

# **Assessing the Strength of Entrepreneurship in America with the BLS Business Employment Dynamics**

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## **Abstract**

Entrepreneurship plays a vital role in the growth of the U.S. economy. As the primary source of information on the Nation's labor market, the U.S. Bureau of Labor Statistics (BLS) collects data on new businesses and job creation. Several of the data series produced by the U.S. BLS Business Employment Dynamics (BED) program can provide insights on the contribution of new businesses to the labor market. Trends highlighted in this paper include recent changes in: the number of new establishment births, the number of jobs created by new establishments, birth rates by industry and region, job flows by age of establishment, and birth cohort survival trajectories. In addition, this paper aims to highlight uses and findings made possible by a new product of the U.S. business register: BED research data by age and size.

**Keywords:** Entrepreneurship, Dynamics, Firm Age, Job Creation, Job Destruction, Birth Rate, Establishment Birth Weight, Startups, Business Deaths, Young Firms, Business Employment Dynamics

## 1. Motivation

In the years following the 2007-2009 Great Recession, dialogue concerning the economic recovery was wide-ranging. However, even a passing observer could pick up on one recurring theme: small business entrepreneurship is crucial to economic recovery and a healthy labor market. In recent years, that theme has evolved to include the importance of *young* businesses.

Entrepreneurship can be broadly defined as the capacity and willingness to develop, launch, and operate a business venture. While entrepreneurship isn't unique to the American labor market, the freedom and relative ease to quickly start a business is a hallmark of the American economic system. Entrepreneurs discover new and imaginative ways to combine factors of production and bear the risks of the free market with hopes of creating a profitable enterprise. While some fail in this endeavor, the dynamic interplay between successful and failed new businesses has a net positive effect on the economy. Due to this net positive effect, entrepreneurship indeed plays a vital role in the growth of the U.S. economy. Employment and resulting wages generated by new business are primary engines of economic growth.

As the source for information on the nation's labor market, the U.S. Bureau of Labor Statistics (BLS) leverages the Quarterly Census of Employment and Wages (QCEW) business register to provide timely data on new businesses, young businesses, job creation and destruction, and entrepreneurial activity. This article highlights data series produced by the BLS Business Employment Dynamics (BED) program and hopes to provide insight on the contribution of small and young businesses to the labor market.

This analysis is a continuation of earlier works by Sadeghi (2008)<sup>1</sup>, and Sadeghi, Leming, Spletzer, and Talan (2010)<sup>2</sup>. In his 2008 article, Sadeghi discusses alternative methods of measuring business births and deaths using the QCEW longitudinal database and recommends a preferred method. He makes a distinction between establishment births and 'entrepreneurial births' and discusses the trends in establishment births and deaths, the average size of births and the rate of entrepreneurship. Sadeghi's research and findings culminated in the publication of BED statistics on establishment births and deaths.

Births can be estimated at the *establishment* (plant) level or the *firm* level. An establishment represents an economic unit that produces goods and services, usually at a single location, and engages in only one or predominantly one activity. A firm, on the other hand, may consist of

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<sup>1</sup> See Akbar Sadeghi, 'Births and deaths of business establishments in the United States,' *Monthly Labor Review*, December 2008: <https://www.bls.gov/opub/mlr/2008/12/art1full.pdf>

<sup>2</sup> See Carol Leming, Akbar Sadeghi, James Spletzer and David Talan, 'The role of younger and older establishments in the U.S. labor market' *Issues in Labor Statistics*, August 2010: [https://www.bls.gov/opub/ils/summary\\_10\\_09/younger\\_older\\_business\\_establishments.htm](https://www.bls.gov/opub/ils/summary_10_09/younger_older_business_establishments.htm)

several establishments. When an establishment opens for business for the first time, it is counted as an establishment birth, a state-level firm birth, and a national-level firm birth. If the firm in question opens another establishment, this will be counted as another establishment birth and as a firm-level expansion. Sadeghi suggests that national firm-level births are more indicative of entrepreneurship than establishment-level births. Births at the firm level can be referred to as entrepreneurial births: they measure strictly new business creation. However, establishment level analysis sheds light on entrepreneurial activity at existing businesses as well. Therefore, establishment levels of births and startups will be higher than at the firm level.

A comparison of both methods shows that firm and establishment level births follow the same pattern of change over time, which includes periods of expansion, recession, and recovery during the business cycle. Additionally, both firm and establishment level jobs created by births show a downward trend since the first quarter of 1998.

In 2010, Sadeghi et al. utilized BED establishment age and survival data to examine the role of younger and older establishments in the U.S. labor market. The 2010 analysis shed light on the emerging discussion of the role of *young* businesses: approximately ten percent of private sector jobs can be found at establishments less than four years old. Questions regarding the size of those establishments lingered because, at the time, there was no link between the age of the business and the size of the business. Recently published BED data now allows researchers to make a link between firm and establishment age and size.

The paper continues below with a discussion of the BLS business register and provides background on Business Employment Dynamics. The remainder of the paper can be broken down into three major sections. The first of these provides an overarching look at BED data available to add to the discussion of establishment births and “startups<sup>3</sup>.” The following section views the labor market and establishment births through the survival rate lens, which helps shed light on the survival characteristics of establishments over the business cycle and across industrial and geographic differences. The final section of the paper highlights BED’s most recent data product that allows data users to analyze the labor market by establishment and firm size and age; a focus specific to this analysis will feature startups by establishment size.

## **2. A Background on Business Employment Dynamics**

The BED program leverages the QCEW business register to publish quarterly time-series statistics on gross job gains and gross job losses, as well as components of those series: establishment expansions, openings, contractions, and closings. In addition, the unique structure

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<sup>3</sup> For the purpose of this paper a startup is any establishment less than one year old in the year ending March. The age of an establishment is measured by assigning the birth date to records of the QCEW using the date that a business reports positive employment for the first time

of the business register allows BED to publish statistics on establishment births and deaths as a subset of establishment openings and closings, respectively. These statistics are derived from longitudinally linked establishment level microrecords from the QCEW program. The QCEW program's estimates are based on mandatory quarterly reports on employment and wages submitted by all employers subject to unemployment insurance (UI) laws. The data gathered in the QCEW program provide a virtual census of employees on nonfarm payrolls, covering 98 percent of such employees.

These quarterly UI reports are only the starting point. The incoming UI data are reviewed and edited, industry codes are assigned and routinely updated, geographical codes are assigned, employment and wage data are scrutinized, respondents are contacted to validate significant changes in employment, predecessors and successors are identified, and corrections are made on the basis of new information. This value-added process turns raw, unedited administrative data into high-quality, reliable, and consistent economic statistics. The resulting QCEW statistics represent the most accurate, timely, and frequent business register in the federal statistical system at the local level. On average, more than 860,000 records of newly born establishments are captured, coded and researched for predecessor and successor relationships each year. In the first quarter of 2017, the QCEW program reported an employment level of 142.3 million at 9.9 million establishments for the total U.S. private and public sectors.

In addition to being an accurate and detailed source of employment statistics, QCEW serves as the sampling frame for numerous BLS surveys, as a benchmark for BLS's critical Current Employment Statistics and Occupational Employment Statistics surveys, and as an input to the Bureau of Economic Analysis' National Income and Product Accounts.

The QCEW records are then matched across quarters to create a longitudinal history for each establishment. Records are linked by their unique identifiers, including state codes, unemployment insurance numbers, and reporting unit numbers. The linkage method is designed to create a history for continuous establishment records and identify their entries and exits, while avoiding any spurious births and deaths that could be reported in the event of any changes of ownership, mergers, acquisitions, spinoffs, or other corporate restructuring.

This longitudinal database created from the linked records is used to construct BED data, including employment levels and counts of establishments at opening, expanding, closing, and contracting businesses. During the tabulation process, the employment reported in the third month of each consecutive quarter is used to measure the over-the-quarter employment change. The sum of employment at opening establishments and the change in employment at expanding establishments equals gross job gains. Similarly, the sum of the prior-quarter employment at the establishments that closed in the current quarter and the change in employment at contracting establishments equals gross job losses. The net employment growth for all firms can be

measured in one of two ways: as the difference between total employment in the current and previous quarters, or as the difference between gross job gains and gross job losses in the current quarter.

For the purpose of BED statistics, births are defined as establishments that appear in the longitudinal database for the first time with positive employment in the third month of a quarter, or showed four consecutive quarters of zero employment in the third month followed by a quarter in which it shows positive employment in the third month. Similarly, deaths are defined as establishments that either drop out of the longitudinal database, or an establishment that had positive employment in the third month of a given quarter followed by four consecutive quarters of showing zero employment in the third month. Although the data for establishment births and deaths are tabulated independently from the data for openings and closings, the concepts are not mutually exclusive. An establishment that is defined as a birth in a given quarter is necessarily an opening as well, and an establishment defined as a death in a quarter must also be a closing.

The whole process of data reporting, collection, linkage, and publication is completed across approximately seven months. BED's most recent press release from July 2017 covers the fourth quarter of 2016. As reported in the release, from September 2016 to December 2016 gross job gains from opening and expanding private-sector establishments nationwide were 7.5 million, a decrease of 185,000 jobs from the previous quarter. For this same period, gross job losses from closing and contracting private sector establishments were 7.1 million, an increase of 127,000 jobs from the previous quarter. The difference between the number of gross job gains and the number of gross job losses yielded a net employment gain of 376,000 jobs in the private sector for the fourth quarter of 2016<sup>4</sup>. BED data on establishment births and deaths are the timeliest source of data available on new private sector business establishments in the United States.

Historical BED data start in the third quarter of 1992 and currently run through the fourth quarter of 2016. In addition to national, total industry data, BED data include gross job gains and gross job losses at the establishment level by industry subsector and for the 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, as well as gross job gains and gross job losses at the firm level by employer size class and age. The BED program continues to utilize the business register to develop new data products. One example includes the recent publication of research data on Business Employment Dynamics by age and size. These data enable users to compare gross job flows and net employment changes across a wide range of business organizations, from startups to small and young firms to large and older firms.

Data highlighted in this paper includes establishment births and deaths, establishment age and survival, with some discussion of industries, as well as new research data on establishment age and size. The findings discussed contribute toward a greater understanding of the role and

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<sup>4</sup> For more information see: <https://www.bls.gov/news.release/pdf/cewbd.pdf>.

dynamics of business formations and business destruction, of business survival, and of the changing contribution of American entrepreneurs.

### **3. Role of Startups in the American Labor Market**

The design of the BLS business register provides a unique way to view the labor market and broader economy. The longitudinal structure allows users to follow a firm or establishment from creation to destruction – or from “birth” to “death.” These birth and death data form a key piece of the demographic profile of US businesses.

BLS describes the creation of new businesses with the term births: establishments that appear for the first time with positive employment in the third month of a quarter, or the non-seasonal reopening of establishments<sup>5</sup>. Births are a subset of openings, as some business establishments that open are actually reopenings (seasonal or otherwise) of previously existing establishments. Since births are, by definition, business establishments or firms that have not been previously open, they are a measure of entrepreneurial activity. In BED’s most recent release of data for the fourth quarter of 2016, the number of establishment births increased over the quarter by 8,000 births to 246,000 births. These new establishments accounted for 919,000 jobs.

Conversely, BLS describes the destruction or non-seasonal closure of businesses as establishment deaths – defined as units with zero employment reported in the third month of four consecutive quarters following the last quarter with positive employment. A given unit that closes during a quarter may be a death, but the final determination of whether it is a permanent closing or a temporary shutdown is postponed three quarters to be certain<sup>6</sup>. Deaths are a subset of closings, but do not include temporary shutdowns of seasonal businesses, and represent a true measure of business destruction. Currently, BED data for establishment deaths are available through the first quarter of 2016, when 667,000 jobs were lost at 204,000 establishments.

The rate of establishment births and deaths can be summed to create the rate of establishment “churn” due to business entry and exit. Furthermore, the rates of employment attributed to those births and deaths can be summed to create a labor churn rate. This method, when applied to gross job gains and losses, shows the “reallocation rate” and represents the overall dynamism in the labor market. This process, which includes the growth of new businesses and the decline of less productive ones, is the result of reallocation of resources from less profitable businesses and establishments to more profitable ones and is referred to as “creative destruction,” a concept popularized by the economist Joseph Schumpeter<sup>7</sup>.

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<sup>5</sup> A non-seasonal reopening is characterized by showing four consecutive quarters (a full year) of zero employment in the third month followed by a quarter in which it shows positive employment in the third month.

<sup>6</sup> For this reason, there is always a three quarter lag for the publication of death statistics.

<sup>7</sup> J.A. Schumpeter, *Capitalism, Socialism, and Democracy* (New York, Harper, 1975 [originally published in 1942]), pp. 82–85.

BED data allows for the examination of the rate of establishment births and deaths and the rate of employment associated with those births and deaths. It is evident that the churn rate has been declining for both establishments and employment since the late nineties and early aughts. The churn rate for establishment births and deaths peaked in the quarter ended September, 2001 at 6.8 percent. The churn rate of employment associated with establishment births and deaths peaked in the quarter ended March, 1999 at 2.5 percent. (See Chart 1 in the Lab.)

Levels of establishment births slowly increased from the beginning of the series until leveling-off around 2005-2006, and then dropped until they reached their lowest levels in 2009. The decline in establishment births over the Great Recession represents the steepest decline in the history of the series. Deaths peaked in December 2008, and it was not until 2011 that more businesses were being created than being destroyed on an annual basis. Net new business formation is on the rise again after a steep decline during the recession, and has recently crested prerecession annual levels. (See Chart 2 in the Lab.)

Though it seems apparent that establishment births fluctuate with the business cycle, BED data allows for an analysis of these trends. Over the history of the series the annual summation of quarterly establishment births hit a peak at 956,000 births in the year ended 2016. This represents a recovery from the steep decline across the 2007-2009 recession when births reached a series low of 792,000 in 2009<sup>8</sup>. Establishment births followed a similar pattern during the 2001 recession; however, the drop was much smaller than during the 2007-2009 recession. (See Chart 3 in the Lab.)

While the rate of births and deaths is useful for analyzing “churn”, the difference between the two levels is also valuable. For a given time period, establishment births minus establishment deaths yields the level of net new business formation, indicating whether the creation of new businesses exceeds the destruction of existing businesses. For years in which births are greater than deaths, the level of net new business formation is positive; conversely, for years where there were more establishment deaths than births, net new business formation is negative. In both recessions net new business formation decreased, but it only went negative during the 2007-2009 recession, highlighting the severity of the most recent recession. In the year ended 2009 there was a net loss of 138,000 establishments due to this dynamic interplay of births and deaths. The peak of the net of these two series occurred in the year ended 2005 when 148,000 net new establishments were born. (See Chart 4 in the Lab.)

An alternative indicator of the strength of entrepreneurial activity is the average size of new businesses (more technically, the level of employment per establishment birth, or alternatively, the size of establishment births). This measure, informally nicknamed “birth weight,” is

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<sup>8</sup> Historical average establishment births have numbered around 860,000 establishments per year.

calculated as employment births divided by establishment births for a given time period. The number of new business establishments (establishments that are less than 1 year old in any given year) tends to rise and fall with the business cycle of the overall economy. However, the average size of new businesses has been steadily declining over the last fifteen years – from a high of 6.1 employees per establishment birth in 1999 to a low of 3.6 employees in 2016. Based on this data, establishment births on average are much smaller now than twenty years ago: today’s average startup only creates about 60% of the jobs it would have created in the 1990s. One possible explanation for this declining birth weight is the spread of new technologies and the ensuing rise in productivity that help all firms in general and new startup enterprises in particular<sup>9</sup>. (See Chart 5 in the Lab.)

This finding regarding declining birth weights is made more compelling when average birth weight is compared with the multifactor productivity<sup>10</sup> index. The declining average establishment birth weight corresponds with the rising level of productivity. It seems that, on the basis of these limited number of observations for the birth data, there is a correlation between the rise in productivity and the decline in average size of establishment births. (See Chart 6 in the Lab.)

The phenomenon of the shrinking establishment birth weight is even more disconcerting when coupled with the fact that without new business creation, the economy would have experienced a net loss of businesses every year on record. The labor market depends on startups to drive establishment openings and net job gains, and BED data makes it possible to see how startups compare with existing businesses in terms of contribution to net employment change. Generally speaking, establishments less than one year represents the only age category that creates more jobs than it loses<sup>11</sup>. For every year on record, existing businesses<sup>12</sup> experienced net employment losses. In all but four years over the 22 year history of the series, establishment startups counteracted those losses and resulted in a yearly net employment gain. In other words, without startups there would be no net job creation. (See Chart 7 in the Lab.)

#### **4. Survival Rates Vary Across Time, Industry, and Geography**

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<sup>9</sup> There are a number of possible explanations for the decline in establishment “birth weight.” In addition to productivity gains, a growth in outsourcing and a change in the industrial composition of startups—away from labor intensive industries like manufacturing certainly contribute.

<sup>10</sup> For the private business and private nonfarm business sectors, BLS defines the growth rate of multifactor productivity as “the growth rate of output less the growth rate of combined inputs of combined labor and capital.” See <https://www.bls.gov/bls/glossary.htm#M>

<sup>11</sup> New businesses, who have never been on the business register, cannot by definition, close or experience a contraction in employment.

<sup>12</sup> Those establishments older than one year old.



Finding the key to growing a successful business is well beyond the scope of this paper, but using BED age and survival statistics makes it possible to provide insight on survival differences observed across industrial, geographic, and temporal boundaries.

An analysis of individual establishment cohorts born in different years – specifically here for illustration purposes 1994, 2001, 2003, 2006, and 2010<sup>13</sup> – reveals that the survival of a new business depends, at least to some extent, on when in the business cycle an establishment is born. The 2006 birth cohort, which included the 2007-2009 recession, had a five-year survival rate<sup>14</sup> of 49.8 percent, considerably lower than 56.0 percent survival rate for the 2010 cohort, which included the subsequent recovery period. The same pattern across the business cycle is apparent in other years as well: the 2001 birth cohort (including the 2001 recession) had a five year survival rate of 52.3 percent, compared to the 2003 birth cohort (including the recovery) with a survival rate of 55.3 percent. When the survival timeline is lengthened to eight years, the survival rate gap between these cohorts shrinks but is still evident. The eight year survival rates for the 1994, 2001, 2003, and 2006 cohorts range from 39.6 to 41.5 percent<sup>15</sup>. (See Chart 8 in the Lab.)

While birth cohorts as a whole follow a consistent “survival rate” trajectory, more detailed analysis shows survival rates vary considerably by industry. These differences are apparent in BED age and survival data when broken out by industry detail, which is available for 2-digit NAICS<sup>16</sup> supersectors. For example, health care and social assistance consistently rank among the industries with the highest survival rates over time, while construction ranks among the lowest. On average, after their first full year approximately 81 percent of establishments in health care and social assistance survive, while only 77 percent of construction establishments do. In other words, an additional 4 percent of construction establishments will fail in the first year compared to those in health care and social assistance. While this difference may seem minor, that gap widens to 13 percentage points after 12 years. (See Chart 9 in the Lab.)

Beyond industry and time, establishment survival rates also vary by geography. BED age and survival data are available at the state level, and provide a useful tool in analyzing the entrepreneurial climate across states. Within the 2011 birth cohort (the most recent cohort for which five year survival data are available), the five year survival rates across the states range from 43.1 percent in Washington to 59.3 percent in Massachusetts. For this cohort, survival rates for establishments in northern states were on average higher than in other U.S. regions. Looking further back, after 22 years the current survival rate of the 1994 cohort (the oldest cohort in the

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<sup>13</sup> These years chosen for their superlative nature (highest and lowest rates during the 2001 and 2008-2009 recessions and their recoveries), plus the earliest available data.

<sup>14</sup> Conceptually, establishments can be grouped into cohorts by birth year. Data users can then compare these cohorts across time. In this scenario the authors look at the five year survival rate. Take for example the 2010 cohort; the five year survival rate represents the number of those establishments still active on the longitudinal database in the year ended 2014 (five years).

<sup>15</sup> Eight year survival rates are not yet available for 2010 birth cohort.

<sup>16</sup> North American Industry Classification System, for more information see: <https://www.census.gov/eos/www/naics/>

BED data series) ranges from 14.3 percent in California to 26.7 percent in South Dakota. (See Chart 10 in the Lab.)

Startup creation similarly varies by state. In 2016, startups per 100 existing establishments ranged from 6.5 in West Virginia to 11.9 in the District of Columbia. Generally, western states had higher startup rates than other regions. A comparison of more recent startup cohorts and survival rates shows that, except in California, states with higher startup rates have lower survival rates. The correlation ratios are -0.32 for the 2011 cohort and -.060 for the 1994 cohort. (See Chart 11 in the Lab.)

## **5. Small, Young Establishments are Leaders in Growth**

The BED program has recently developed research data on employment dynamics by age and size. This new annual research data provides insights into job flows by age and size at both the establishment and firm levels. These data enable users to compare gross job flows and net employment changes across a wide range of business organizations: from startups, to small and young firms, to large and older firms. The new annual research data by age and size<sup>17</sup> track employment changes at private business units from March of each year, and five distinct age groups and eight size classes are available. For each of the resulting 40 age-by-size categories there are data series providing gross job gains and gross job losses, as well as the number of establishments by direction of employment change. Additional breakdowns by industry and states are also published. All told, this represents a wealth of data and allows data users to glean new insights regarding the labor market.

Analysis can now be done to find similarities or differences between the different sizes of new businesses, and to see how entrepreneurial activity differs based on firm size. Preliminary examination of data for startups (establishments less than one year old) indicates that there are marked differences between the smallest size class (those with 1-4 employees) and all remaining larger size classes. The smallest new businesses account for the vast majority of all new businesses being opened; in fact, establishments with 1-4 employees on average opened up nearly eight times the number of establishments than all of the remaining size classes combined. In 2016, small establishments accounted for 652,092 startups, while startups with five or more employees totaled 73,177. (See Chart 12 in the Lab.)

In addition to sheer numbers of startups, small businesses are the main driver of jobs associated with entrepreneurial activity. The smallest establishment size class (those with 1-4 employees)

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<sup>17</sup> BED research data by age and size considers the firm for the size of the business, rather than the establishment. The establishment size is the employment reported for a single establishment. The firm size is the total employment from all establishments reported under the same Federal Employer Identification Number.

contributed the most to gross job gains among all sizes of startup firms, and even created more than twice as many jobs as the next smaller size class of 5-9 employees.

Additionally, all size classes of startups are creating fewer jobs now when compared to their pre-recession levels, but the smallest size class shows the strongest recovery. While new firms with 1-4 employees are not creating as many jobs now as in the year ended 2006, they are creating more jobs than in 1994, the beginning of the series. The same cannot be said for any other size class of startups, as all other size classes have declined from the beginning of the series. While entrepreneurial activity and startups slowed dramatically during the Great Recession, the longer term negative trend may be just as alarming: data for startups by size class show peaks in net job gains well before the 2001 recession in all but the smallest size class. The rapidly growing, large startups of the nineties appear to be a dying breed. (See Chart 13 in the Lab.)

The analysis contained in this paper merely scratches the surface of these newly available BED data on firm and establishment by age and size. Additional research and analysis could leverage the industrial and geographic component of the data to provide a more acute look at the labor market.

## **6. Conclusion**

The Quarterly Census of Employment and Wages program at the Bureau of Labor Statistics maintains and leverages the longitudinally linked U.S. business register to produce Business Employment Dynamics data that provides a unique look at the nation's labor market. Storing employment and wage data in a longitudinal database allows BED to follow a business at the establishment level from cradle to grave and to generate a variety of business demographic statistics. Using these statistics, this paper highlights selected indicators of entrepreneurship. While the volume and variety of BED statistics allow data users to tell a number of stories, this paper concludes that the nature of entrepreneurial ventures has shifted over the last two decades. Interpretation – or indeed prognostication – of this trend is beyond the scope of the analysis herein. However, the data made available by BED to help data users tell this story was addressed.

Over the last two decades, BED statistics show that the number of startups has remained relatively flat, while the size (“birth weight”) of those establishments has shown a steady decline. This phenomenon is likely due to a number of factors including increased productivity and technology, and the changing nature of the startup economy. From a labor market perspective this finding is concerning, because BED statistics show that without the employment gained from startups there would on average be no net new job growth. Startups are crucial to the American labor market.

Furthermore, startup survival rates shed light on the long-term impact of a given startup cohort. In general, startup cohorts follow similar survival trajectories and, on average, after five years roughly half of all startups will fail. As dismal as this statistic may be, the continuous churn in the labor market has a net positive effect on the overall economy. This paper has shown that survival rates vary by industry and geography. Further analysis could be completed using publicly available BED data to analyze survival rates across time in various industries and geographies to shed light on the changing nature and longevity of startups.

Finally, new BED research data linking firm and establishment age and size help to facilitate the discussion of labor market impact of small business versus young business. This paper shows that *young-small* establishments are a primary contributor to the health of the labor market. Over the history of the series, the smallest size class of startups accounts for approximately eight times the net new jobs as all other size classes combined. This statistic represents only a small portion of analysis the new research data makes available.

In conclusion, beyond the discussion of entrepreneurship, all of the preceding sections share a similar narrative: research and analysis using business demographic statistics is in its relative infancy and is only made possible by robust business registers. There are a number of stories yet to be told.

CHART 1

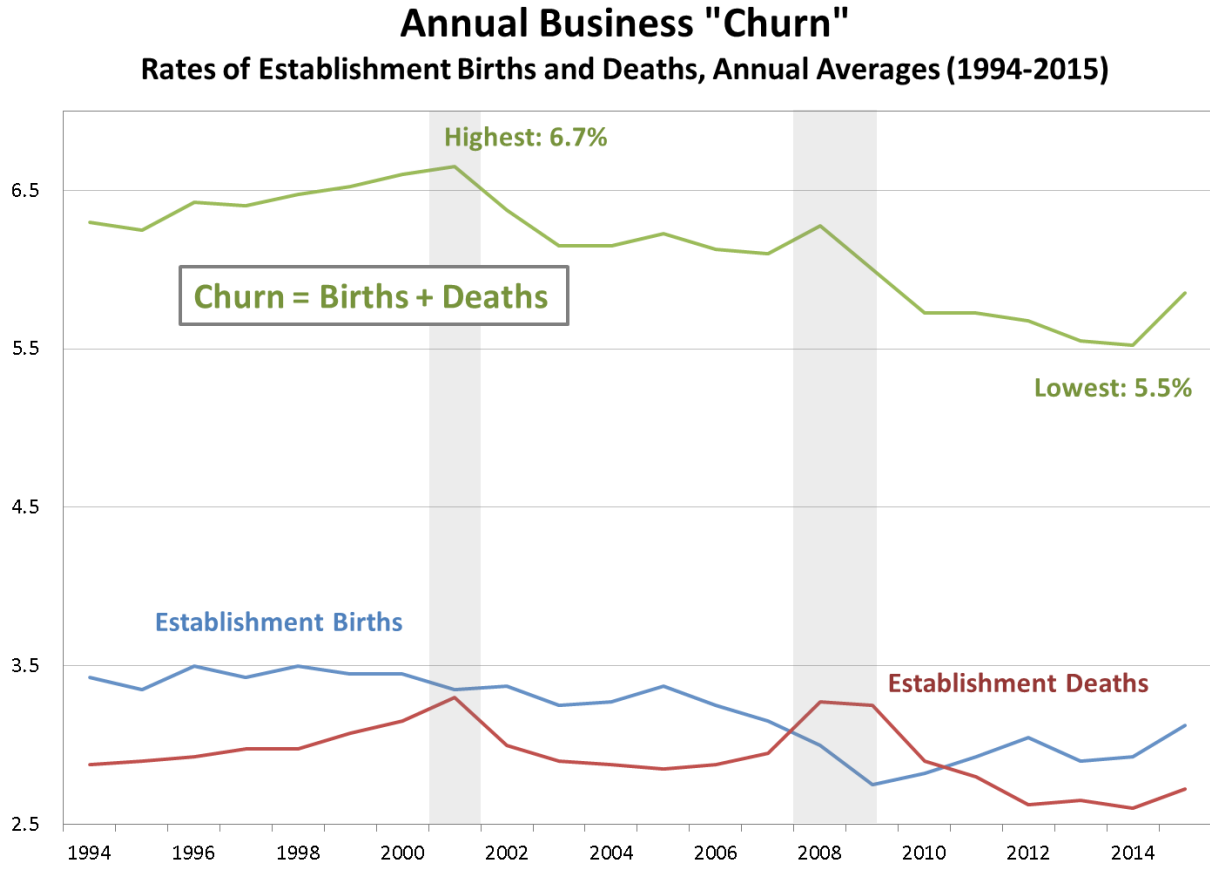


CHART 2

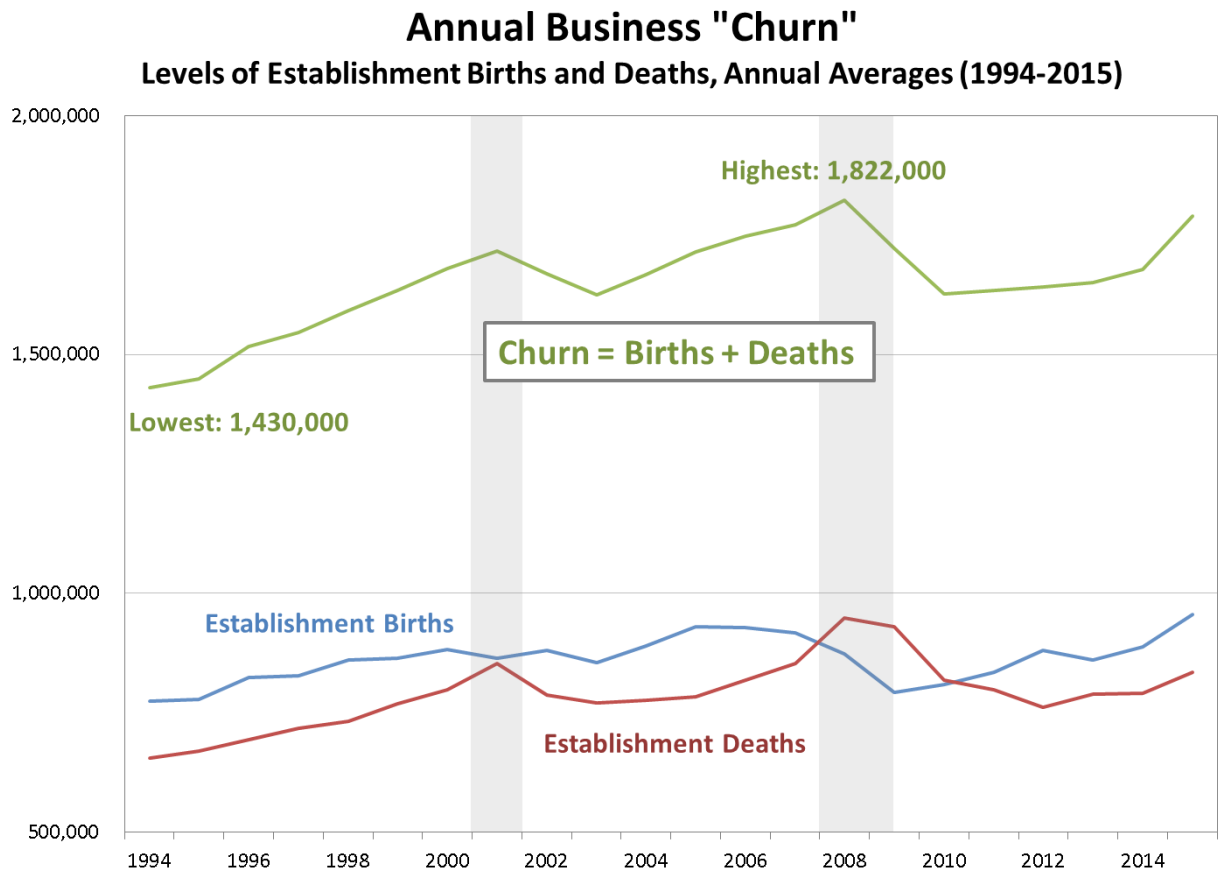


CHART 3

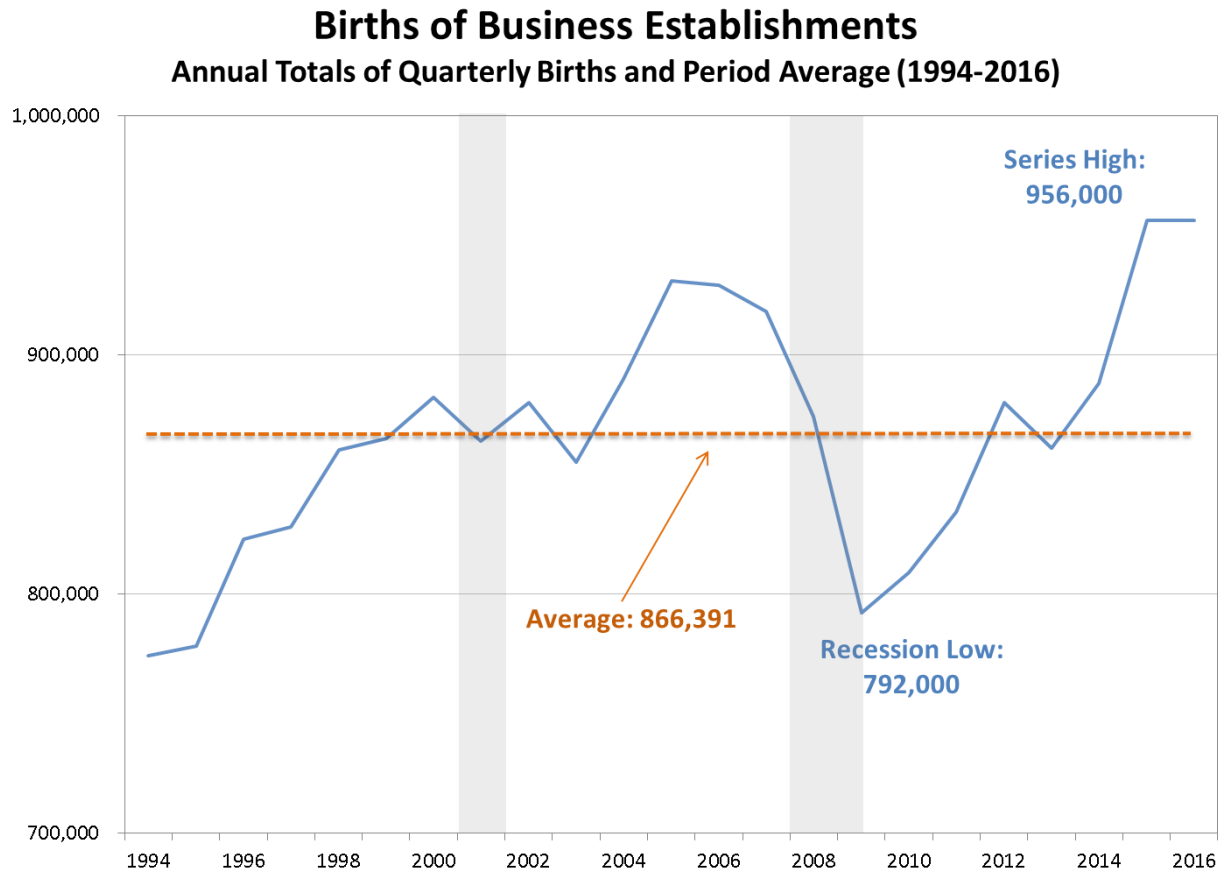


CHART 4

### Net New Business Formation The Difference Between Establishment Births and Deaths, Annual Totals (1994-2015)

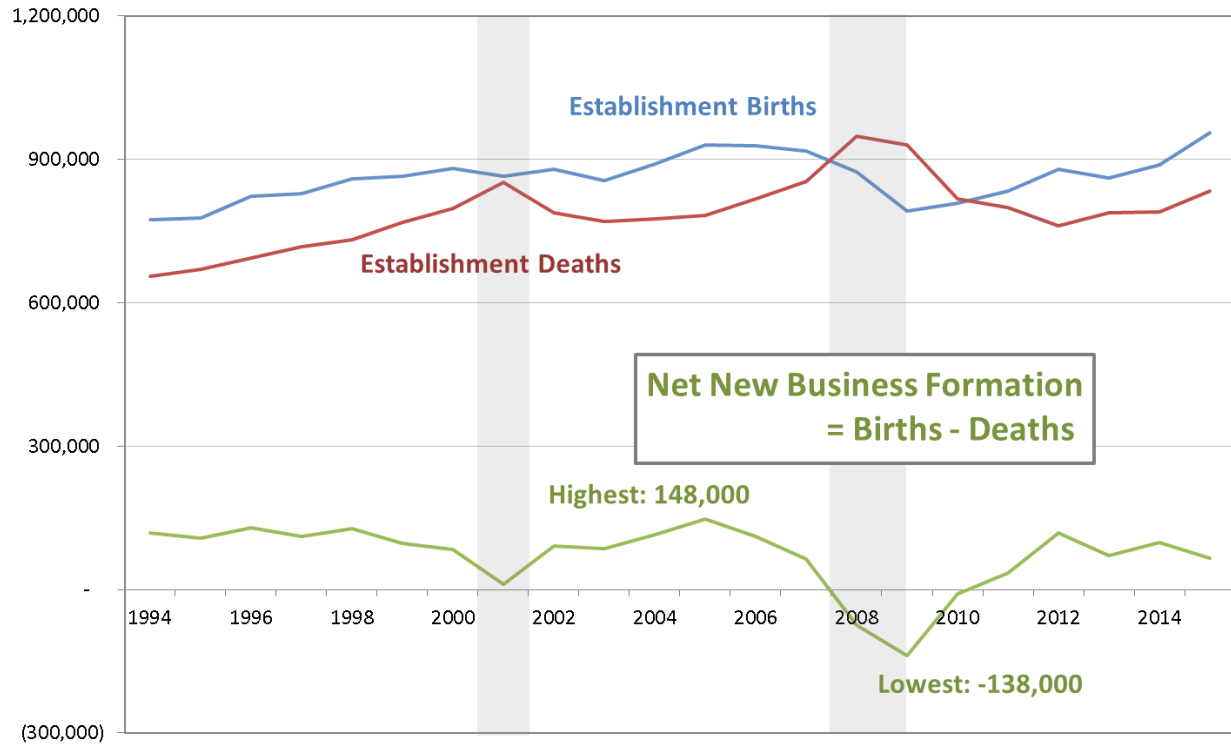




CHART 5

### Average Size of Establishment Births Number of Employment Births per Establishment Births, Annual Totals (1994-2016)

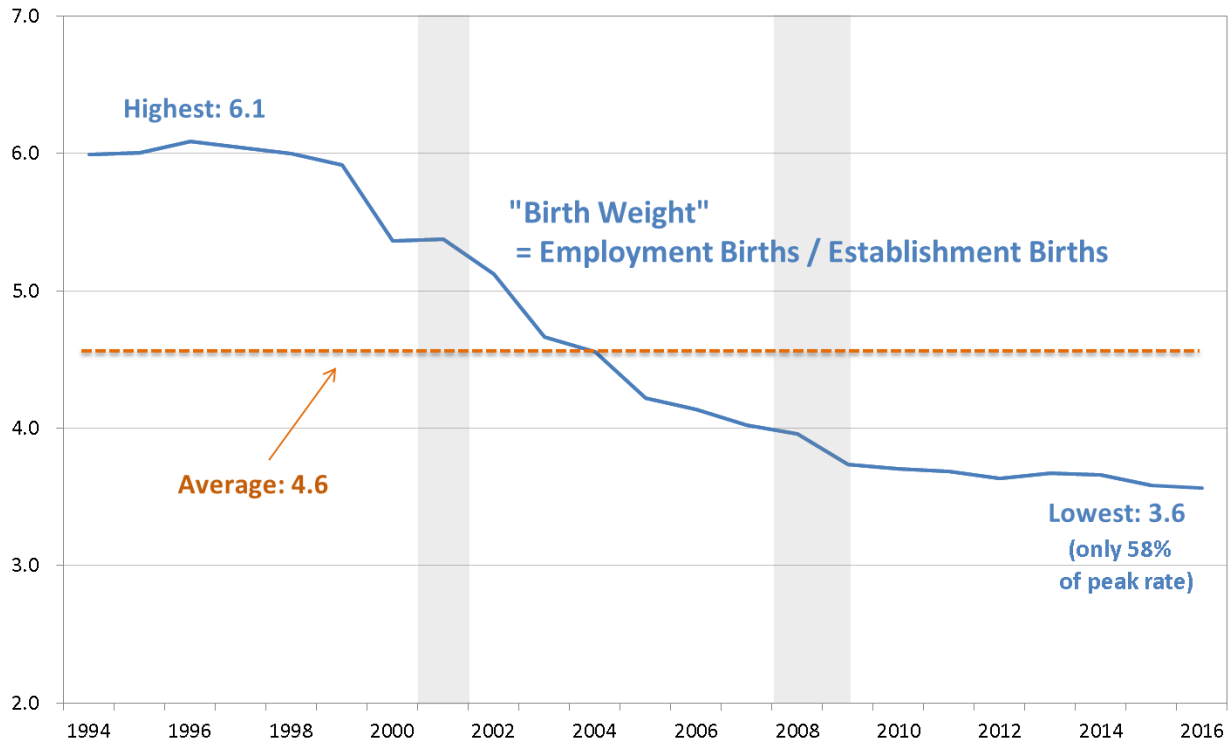


CHART 6

### Size of Startups and Productivity (1994-2016)

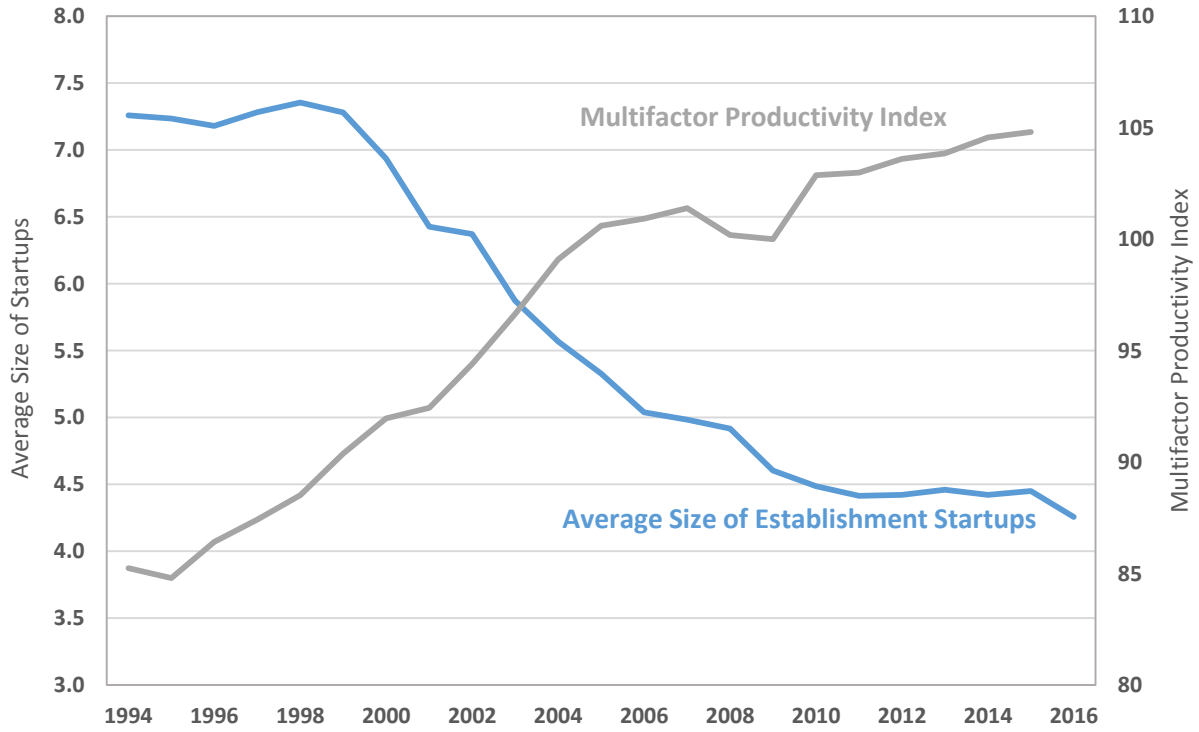
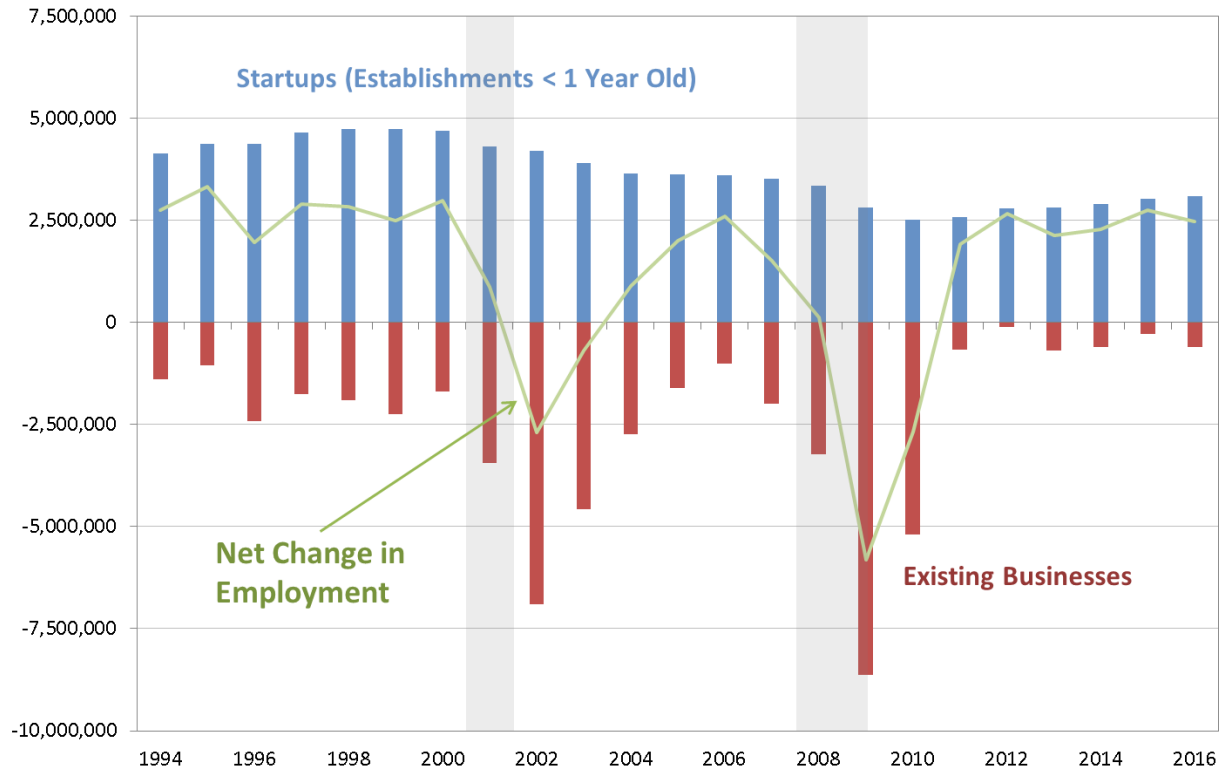


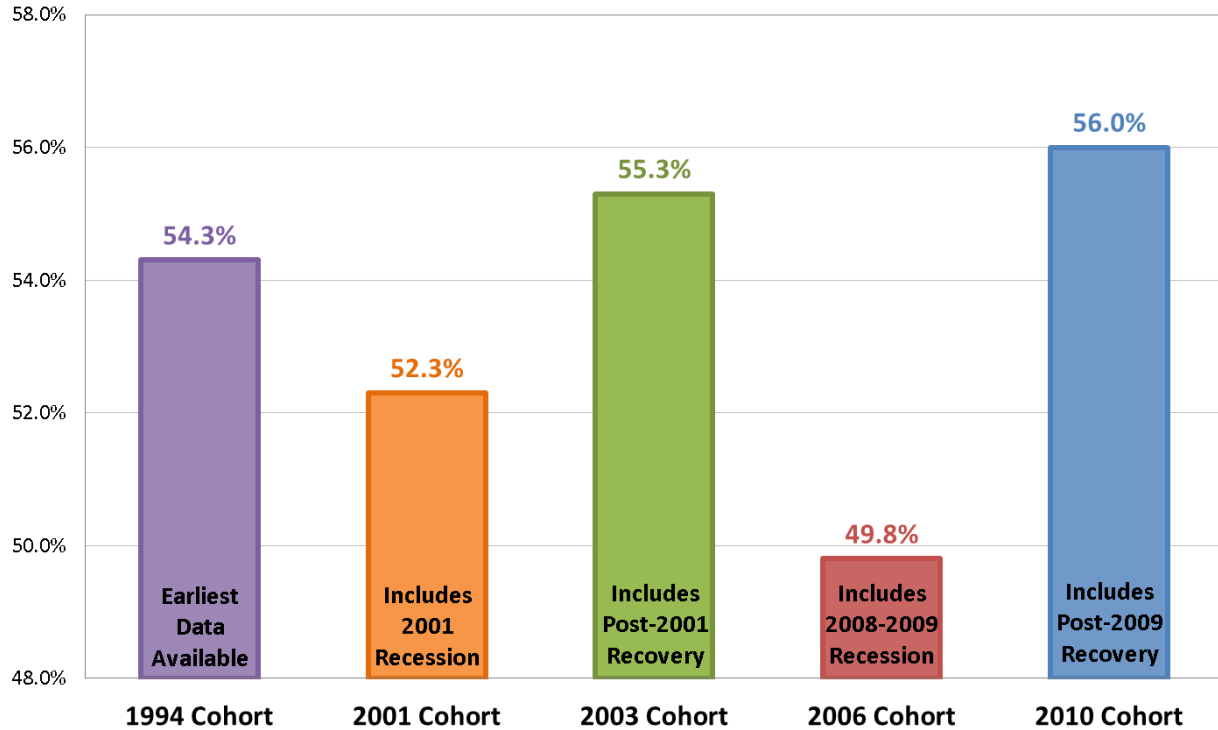
CHART 7

### Net Change in Annual Employment by Startups and Existing Establishments (1994-2016)



**CHART 8**

**5 Year Survival Rates Across Business Cycles**  
Establishment Survival by Opening Year After 5 Years, For Selected Birth Cohorts for Years ending in March of Years Listed



**CHART 9**

**Survival Rates for 2004 Birth Cohort  
Health Care and Social Assistance vs. Construction (2004-2015)**

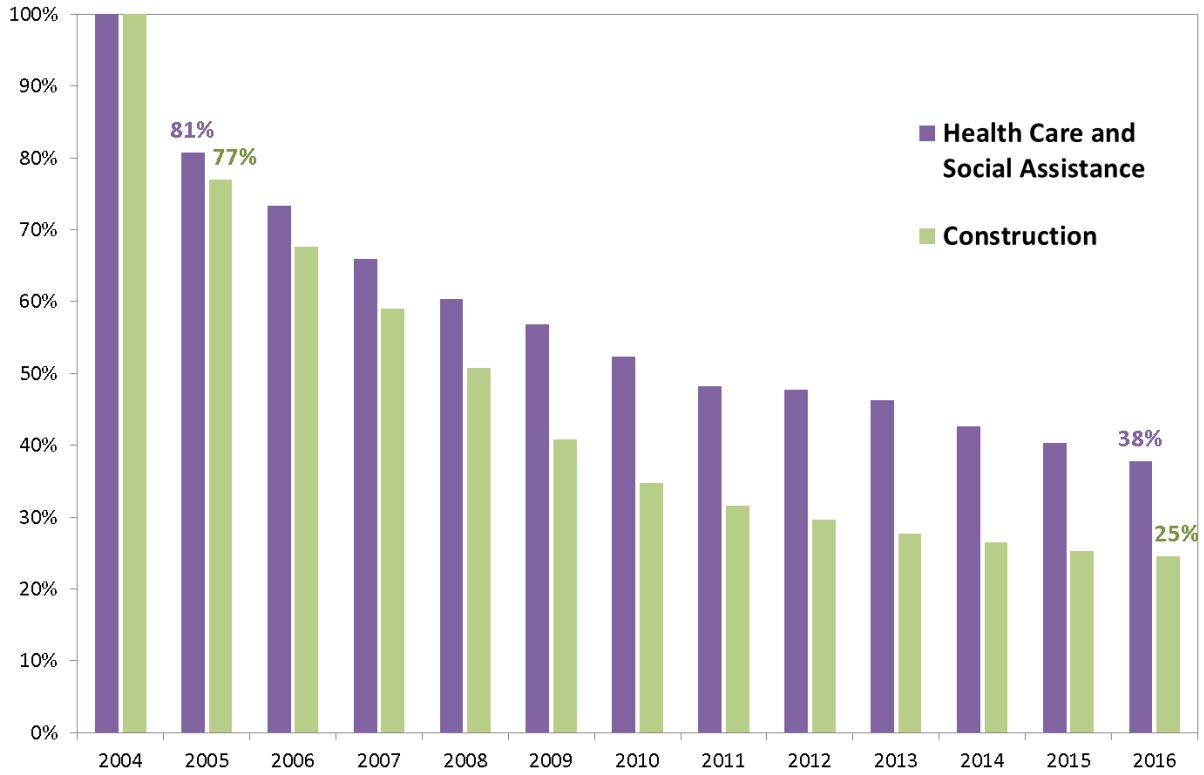




CHART 11

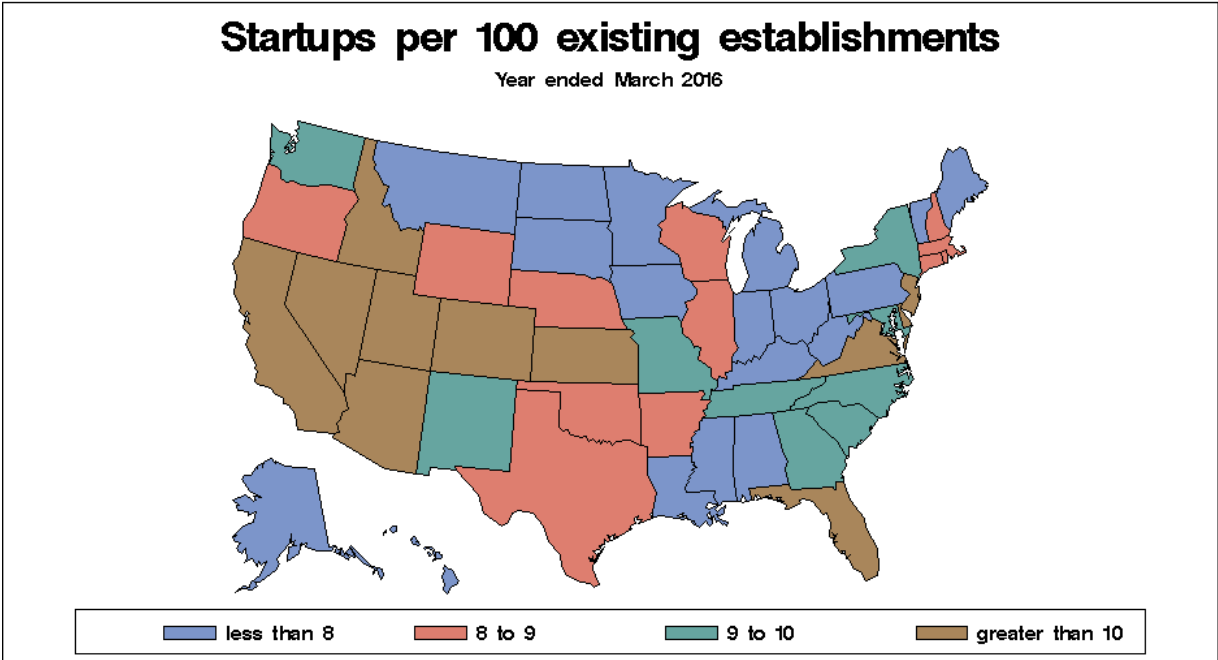


CHART 12

### Annual Number of New Establishments Establishment Births by Average Establishment Size (1994-2016)

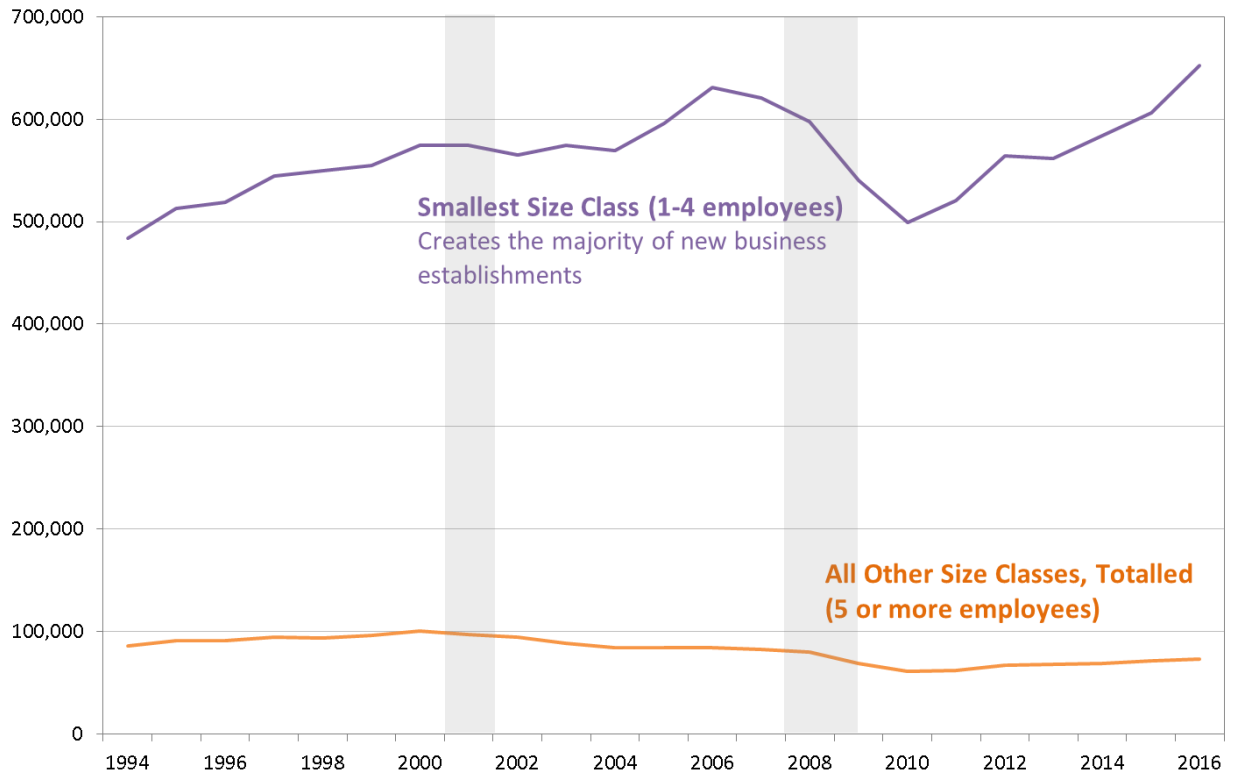




CHART 13

### Annual Net Job Gains by Average Establishment Size Employment (1994-2016)

