

SHOW ME JOBS

**The Impact of First-Time Employers
on Job Creation in Missouri**

Fall 2021 Report

37,270

average number of new jobs
Missouri startups create each year

MOSourceLINK®

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THE ECONOMIC IMPACT OF MISSOURI STARTUPS

The COVID-19 crisis and the emergency measures taken to stop its spread have wreaked havoc on entrepreneurs and small business owners across the state: Shops have closed, capital investments for new startups have slowed and markets have shifted.

And yet, startups¹ are vital to our economy. New and young firms are the primary source of job creation in the U.S. economy in both urban and rural communities, according to the Ewing Marion Kauffman Foundation.²

MOSourceLink® is working to make Missouri the state for innovation between the coasts. As part of that effort, it collects metrics that will measure Missouri's progress as we work together to build a stronger and more vibrant entrepreneurial environment.

Access to data from the U.S. Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) for Missouri provides an opportunity to look at new and young firms statewide and their contribution to job creation.

Now, more than ever, it is critical to recognize the importance of startup firms to the creation of jobs—and support those firms so that they can lead the community back to recovery as job-producing engines.

36,686

new jobs were created in 2020
by Missouri's startups.

HIGHLIGHTS

- **First-time employers who employed fewer than 20 employees created 36,686 new jobs in Missouri in 2020.** These firms created an average of 37,270 new jobs in Missouri each year for the past five years.
- Considering the employees hired by these same firms in 2016 and in each succeeding year and accounting for job losses as well, **first-time employers created 169,479 jobs from 2016 to 2020.** Consistent with nationally reported trends, this **accounted for 79.7% of all new jobs and 6.7% of the total employment³** in Missouri each year.
- In Missouri, **new firms in the tech sector created an average of 863 jobs each year** for the past five years.
- Using the hiring of first employee as a proxy for startup, the QCEW data reveals that **Missouri had 16,287 startup firms in 2020.**
- Wages these startup firms paid start below the average for all Missouri jobs, but **wages exceed the average after Year 4.**

¹ This report identifies a startup as a firm hiring its first employee, as measured by compliance with unemployment insurance laws. The firm may or may not have had operations prior to the hiring of the first employee. Firms were further sorted for those with fewer than 20 employees upon first-time filing to eliminate large companies moving into the state.

² Wiens, Jason and Chris Jackson. "The Importance of Young Firms for Economic Growth." Ewing Marion Kauffman Foundation, 13 Sept. 2015. <http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth>

³ Includes private sector, nonprofit, many farmworkers and most government.

WHY ENTREPRENEURSHIP?

A considerable wealth of literature has found that new and young firms are crucial job creators. The 2015 "Entrepreneurship Policy Digest" from the Ewing Marion Kauffman Foundation credits new firms as the primary source of job creation and highlights that from 1988 to 2012, firms over five years old destroyed more jobs than they created.

Recently, a growing body of research has revealed the decline of this economic engine of innovation, dynamism and job creation.

The year 2000 was a break point for dynamism among young firms, tech firms in particular.⁴ Hathaway and Litan also find that business dynamism among small firms of 20 employees or fewer has declined in all 50 states in the United States.⁵ In their follow-up paper, Hathaway and Litan identify the source of declining dynamism as slowing population growth and increased consolidation.⁶

Missouri QCEW data shows an increase in the number of startup firms from 2019 to 2020, but a decrease in the number of jobs created by those firms. The number of startup firms went from 15,934 in 2019 to 16,287 in 2020. The number of jobs created by those firms went from 37,565 in 2019 to 36,686 in 2020.⁷

Wage stagnation, high unemployment and low growth have civic and community leaders looking for ways to stimulate the economy. Many view entrepreneurship as a potential opportunity to address the economic recovery required by the pandemic.

MEASURING WHAT MATTERS: ENTREPRENEURSHIP IN MISSOURI

MOSourceLink's *Show Me Jobs* quantifies the impact of new and young firms to Missouri's economy.

The report takes a close look at new and young firms in Missouri, using the Quarterly Census of Employers and Wages. Employment and wage information is collected for workers covered by unemployment insurance laws and covered by the Unemployment Compensation for Federal Employees (UCFE) program. This dataset contains information on employers and workers that can be explored to generate measurements of and insights into an entrepreneurial ecosystem. New and young firms (startups) are defined as the first appearance of an establishment in the dataset.

The report also provides year-to-year comparison data regarding job creation by new and young firms, wage growth and the industrial density of startups.

⁴ Decker, Ryan, et al., "The Secular Decline in Business Dynamism."

⁵ Hathaway, Ian and Robert Litan, "Declining Business Dynamism in the United States: A Look at States and Metros." Brookings, May 2014.

⁶ Hathaway, Ian and Robert Litan, "What's Driving the Decline in the Firm Formation Rate? A Partial Explanation." Brookings, November 2014.

⁷ Due to the large increase in remote workers for 2020, QCEW data was filtered to remove all jobs associated with businesses that do not have a primary location in Missouri.



Lori Coulter +
Reshma Chamberlin
Summersalt
St. Louis, Mo.

When two life-long Missouri entrepreneurs meet by chance at a New York event, that's a recipe for magic. For Lori Coulter and Reshma Chamberlin, that encounter out east created **Summersalt**—a disruptive, travel-focused lifestyle brand for modern women. The brand has global influence but is headquartered in St. Louis, where both founders live.

"We're really excited to change the conversation around swimwear, making sure women like us feel represented and sexy on our own terms," says Lori, co-founder and CEO. "We want women to feel empowered to embrace adventure."

Launched in 2017, Summersalt has quickly expanded, becoming a high-growth startup. Using the T-REX entrepreneur center as a home base, the company has seen massive growth in just a few years and has hired 15 full-time and 15 part-time employees to date in Missouri.

JOBS

JOB CREATION FROM FIRST-TIME EMPLOYERS

First-time employers that employed fewer than 20 employees created 36,686 jobs in Missouri in 2020.⁸ These new and young firms contributed an average of 37,270 new jobs to the state for the past five years (Figure 1).

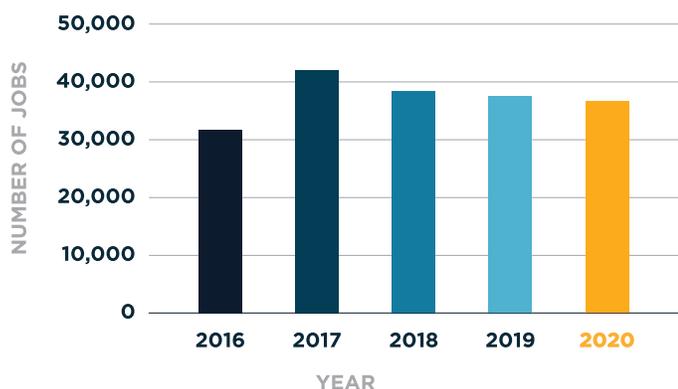
Taking into consideration the number of employees these same firms hired in 2016 and in each succeeding year as well as job losses, startups created 169,479 jobs

from 2016 to 2020. This accounts for 79.7% of new jobs added and 6.7% of all jobs in Missouri in 2020 (Figure 2).

According to the U.S. Bureau of Labor Statistics, about 20% of small businesses fail within their first year. That high closure rate is also reflected in the QCEW data, which shows that of Missouri's 12,338 first-time employers in 2016, more than half were no longer employing anyone in 2020. However, according to the job numbers, the firms that do survive increase their hiring and help make up for the jobs lost to firm death.

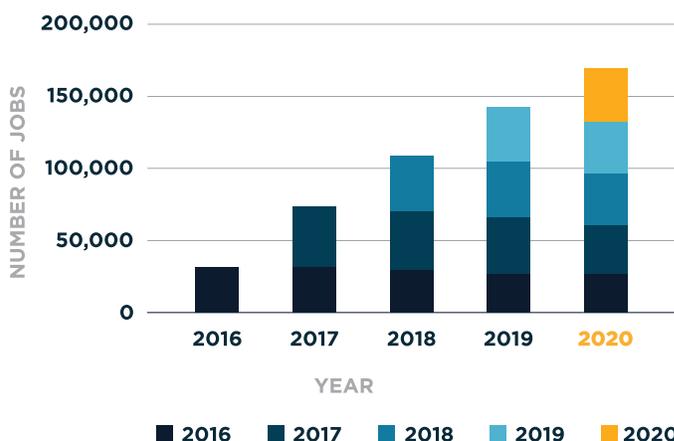
TREND

Figure 1: Missouri startups created 36,686 jobs in 2020



IMPACT

Figure 2: With hires and losses, these startups created 169,479 jobs in 2020



Dan Taylor
Midwest Mobile Imaging
West Plains, Mo.

Missouri native Dan Taylor flew back to his hometown near West Plains to take care of his ailing mother. While he was there, she hurt her shoulder and needed an X-ray. One ER visit and three long hours later, Dan, an X-ray technician himself, had a clear vision of what patients like his mom needed. **Midwest Mobile Imaging** was born.

Quickly, his startup caught on, delivering mobile, timely digital imaging services, such as X-rays, ultrasounds, EKGs and echocardiograms. In 2014, Dan hired his first employee. Five years later, he has 10 full-time employees, numerous contractors and has expanded his operations to Springfield, Missouri. The startup's contracts are projected to increase by 150% in the next year, and the company now offers mobile laboratory services.

Through all the success, Dan says helping his clients has always been the focus.

"I'm just a guy that saw a need, started a business and hired a few employees," he says.

⁸ These jobs were removed from total job counts for 2020 and all previous years.

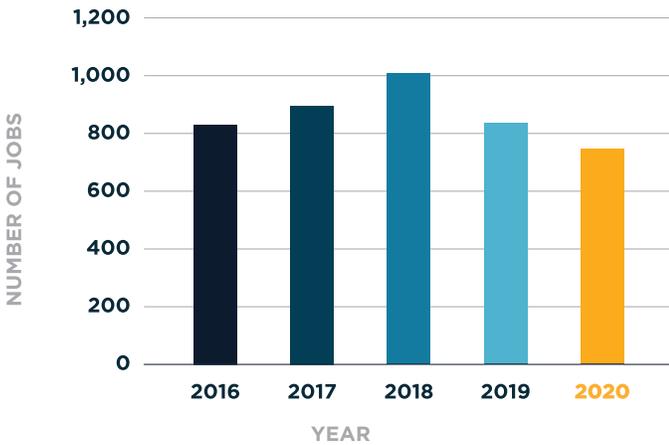
JOB CREATION FROM HIGH-TECH STARTUPS

High-tech companies tend to grow rapidly, and “their job creation is so robust that it offsets job losses from early-stage business failures.”⁹

In Missouri, new tech firms created 747 jobs in 2020, down from the 837 jobs created by these new tech firms in 2019. New tech firms created an average of 863 jobs each year from 2016 to 2020. (Figure 3).

TREND

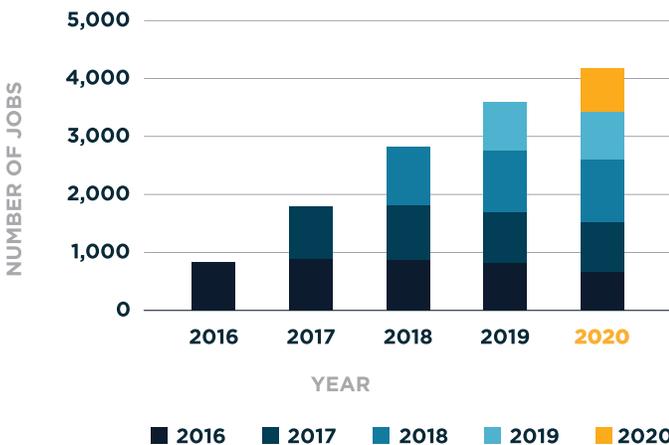
Figure 3: 747 tech jobs were created by Missouri startups in 2020



Accounting for the employees these same firms hired in each succeeding year and accounting for job losses as well, tech startups created 4,188 jobs from 2016 to 2020 (Figure 4).

IMPACT

Figure 4: Cumulatively, those new tech startups created 4,188 jobs in 2020



Marjorie Melton
M3 Engineering Group
St. Louis, Mo.

Marjorie Melton built her passion for improving the environment into a successful career as a hazardous waste engineer and president of the St. Louis Board of Public Service. And yet, she wanted to do more.

So in 2009, she turned her environmental engineering expertise into a consulting business and launched **M3 Engineering Group**.

Ten years later, Marjorie’s consulting firm has 15 employees; offices in St. Louis, Chicago and Memphis, Tennessee; and delivers its engineering planning, design and construction support to clients in the Midwest.

⁹ Hathway, Ian. “Tech Starts: High-Technology business Formation and Job Creation in the United States.” August 2013. Tech industry defined by four-digit NAICS code, see appendix.

STARTUPS IN MISSOURI

This report identifies a startup as a firm hiring its first employee. Using this definition, Missouri created 16,287 startups in 2020, up from 15,934 in 2019. As might be expected, most of the firms cluster in the state's population centers, although there are first-time

employers located throughout the state, as depicted in the heat map (Figure 5).

MOSourceLink has divided the state into four regions. The following four heat maps depict the density of startups by region (Figures 6-9).

Figure 5: Density of Startups by Geography

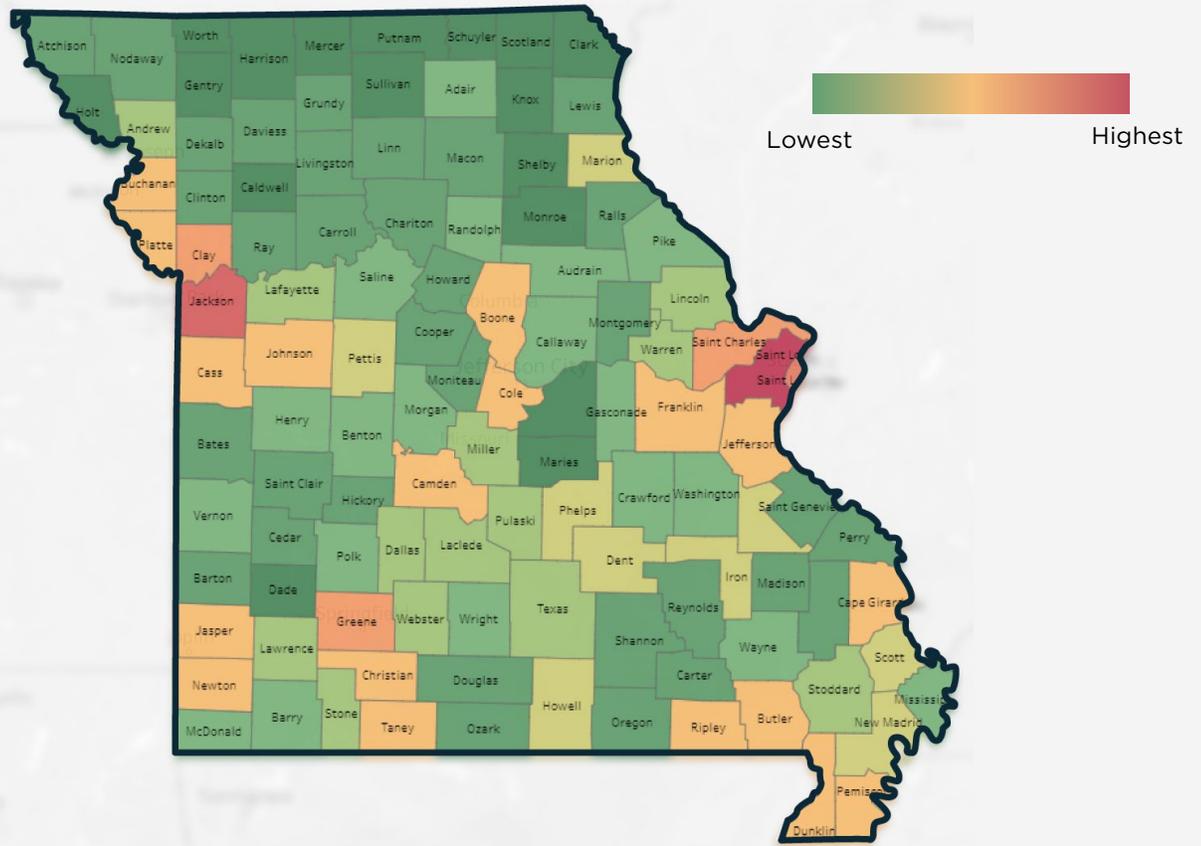


Figure 6: Kansas City and Northwest

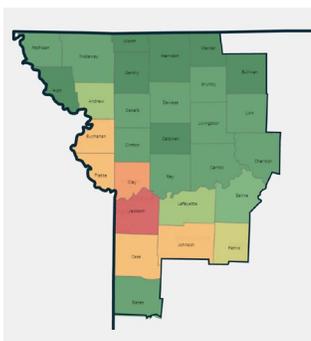


Figure 7: Central and Northeast

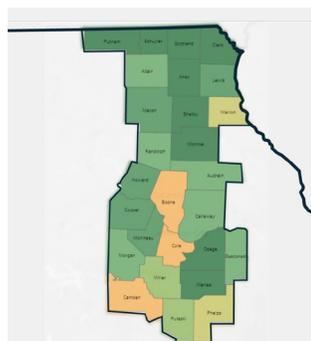


Figure 8: St. Louis area

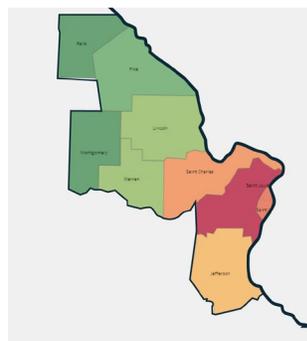


Figure 9: South

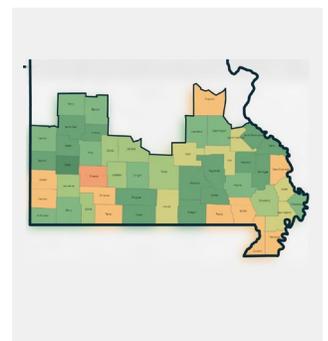


Figure 10 shows the industry breakdown of Missouri startups. The number of industries at the top of the list in terms of job creation is relatively consistent over time. In 2020, Health Care and Social Assistance had by far the largest number of startups with 8,612.

Services for the Elderly and Persons with Disabilities accounted for a large part of the new firms. Other significant numbers of startups were in Professional, Scientific and Technical; Construction; and Other Services.

Figure 10: Startups by Sector

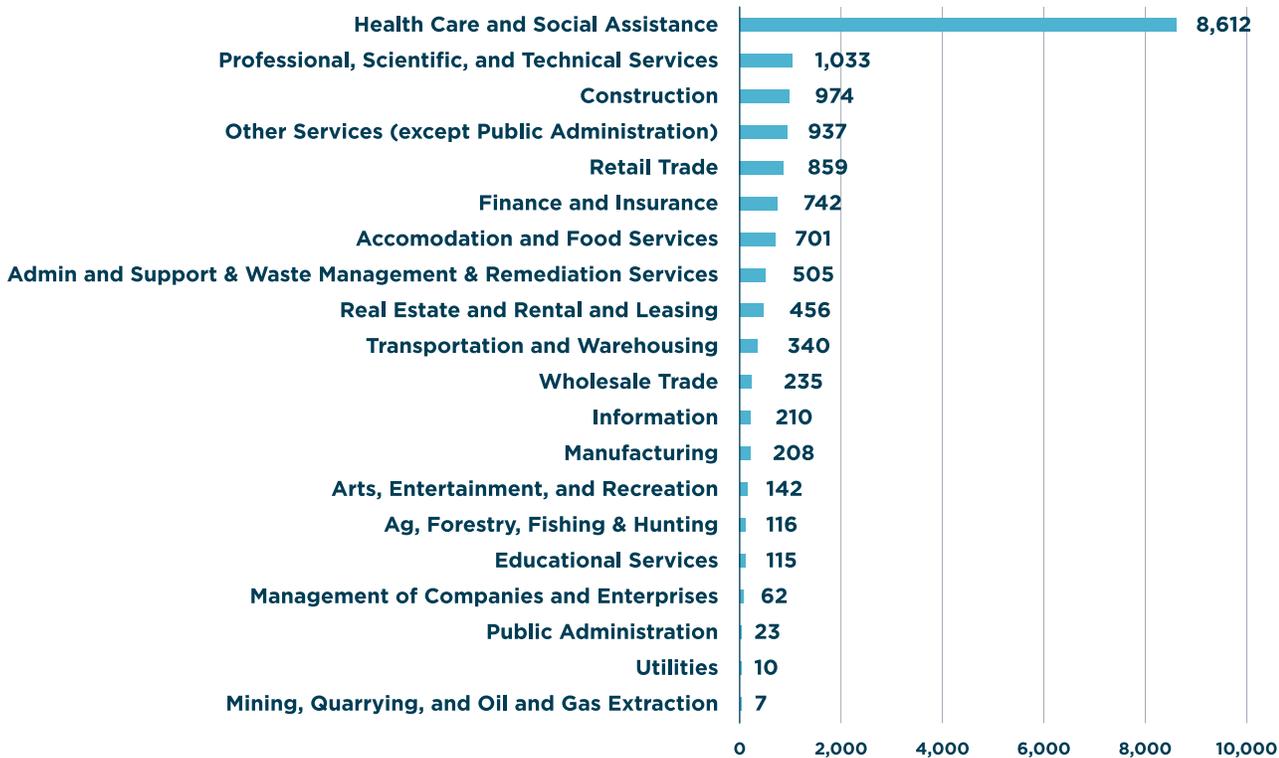
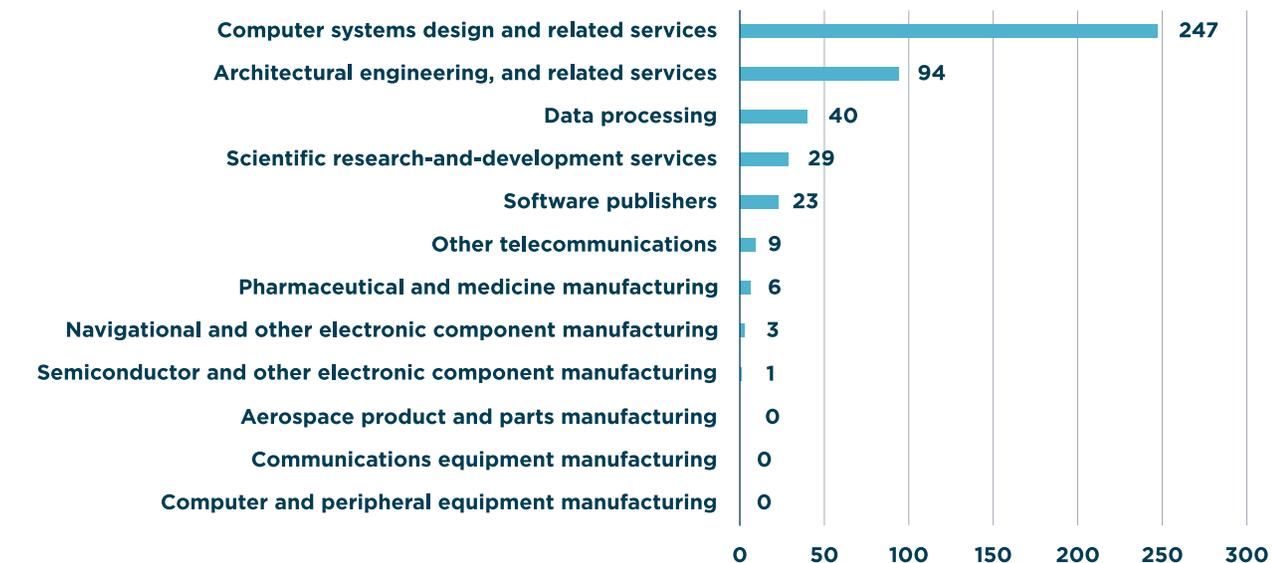


Figure 11 breaks the data down further to provide a picture of first-time employers within the tech sector. Computer System Design and Related Services is the

highest industry cluster (247), followed by Architectural Engineering and Related Services (94).

Figure 11: Tech Startups by Sector

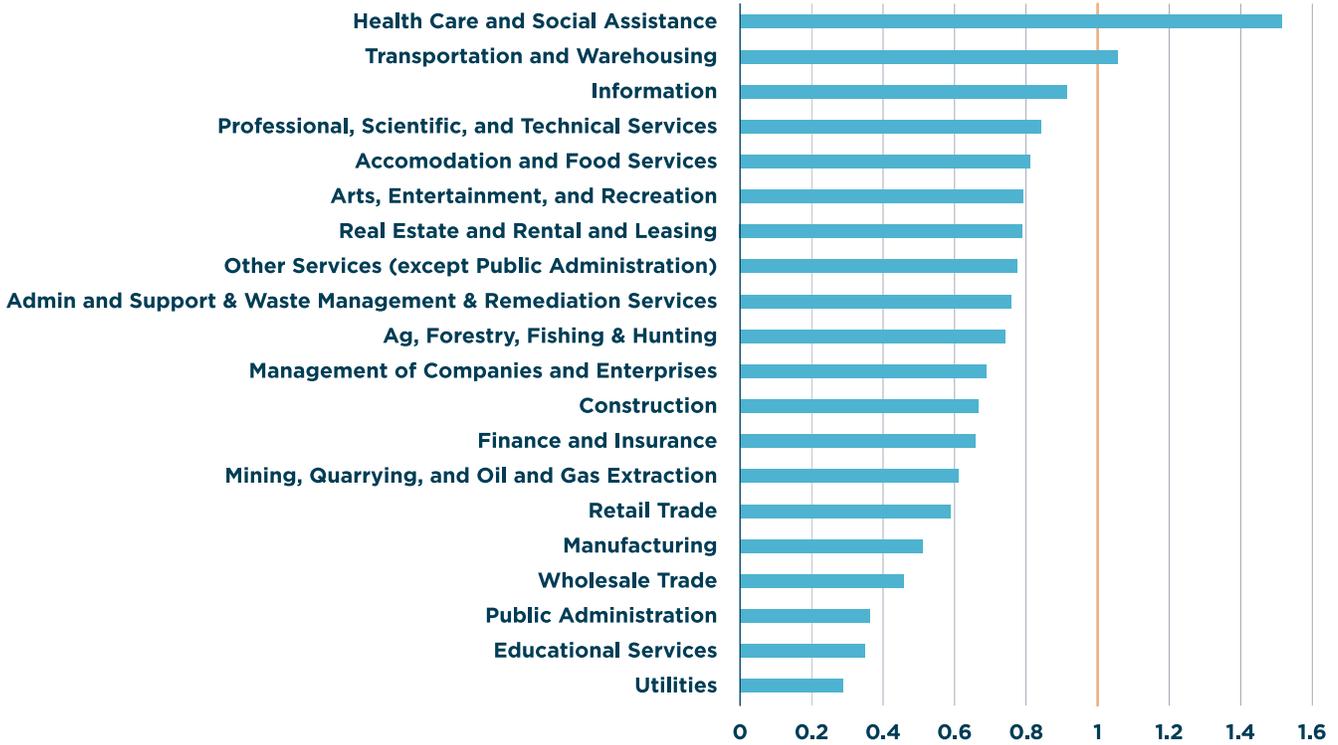


A growing industry requires a high number of startups. The quantity of startups compared with the total industry is reflected by the Startup Density Index.¹⁰ Startup Density Index is the number of startup firms as a share of the industry normalized by the state density. Health Care and Social Assistance had the highest

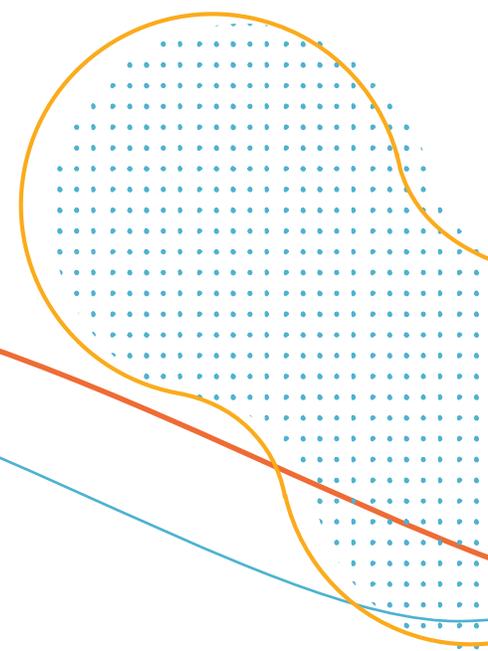
Startup Density Index in Missouri. Other industries above the average in 2020 include:

- Transportation and Warehousing
- Information
- Professional, Scientific and Technical Services

Figure 12: Average Startup Density by Industry in Missouri



¹⁰ The Startup Density Index repurposes location quotient to measure industrial startup activity.



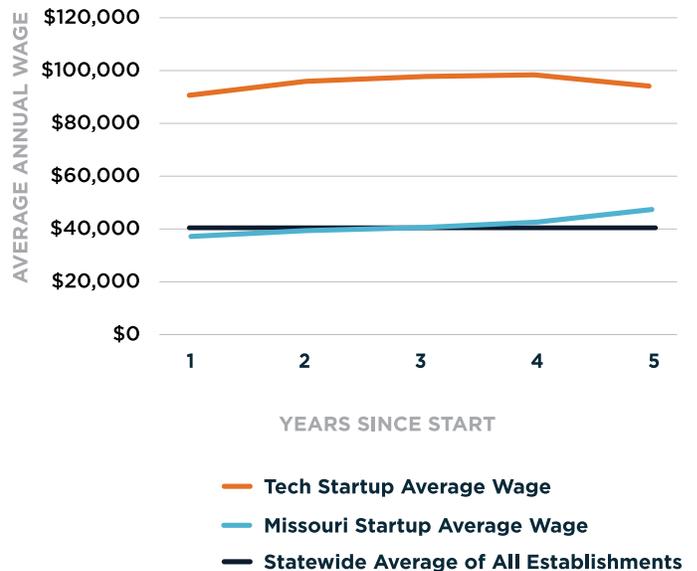
WAGES

WAGES PAID BY NEW AND YOUNG FIRMS

Wages are where the investment in an entrepreneurial economy becomes a driver of economic growth. The wages paid to new employees filter into the larger economy and can serve as a source of growth.

Figure 13 shows the average wage of firms at a given age, as well as the average wage of tech firms. Startup entrepreneurial firms pay less than the state average (orange bar) at birth but trend toward and surpass the average after Year 4. As firms age, inefficient operations drop out, and they are able to take advantage of innovation. In turn, startup wages rise and eventually pass the state average wage (indicated by the dark navy line). Successful firms have the potential to increase wages and contribute to economic growth. Tech startup wages start above the average and continue to stay at that level.

Figure 13: Wages paid by Missouri startups exceed the statewide average after Year 4. Wages paid by Missouri tech startups exceed the statewide average.



Luke Einsel
Smart Beverage
Kansas City, Mo.

It might have been a grind, but 2016 was a good year for Smart Beverage and partner-brothers Luke and Garth Einsel. The Kansas City-based business tripled its revenue, purchased its fifth competitor and hired its first employee.

But they were just getting started.

In the years that followed, they acquired \$7 million in liquidated beverage equipment, moved into an 18,000-square-foot facility in an Opportunity Zone, closed a \$2 million funding round, partnered with a publicly traded company and completed a rebrand—and all that has them eyeing national expansion.

Even more, the brothers have grown their revenue by 250-300% each year since 2014 and are now on pace to top at least \$2 million annually.

With all that growth, Smart Beverage has created jobs for more than a dozen employees.

“We have a great company culture,” he says. “There is so much knowledge and experience on our team, and everyone is focused on serving our customers.”

METHODOLOGY

Missouri is committed to become the best place for innovation between the coasts. MOSourceLink's *Show Me Jobs* report seeks to create a characteristic profile of entrepreneurial firms in the state and their contribution to economic health through job creation.

To understand how entrepreneurs fit into the local economy, *Show Me Jobs* performs an exploratory analysis with one of the most comprehensive employment datasets in existence: The Quarterly Census of Employment and Wages. The QCEW contains individual records of wages paid for Unemployment Insurance (UI) records. This data has been useful in previous attempts to understand labor markets (Spletzer, 2000; Ferree and Smith, 2013; Dolfman et al. 2007; Salamon and Sokolowski, 2005).

State laws require employers to report quarterly UI contributions for all wages paid to State Employment Security Agencies (SESAs) for the Unemployment Compensation for Federal Employees (UCFE) program. Benefits of the QCEW include an ability to accurately identify firm birth and death, track longitudinal employment levels and distinguish between industries.

Firm level job counts average employer reported monthly employment in the QCEW employer file for quarterly observations. The number of jobs includes any employment — full-time, part-time and multiple jobs — but does not include those who are self-employed.

This report draws from raw QCEW data, and the statistical methods used for calculating total employment differs from the methods used for QCEW data published by the U.S. Bureau of Labor Statistics. The bureau uses a six-step statistical test we are unable to replicate.

DEFINITION OF A STARTUP

A new startup is identified with the first appearance of firm records in the employer file with no predecessor record. In this method, new startups are new establishments. The QCEW data set does not include those who are self-employed or contract employees.

Some firms demonstrate seasonal activity when they report employment in one quarter but not in following quarters, and then report again in later quarters. To account for intermittent activity in the identification of newness, the report identifies birth using the full dataset and then subsets for firms born since the year 2009, effectively preventing any firms that left the records before the available records and re-entered from being misidentified as new.

STATISTICS DEFINITIONS

- Number of startups for each year counts the number of new firms with less than 20 employees in each quarter for a year.
- The number of new jobs from startups is the number of jobs in Quarter 4 from new firms identified in Quarters 1, 2, 3, 4.
- Average wages are total wages reported by each firm in the employer file divided by the total employment from the state as a whole.
- High tech four-digit NAICS sources were taken from this report: http://www.kauffman.org/-/media/kauffman_org/research%20reports%20and%20covers/2013/08/bdstechstartsreport.pdf

MISSOURI REGIONS

On page 6, we divided Missouri into regions for the heatmap of startup density. Here's how those regions are defined:

KC-NWMO	SOUTH		NE-CENTRAL	ST-LOUIS
Andrew	Barry	Perry	Adair	Jefferson
Atchison	Barton	Polk	Audrain	Lincoln
Bates	Benton	Reynolds	Boone	Montgomery
Buchanan	Bollinger	Ripley	Callaway	Pike
Caldwell	Butler	Scott	Camden	Ralls
Carroll	Cape Girardeau	Shannon	Clark	St. Charles
Cass	Carter	St. Clair	Cole	St. Louis City
Chariton	Cedar	St. Francois	Cooper	St. Louis County
Clay	Christian	St. Genevieve	Gasconade	Warren
Clinton	Crawford	Stoddard	Howard	Franklin
Daviess	Dade	Stone	Knox	
Dekalb	Dallas	Taney	Lewis	
Gentry	Dent	Texas	Macon	
Grundy	Douglas	Vernon	Maries	
Harrison	Dunklin	Washington	Marion	
Holt	Franklin	Wayne	Miller	
Jackson	Greene	Webster	Moniteau	
Johnson	Henry	Wright	Monroe	
Lafayette	Hickory		Morgan	
Linn	Howell		Osage	
Livingston	Iron		Phelps	
Mercer	Jasper		Pulaski	
Nodaway	Laclede		Putnam	
Pettis	Lawrence		Randolph	
Platte	Madison		Schuyler	
Ray	Mcdonald		Scotland	
Saline	Mississippi		Shelby	
Sullivan	New Madrid			
Worth	Newton			
	Oregon			
	Ozark			
	Pemiscot			

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