



# The State of Entrepreneurship in Montana

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# I. Introduction

Montana receives many plaudits for its entrepreneurial culture. For several years, Montana has ranked at, or near, the top of the prestigious Kauffman Index of Entrepreneurship. Montana has more entrepreneurs per capita than any other state; it continues to create more entrepreneurs than most states, and Montana's business survival rate (the share of new businesses who survive their first five years) ranks in the top 10. These facts are encouraging. They suggest that Montana's entrepreneurial ecosystem is strong.

However, a deeper dive into entrepreneurship data reveals a more complicated story. Montana entrepreneurs tend to start very small businesses that do not scale up quickly. They are more likely to start seasonal businesses and/or businesses that serve only local markets. They are less likely to have a patent, trademark, or copyright.

Furthermore, consistent with national trends, entrepreneurship in Montana is waning. The share of Montanans who own a business as their main job has fallen by nearly 50 percent since 1998. Similarly, the share of Montanans who work for young businesses has fallen from roughly 20 percent in the 1990s to 12 percent in recent years.

In this report, we provide a brief overview of entrepreneurship and entrepreneurs in Montana. Then, we provide data on a handful of key indicators that speak to the state of Montana's entrepreneurial ecosystem.

## II. The entrepreneur's role in a regional economy

A simple model of regional economic success argues that regions with greater capacity do better. A region's capacity depends on its stocks of the four forms of capital – natural, physical, human, and social. As such, economists expect places with more valuable natural resources, better physical infrastructure, more talented people, and better social networks and institutions to perform better.

However, capacity is insufficient for explaining performance. There is a fifth key element to local economic success – the entrepreneur. Entrepreneurs are necessary. Each region has some capacity to produce goods and services. Entrepreneurs are the people who

figure out how to use the available capacity to create products or services that consumers want.

For many years, economists (and others) ignored entrepreneurs.<sup>1</sup> They assumed that the supply of potential entrepreneurs was similar everywhere. If a region had more opportunities, more entrepreneurs would emerge. However, over the past several decades, appreciation for the role that entrepreneurs play has grown. Regions with more skilled entrepreneurs may be more successful.<sup>2</sup> That is, in two similar areas, the area with the more skilled entrepreneurs may have better economic outcomes.

There are several reasons why the role for entrepreneurs has grown more salient. First, in the knowledge economy, the success of many firms depends on the quality of the founders' idea. Many entrepreneurs have gained notirity for themselves and their businesses due to the quality of the idea. This has increased awareness of entrepreneurs. Furthermore, given that many knowledge industry firms can locate anywhere, the ability to attract or create skilled entrepreneurs can directly boost a regional economy. Regions do better if they have more people who both have good ideas and can execute them.

Second, the growth of the historic record has shown that local economic change is inevitable. In all places, key industries inevitably wax and wane. Local entrepreneurs help redirect existing capacity toward higher value uses. Areas with more and better entrepreneurs tend to adjust more quickly and to be more successful.<sup>3</sup>

Thus, it is important for regions to create lots of potential entrepreneurs, to support them as they pursue their ideas, and to reduce the set of local constraints that may limit their ability to succeed. That is, it is important to create a viable entrepreneurial ecosystem.

### **III. Montana's entrepreneurial ecosystem**

Montana creates lots of entrepreneurs. As such, it seems fair to assume that Montana has a relatively robust entrepreneurial ecosystem; however, other data suggests some weaknesses.

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<sup>1</sup> Chinitz, B. (1961). Contrasts in agglomeration: New york and pittsburgh. *The American Economic Review*, 51(2), 279-289.

<sup>2</sup> Glaeser, E. L., Rosenthal, S. S., & Strange, W. C. (2010). Urban economics and entrepreneurship. *Journal of Urban Economics*, 67(1), 1-14.

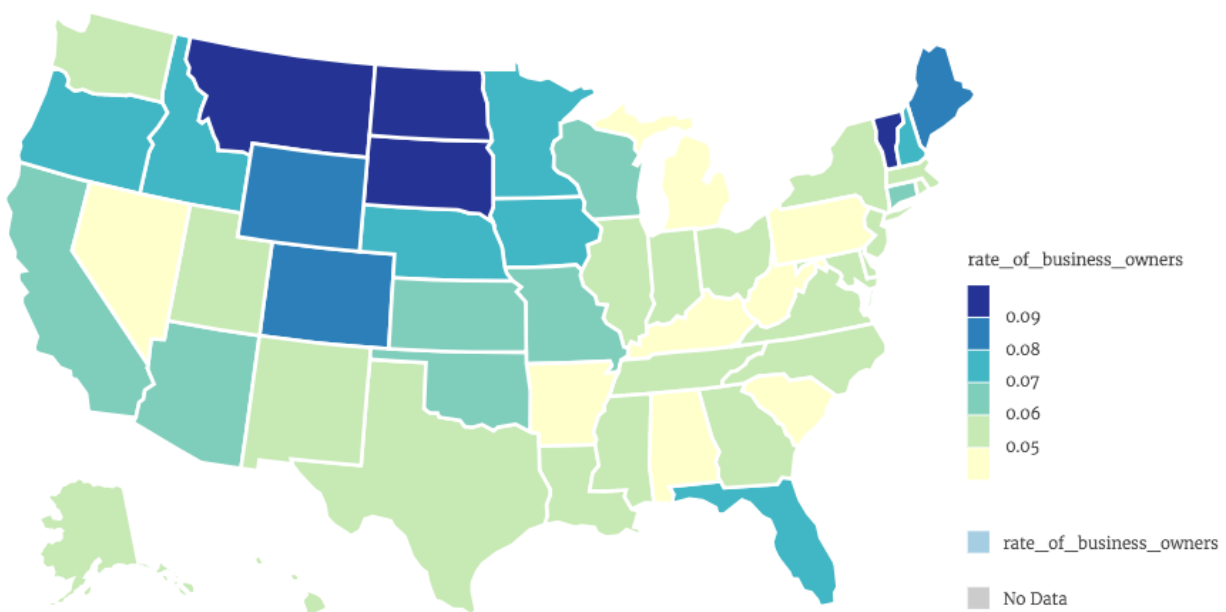
<sup>3</sup> Gleaser et al (2010).

## A. Indicators of success

### 1. *Montana has more entrepreneurs.*<sup>4</sup>

The share of Montana's population that owns a business as their main job is the highest in the country. As of 2015, 10.2 percent of Montanans owned a business as their main job. Nationally, only 6 percent of Americans owned a business as their main job. The rate of business ownership in Montana was more than double the rate in 11 states.

**Figure 1 – Share of working age population who own a business as their main job**



Source: 2017 Kauffman Index of Mainstreet Entrepreneurship

### 2. *Montana creates more new entrepreneurs.*<sup>5</sup>

Consistent with its high rate of business ownership, Montanans become entrepreneurs at a higher rate. Approximately 0.43 percent of Montanans become entrepreneurs each month. This means that approximately 3,400 Montanans start a business each month. Montana ranked 4th on this metric in 2016, and Montana ranked first on this metric in 2013, 2014, and 2015.

<sup>4</sup> 2017 Kauffman Index of Main Street Entrepreneurship Rate of Business Owners

<sup>5</sup> 2017 Kauffman Index of Startup Activity Rate of New Entrepreneurs

This metric fluctuates over time. The share of Montanans who start a business each month has ranges between 0.4 percent and 0.6 percent, but there is not a clear trend in these data over the past 20 years.

### 3. *New Montana firms survive.*<sup>6</sup>

The five-year survival rate for new Montana firms is good. In 2016, 51.8 percent of Montana firms formed in 2011 were still operating, this ranked 9th among all states. Montana has ranked in the top 10 for survival rate in six of the last ten years. However, the five-year survival rate fluctuates over time. Only 42 percent of Montana firms formed in 2009 survived their first five years. This ranked Montana in the bottom 12 states.

These indicators are consistent with a healthy entrepreneurial ecosystem. The fact that a disproportionate share of people in Montana pursue entrepreneurship, and a majority of them succeed at creating a business that survives at least five years indicates that at least some parts of Montana's entrepreneurial climate work well.

However, it is unclear exactly what drives these results. Economists have identified four broad reasons why the supply of entrepreneurs may vary across place<sup>7</sup>:

- (1) The returns to entrepreneurship vary: In places where pursuing entrepreneurship generates a higher income relative to the alternative, more entrepreneurs will emerge.
- (2) Differential availability of the inputs to entrepreneurship: In places with better access to capital, better access to key workers, better access to other inputs, or simply better resources to learn how to be an entrepreneur, more people should pursue entrepreneurship.
- (3) Differences in the supply of ideas: Some places are better at generating ideas; places that generate more ideas should, all else equal, have more entrepreneurs.
- (4) Differences in local culture, political systems, or endowments: Places with cultures and policies that support entrepreneurs or with natural endowments that increase the chances of success will also likely have more entrepreneurs.

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<sup>6</sup> 2017 Kauffman Index of Main Street Entrepreneurship Survival Rate

<sup>7</sup> Adapted from Glaeser, E. L., Rosenthal, S. S., & Strange, W. C. (2010). Urban economics and entrepreneurship. *Journal of Urban Economics*, 67(1), 1-14.



Which of these factors drives entrepreneurship rates in Montana remains unclear. High entrepreneurship rates could reflect higher returns to entrepreneurship here. Alternatively, Montana's high rates of entrepreneurship could reflect better access to the inputs needed to start a business, a more supportive culture, or some other combination of factors. While distinguishing among potential explanations is beyond the scope of this report, we note that a recent report examined the entrepreneurial ecosystem in Missoula and Bozeman in greater depth, particularly for high tech firms.<sup>8</sup> This report found support for many of these factors. In particular, it argued that these communities offered dense networks and ample support from mentors, government, and business resources, that they attract skilled entrepreneurs, and that they offer reasonable access to skilled workers. However, this report did not seek to explain Montana's higher rates of entrepreneurship relative to other places.

## **B. Indicators of weakness**

### *1. New Montana businesses tend to be small.<sup>9</sup>*

The average new employer business -- i.e., a firm less than 1 year old that has employees -- in Montana has 3.9 employees. This is the smallest new firm size among all states. This is not new. New employer businesses in Montana have consistently been among the smallest in the country for the past 25 years, ranking among the 5 smallest each year since 1992.

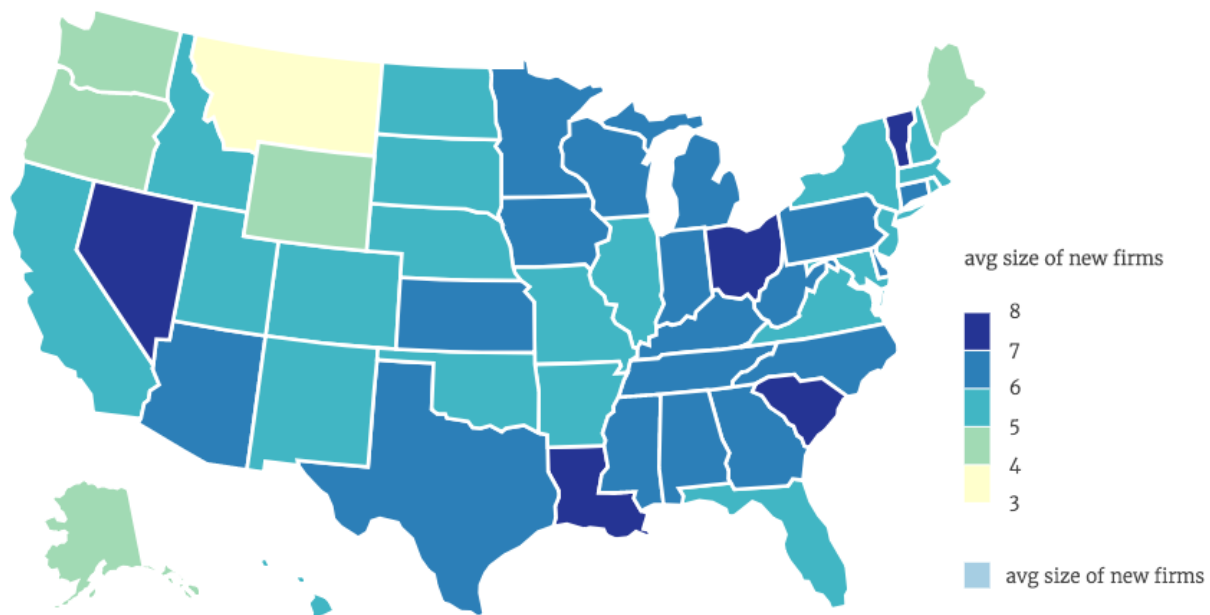
Furthermore, even after five years, new Montana businesses are small. In 2014, five years after opening, the average employer business employed 6.6 people. This was the smallest average among all states.

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<sup>8</sup> Henderson et al (2017) *A New Frontier: Entrepreneurship Ecosystems in Bozeman and Missoula, Montana*.

<sup>9</sup> 2017 Kauffman Index of Growth Entrepreneurship underlying data for Rate of Startup Growth.

**Figure 2 – Average number of employees at new firms**



Source: 2017 Kauffman Index of Growth Entrepreneurship

*2. New Montana businesses are less likely to scale-up quickly.<sup>10</sup>*

As of 2014, 0.8 percent of new Montana firms that started with fewer than 50 employees grew to have more than 50 employees during their first 10 years. While scale-ups are generally rare – in the median state only 1.4 percent of start-ups scale to more than 50 employees within 10 years – the percent of Montana firms that scale-up was the lowest in the country. Montana has consistently ranked in the bottom five states on this metric for nearly 20 years.

*3. Montana business owners have lower aspirations.<sup>11</sup>*

According to the Annual Survey of Entrepreneurs – a Census Bureau survey that provides information about employer businesses (i.e., businesses with employees), only 54 percent of respondent employer businesses in Montana say that they aspire to grow the business' profits or sales. This is the second lowest percentage among all states. Nationally, 64 percent of firms want to grow. However, firms with low aspirations tend to be small. Overall, 75 percent of Montana's employees work for firms hoping to grow (this ranks Montana 43<sup>rd</sup>).

<sup>10</sup> 2017 Kauffman Index of Growth Entrepreneurship Share of Scaleups.

<sup>11</sup> 2015 Annual Survey of Entrepreneurs, Characteristics of Businesses, Business Aspirations of Owners (SE1500CSCB04)

4. *Montana has a lower density of high growth firms.*<sup>12</sup>

The number of private Montana firms with at least \$2M in revenue who also have grown by at least 20 percent a year for three straight years is relatively low. Montana's high growth density on the Kauffman index of high growth entrepreneurialship reached 26 in 2017, the highest it's been in the 10 years the Kauffman Foundation has produced this measure. However, this still ranked Montana 43rd among all states and is less than half the average or median state.

5. *Montana has a relatively small traded sector.*<sup>13</sup>

While Montana has a relatively large share of employer firms that sell primarily to customers outside their region -- local customers represent less than 25 percent of sales at 11 percent of Montana firms (rank 18<sup>th</sup>); many of these firms are small. Montana ranks last in the share of employment in firms that sell primarily to non-local customers. Only 11.5 percent of Montana employment is in firms where local sales represent less than 25 percent of the total. In contrast, in the median state, over 22 percent of employment is in firms that sell primarily to non-local customers.

6. *Montana has a disproportionate share of seasonal or part-time businesses.*<sup>14</sup>

Twenty-three percent of Montana employer firms operated less than 40 hours per week, operated less than 12 months per year, operated occasionally, or were seasonal. This is four percentage points higher than the US level (19 percent). However, these part-time/seasonal firms are small. They employ less than 8 percent of Montana's workers.

7. *Montana firms are less likely to have a patent, trademark, or copyright.*<sup>15</sup>

Montana ranks toward the bottom in the share of employer firms with a patent, trademark, or copyright. Only 1.3 percent of Montana firms have a patent (rank 47<sup>th</sup>), and 0.9 percent have a patent pending (rank 42<sup>nd</sup>). Four percent have a copyright (rank 41<sup>st</sup>), and 6.6 percent have a trademark (rank 41<sup>st</sup>). In total, only 8.6 percent of Montana firms have any of these which ranks Montana 47<sup>th</sup> among all states.

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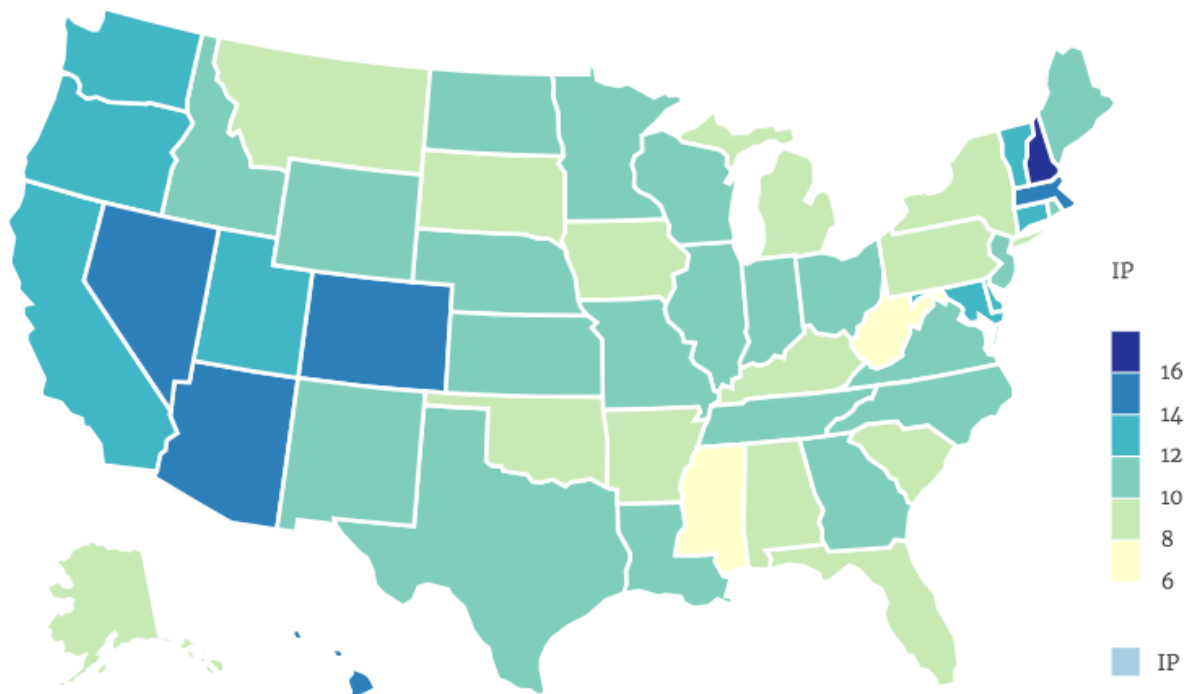
<sup>12</sup> 2017 Kauffman Index of Growth Entrepreneurship High Growth Company Density

<sup>13</sup> 2015 Annual Survey of Entrepreneurs Location of Business Customers/Clients (SE1500CSCB15)

<sup>14</sup> 2015 Annual Survey of Entrepreneurs, Characteristics of Businesses, Seasonal or Part-Time Business Status (SE1500CSCB26)

<sup>15</sup> 2015 Annual Survey of Entrepreneurs, Characteristics of Businesses, Type(s) of Intellectual Property (SE1500CSCB25)

**Figure 3 – Share of firms with IP (patents, trademarks, or copyrights)**



Source: 2015 Annual Survey of Entrepreneurs

These data suggest some weakness. At a minimum, they suggest that Montana's entrepreneurial ecosystem does not have a large share of big, high growth firms with lots of intellectual property. This could reflect the fact that Montana entrepreneurs have lower ambitions. It could also indicate that it is harder to create these types of businesses in the relatively small and isolated towns in Montana. In particular, to the extent that Montana has more entrepreneurs who create businesses to serve local markets in small towns, it is difficult for these entrepreneurs to create large businesses because their prospects for growth are limited by the size of their local market. These facts could also be an artifact of the data. The data do not allow us to parse the results by key factors (e.g., industry or part-time/seasonal). This makes it difficult to create the apples-to-apples comparisons needed to explore different explanations (like industry composition or location). As such, we do not attempt to explain these findings in this report. We highlight them as something Montanans should be aware of and seek to understand more.

### III. Montana Chamber of Commerce State of Entrepreneurship Indicators

In an effort to better track Montana's entrepreneurial ecosystem, the Chamber asked the Bureau of Business and Economic Research (BBER) to compile data on a handful of key indicators: capital investment, patents, entrepreneurial support, and job creation at young firms. In part, these correspond to several of the sources of variation in entrepreneurship discussed in section III. A., capital investment speaks to the availability of capital to build a venture. The number of patents speaks to the level of idea creation. Entrepreneurial support speaks to both culture and the availability of inputs to help nascent entrepreneurs succeed. The fourth indicator (jobs and payroll) speaks to outcomes. As shown below, access to venture capital, patents, and entrepreneurial support have all improved in recent years, but they remain low relative to other places. These trends suggest some recent improvements in key aspects of Montana's entrepreneurial ecosystem. However, Montana, like the rest of the country, has seen significant declines in the number of entrepreneurs and the share of workers who work at startups.

#### A. Capital investment

Unfortunately, data on capital investment by all firms are not available at the state level. However, there are some other data that provide some evidence on the level and role of venture capital in Montana's entrepreneurial ecosystem.

PricewaterhouseCoopers/CB Insights' Moneytree Report tracks venture capital (VC) investment by state.<sup>16</sup> These data track both the number of deals and the total investment. Figure 4 shows these data for the past 16 years. These data indicate that VC investment in Montana has increased in recent years as measured by both the number of deals and the total amount invested. However, VC investment in Montana remains low. On a per capita basis, Montana ranks 33rd in the average number of deals per year between 2012 and 2016 and 43rd in the amount invested.

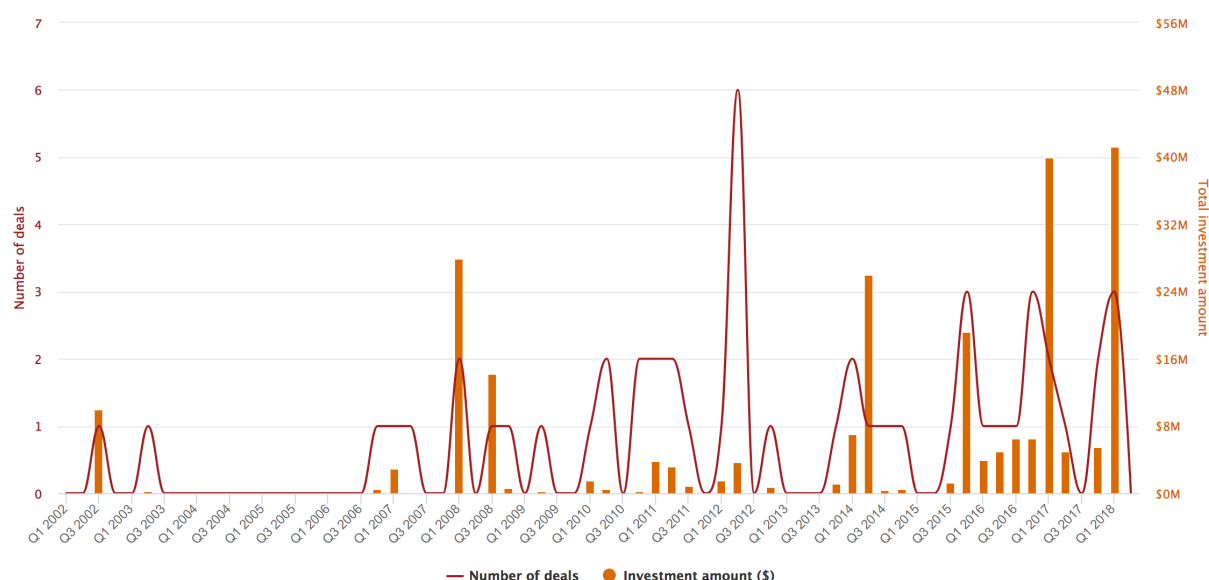
While this indicator is informative, it is incomplete. A relatively small share of Montana firms rely on venture capital for financing. Less than 1 percent of Montana employer firms report using venture capital to start or acquire their business. In contrast, 85 percent

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<sup>16</sup> <https://www.pwc.com/us/en/industries/technology/moneytree.html>

report using personal funds, and 27 percent report that they received financing from banks or financial institutions.<sup>17</sup> Similarly, only 5 percent of Montana entrepreneurs report that lack access to financial capital had a negative impact on their profitability. This was half the national rate of 10 percent.<sup>18</sup> (In contrast, 33 percent report that access to qualified labor negatively affected profitability; this was 5 percentage points higher than the national rate).

**Figure 4 – Number of deals and amount invested in Montana by venture capitalists over time**



Source: PricewaterhouseCoopers/CB Insights' Moneytree Report

## B. Patents

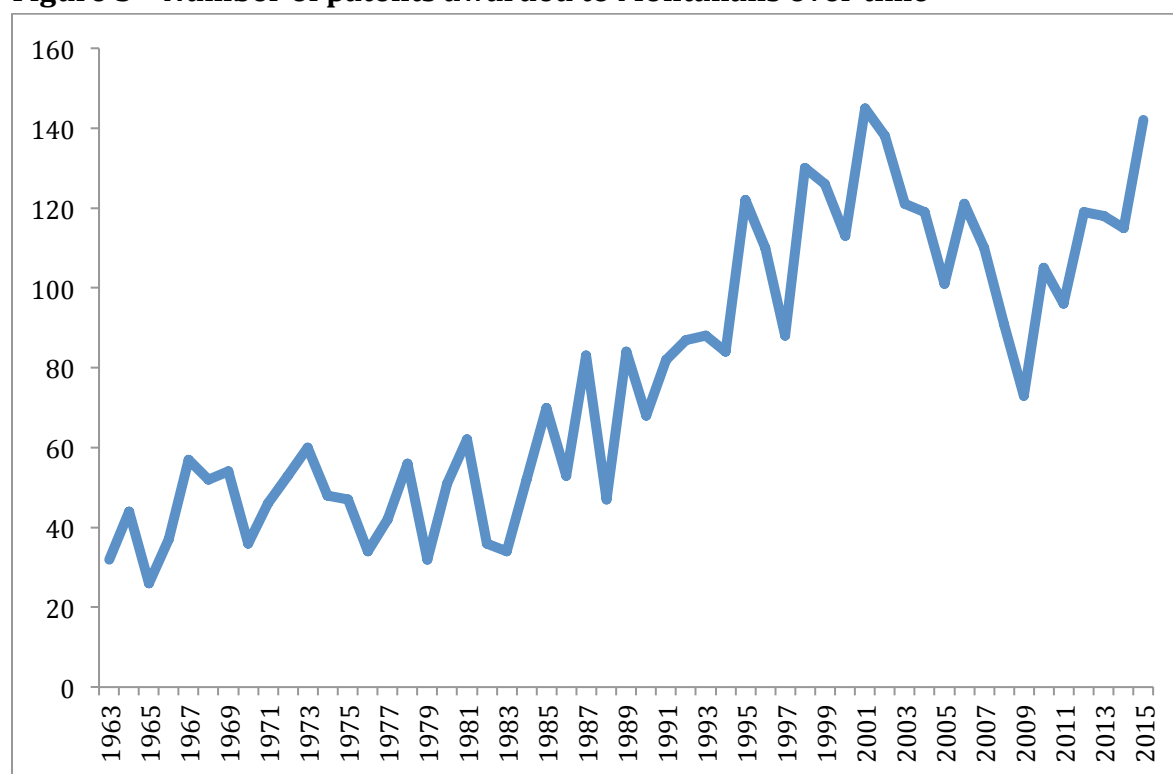
As discussed in section III.B.7, Montana firms are relatively unlikely to have patents, copyrights, or trademarks. Data on annual patent filings confirms this. Montanans are granted relatively few patents each year. In 2015, Montanans were awarded 142 patents. This represents a significant improvement over the recent past and is just shy of the high

<sup>17</sup> 2015 Annual Survey of Entrepreneurs, Characteristics of Business, Sources of Start-Up or Acquisition Capital (SE1500CSCB07)

<sup>18</sup> 2015 Annual Survey of Entrepreneurs, Characteristics of Business, Negative Impacts on Profitability (SE1500CSCB13)

point (145) that Montana reached in 2001.<sup>19</sup> However, this remains low relative to other places. On a per capita basis, Montana ranked 40th among all states, and its received less than half the number of patents per person as the median state.

**Figure 5 – Number of patents awarded to Montanans over time**



Source: US Patent and Trademark Office, Patent Technology Monitoring Team, Extended Year Set – Patent Counts by Country, State, and Year Utility Patents (December 2015)

## C. Entrepreneurial support

In recent years, Montana has developed several formal programs that help support entrepreneurs, e.g., the Launchpads at the University of Montana and Montana State University and 406 labs. These programs help potential entrepreneurs through the pre-entrepreneurial process. They help individuals develop their entrepreneurial skills, they help connect potential entrepreneurs to resources, and they help foster a culture of entrepreneurship.

<sup>19</sup> US Patent and Trademark Office, Patent Technology Monitoring Team, Extended Year Set – Patent Counts by Country, State, and Year Utility Patents (December 2015)  
[https://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst\\_utlh.htm](https://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utlh.htm)

While we know that these entities have aided hundreds of potential entrepreneurs, they have not yet developed a consistent monitoring system that allows for consistent quantification of the entrepreneurs they have helped. However, a recent report on the entrepreneurial ecosystem in Bozeman and Missoula found that at least five interviewees mentioned each of the following business resources<sup>20</sup>:

- Montana High Tech Business Alliance
- Hellgate Venture Network
- Blackstone Launchpad – University of Montana
- Business Startup Challenge – University of Montana
- MonTEC
- Blackstone Launchpad – Montana State University
- Missoula Economic Partnership
- University of Montana (other units and functions)
- Montana Photonics Industry Alliance
- Montana State University (other units and functions)
- TechRanch
- Montana Code School
- Montana Manufacturing Extension Center
- 1 Million Cups – Missoula
- Dorsey & Whitney

This report also highlighted that entrepreneurs received support from a number of mentors at other businesses and utilized a number of governmental resources. This suggests that Montana has a reasonably robust set of resources to help entrepreneurs.

## **D. Start-up employment**

Approximately 1 out of every 8 jobs in Montana is at a firm that is less than 5 years old.<sup>21</sup> This is slightly higher than the US level of 1 out of 10. Young firms, though, comprise a much higher proportion of net job creation (total job creation minus job destruction). In 2016, over 60 percent of net job creation occurred at young firms, and over half was at startups (firms less than 1 year old). These levels are slightly higher than the US level.

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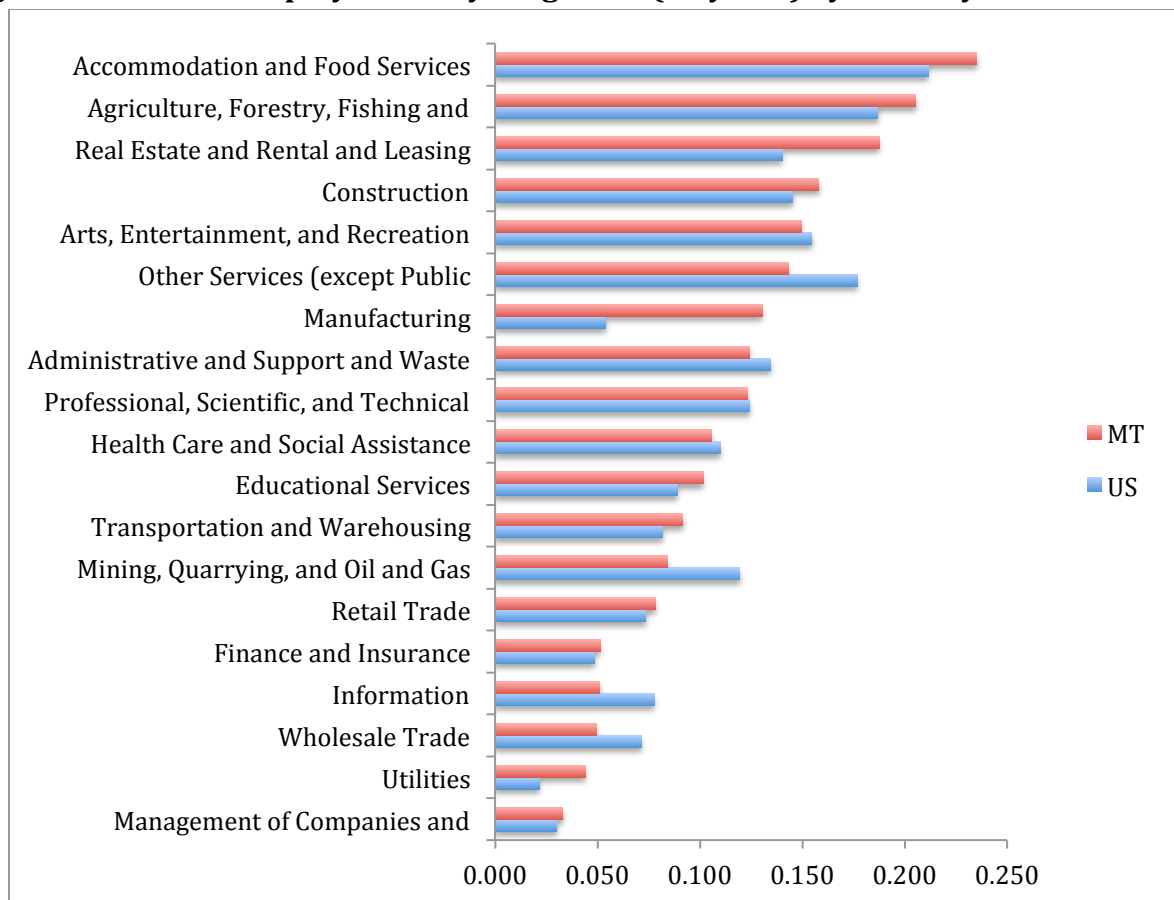
<sup>20</sup> Henderson et al (2017) *A New Frontier: Entrepreneurship Ecosystems in Bozeman and Missoula, Montana*.

<sup>21</sup> Analysis of data obtained from US Census Bureau, Quarterly Workforce Indicators



Figure 6 presents the share of workers who work at young firms by industry for Montana and the US. With the exception of manufacturing, the industry patterns in Montana and the US are similar. Young firms comprise much larger shares of employment in industries like accomodation and food service, agriculture forestry and fishing, real estate, construction, and arts entertainment and recreation.

**Figure 6 – Share of employment at young firms (<5 years) by industry**

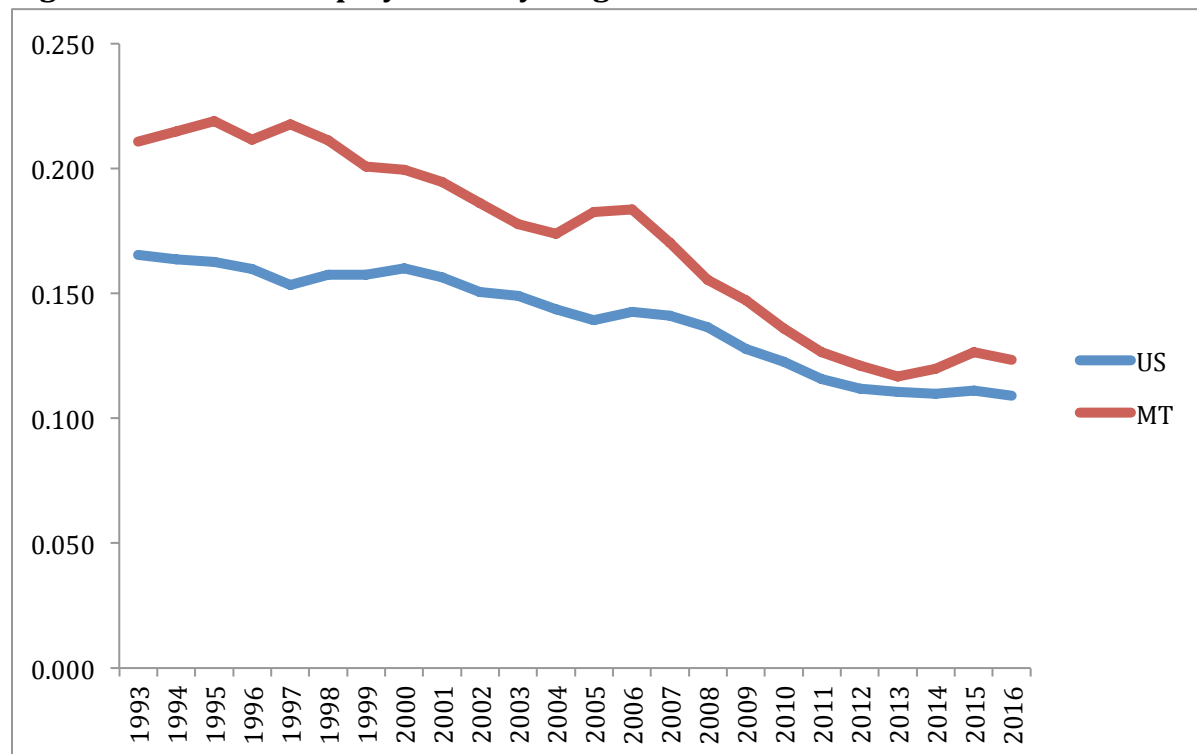


Source: Quarterly Workforce Indicators

As shown in Figure 7, though, the share of employment at startups and young firms has declined substantially. Throughout much of the 1990s, over 20 percent of Montana worker worked for young firms. This was substantially higher than the US level (roughly 16 percent). However, since the year 2000, the share of workers at young firms has declined, and the decline in Montana has been much sharper than in the US.

Similarly, the rate of business ownership in Montana has fallen substantially.<sup>22</sup> In 1998, 14.2 percent of Montanans owned a business as their main job. This was almost double the national rate of 7.7 percent. While the rate of business ownership has declined in all states, Montana's decline ranks 4th and is two-and-a-half times larger than the national decline. Similarly, the scale-up rate for Montana firms has declined steadily since the mid-1990. The rate in recent years is roughly half what it was 20 years ago.

**Figure 7 – Share of employment at young firms over time**



Source: Quarterly Workforce Indicators

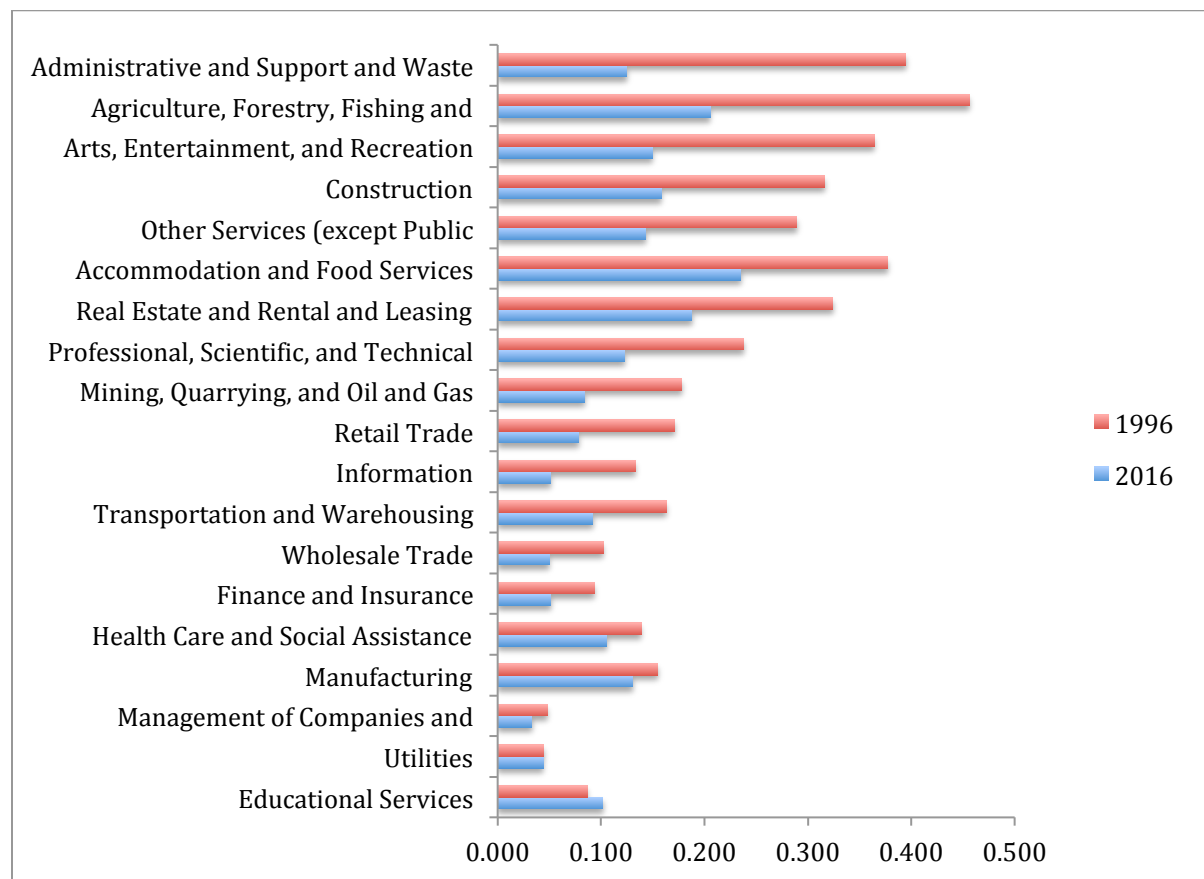
Figure 8 shows how the share of workers at young firms changed by industry in Montana between 1996 and 2006. Consistent with the overall decline described previously, the share declined for nearly every industry. However, the declines are not uniform. Industries like administrative support and waste management services, agriculture forestry and fishing, arts entertainment and recreation, and construction saw the largest declines.

Economists have not yet identified the source of the decline in entrepreneurship. Several hypotheses have been suggested. These include: market concentration (larger firms have come to dominate more industries making it more difficult for entrepreneurs to

<sup>22</sup> 2017 Kauffman Index of Entrepreneurship Main Street Entrepreneurship, Rate of Business Owners

enter markets); difficulty finding resources/financing (perhaps, in part, due to growing student debt); slowing population growth (which implies slower expected growth); corporations doing more entrepreneurship in-house; and generational effects (baby boomers were more likely to pursue entrepreneurship than genX and perhaps millenials). Other factors likely contribute, and there may be idiosyncratic factors that help explain Montana's decline.

**Figure 8 – Change in share of employment at young firms (<5 years) in Montana, 1996-2016**



Source: Quarterly Workforce Indicators

## IV. Conclusion

In sum, the state of entrepreneurship in Montana is a mixed bag. Montana continues to generate more entrepreneurs than other states, and these entrepreneurs tend to create businesses that are more likely to survive. However, Montana firms tend to be small, they have lower aspirations, and they are less likely to grow rapidly. Recent growth in access to venture capital, patenting, and in support for entrepreneurs suggest that Montana may be on the verge of developing more high growth start-ups.

Montana – like the rest of the US – is also suffering from a loss of dynamism. The share of people starting businesses and the share of people working for start-ups have declined substantially in Montana and elsewhere. It is important to develop a deeper understanding of the sources of this decline.