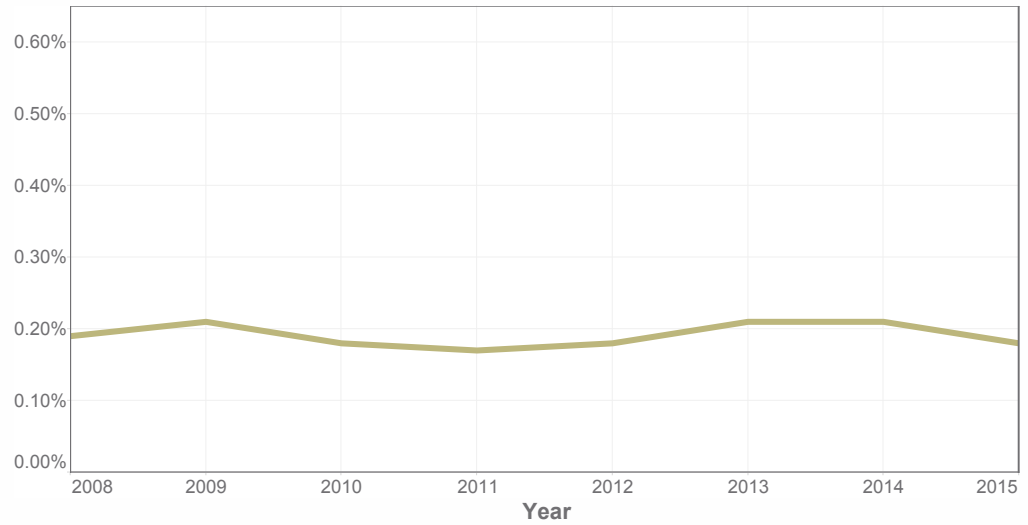| 2016 Component	2015 Component
0.22%	0.23%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

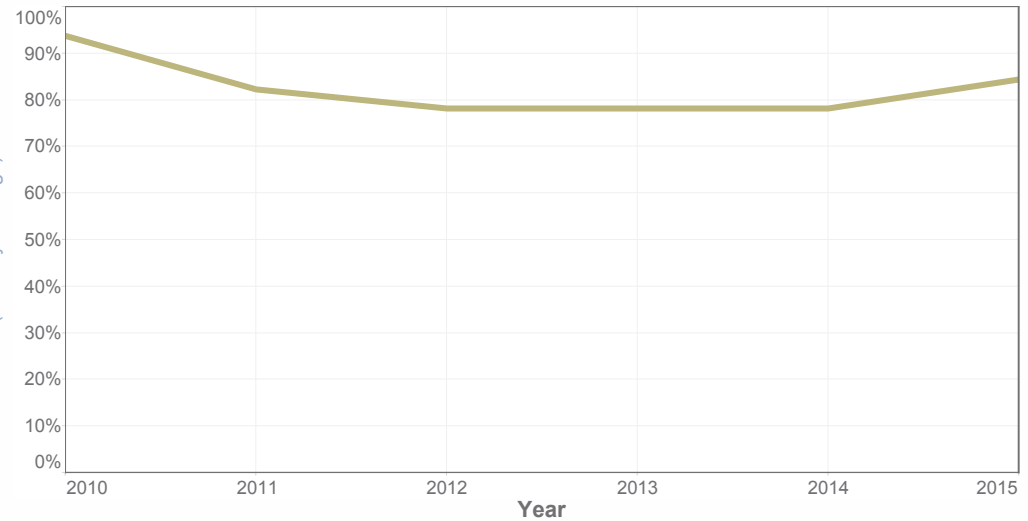| 2016 Component	2015 Component
81.34%	82.83%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

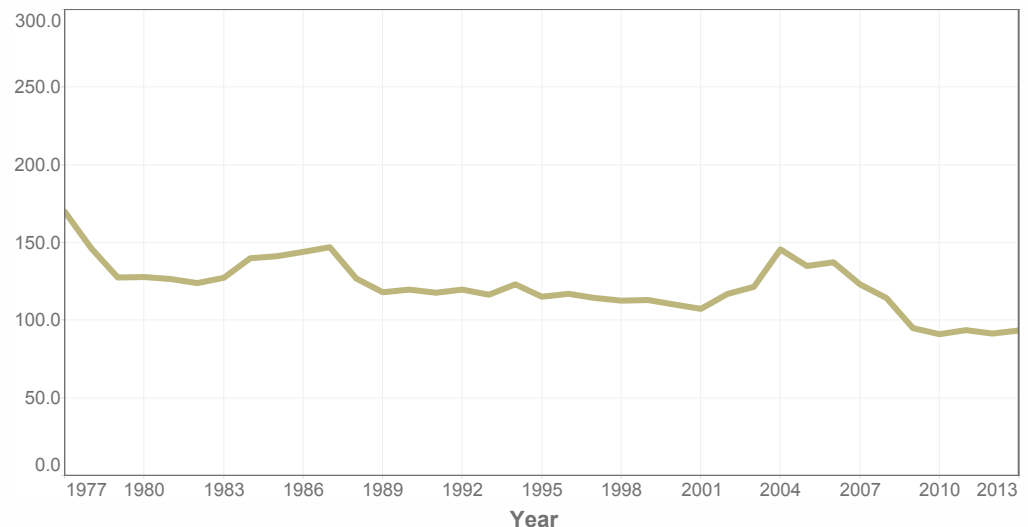| 2016 Component	2015 Component
78.0	80.7

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Detroit

Metro: Detroit-Warren-Livonia | State: Michigan

Metro Profile

startup activity

Startup Activity Rank

2016	2015
30	35

Rate of New Entrepreneurs

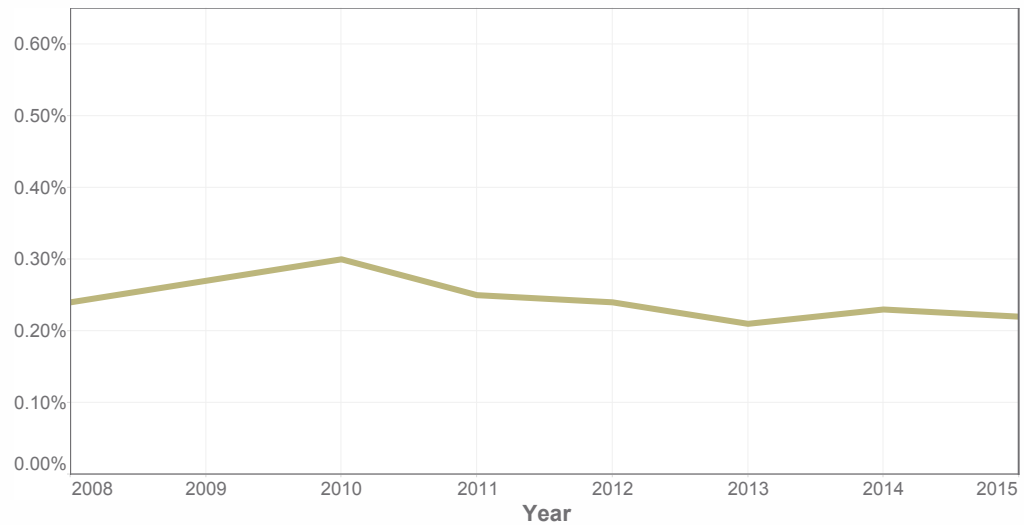| 2016 Component	2015 Component
0.26%	0.22%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

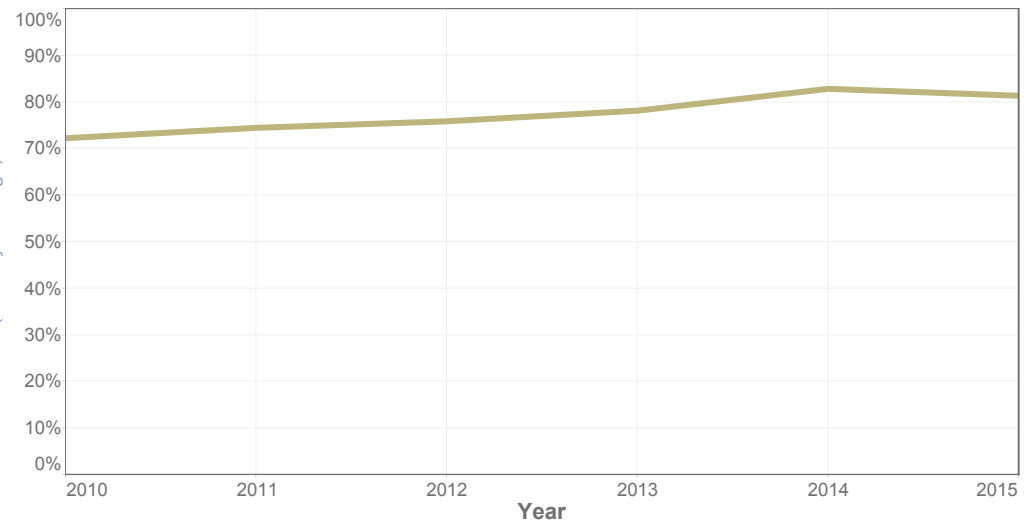| 2016 Component	2015 Component
72.69%	66.60%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

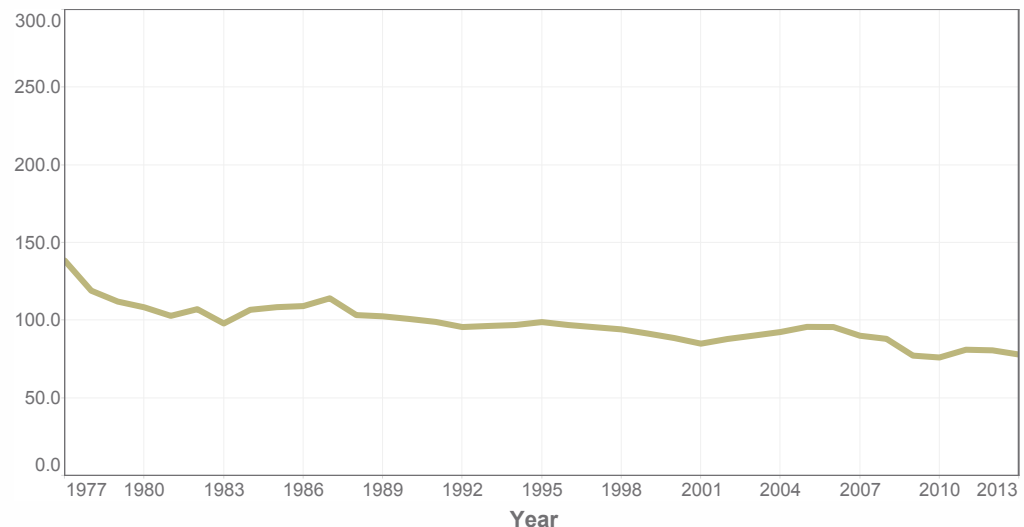| 2016 Component	2015 Component
74.8	77.1

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Portland

Metro: Portland-Vancouver-Hillsboro | State: Oregon-Washington

Metro Profile

Startup Activity Rank	
2016	**2015**
31	**30**

Rate of New Entrepreneurs

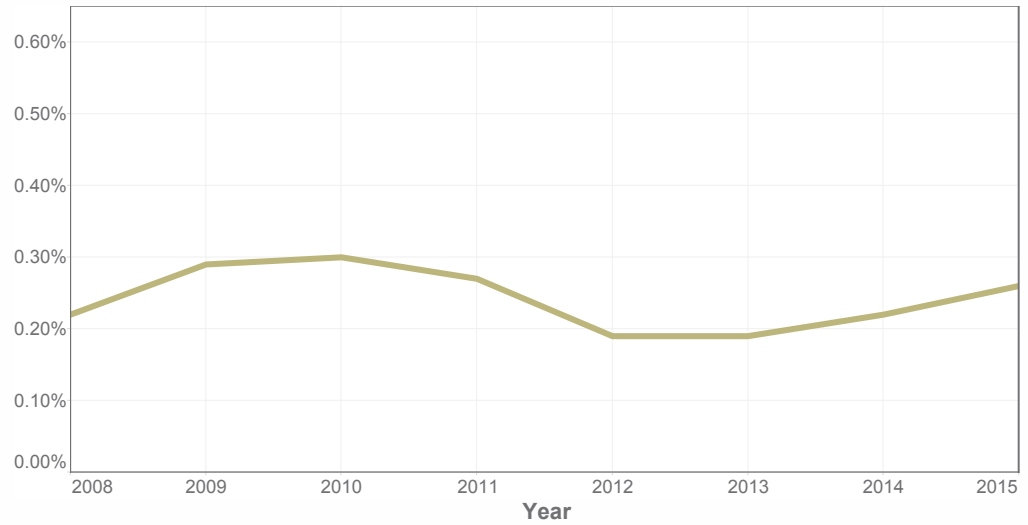| 2016 Component	2015 Component
0.26%	**0.25%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

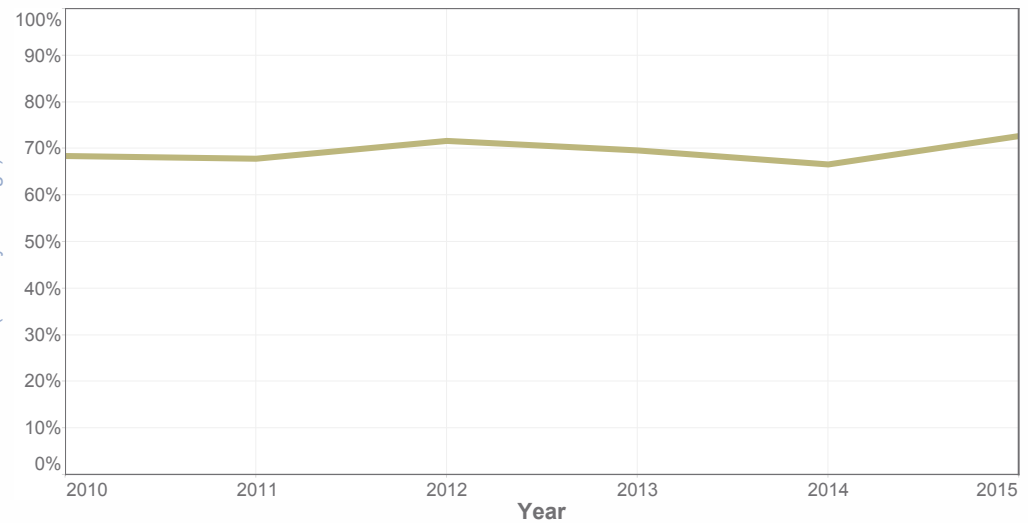| 2016 Component	2015 Component
70.37%	**71.21%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

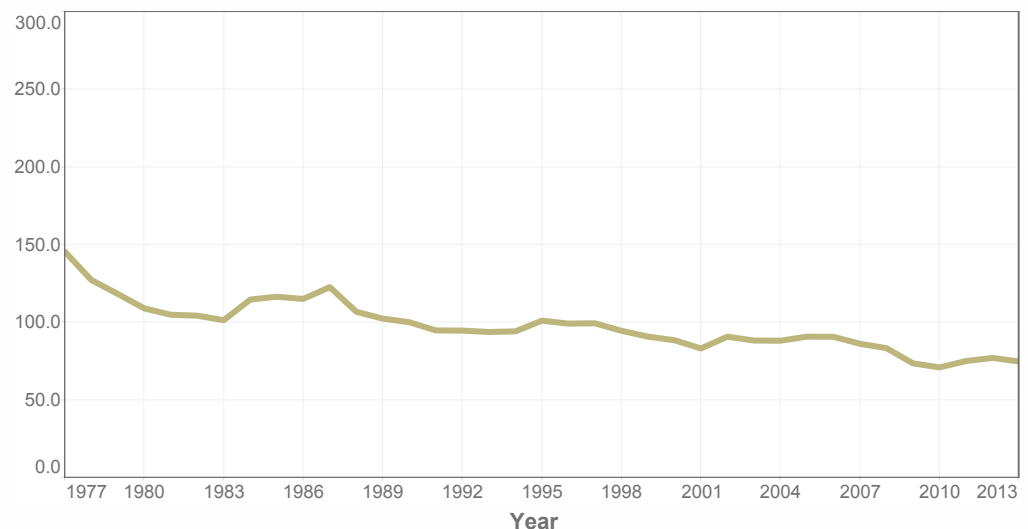| 2016 Component	2015 Component
80.9	**83.0**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank	
2016	**2015**
32	**18**

Virginia Beach

Metro: Virginia Beach-Norfolk-Newport News | State: Virginia-North Carolina
Metro Profile

Rate of New Entrepreneurs

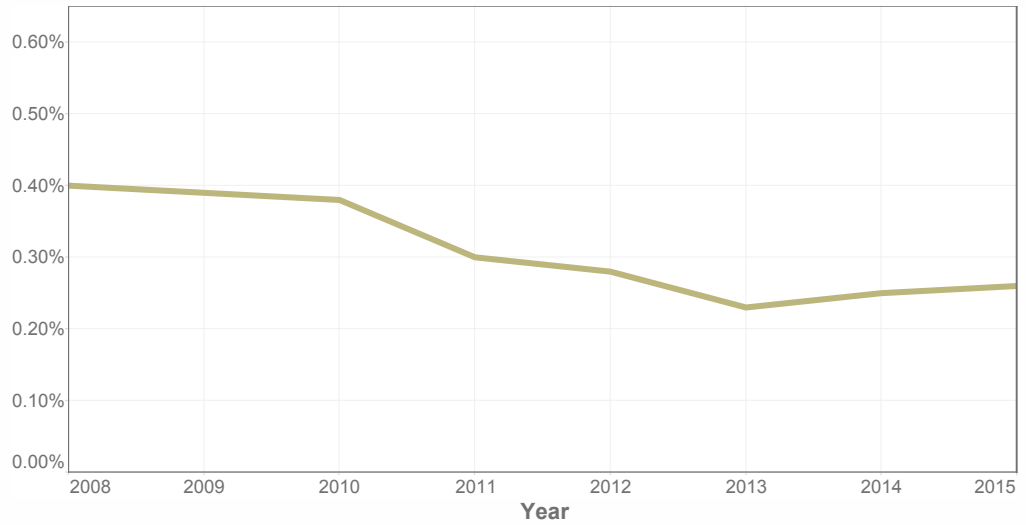| 2016 Component	2015 Component
0.21%	**0.28%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
81.15%	**81.15%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

2016 Component	2015 Component
68.9	**72.1**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Indianapolis

Metro: Indianapolis-Carmel | State: Indiana
Metro Profile

startup activity

Startup Activity Rank

2016	2015
33	27

Rate of New Entrepreneurs

2016 Component	2015 Component
0.18%	0.23%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

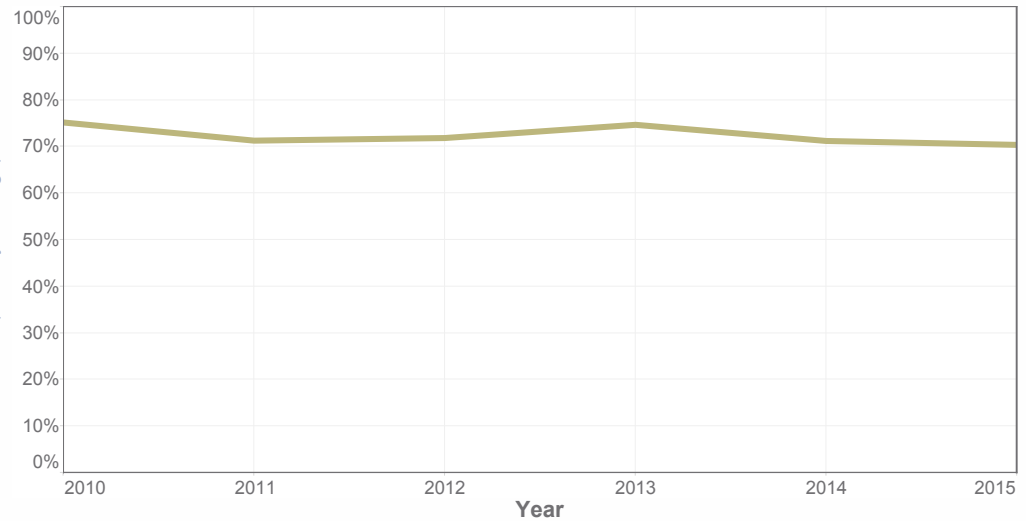| 2016 Component	2015 Component
82.57%	79.67%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

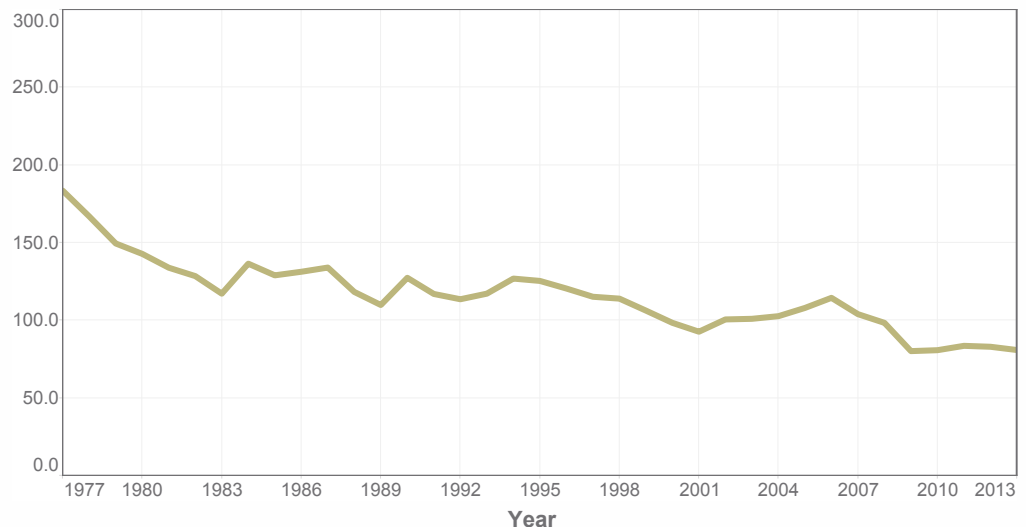| 2016 Component	2015 Component
75.7	75.8

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Philadelphia

Metro: Philadelphia-Camden-Wilmington | State: Pennsylvania-New Jersey-Delaware-Maryland

Metro Profile

Startup Activity Rank	
2016	2015
34	32

Rate of New Entrepreneurs

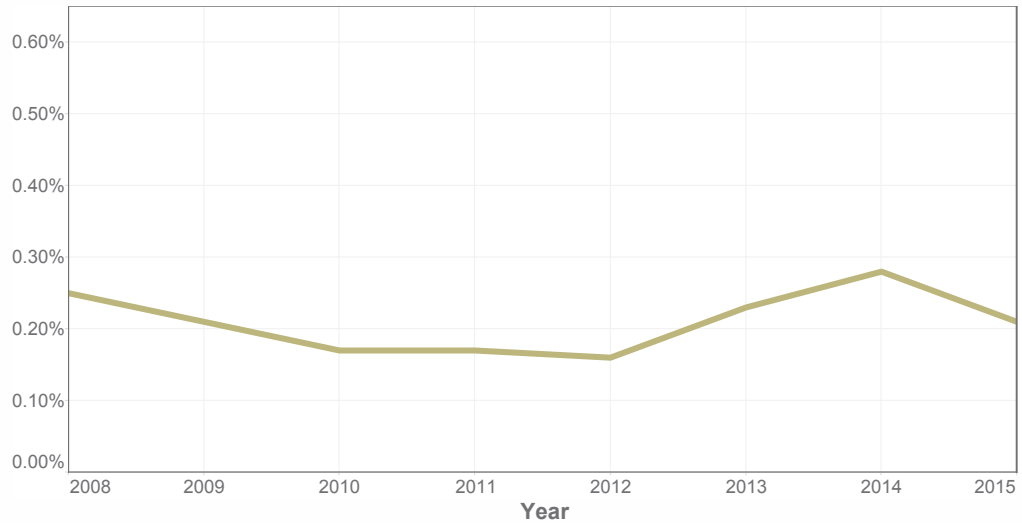| 2016 Component	2015 Component
0.22%	0.23%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

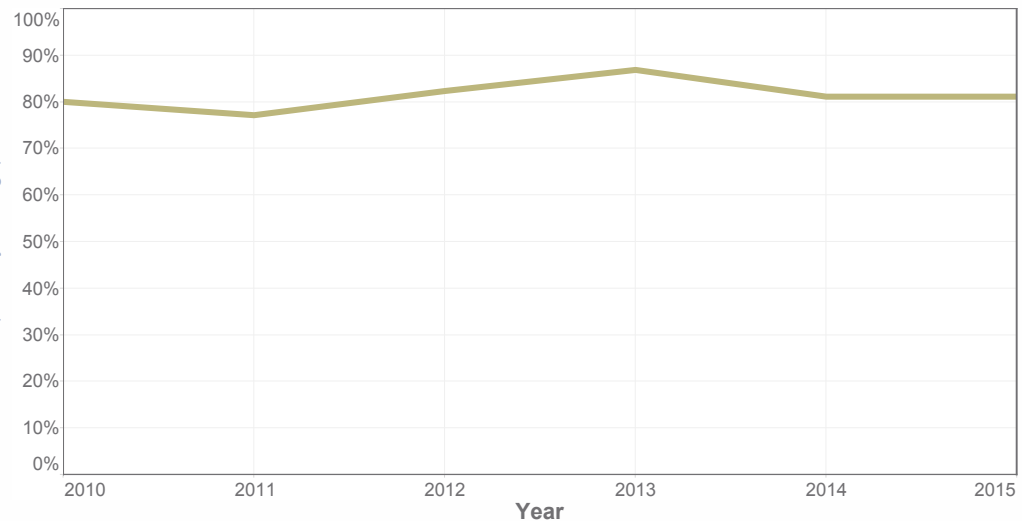| 2016 Component	2015 Component
77.22%	74.48%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density
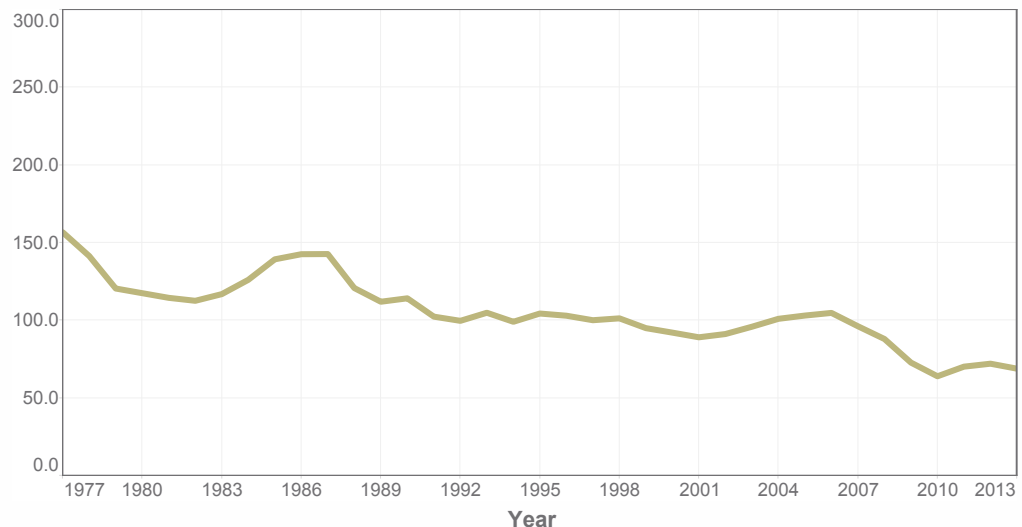
2016 Component	2015 Component
70.3	72.6

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Providence

Metro: Providence-New Bedford-Fall River | State: Rhode Island-Massachusetts

Metro Profile

startup activity

Startup Activity Rank

2016	2015
35	34

Rate of New Entrepreneurs

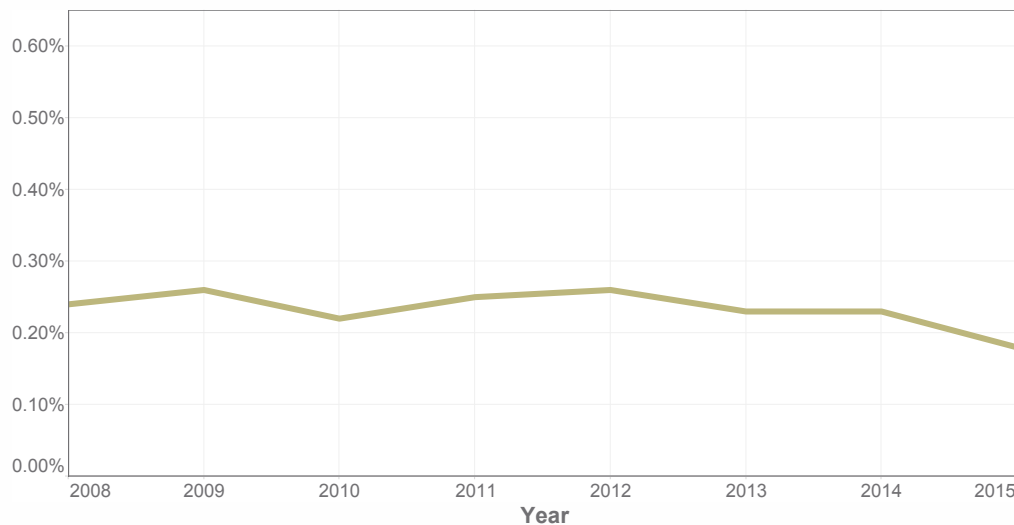| 2016 Component	2015 Component
0.17%	0.17%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

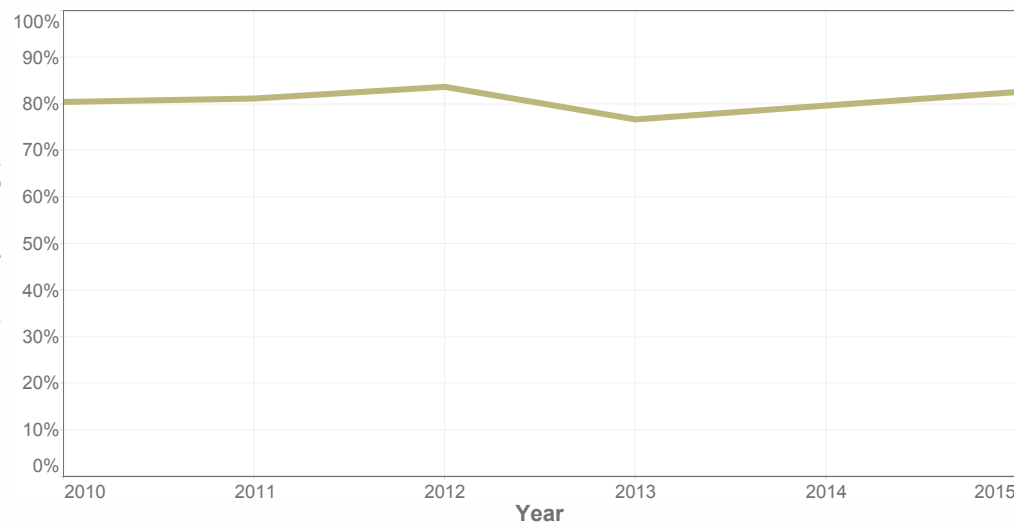| 2016 Component	2015 Component
87.33%	79.63%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

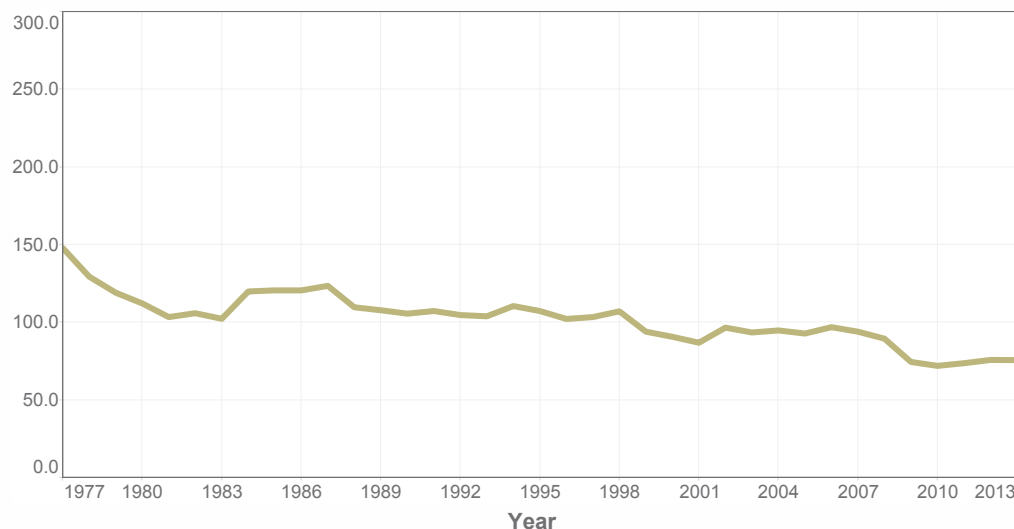| 2016 Component	2015 Component
60.1	63.2

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

St. Louis

Metro: St. Louis | State: Missouri-Illinois

Metro Profile

Startup Activity Rank

2016	2015
36	38

Rate of New Entrepreneurs

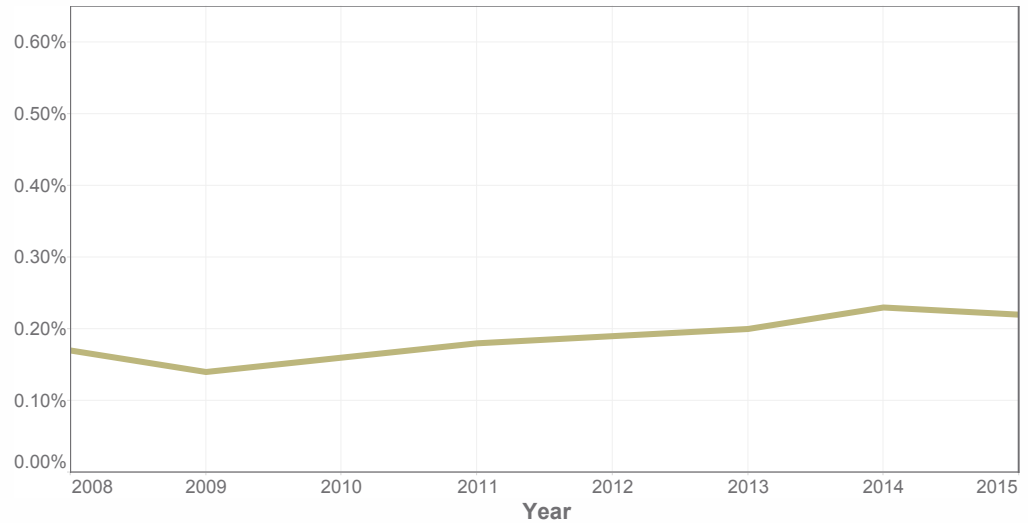| 2016 Component	2015 Component
0.22%	0.16%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

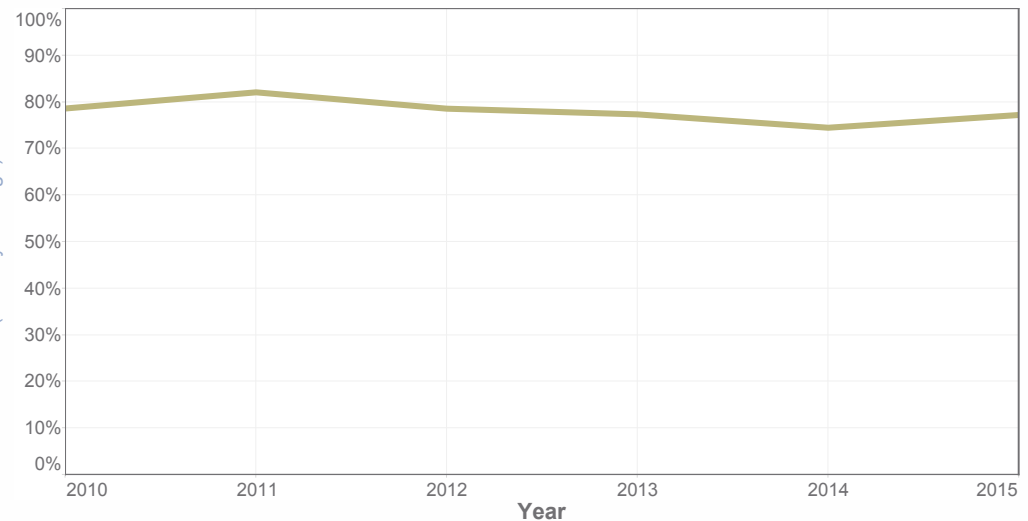| 2016 Component	2015 Component
70.83%	66.51%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

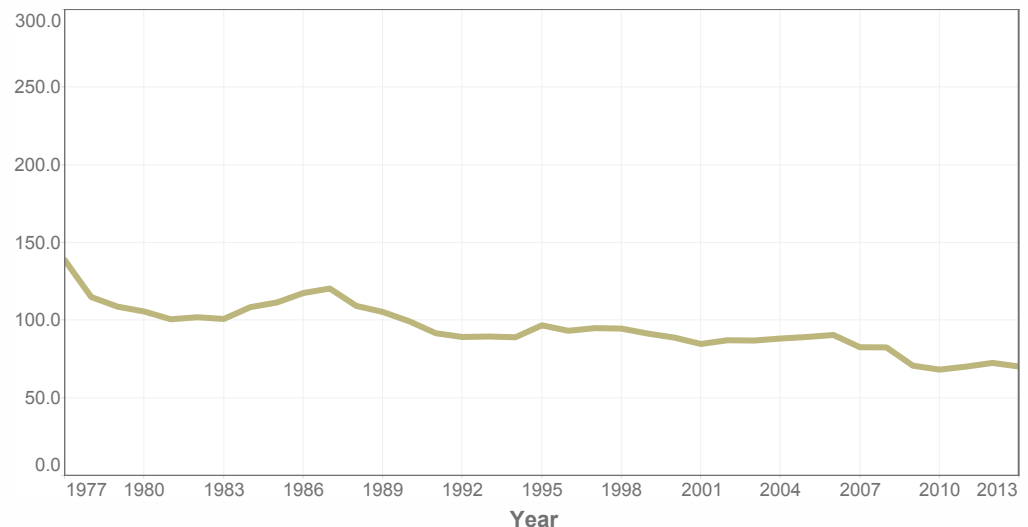| 2016 Component	2015 Component
86.1	73.5

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Cleveland

Metro: Cleveland-Elyria-Mentor | State: Ohio
Metro Profile

Startup Activity Rank

2016	2015
37	36

Rate of New Entrepreneurs

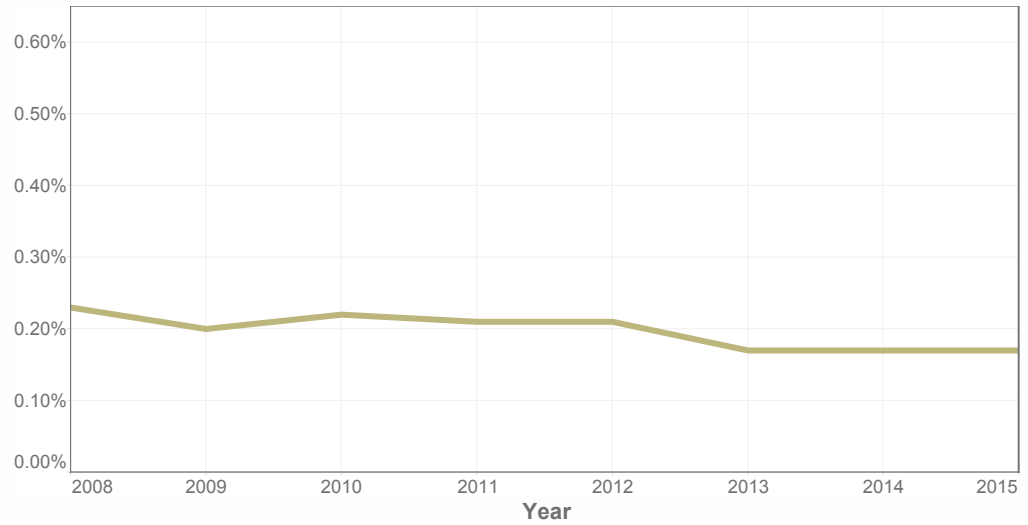| 2016 Component	2015 Component
0.15%	0.15%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

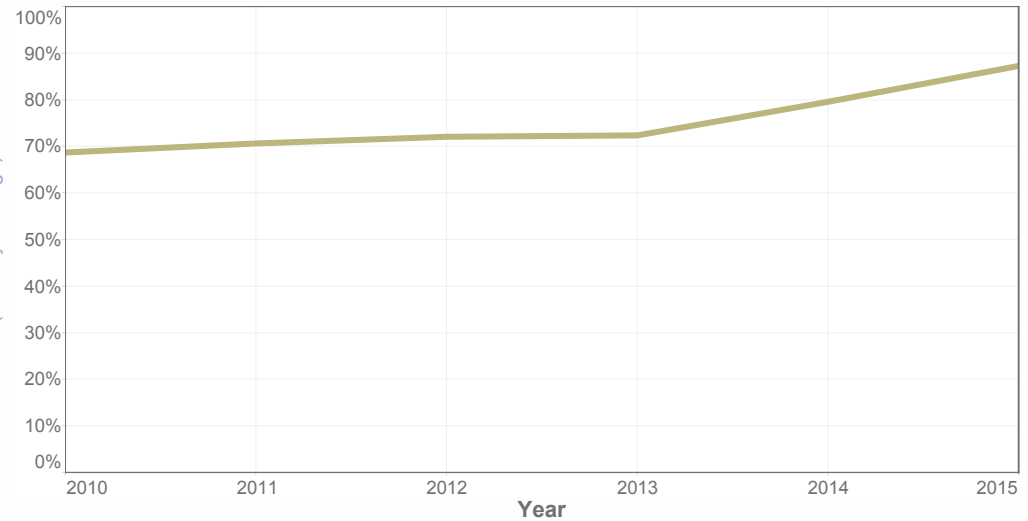| 2016 Component	2015 Component
87.78%	81.70%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

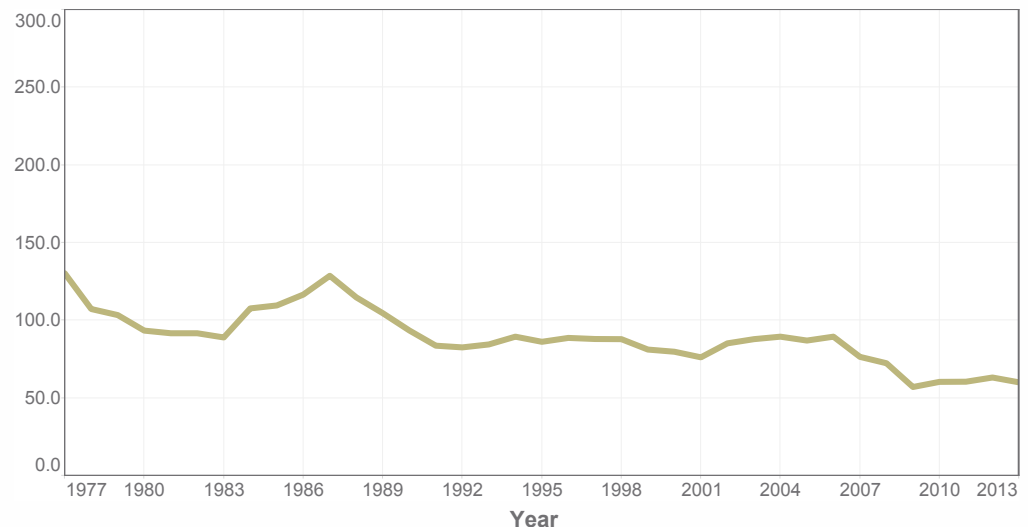| 2016 Component	2015 Component
55.1	60.1

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Minneapolis

Metro: Minneapolis-St. Paul-Bloomington | State: Minnesota-Wisconsin
Metro Profile

Startup Activity Rank

2016	2015
38	37

Rate of New Entrepreneurs

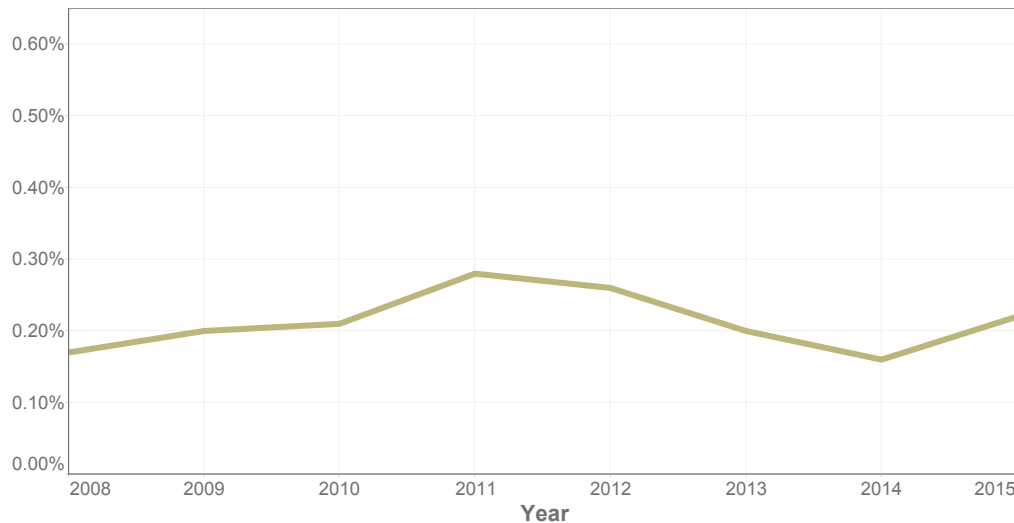| 2016 Component	2015 Component
0.19%	0.16%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS.
3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

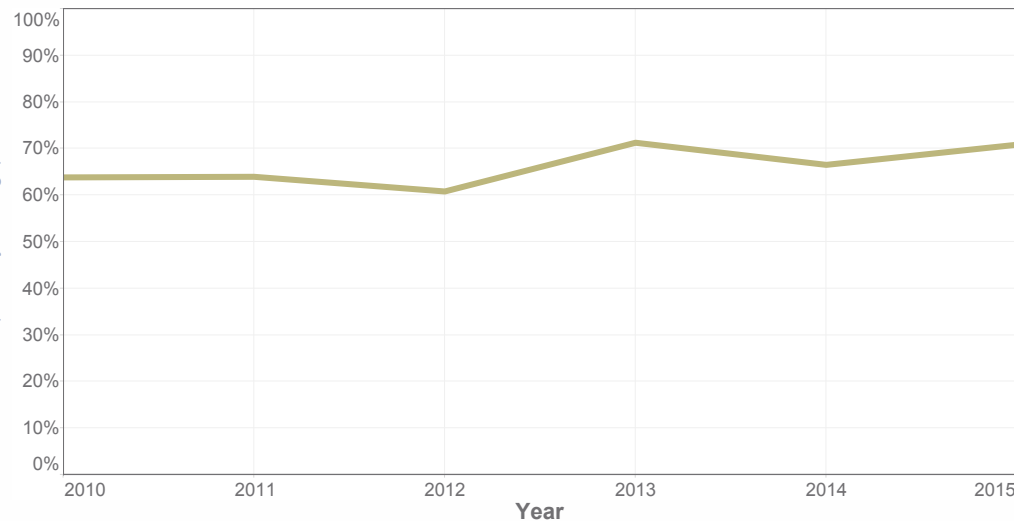| 2016 Component	2015 Component
73.92%	69.99%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS.
5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

2016 Component	2015 Component
70.2	71.6

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA.
Yearly measure.

Startup Density

Startup Activity Rank

2016	2015
39	39

Milwaukee

Metro: Milwaukee-Waukesha-West Allis | State: Wisconsin

Metro Profile

Rate of New Entrepreneurs

2016 Component	2015 Component
0.10%	0.13%

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

2016 Component	2015 Component
82.90%	74.54%

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

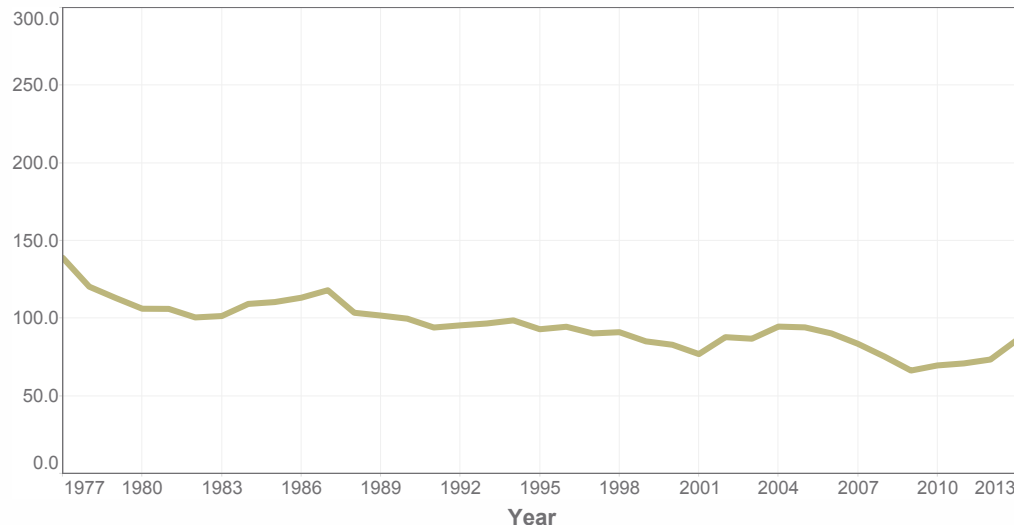| 2016 Component	2015 Component
59.3	58.4

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Startup Activity Rank	
2016	**2015**
40	**40**

Pittsburgh

Metro: Pittsburgh | State: Pennsylvania

Metro Profile

Rate of New Entrepreneurs

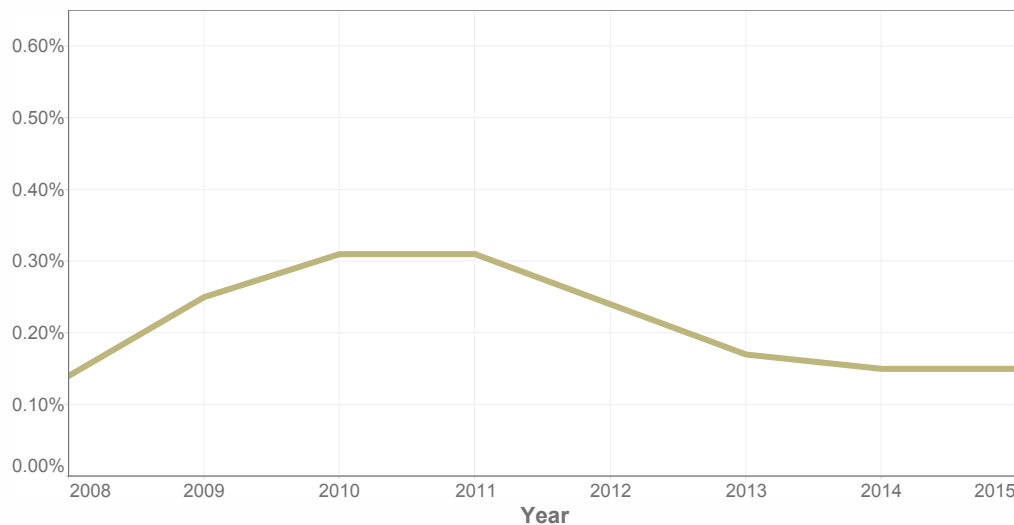| **2016** Component	**2015** Component
0.12%	**0.15%**

Early and broad measure of business ownership. Measures the percent of the adult population of an area that became entrepreneurs in a given month.

Source: Author calculations from CPS. 3-year moving average.

Rate of New Entrepreneurs

Opportunity Share of New Entrepreneurs

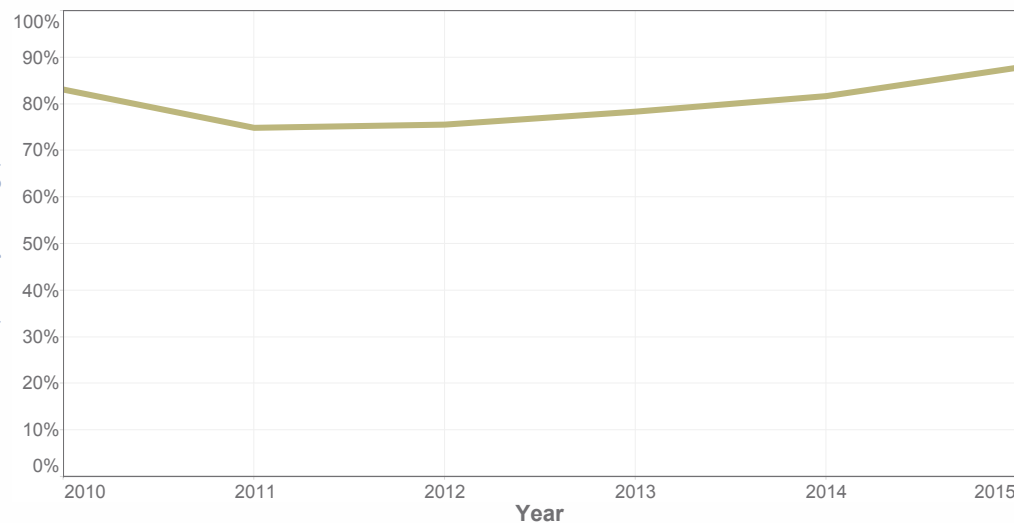| **2016** Component	**2015** Component
65.07%	**60.69%**

Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities. Measures the percent of new entrepreneurs who were not unemployed before starting their businesses.

Source: Author calculations from CPS. 5-year moving average.

Opportunity Share of New Entrepreneurs

Startup Density

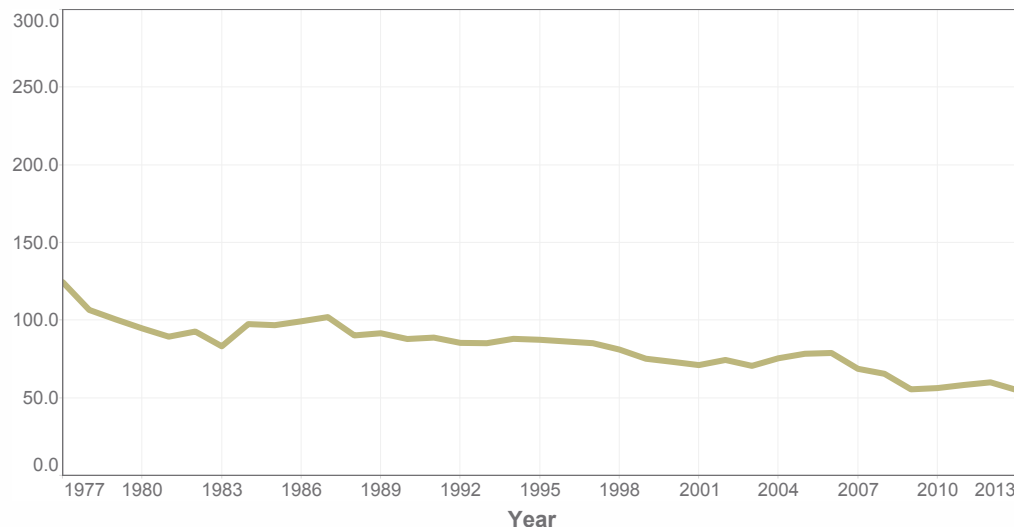| **2016** Component	**2015** Component
52.7	**56.0**

Number of startup firms per 1,000 firm population. Startup businesses here are defined as firms less than one-year-old employing at least one person besides the owner.

Source: Author calculations from BDS and BEA. Yearly measure.

Startup Density

Methodology and Framework

In this part of the report, we discuss the methodology and framework for the Kauffman Index of Startup Activity reports across all geographic levels: national, state, and metropolitan area.

Definitions of Startup Activity Index Components

The Kauffman Index of Startup Activity is calculated based on three components: Rate of New Entrepreneurs, Opportunity Share of New Entrepreneurs, and Startup Density. In this section, we will share detailed definitions of each one of these components.

Component A: Rate of Entrepreneurs

Component A of the Kauffman Index of Startup Activity comes from the Current Population Survey (CPS) and is calculated by author Rob Fairlie. The CPS microdata capture all business owners, including those who own incorporated or unincorporated businesses, and those who are employers or non-employers. To create the Rate of New Entrepreneurs, all individuals who do not own a business as their main job are identified in the first survey month. By matching CPS files, it is then determined whether these individuals own a business as their main job with fifteen or more usual hours worked in the following survey month. Reducing the likelihood of reporting spurious changes in business ownership status from month to month, survey-takers ask individuals whether they currently have the same main job as reported in the previous month. If the answer is yes, the interviewer carries forward job information, including business ownership, from the previous month's survey. If the answer is no, the respondent is asked the full series of job-related questions. Survey-takers ask this question at the beginning of the job section to save time during the interview process and improve consistency in reporting.

The main job is defined as the one with the most hours worked. Individuals who start side businesses will, therefore, not be counted if they are working more hours on a wage/salary job. The requirement that business

2016 THE KAUFFMAN INDEX startup activity

- Rate of New Entrepreneurs
- Opportunity Share of New Entrepreneurs
- Startup Density
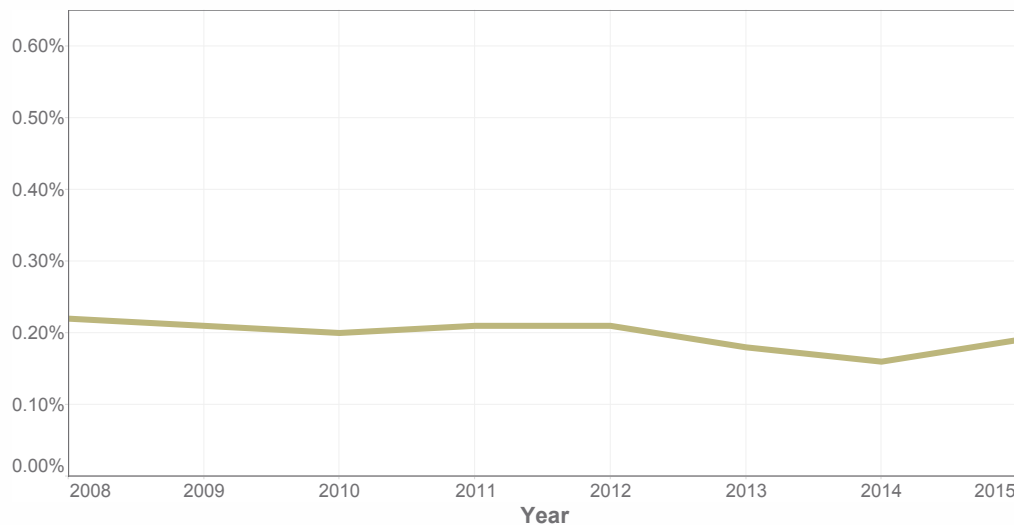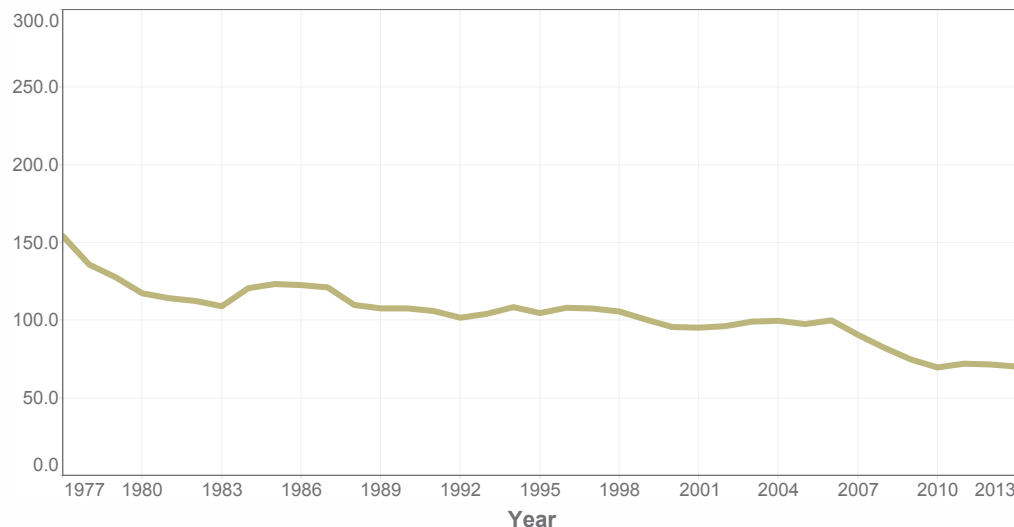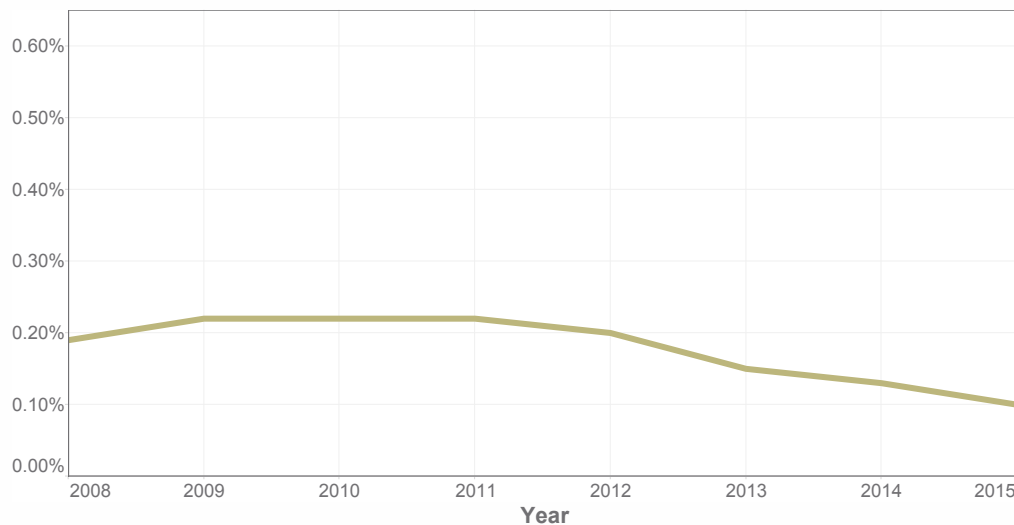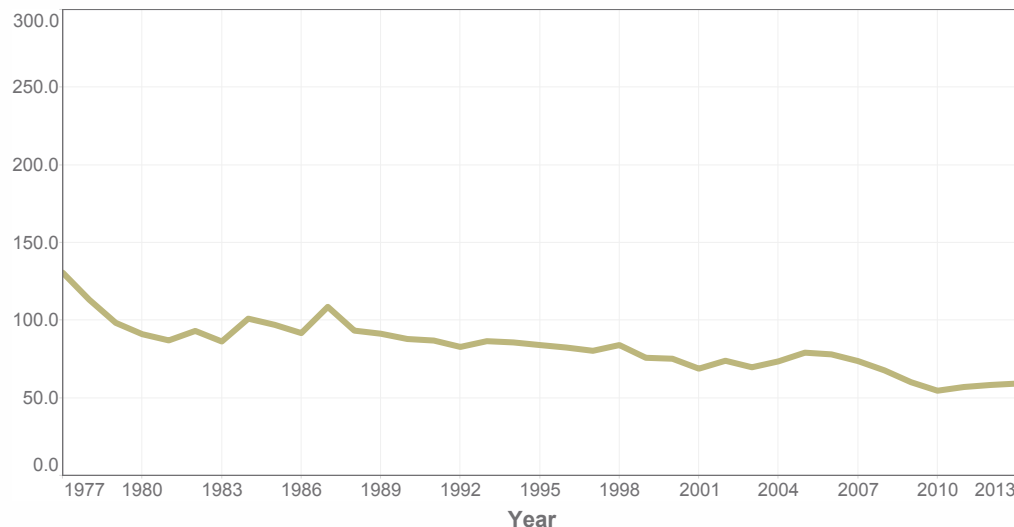
Rate of New Entrepreneurs

- Early and broad measure of business ownership.
- Measures the percent of the U.S. adult population that became entrepreneurs, on average, in a given month.
- Includes entrepreneurs with incorporated or unincorporated businesses, with or without employees.
- Data based on the Current Population Survey, jointly produced by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.
- What the number means:
  - For example, the Rate of New Entrepreneurs was 0.33 percent for Colorado in the 2016 Index. That means that, on average, 330 people out of 100,000 adults became entrepreneurs in Colorado in each month.

owners work fifteen or more hours per week in the second month is imposed to rule out part-time business owners and very small business activities. It may, therefore, result in an understatement of the percent of individuals creating any type of business.

The Rate of New Entrepreneurs also excludes individuals who owned a business and worked fewer than fifteen hours in the first survey month. Thus, the Rate of New Entrepreneurs does not capture business owners who increased their hours from less than fifteen per week in one month to fifteen or more hours per week in the second month. In addition, the Rate of New Entrepreneurs does not capture when these business owners changed from non-business owners to business owners with less than fifteen hours worked. These individuals are excluded from the sample, but may have been at the earliest stages of starting a business. More information concerning the definition is provided in Fairlie (2006).

The Rate of New Entrepreneurs component of the Startup Activity Index also may overstate entrepreneurship rates in certain respects because of small changes in how individuals report their work status. Longstanding business owners who also have salaried positions may, for example, report that they are not business owners as their main jobs in a particular month because their wage/salary jobs had more hours in that month. If the individuals then switched to having more hours in business ownership the following month, it would appear that a new business had been created.

For the definition of the Rate of New Entrepreneurs discussed in this report, all observations from the CPS with allocated labor force status, class of worker, and hours worked variables are excluded. The Rate of New Entrepreneurs is substantially higher for allocated or imputed observations. These observations were included in the first Kauffman Index report (Fairlie 2005). See Fairlie (2006) for a complete discussion of the issues and comparisons between unadjusted and adjusted Rate of New Entrepreneurs.

The CPS sample was designed to produce national and state estimates of the unemployment rate and additional labor force characteristics of the civilian, non-institutional population ages sixteen and older. The total national sample size is drawn to ensure a high level of precision for the monthly national unemployment rate. For each of the fifty states and the District of Columbia, the sample also is designed to guarantee precise estimates of average annual unemployment rates, resulting in varying sample rates by state (Polivka 2000). Sampling weights provided by the CPS, which also adjust for non-response and post-stratification raking, are used for all national and state-level estimates. The CPS also can be used to calculate metropolitan-area estimates, but only for the largest U.S. metropolitan areas. For example, the Bureau of Labor Statistics reports annual labor-force participation and unemployment rates for the largest fifty-four MSAs. We focus on the forty largest MSAs in our analysis and calculate moving averages when needed to ensure adequate precision in all reported estimates.

Component B: Opportunity Share of New Entrepreneurs

Building from the same data used for component A, the Opportunity Share of New Entrepreneurs is defined as the share of the new business owners that are coming out of wage and salary work, school, or other labor market statuses. Alternatively, individuals
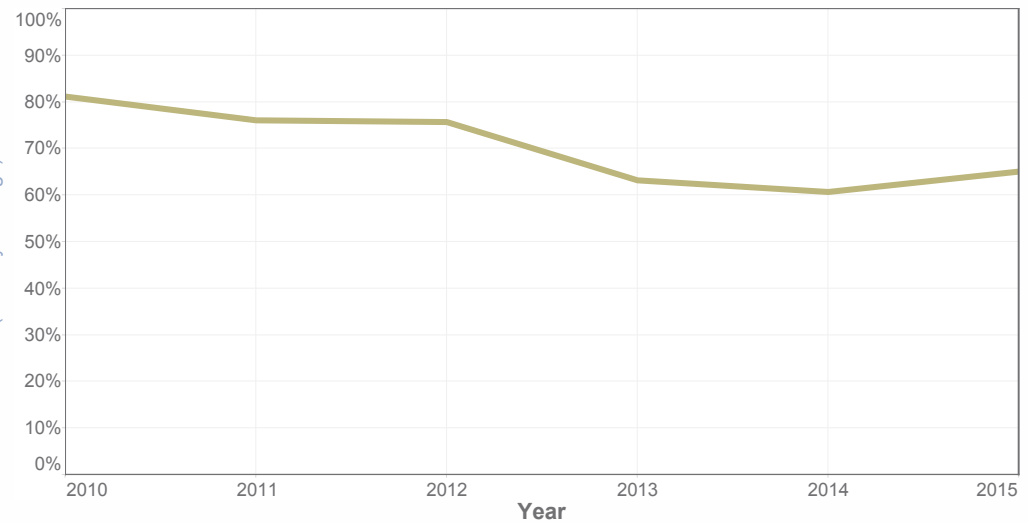
Opportunity Share of New Entrepreneurs

- Proxy indicator of the percent of new entrepreneurs starting businesses because they saw market opportunities.

- Measures the percentage of new entrepreneurs who were not unemployed before starting their businesses (e.g., have been previously working for another organization or studying in school).

- This indicator is important for two reasons: 1) Entrepreneurs who were previously unemployed seem to be more likely to start businesses with lower growth potential, out of necessity. Thus, the Opportunity Share of New Entrepreneurs serves as a broad proxy for growth prospects. 2) This measure helps us understand changes in the Rate of New Entrepreneurs motivated by weak job markets, such as the one we had after the recent Great Recession. If the Rate of New Entrepreneurs goes up but the Opportunity Share of New Entrepreneurs is low, we can see that many new entrepreneurs are starting businesses coming out of unemployment, and arguably started their companies largely out of necessity.

- Data based on the Current Population Survey jointly produced by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.

- What the number means:

  - For example, the United States Opportunity Share of New Entrepreneurs was 84 percent in the 2016 Index. That means that approximately eight out of every ten new entrepreneurs in this year started their businesses coming out of another job, school, or other labor market states. Meanwhile, two out of ten started their businesses directly coming out of unemployment.

can start businesses coming out of unemployment. The initial labor market status is defined in the first survey month. Rate of New Entrepreneurs is measured in the second (or following) survey month.

Component C: Startup Density

The Startup Density component of the Kauffman Index of Startup Activity uses U.S. Census Bureau data from the Business Dynamics Statistics, and it measures the number of new employer firms normalized by the employer business population of a given area. We define startups here as employer firms that are younger than one year old, and we divide the number of startups in a region by the number of active employer businesses. The Startup Density rate is per 1,000 employer businesses in the area. Our definition here largely is based on the entrepreneurship density measure suggested by our Kauffman Foundation colleagues Stangler and Bell-Masterson (2015) in their Measuring an Entrepreneurial Ecosystem paper.

Calculating the Startup Activity Index

The Kauffman Index of Startup Activity provides a broad index measure of business startup activity in the United States. It is an equally weighted index of three normalized measures of startup activity. The three component measures of the Startup Activity Index are: i) the Rate of New Entrepreneurs among the U.S. adult population, ii) the Opportunity Share of New Entrepreneurs, which captures the percentage of new entrepreneurs primarily driven by "opportunity" vs. by "necessity," and iii) the Startup Density (new employer businesses less than one year old, normalized by population).

Each of these three measures is normalized by subtracting the mean and dividing by the standard deviation for that measure (i.e., creating a z-score for each variable). This creates a comparable scale for including the three measures in the Startup Activity Index. We use national annual estimates from 1996 to the latest year available (2015) to calculate the mean and standard deviation for each of the CPS-based components. Similarly, we use national annual numbers from 1994 to the latest year available (2013) to calculate the mean and standard deviation for the BDS-based component of the Index. The same normalization method is used for all three geographic levels—national, state, and metropolitan area—for comparability and consistency over time.

The components we use for the national-level Startup Activity Index are all annual numbers. The Rate of New Entrepreneurs covers years from 1996 to the latest year available (2015). The Opportunity Share of New Entrepreneurs covers years from 1996 to the latest year available (2015). The Startup Density covers years from 1994 to the latest year available (2013).

The Rate of New Entrepreneurs and the Opportunity Share of New Entrepreneurs components of the state-level Startup Activity Index are calculated on three-year moving averages with the same yearly coverage as the national-level numbers. The reason we do three-year moving averages on the sample-based CPS measures is to reduce sampling issues. Because these are three-year moving averages with annual estimates starting in 1996, the first year for which three-year moving averages are available is 1998. The Startup Density component of the Index is presented yearly, from 1994 to the latest year available (2013).

Startup Density

- Number of startup firms by total employer firm population.
- Startup businesses here are defined as employer firms less than one year old employing at least one person besides the owner. All industries are included on this measure.
- Measures the number of new employer startup businesses normalized by the employer firm population of an area. Because companies captured by this indicator have employees, they tend to be at a more advanced stage than are the companies in the Rate of New Entrepreneurs measure.
- Data based on the U.S. Census Bureau's Business Dynamics Statistics.
- What the number means:
  - For example, the 2016 Index Startup Density for the New York metropolitan area was 89.1 per 1,000 businesses. That means that, for every 1,000 employer businesses in the New York metro area, there were 89.1 employer startup firms that were less than one year old in this year.

For the metropolitan-area level Startup Activity Index, we present the Rate of New Entrepreneurs component on a three-year moving average from 2008 to the latest year available (2015). Because these are three-year moving averages, annual estimates are first calculated in 2006. The Opportunity Share of New Entrepreneurs component of the Startup Activity Index is presented on five-year moving averages, starting in 2010 and going up to the latest year available (2015). Annual estimates used to calculate the moving average start in 2006. Again, the reason behind presenting moving averages is to reduce sampling issues. The Startup Density component of the Index is presented yearly, from 1994 to the latest year available (2013).

Data Sources and Component Measures

Data Sources

In this section, we discuss the underlying data sources used to calculate each of the components of the Startup Activity Index.

Rate of New Entrepreneurs and Opportunity Share of New Entrepreneurs

To calculate the Rate of New Entrepreneurs and the Opportunity Share of New Entrepreneurs, the underlying dataset used is the basic monthly files of the Current Population Survey. These surveys, conducted monthly by the U.S. Census Bureau and the Bureau of Labor Statistics, represent the entire U.S. population and contain observations for more than 130,000 people each month. By linking the CPS files over time, longitudinal data are created, allowing for the examination of the Rate of New Entrepreneurs. Combining the monthly files creates a sample size of roughly 700,000 adults ages twenty to sixty-four each year.

Households in the CPS are interviewed each month over a four-month period. Eight months later, they are re-interviewed in each month of a second four-month period. Thus, individuals who are interviewed in January, February, March, and April of one year are interviewed again in January, February, March, and April of the following year. The CPS rotation pattern makes it possible to match information on individuals monthly and, therefore, to create two-month panel data for up to 75 percent of all CPS respondents. To match these data, the household and individual identifiers provided by the CPS are used. False matches are removed by comparing race, sex, and age codes from the two months. After removing all non-unique matches, the underlying CPS

data are checked extensively for coding errors and other problems.

Monthly match rates generally are between 94 percent and 96 percent (see Fairlie 2005). Household moves are the primary reason for non-matching. A somewhat non-random sample (mainly geographic movers) will, therefore, be lost due to the matching routine. Moves do not appear to create a serious problem for month-to-month matches, however, because the observable characteristics of the original sample and the matched sample are very similar (see Fairlie 2005).

Startup Density

We use one firm-level dataset to calculate Startup Density, the U.S. Census Bureau's Business Dynamics Statistics (BDS).

The BDS is constructed using administrative payroll tax records from the Internal Revenue Service (IRS). The BDS data present, among other things, numbers of firms tabulated by age and by geography (national, state, and metropolitan area). We make use of that data to calculate the raw number of employer firms younger than one year old by geographic levels. We then normalize this number by employer business population to arrive at the Startup Density of an area. In the 2015 Index, an alternative measurement for Startup Density had normalized by population from the Bureau of Economic Analysis. The updated normalization method allows for more straight forward matching location definitions without meaningful change in the spirit of the measurement.

Matching BDS state and national numbers to CPS figures population data is a non-issue because the definitions of the geographical areas are the same. However, this is slightly different for metropolitan areas. Because metropolitan area definitions may vary across datasets, we used the Office of Management and Budget (OMB) definitions for metropolitan areas from December 2009 to calculate Startup Density. This is the definition of metros used on the BDS dataset, and it is used to calculate both the number of employer startups and the overall employer firm population.

We match the forty largest metropolitan areas in the United States by population using the OMB 2009 definition of metros and the 2012 BEA population data to their counterparts in the CPS dataset. This was the most appropriate aggregation method because neither the CPS nor the BDS dataset provides county-level data. To diminish issues of changing metro definitions, we only present the top forty metropolitan areas in the United States—in which shifts in county composition are less likely to cause big shifts in total population or business activity—and only use CPS data for metros in the most

recent years, from 2006 to the most recent year available (2014).[5]

Standard Errors and Confidence Intervals

Rate of New Entrepreneurs and Opportunity Share of New Entrepreneurs

The analysis of Rate of New Entrepreneurs by state includes confidence intervals that indicate confidence bands of approximately 0.15 percent around the Rate of New Entrepreneurs. While larger states have smaller confidence bands, the smallest states have larger confidence bands of approximately 0.20 percent. Oversampling in the CPS ensures that these small states have sample sizes of at least 5,000 observations and, therefore, provides a minimum level of precision.

The standard errors used to create the confidence intervals reported here may understate the true variability in the state estimates. Both stratification of the sample and the raking procedure (post-stratification) will reduce the variance of CPS estimates (Polivka 2000 and Train, Cahoon, and Maken 1978). On the other hand, the CPS clustering (i.e., nearby houses on the same block and multiple household members) leads to a larger sampling variance than would have been obtained from simple random sampling. It appears as though the latter effect dominates in the CPS, and treating the CPS as random generally understates standard errors (Polivka 2000). National unemployment rate estimates indicate that treating the CPS as a random sample leads to an understatement of the variance of the unemployment rate by 23 percent. Another problem associated with the estimates reported here is that multiple observations (up to three) may occur for the same individual.

All of the reported confidence intervals should be considered approximate, as the actual confidence intervals may be slightly larger. The complete correction for the standard errors and confidence intervals involves obtaining confidential replicate weights from the BLS and employing sophisticated statistical procedures. Corrections for the possibility of multiple observations per person, which may create the largest bias in standard errors, are made using statistical survey procedures for all reported confidence intervals. It is important to note, however, that the estimates of the Rate of New Entrepreneurs are not subject to any of these problems. By using the sample weights provided by the CPS, all estimates of the Rate of New Entrepreneurs are correct.

Startup Density

Because the BDS is based on administrative data covering the overall employer business population, sampling concerns like standard errors and confidence intervals are irrelevant. Nonetheless, nonsampling errors could still occur. These could be caused, for example, by data entry issues with the IRS payroll tax records or by businesses submitting incorrect employment data to the IRS. However, these are probably randomly distributed and are unlikely to cause significant biases in the data. Please see Jarmin and Miranda (2002) for a complete discussion of potential complications on the dataset caused by changes in the administrative data on which the BDS is based.

Advantages over Other Possible Measures of Entrepreneurship

The Kauffman Index of Startup Activity has several advantages over other possible measures of entrepreneurship based on household or business-level data. We chose to use two distinct datasets: one based on individuals (CPS) and another one based on businesses (BDS). This allows us to study both entrepreneurs and the startups they create. These datasets have complementary strengths that make this Index a robust measure of startup activity.

Rate of New Entrepreneurs and Opportunity Share of New Entrepreneurs

The Rate of New Entrepreneurs and Opportunity Share of New Entrepreneurs components of the Startup Activity Index are based on the CPS, and this dataset provides four prominent advantages as an early and broad measure of startup activity. First, the CPS data are available only a couple of months after the end of the year, whereas even relatively timely data such as the American Community Survey (ACS) take more than a year to be released. Second, these components of the Startup Activity Index include all types of business activities (employers, non-employers, unincorporated,

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5. For more details on the CPS metropolitan area definitions, please see https://cps.ipums.org/cps/codes/metfips_2014onward_codes.shtml.

and incorporated businesses), but do not include small-scale side business activities such as consulting and casual businesses (because only the main job activity is recorded, and the individual must devote fifteen or more hours a week to working in the business). Third, the panel data created from matching consecutive months of the CPS allow for a dynamic measure of entrepreneurship, whereas most datasets only allow for a static measure of business ownership (e.g., ACS). Fourth, the CPS data include detailed information on demographic characteristics of the owner, whereas most business-level datasets contain no information on the owner (e.g., employer and non-employer data).

It is worth mentioning that the CPS components of the Kauffman Index of Startup Activity also differ from another entrepreneurship measure that may, on a first glance, look similar: the Global Entrepreneurship Monitor's Total early-stage Entrepreneurial Activity (TEA). The TEA captures the percentage of the age eighteen-to-sixty-four population who currently are nascent entrepreneurs (i.e., individuals who are actively involved in setting up businesses) or who are currently owner-managers of new businesses (i.e., businesses with no payments to owners or employees for more than forty-two months). The nascent entrepreneurs captured in the TEA who are still in the startup phase of business creation are not necessarily captured in the Rate of New Entrepreneurs because they may not be working on the new business for fifteen hours or more per week. The CPS components of the Kauffman Index of Startup Activity also differ from the TEA in that, because they are based on panel data, they capture entrepreneurship at the point in time when the business is created. In addition, the Global Entrepreneurship Monitor (GEM) measures in the United States use a much smaller sample, allowing for significant estimation challenges.

Startup Density

The Startup Density component of the Startup Activity Index, based on the BDS, presents four main advantages compared to other business-level datasets. First, it is based on administrative data covering the overall employer business population. As such, it has no potential sampling issues. Second, it has detailed coverage across all levels of geography, including metropolitan areas. Third, it provides firm-level data, rather than just establishment-level data. This is an important feature because new establishments may show another location of an existing firm, rather than an actual new business. Fourth, it provides detailed age breakdown of firms, allowing us to clearly identify new and young firms.

A dataset we use that is similar to the BDS data is the Business Employment Dynamics product from the

Bureau of Labor Statistics. We chose not to use it for this report because of two distinct advantages we see the BDS having over the BED. First, the BDS tracks firm-level data, as opposed to the establishment-level data tracked by the BED. Second, the BDS has data available at the metropolitan level, while the BED does not.
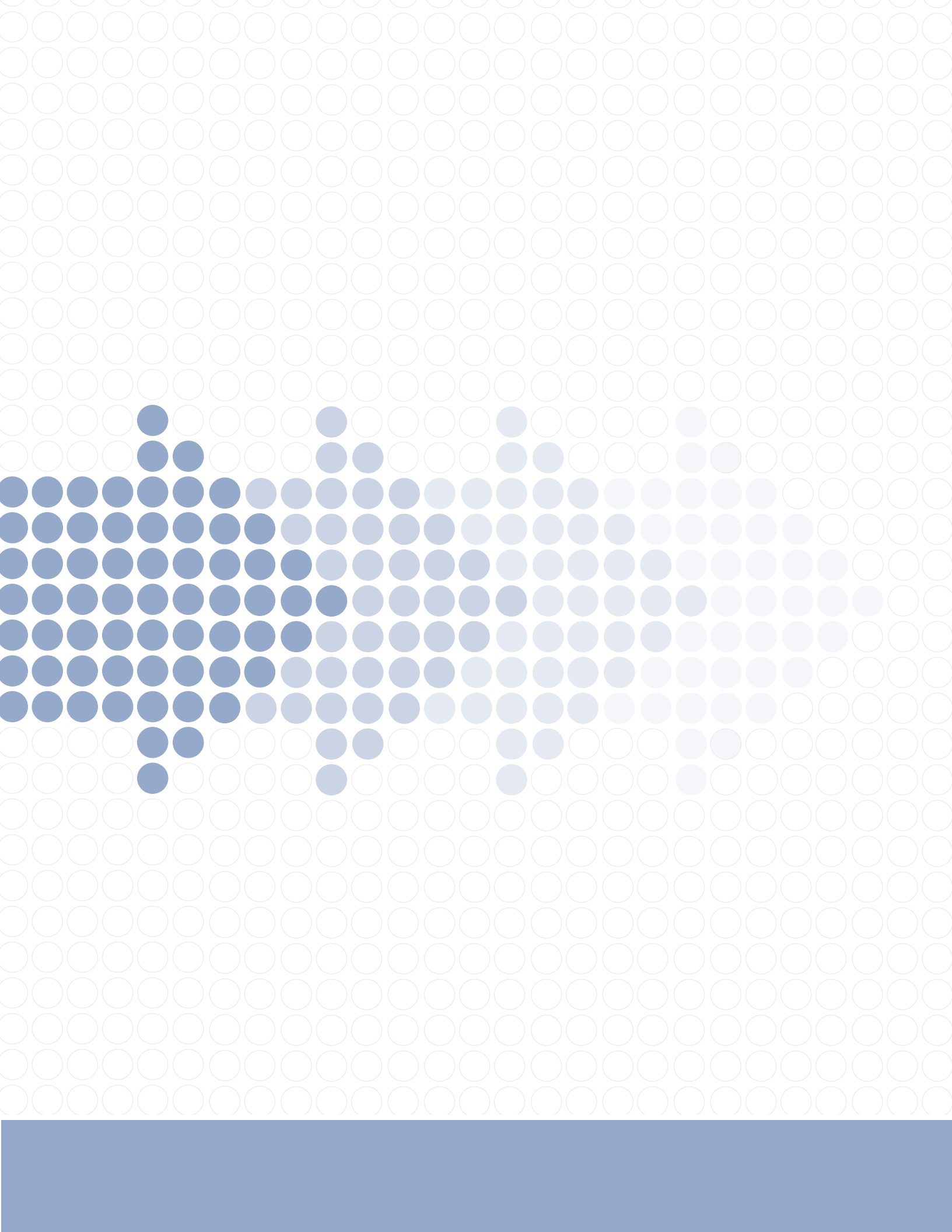
Because the BED tracks establishments rather than firms, the numbers from the BDS are different than the ones on the BED. Nonetheless, the trends on the two datasets move largely in tandem, and usually point in the same direction.

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