

SHOW ME JOBS

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

Fall 2022 Report



MO**Source**LINKSM

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THE ECONOMIC IMPACT OF MISSOURI STARTUPS

The long-lasting effects of the COVID-19 crisis and the measures taken to stop its spread wreaked havoc on entrepreneurs and small business owners across the state: shops closed, capital investments for new startups slowed, markets shifted, supply chains were tested and job seekers looked for better employment opportunities.¹

And yet, startups² 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.³

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 for Missouri provides an opportunity to look at new and young firms statewide and their contribution to job creation.

40,544

new jobs were created in 2021
by Missouri's startups.

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 state toward recovery and unlock economic growth for all.

HIGHLIGHTS

- **First-time employers who employed fewer than 20 employees created 40,544 new jobs in Missouri in 2021, an increase of 11% over 2020.** These firms created an average of 39,014 new jobs in Missouri each year for the past five years. (Page 4)
- Considering the employees hired by these same firms in 2017 and in each succeeding year and accounting for job losses as well, **first-time employers created 187,430 new jobs from 2017 to 2021.** (Page 4)
- The jobs created by these startups **accounted for 81% of all new jobs and 8% of the total employment⁴** in Missouri each year. (Page 4)
- Additional research from the Kauffman Foundation highlights the role of tech-sector businesses in job creation. In Missouri, **new firms in the tech sector created an average of 956 jobs each year** for the past five years. (Page 5)
- Using the hiring of first employee as a proxy for startup, the QCEW data reveals that **Missouri had 18,234 startup firms in 2021.** (Page 6)
- Startups are everywhere. Although clustered around urban centers, **startups can be found in every county in Missouri.** (Page 6)
- The leading sector for Missouri startups was Health Care and Social Assistance, a sector that had **over eight times more startups** than the next pair of top sectors of professional, scientific and technical services, followed by construction. (Page 7)

¹ Parker, Kim and Juliana Menasce Horowitz. "Majority of workers who quit a job in 2021 cite low pay, no opportunities for advancement, feeling disrespected." Pew Research Center, 9 Mar. 2022. <https://www.pewresearch.org/fact-tank/2022/03/09/majority-of-workers-who-quit-a-job-in-2021-cite-low-pay-no-opportunities-for-advancement-feeling-disrespected/>

² 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.

³ Wiens, Jason and Chris Jackson. "The Importance of Young Firms for Economic Growth." Ewing Marion Kauffman Foundation, 24 September 2014. <https://www.kauffman.org/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth/>

⁴ 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. "Entrepreneurship Policy Digest," a 2015 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 5 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, and tech firms in particular.⁵ 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.⁶ In their follow-up paper, Hathaway and Litan identify the source of declining dynamism as slowing population growth and increased consolidation.⁷

Missouri QCEW data shows a 12% increase in the number of startup firms from 2020 to 2021 and an 11% increase in the number of jobs created by those firms. The number of startup firms went from 16,287 in 2020 to 18,234 in 2021. The number of jobs created by those firms went from 36,604 in 2020 to 40,544 in 2021. 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. These jobs were removed from total job counts for 2020 and all previous years.

The wealth gap, slow growth and supply chain issues have civic and community leaders looking for ways to

stimulate the economy. Many view entrepreneurship as a potential opportunity to address the economic recovery and bridge the wealth gap.

MEASURING WHAT MATTERS: ENTREPRENEURSHIP IN MISSOURI

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

⁵ Decker, Ryan, et al., "The Secular Decline in Business Dynamism." June 2014.

⁶ Hathaway, Ian and Robert Litan, "Declining Business Dynamism in the United States: A Look at States and Metros." Brookings, May 2014.

⁷ Hathaway, Ian and Robert Litan, "What's Driving the Decline in the Firm Formation Rate? A Partial Explanation." Brookings, November 2014.



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

When two lifelong Missouri entrepreneurs met by chance at a New York event, that was 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

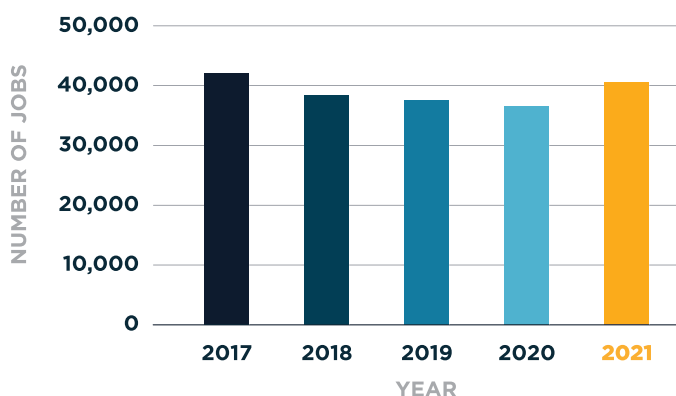
JOB CREATION FROM FIRST-TIME EMPLOYERS

First-time employers who employed fewer than 20 employees created 40,544 jobs in Missouri in 2021. These new and young firms contributed an average of 39,014 new jobs to the state for the past five years (Figure 1).

Taking into consideration the number of employees these same firms hired in 2017 and in each succeeding year as well as job losses, Missouri startups created 187,430 jobs from 2017 to 2021. This accounts for 80.8% of new jobs added and 7.9% of total employment in Missouri in 2021 (Figure 2).

TREND

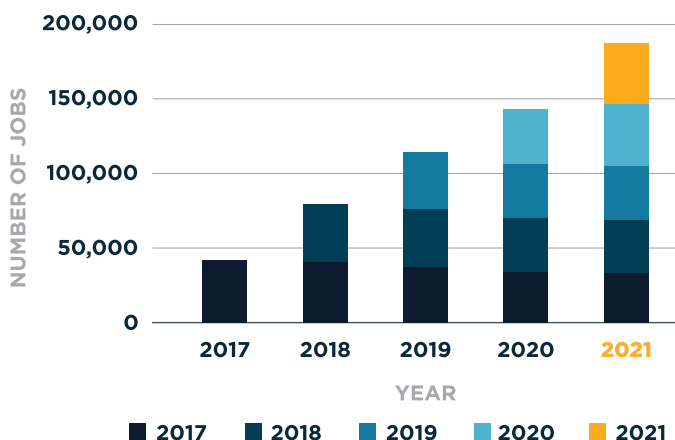
Figure 1: Missouri startups created 40,544 jobs in 2021.



According to the U.S. Bureau of Labor Statistics, about half of small businesses close within the first five years.⁸ That high closure rate is also reflected in the QCEW data, which shows that of Missouri's 18,982 first-time employers in 2017, 55% were no longer employing anyone in 2021. However, according to the job numbers, shown in Figure 2, the firms that do survive increase their hiring and help make up for the jobs lost to firm closures.

IMPACT

Figure 2: With hires and losses, these startups created 187,430 jobs in 2021.



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 had 10 full-time employees, numerous contractors and expanded his operations to Springfield, Missouri. In 2020, MMI Laboratory Services was formed to offer a one-stop shop that offers imaging and lab services to clients.

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 U.S. Bureau of Labor Statistics. "Table 7. Survival of Private Sector Establishments by Opening Year." 12 February 2022. https://www.bls.gov/bdm/us_age_naics_00_table7.txt

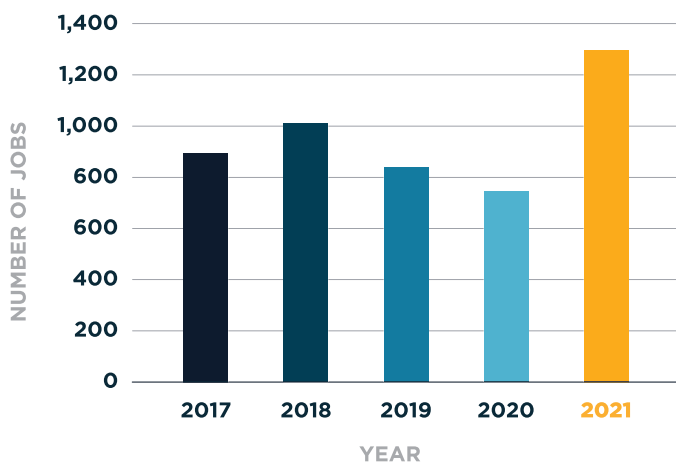
JOB CREATION FROM HIGH-TECH STARTUPS

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 1,297 jobs in 2021, recouping the dip between 2019 and 2020. New tech firms created an average of 956 jobs each year from 2017 to 2021. (Figure 3).

TREND

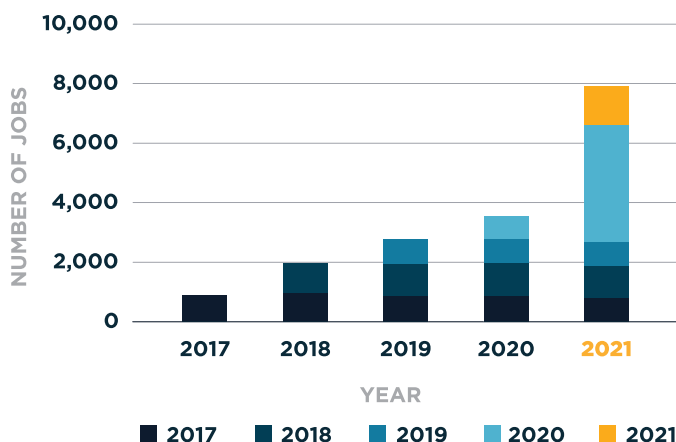
Figure 3: 1,297 tech jobs were created by Missouri startups in 2021, up 74% from 2020.



Accounting for the employees these same firms hired in each succeeding year and accounting for job losses as well, tech startups created 7,930 jobs from 2017 to 2021 (Figure 4).

IMPACT

Figure 4: Cumulatively, those new tech startups created 7,930 jobs in 2021.



Dave Alburty + Ann Packingham
InnovaPrep
Drexel, Mo.

When Dave Alburty started his business, he didn't want to live close to work. He wanted to work close to home.

“I chose Drexel, Missouri, for my first company because I wanted to start a company where I wanted to live,” he says.

With a population fewer than 1,000 residents, Drexel is a hidden gem south of Kansas City, and it has been perfect for Dave's ventures. He started AlburtyLab, then microbiology tool manufacturer **InnovaPrep LLC** in the town.

Today, InnovaPrep employs 40 people. When it comes to attracting and retaining team members, the location has been a draw, not a hindrance. Employees who travel from the metro have a reverse commute. And for those who live around Drexel, InnovaPrep offers interesting work.

“Drexel is cost effective,” Dave says. “We make stuff, so we need space. We can put money into growth instead of into rent. Drexel is an entrepreneurial town.”

Remote work and easy shipping empower small businesses like InnovaPrep to select locations that are right for them — not necessarily in traditional centers of commerce. And these choices can help communities thrive.

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 18,234 startup firms in 2021, up from 16,287 in 2020. 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 six regions. The following heat maps depict the density of startups by region (Figures 6-11).

Figure 5: Density of Startups by Geography

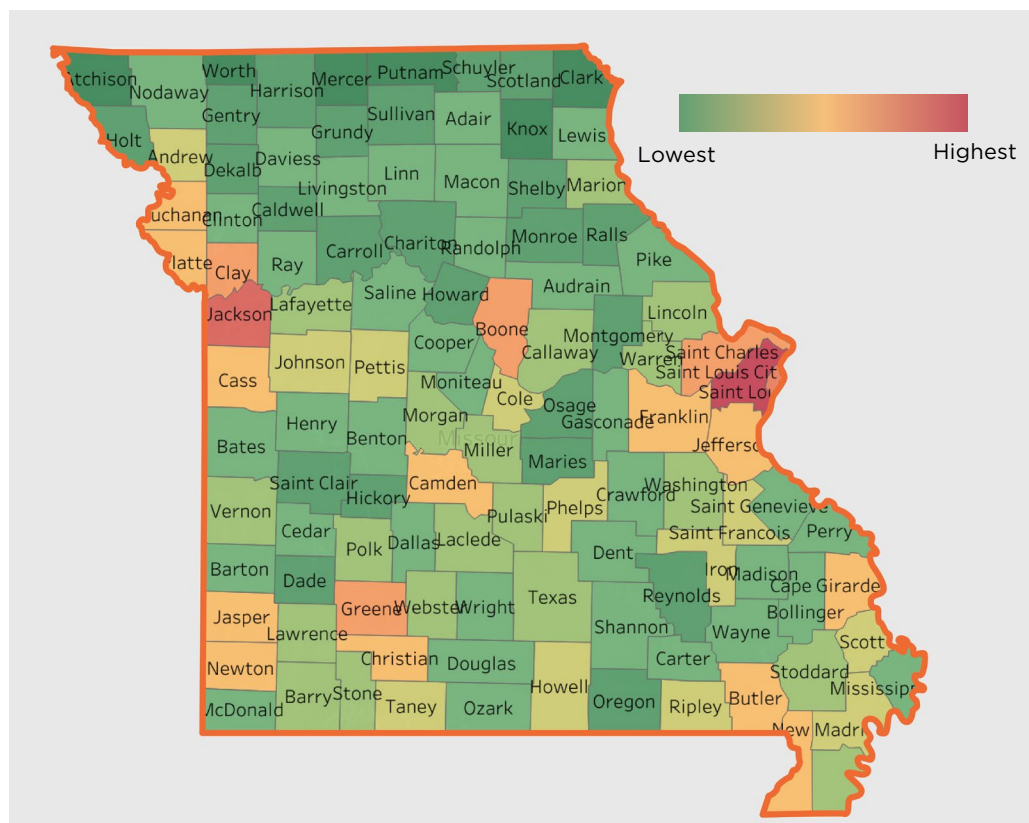


Figure 6: Northern

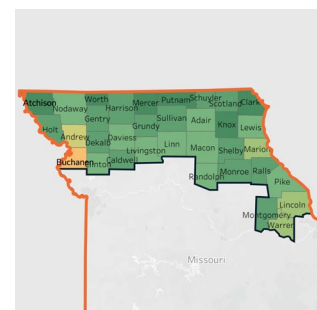


Figure 7: Kansas City area

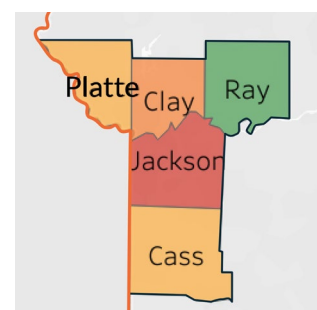


Figure 8: Central

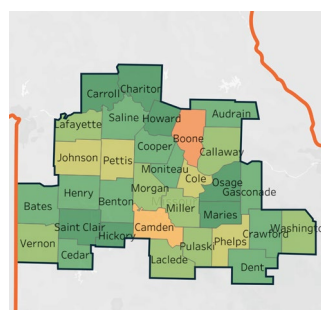


Figure 9: St. Louis area



Figure 10: Southwest

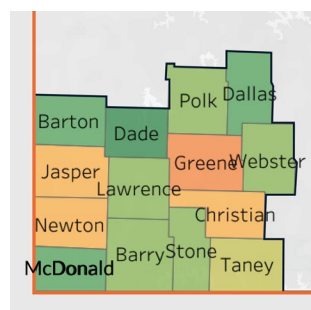


Figure 11: Southeast

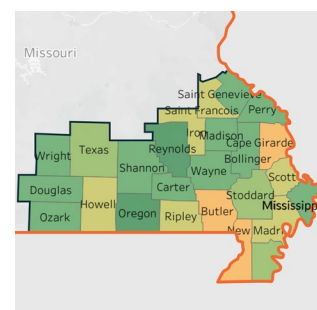


Figure 12 shows the industry breakdown of Missouri startups. The number of industries at the top of the list in terms of job creation is relatively consistent over time.

In 2021, health care and social assistance had by far the largest number of startups with 9,160, which includes individual and family health services and other health practitioner offices. This sector may include many contracted single health care workers; the true number of health care and social assistance startups may be lower.

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; and Construction.

Figure 13 breaks the data down further to provide a picture of first-time employers within the tech sector. Computer System Design and Related Services industry clusters creates the most jobs (254), followed by Architectural Engineering and Related Services (101).

Figure 12: Startups by Sector

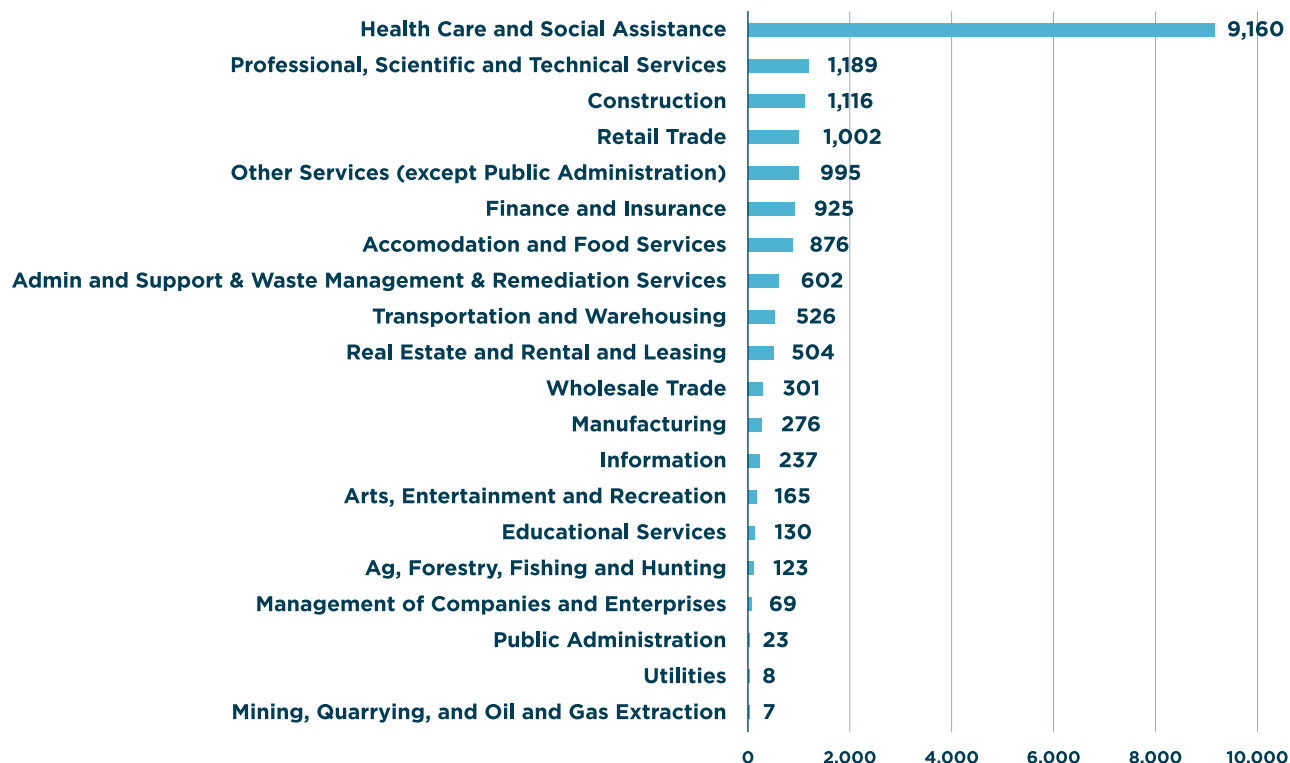
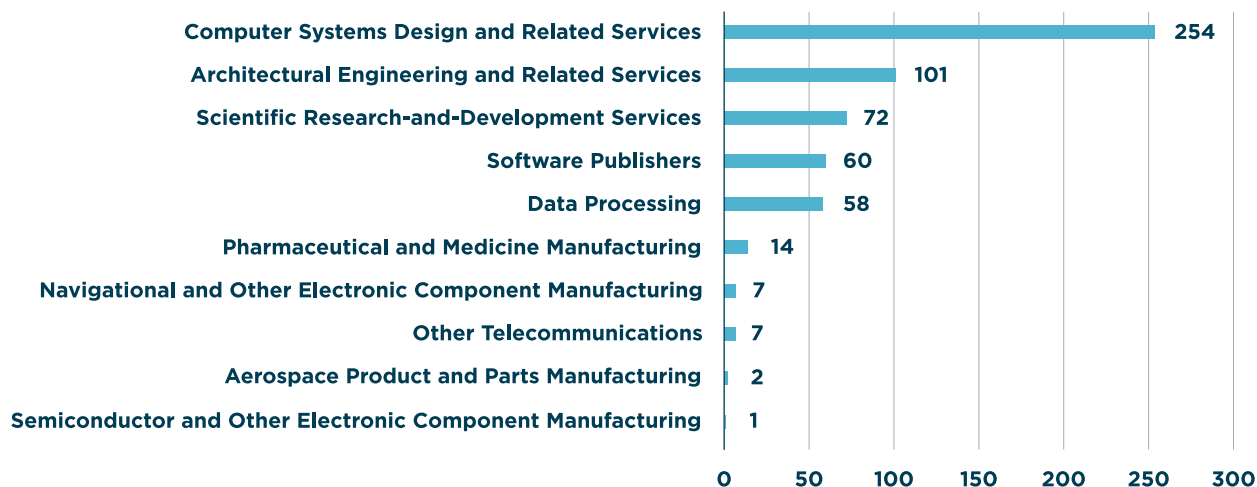


Figure 13: Tech Startups by Sector

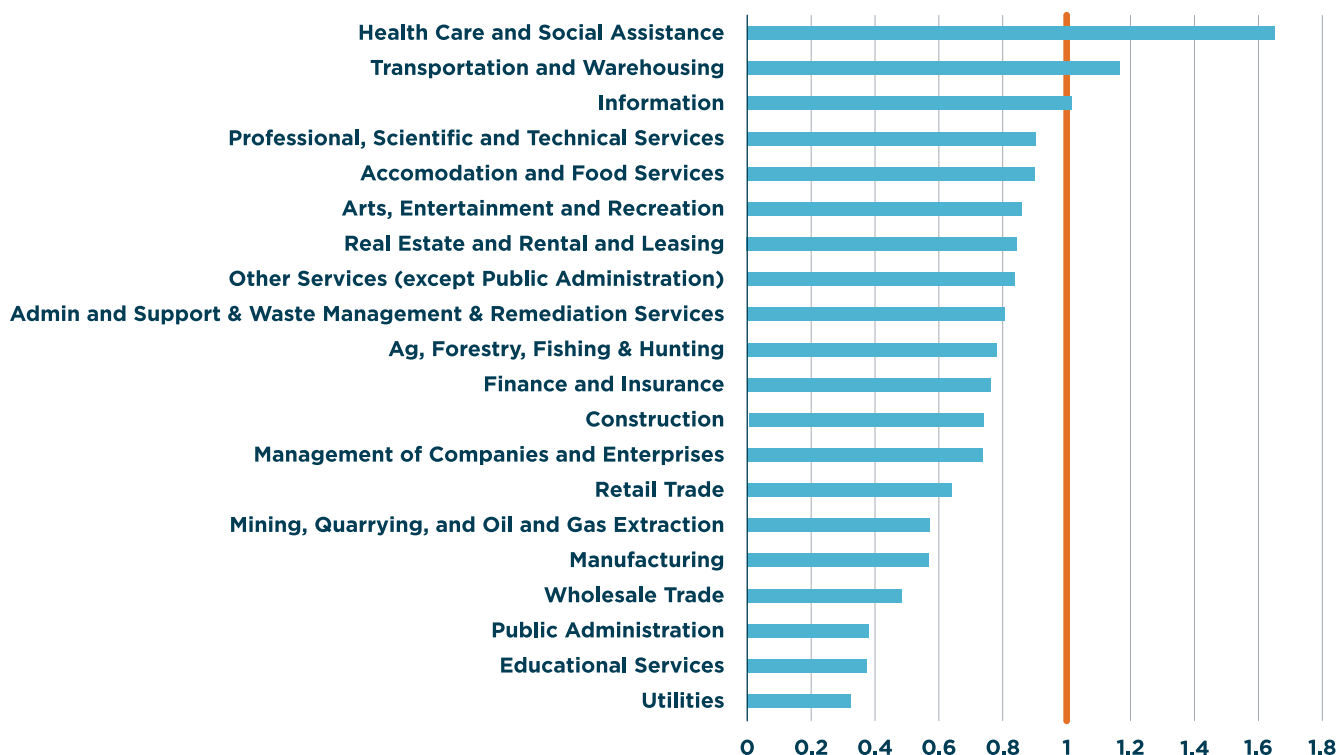


A growing industry requires a high number of startups. The quantity of startups compared with the total industry is reflected by the Startup Density Index.¹⁰ Startup Density Index is the number of startup firms as a share of the industry normalized by the state density. Health Care and Social Assistance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

Startup Density Index. Other industries above the average over the past five years include:

- Transportation and Warehousing
- Information

Figure 14: Average Startup Density by Industry in Missouri



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.

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

WAGES

WAGES PAID BY NEW AND YOUNG FIRMS

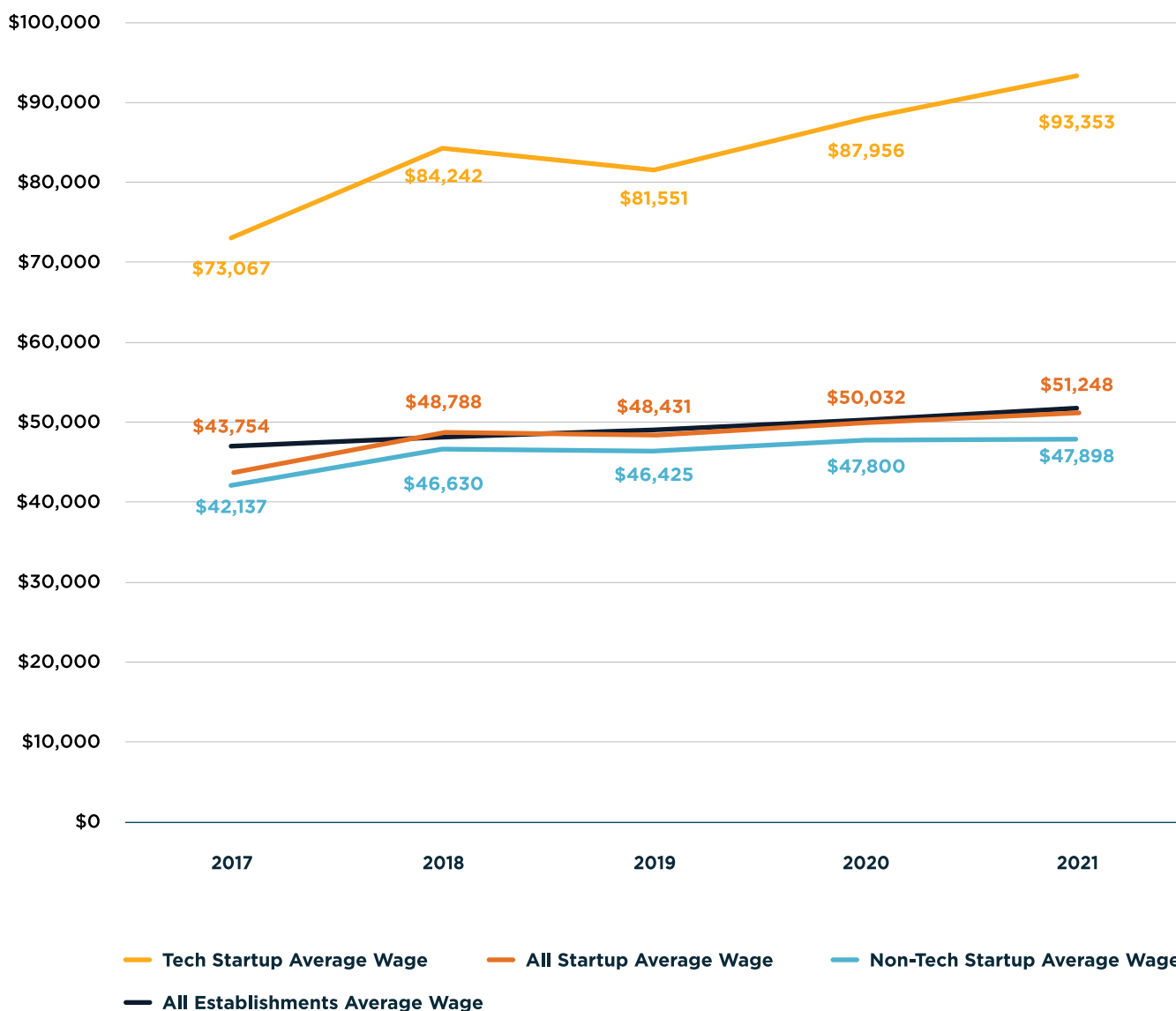
Wages are where the investment in an entrepreneurial economy becomes a driver of economic growth. The wages paid to new employees filter into the larger economy and can serve as a source of growth.

Figure 15 shows the average wage of Missouri startups, the average wage of tech startups and the average wage of non-tech startups. It compares those startups wages with the average wage of all establishments.

In 2017, startup entrepreneurial firms pay less than the state average but in 2021 became virtually equivalent to the state average.

Over the past five years, wages paid by tech startups were well above the average wage and continued to outpace the state average. Moreover, tech wages increased 27.6%, while the average wage for all startups increased 17.2%. Not only are tech wages substantially higher, they're also growing faster.

Figure 15: Wages paid by Missouri tech startups outpace the statewide average.



METHODOLOGY

Missouri is committed to become the state 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 (QCEW). 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 for the Unemployment Compensation for Federal Employees 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.

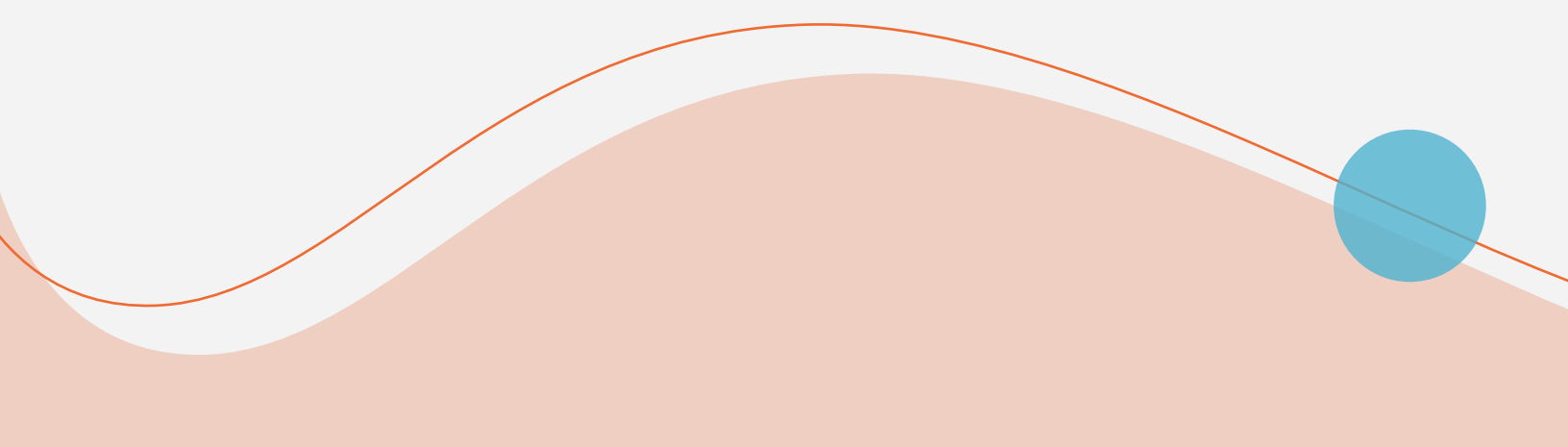
DEFINITION OF A STARTUP

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 records became available 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 and 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, weighted by removing outliers.
- High tech four-digit NAICS sources were taken from this report:
<https://www.kauffman.org/wp-content/uploads/2019/12/bdstechstartsreport.pdf>.



MISSOURI REGIONS

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

KCMO

Cass
Clay
Jackson
Platte
Ray

ST. LOUIS

Franklin
Jefferson
St. Charles
St. Louis City
St. Louis County

NORTH

Adair
Andrew
Atchison
Buchanan
Caldwell
Clark
Clinton
Davies
DeKalb
Gentry
Grundy
Harrison
Holt
Knox
Lewis
Lincoln
Linn
Livingston
Macon
Marion
Mercer
Monroe
Montgomery
Nodaway
Pike
Putnam
Ralls
Randolph
Schuyler
Scotland
Shelby
Sullivan
Warren
Worth

CENTRAL

Audrain
Bates
Benton
Boone
Callaway
Camden
Carroll
Cedar
Chariton
Cole
Cooper
Crawford
Dent
Gasconade
Henry
Hickory
Howard
Johnson
Laclede
Lafayette
Maries
Miller
Moniteau
Morgan
Osage
Pettis
Phelps
Pulaski
Saline
St. Clair
Vernon
Washington

SOUTHWEST

Barry
Barton
Christian
Dade
Dallas
Greene
Jasper
Lawrence
McDonald
Newton
Polk
Stone
Taney
Webster

SOUTHEAST

Bollinger
Butler
Cape Girardeau
Carter
Douglas
Dunklin
Howell
Iron
Madison
Mississippi
New Madrid
Oregon
Ozark
Pemiscot
Perry
Reynolds
Ripley
Scott
Shannon
St. Francois
Ste. Genevieve
Stoddard
Texas
Wayne
Wright





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