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## Entrepreneurship in Missouri

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# Entrepreneurship in Missouri

By R.W. Hafer and Andrew Sullivan



*The Hammond Institute*  
**CENTER FOR ECONOMICS  
AND THE ENVIRONMENT**  
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## EXECUTIVE SUMMARY

There is a well-based belief that entrepreneurial activity and economic growth are positively related. This paper uses various measures of entrepreneurial activity and business formation to compare Missouri's record to that of the national average and to its neighboring states. Based on our analysis, the average small business in Missouri looks similar to those in other states. But the climate in which small businesses are created and generate jobs is much different in Missouri relative to other states. Two indices of entrepreneurship, each based on different criteria, rank Missouri far down the list of states when it comes to entrepreneurial activity. The data on business formation corroborates this picture of deficient entrepreneurial activity: between 2005 and 2013, the pace at which Missouri created new establishments pales in comparison to the national average, and to the average of the neighboring states. The outcome of not creating new businesses also is evident in slower jobs growth.

How to encourage more entrepreneurship in Missouri? An oft-suggested approach is to use enact legislation or pass special incentives, such as tax abatements, to attract specific businesses or industries. Trying to pick winners in business is an ill-advised policy to promote economic growth. Public policy aimed at encouraging entrepreneurship should consider improving the economic and social environment within which all entrepreneurs will operate. This can be done by improving the tax

climate, labor market conditions, and especially the educational attainment of the labor force.

## 1. INTRODUCTION

It is well-documented that Missouri has had one of the slowest growing economies since the beginning of this century. How have we earned this dubious distinction? The Show-Me Institute has published several studies looking into potential explanations and consequences of this anemic economic growth. These studies have dealt with topics that are thought to influence economic growth directly, such as taxes, education and the level of government involvement in the economy, sometimes referred to as economic freedom. Overall, the evidence indicates that Missouri is not a low-tax state; that it trails many other states in terms of educational attainment; and it has a mediocre record when it comes to promoting economic freedom.<sup>1</sup> Taken together, this evidence does not bode well for Missouri residents who hope to enjoy a higher level of economic prosperity in the coming years.

One area that has not yet been examined and therefore prompted this essay, is that of business creation: the role of the entrepreneur in Missouri. Why entrepreneurship? There is a long-standing belief that entrepreneurship is an important factor explaining differences in economic growth across countries and states. Entrepreneurship is, some have argued, "one of the engines of growth."<sup>2</sup> Though economists usually explain

economic growth as the outcome of combining factors of production (labor, capital and technology), this approach recently has been broadened to consider entrepreneurial activity and other “institutional” factors, such as educational attainment, health, and property rights, as important components of economic growth.

Our purpose is not to try and establish a definitive causal link between entrepreneurship and economic growth: We leave that thorny issue for more sophisticated analyses. Based on the belief that there is a positive link between entrepreneurial activity and economic growth, an outcome found in much of the research being done, we will examine the record of business development—an indicator of entrepreneurial activity—in Missouri over the past decade to see if it could be another possible source of the state’s ponderous economic growth. To put some perspective on this discussion we compare various measures of entrepreneurial activity in Missouri to the surrounding states and the nation.

**2. INDICATORS OF ENTREPRENEURSHIP: SMALL BUSINESS IN MISSOURI**

Researchers agree: Entrepreneurship is important in explaining economic activity, and creating new businesses is important for job growth. One estimate suggests that new business startups account for about 20 percent of total job creation in the United States, and that high-growth business startups explain about 50 percent of gross job creation.<sup>3</sup> Hence the notion that small business creation is the “engine” of job growth. Researchers also agree that entrepreneurship is difficult to

measure. This explains why previous work often relies on “outcomes” of entrepreneurial activity, such as the creation of new, often times small businesses.

With that in mind, what is the status of small business in Missouri? We can get a “snapshot” by using information collected by the Small Business Administration’s Office of Advocacy.<sup>4</sup> The most recent data available (2013) indicate that there are a little over 505,000 small businesses in Missouri.<sup>5</sup> Of these businesses, about one-fifth have one or more employees, a distribution that is close to the averages for the nation and Missouri’s neighboring states.

To put this into perspective, how have small businesses fared over the past decade or so? In 2000, there were 427,030 small businesses in Missouri. Twenty-seven percent of small businesses in 2000 had one or more employees. By 2007, basically the peak of the previous economic expansion that ended with the onset of the Great Recession, the number of small business had increased to 514,691, a 21 percent increase. The recession led to a number of business failures, and unfortunately,

we have not fully recovered from this decline. Compared with 2007, by 2013 there were over 9,000 fewer small businesses in Missouri, about a 2 percent reduction.

But there is a caveat to these numbers. Most researchers agree that “effective” entrepreneurship improves economic growth because effective entrepreneurship creates jobs. Even though the individual washing car windows at a major urban intersection is being entrepreneurial, is she expanding economic activity in a meaningful way? This example suggests that one must be careful in interpreting data on small businesses. In fact, the Small Business Administration provides data on small businesses by number of employees, one classification of which is “non-employers,” or businesses with only one person on the payroll. So, while the total number of small business grew between 2000 and 2007, the proportion that was employers—businesses with one or more employees—actually declined; 77 percent of small businesses in 2007 were classified as non-employers. Indeed, though the number of small businesses changes over time, the percentage that is non-employers is

**Table 1**  
**Small Business in Missouri<sup>1</sup>**

A. Percent of total employment by size of firm

	Number of Employees			
	<u>1-19</u>	<u>20-99</u>	<u>100-499</u>	<u>500+</u>
Missouri	17	17	14	52
United States	18	17	14	52
Neighbors	17	17	15	52

B. Percent of self-employed individuals in each group

	<u>Female</u>	<u>Minority</u>	<u>Veteran</u>
Missouri	34.7	10.1	11.1
United States	37.1	25.6	8.3
Neighbors	35.0	11.8	9.8

Source: Small Business Administration, Office of Advocacy, “Small Business Profile” (2015).

<sup>1</sup> The upper panel of Table 1 presents data on the distribution of firms by number of employees and the lower panel indicates that in Missouri about 35 percent of the self-employed are female.

relatively constant. In 2013, the number of non-employer firms was about 78 percent of all businesses.<sup>6</sup>

How big is small business in Missouri? Who owns it? Table 1 offers some data for 2013. The upper panel of Table 1 presents data on the distribution of firms by number of employees. Seventeen percent of businesses in Missouri have 19 or fewer employees. Nearly half of the firms are “small” businesses; that is, firms with 500 or fewer employees. The information in upper panel of Table 1 shows that the distribution by number of employees is nearly identical for Missouri, the neighboring states, and the United States as a whole.

Who chooses to be self-employed? The lower panel of Table 2 indicates that in Missouri about 35 percent of the self-employed are female. This compares to a little over 37 percent in the United States and 35 percent for our neighboring states. In Missouri, a self-employed person is much less likely to be a minority than is the case nationwide: 10 percent versus 26 percent. However, the self-employed in Missouri are more likely to be veterans: 11 percent of the self-employed are veterans in Missouri compared with about 8 percent in the nation as a whole. For the neighboring states, the figure is about 10 percent.

The upshot from this overview is that small business in Missouri looks like the U.S. average and our neighboring states in terms of firm size measured by employment and in the gender makeup of the self-employed.<sup>7</sup>

### 3. ENTREPRENEURSHIP IN MISSOURI

How does entrepreneurship in Missouri compare to that in other

**Table 2**  
**Ranking States using Indices of Entrepreneurship<sup>1</sup>**

State	Index of Entrepreneurship	
	KIEA	SEI
Missouri	27	35
Arkansas	32	29
Iowa	42	11
Illinois	26	25
Kansas	25	37
Kentucky	31	4
Nebraska	23	18
Oklahoma	16	21
Tennessee	45	26

Sources: KIEA: Kauffman Foundation; SEI: Thompson and Walstad (2014).

<sup>1</sup> The KIEA and SEI measure an outcome of entrepreneurial activity: the start of new business. The KIEA measure combines data on the percentage of the adult population that became entrepreneurs in a given month during the year, the percent of new entrepreneurs who were not employed before starting their new businesses, and the number of startup firms per 100,000 resident population. The SEI index is based on measures that capture the “environment” in which entrepreneurship can occur, such as the number of patents per capita and the average income of non-farm proprietors in the state.

states? We address that question in two ways. In this section, we compare state rankings using broad-based indices of entrepreneurship to gauge the relative level of activity in Missouri. We focus on comparing Missouri to its neighboring states. We also address the question by comparing Missouri’s record at creating new businesses and new employment opportunities relative to other states.

#### 3.A. Indices of Entrepreneurship

Indices of entrepreneurship use information on business startups and related data to rank states. One such measure is the Kauffman Index of Entrepreneurial Activity (KIEA). The KIEA is published annually by the Kauffman Foundation in Kansas City. The KIEA combines several measures of what its authors believe capture measurable outcomes of

entrepreneurial activity. These include:

- Rate of new entrepreneurship, measured as the percentage of the adult population who became an entrepreneur in a given month during the year.
- Opportunity share of new entrepreneurs, measured as the percentage of new entrepreneurs who were unemployed before starting their new business.
- Startup density, measured as the number of startup firms per 100,000 resident population. Startup firms are less than one year old and have at least one employee other than the owner.

Another state-level index of entrepreneurial activity, constructed by Thompson and Walstad (2008), is the State Entrepreneurship Index.



(SEI) A state’s SEI ranking is based on:

- Percentage growth in employer establishments;
- Percentage growth in employer establishments per person;
- Business formation rate (i.e., establishment births per person);
- Patents per thousand persons; and
- Average income per non-farm proprietor.

Both the KIEA and SEI are attempts to measure the outcomes of entrepreneurial activity: the start of new businesses. Measurable outcomes are preferable to intentions. That is, there are surveys of entrepreneurship that ask whether you plan to open a new business in the following year.<sup>8</sup> Whether one plans to open a business is much less restrictive—and informative—in entrepreneurship research than whether you actually carry through. Where the SEI index diverges from the KIEA is its inclusion of measures that capture the “environment” in which entrepreneurship can occur, such as the number of patents per capita and the average income of non-farm proprietors in the state. This approach is a more inclusive approach, one that may provide a better overall indication of the presence of, and potential for, entrepreneurial activity.<sup>9</sup>

How does Missouri’s entrepreneurial climate compare with that of other states according to these two measures? Table 2 lists the most recent nationwide rankings, based on the two indices, for Missouri and its neighboring states. Missouri ranks in the lower half of the 50 states using both

measures. Between the two, Missouri’s ranking based on the SEI comparison is notably lower than that using the KIEA. According to the SEI, six of the seven neighboring states all have higher rankings compared with Missouri. Of these, Kentucky (4) and Iowa (11) also rank quite high nationally. When we compare the rankings using the KIEA metric, there is noticeably less dispersion among Missouri’s neighboring states. According to the KIEA, only four neighboring states rank higher than Missouri, and for three of these (Illinois, Kansas, and Nebraska) the ranking differences are small.

Notice that there are some changes in the rankings when we compare the two indices. Iowa and Tennessee both drop rank much higher on the SEI index than on the KIEA index. Because the two indices place different weights on various aspects of entrepreneurial activity, such variation is to be expected. The fact that Missouri is located approximately in the lower middle of all states in both suggests that Missouri’s environment—some combination of economic, political and social factors—is not as conducive to new business startups

as the environments in other states.

### 3.B. Trends in business formation

To augment the information provided by the entrepreneurship indices, we examine two key indicators of entrepreneurship to see how we arrived at our current condition. The first measure is the growth rate of non-farm establishments. The Bureau of Labor Statistics collects these data in their Quarterly Census of Employment and Wages and include establishments that participate in the states’ unemployment insurance programs. To make this measure comparable across states of different size it is useful to “weight” this measure by population. This is because “establishment growth may reflect growth in the population of a state rather than a change in the share of the population involved in entrepreneurship.” (Thompson and Walstad (2014), p. 6) Thus, we examine the growth rate of non-farm establishments on a per-capita basis to see how Missouri ranks in terms of business formation. Table 3 reports the annual growth rates of non-farm establishments from 2005

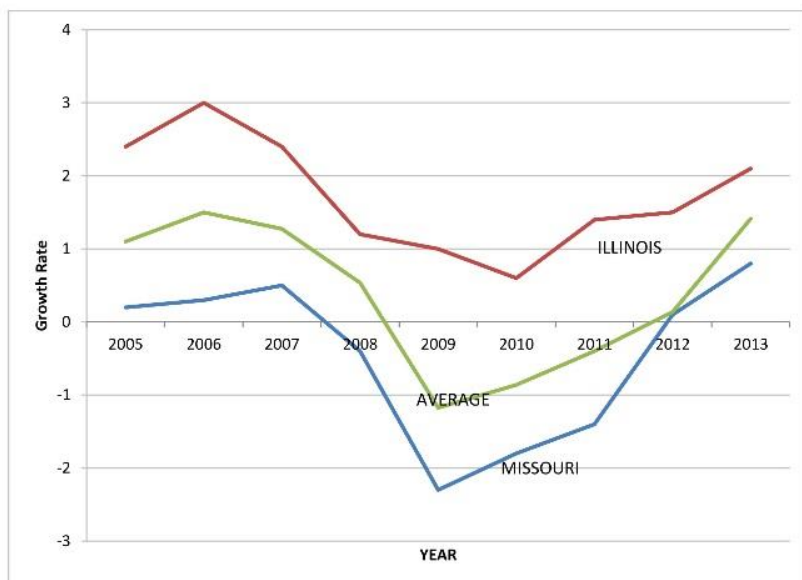
**Table 3**  
**Growth Rate of Non-Farm Establishments: 2005-2013**  
 (per 1,000 population)

Year	STATE									Average of Neighbors
	MO	AR	IL	IA	KS	KY	NE	OK	TN	
2005	0.2	1.5	2.4	0	0.8	0	1.7	2.0	0.4	1.1
2006	0.3	0.5	3.0	0.5	0.9	2.5	2.0	1.1	1.5	1.5
2007	0.5	0.5	2.4	0.3	-0.7	2.8	1.0	1.7	2.2	1.3
2008	-0.4	0.7	1.2	-0.3	0.6	-1.3	0.9	1.4	1.1	0.5
2009	-2.3	-0.8	1.0	-0.5	0.6	-6.2	-0.3	-1.0	-2.1	-1.2
2010	-1.8	-2.3	0.6	-1.2	-0.7	-0.1	-0.9	0.1	-2.4	-0.9
2011	-1.4	-0.2	1.4	-1.7	1.0	-1.8	-0.2	-0.3	-1.4	-0.4
2012	0.1	0.2	1.5	1.1	-2.8	-1.0	1.0	0.9	0.2	0.1
2013	0.8	0.9	2.1	1.7	-0.8	4.3	1.4	0.4	1.3	1.4
State's Average	-0.4	0.1	1.7	0.0	-0.1	-0.1	0.7	0.7	0.1	

Source: Thompson and Walstad (2014).

This table examines the growth rates of non-farm establishments for Missouri and neighboring states beginning in 2005. These growth rates are based on data collected by the Bureau of Labor Statistics in their Quarterly Census of Employment and Wages and include establishments that participate in the states' unemployment insurance programs. This number is "weighted" by population in order to improve comparability across states. Over this period, Missouri experienced the worst growth in non-farm establishments compared to other neighboring states.

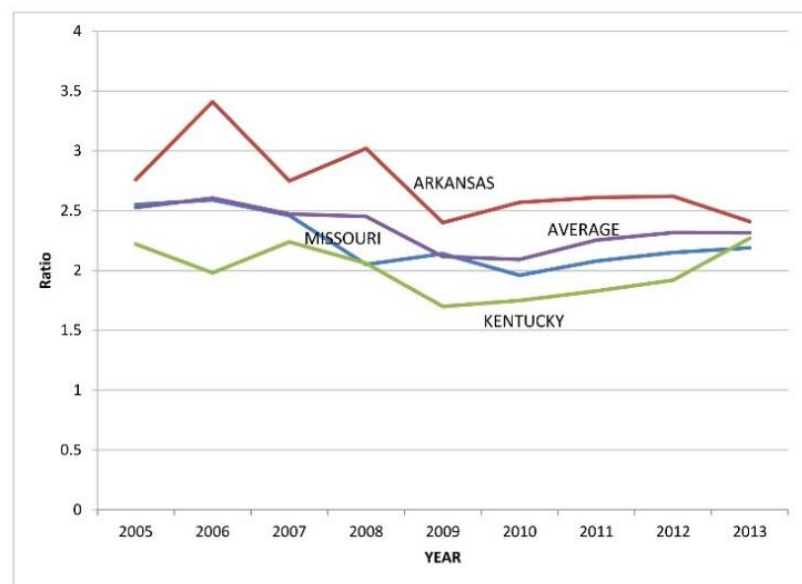
**Figure 1**  
Growth Rate of Non-Farm Establishments: 2005-2013  
(per 1,000 population)



Source: Table 3

Figure 1 provides a visual summary of the creation of non-farm establishments in Missouri. Using the data in Table 3, this figure includes the state with the lowest average over the 2005–2013 period, which is Missouri, along with the highest ranking state (Illinois) and the average of the neighboring states. On the basis of this measure of entrepreneurship, Missouri's record is weaker than the average of our neighbors.

**Figure 2**  
Establishment Birth: 2005–2013  
(per 1,000 population)



Source: Table 4

This figure plots the establishment birth per population ratio for Missouri compared to the states with the lowest and highest averages over the time period (Kentucky and Arkansas, respectively), and the average of the neighboring states. While Missouri does better than Kentucky, it falls far below Arkansas and generally is worse than the average.

through 2013 for Missouri and its neighboring states.<sup>10</sup> Some summary information: the last row reports the average growth rate across the whole period for each state, and the last column is the average growth rate, by year, for all of the neighboring states. Looking across the bottom row, we see that over the period 2005 to 2013 Missouri experienced the slowest farm establishments among this group of states. The negative average growth rate (–0.44 percent) means that the number of non-farm establishments per capita in Missouri declined. In contrast, the average growth rate for non-farm establishments was positive (0.39 percent) for Missouri's neighbors. This is evidence that fewer Missourians are becoming involved in entrepreneurship.

To put some perspective on Missouri's past performance, we will adopt the following scheme in figures 1 and 2: we will plot the outcome for Missouri, the highest and lowest ranking neighboring states, and the average of the neighbors. We limit ourselves to this set of data because including all states would create such a tangle of lines that any coherent analysis is impossible.

Figure 1 provides a visual summary of Missouri's record in the creation of non-farm establishments since 2005. Note that because Missouri has the lowest average, Figure 1 includes only Missouri, the state with the highest average growth rate (Illinois), and the average of the neighboring states. Missouri has done poorly in comparison to these other states. During the early part of the sample—years in which the overall economy was expanding—Missouri's growth in non-farm establishments lagged behind the average of its neighbors. Beginning

in 2008, when the overall growth rate dropped significantly as the Great Recession took hold, the decline in Missouri is more pronounced than in our comparison set of states. We also see in Figure 1 that Missouri has not recovered from the recession as fast as the other states have. Missouri's record is weaker than the average of our neighbors using this measure of entrepreneurship.

The other metric used to assess the entrepreneurial activity in Missouri is establishment birth—that is, the opening of a new business. Again, to account for differing state sizes we use establishment births per person to calibrate the level of entrepreneurial activity across states. If the entrepreneurial climate—the combination of economic conditions, legal environment, and so on—is favorable, we should see more individuals starting their own businesses. Whereas growth of non-farm establishments measures success of businesses, establishment births show if the environment is even conducive. The data on establishment birth comes from the Business Employment Dynamics database, the Bureau of Labor Statistics (BLS) administers. Again, we will compare Missouri's record since 2005 using the same set of comparison states as above.<sup>11</sup>

In a fashion identical to Table 3, we report the ratio of establishment births per 1,000 in state population in Table 4. The averages for the period 2005–2013 (the average of the columns) show that Missouri ranks sixth out of the nine states listed. The state with the highest average ratio of establishment births is Arkansas, and the state with the lowest average was Kentucky. When we compare the annual averages (average of the rows) Missouri's establishment birth ratio is never

**Table 4**  
Establishment Birth: 2005--2013  
(per 1,000 population)

Year	STATE									Average of Neighbors
	MO	ARK	IL	IA	KS	KY	NE	OK	TN	
2005	2.6	2.8	2.5	2.4	2.6	2.2	2.8	2.6	2.3	2.5
2006	2.6	3.4	2.5	2.4	2.7	2.0	2.7	2.9	2.3	2.6
2007	2.5	2.8	2.3	2.3	2.6	2.2	2.7	2.7	2.3	2.5
2008	2.1	3.0	2.3	2.2	2.6	2.1	2.7	2.5	2.2	2.4
2009	2.1	2.4	2.1	2.0	2.4	1.7	2.4	2.3	1.7	2.1
2010	2.0	2.6	2.2	1.6	2.1	1.8	2.4	2.4	1.8	2.1
2011	2.1	2.6	2.4	2.0	2.5	1.8	2.5	2.3	1.9	2.2
2012	2.2	2.6	2.2	2.4	2.4	1.9	2.6	2.4	2.0	2.3
2013	2.2	2.4	1.9	2.5	2.6	2.3	2.6	2.3	1.9	2.3
State's Average	2.2	2.7	2.3	2.2	2.5	2.0	2.6	2.5	2.1	2.4

Source: Thompson and Walstad (2104).

This table compares Missouri's ratio of establishment births to population. The data on establishment birth comes from the Business Employment Dynamics database, which is administered by the BLS. If the entrepreneurial climate is right, we should see more individuals starting their own businesses. The state averages (columns) indicate that Missouri ranks sixth out of the nine states listed. When comparing the annual averages (rows), we find that Missouri's establishment birth ratio exceeds the average of the other states only in 2005.

greater than the average of the other states except in 2005.

Figure 2 compares the establishment birth per population ratio for Missouri to the states with the lowest and highest averages over the period (Kentucky and Arkansas, respectively), and the average of the neighboring states. While Missouri does better than Kentucky, it falls far below Arkansas and generally is worse than the average.<sup>12</sup> This indicates that for most of the past decade, Missouri did not have whatever it took to induce individuals to open their own businesses relative to most of the surrounding states.

#### 4. ENTREPRENEURSHIP AND EMPLOYMENT IN MISSOURI

We already have noted that in any discussion of entrepreneurship, it is instructive to focus on the creation of businesses that in turn add jobs. We have seen that Missouri does

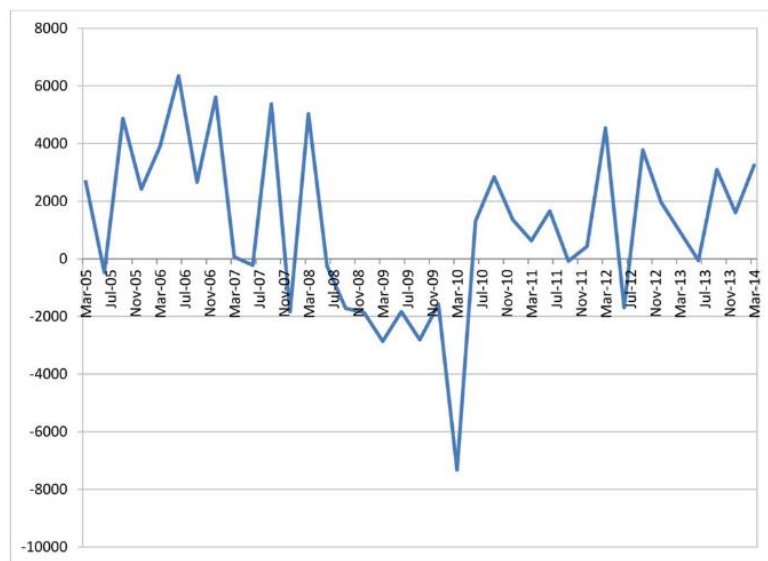
not stand out in terms of creating new establishments, but what is its record in creating jobs?

One approach to answering that question is to look at net job creation. To do this, Figure 3 plots employment arising from establishment births net of jobs lost due to establishment deaths for Missouri since 2005. Since 2005, there have been three distinct periods of net job creation. The first period ends in early 2008 as the general business cycle is peaking.<sup>13</sup> From the beginning of 2005 through March 2008, average net employment was a little over 2,800 jobs per quarter.

The second phase lasts from mid-2008 through early 2010. Figure 3 shows that negative net employment occurs in every quarter from mid-2008 through mid-2010. This pattern is consistent with the observation that employment tends to lag the general business cycle. During this period of general



**Figure 3**  
Net Employment: March 2005–March 2014



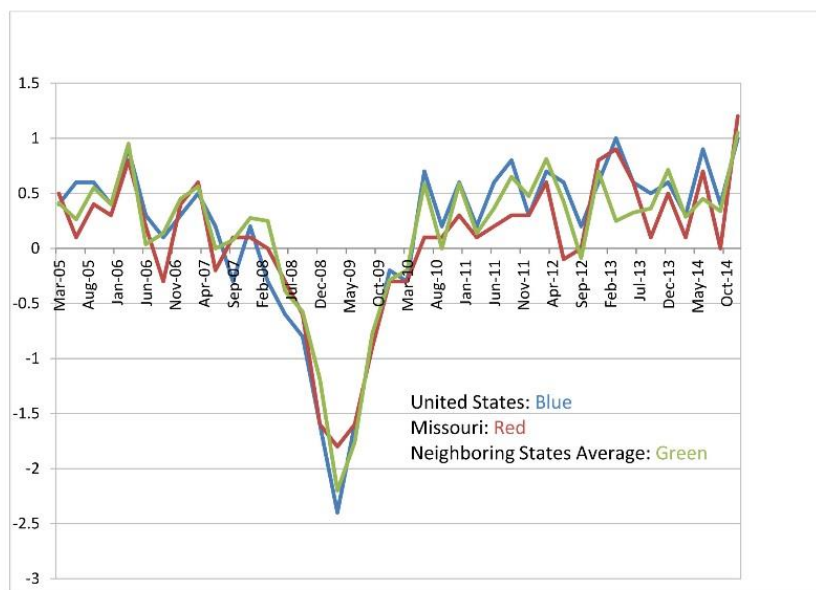
Source: Business Employment Dynamics, authors' calculations

This figure shows employment that arises from establishment births net of jobs lost due to establishment deaths for Missouri since 2005. From the beginning of 2005 through March 2008 average net employment was a little over 2,800 jobs per quarter. From mid-2008 to early 2010 (the time of the Great Recession), net employment, on average, declined about 2,500 jobs per quarter. In the post-recession period, net employment is positive, but notably lower than prior to the recession.

economic downturn, net employment declined, on average, about 2,530 jobs per quarter.

The third period occurs in the post-recession period since mid-2010. Notice in Figure 3 that net employment is positive, but also is notably lower than prior to the recession. If we average the data since mid-2010 we find that net employment, on average, is about 1,600 per quarter. That figure is a marked improvement from the recession figures but remains well below the pre-recession level of job creation.<sup>14</sup>

**Figure 4**  
Net Job Gain: Missouri, Neighboring States, and the United States:  
March 2005–December 2014



Source: Business Employment Dynamics, authors' calculations

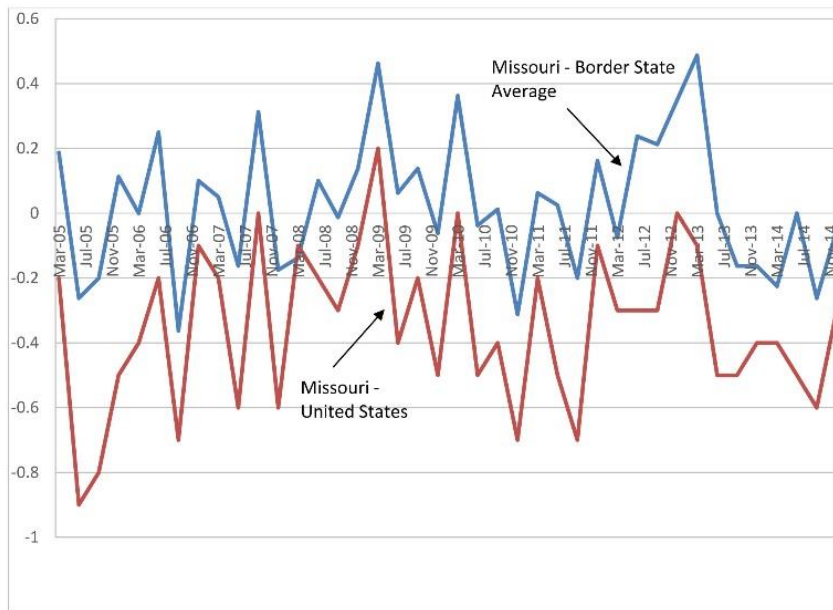
Figure 4 compares Missouri's record in net job gains to the national average and the average of the neighboring states. While net job gains tend to track closely across the three groups, Missouri tends to fall short of the national average more often than the average neighboring state. This occurs largely because private sector job gains in Missouri have been consistently lower than the national average, especially since the end of the Great Recession.

Figure 4 broadens the scope so we can compare Missouri's record in net job gains to the national average and the average of the states that border Missouri. While net job gains tend to track closely across the three groups, Missouri falls short of the national average more often than the average border state. This occurs largely because private-sector job gains in Missouri have consistently been lower than the national average, especially since the end of the Great Recession.<sup>15</sup> Figure 5 highlights this.

Figure 5 plots Missouri's job creation since 2005 against that of the United States and the average neighboring state.<sup>16</sup> We plot the difference between Missouri and the United States and the difference between Missouri and the average of the neighboring states. Two aspects jump out from this plot. One is that when compared with the average border state, Missouri has comparable gross job gains. That is, compared to the average neighboring state, Missouri is adding jobs at about the same rate.<sup>17</sup> That is not true, however, when Missouri comparing to the United States as a whole. The fact that the Missouri-U.S. line is persistently negative



**Figure 5**  
**Differences in Gross Job Gains:**  
**Missouri Relative to Border State Average and the United States**  
**March 2005–December 2014**



Source: Business Employment Dynamics, author's calculations

This figure compares the difference between job creation in Missouri since 2005 against the United States and the average neighboring state. Compared with the average neighboring state, Missouri has similar gross job gains. When compared to the United States, however, gross job gains account for a relatively smaller percentage of private sector employment in Missouri compared to the national average.

indicates that gross job gains as a percent of private sector employment in Missouri consistently lags the national average. In other words, gross job gains account for a relatively smaller percentage of private sector employment in Missouri compared to the national average.

## 5. CONCLUSION

While the average small business in Missouri may look similar to those in other states, the climate in which small businesses arise and generate jobs is much different in Missouri relative to other states. Two indices rank Missouri far down the list of states when it comes to entrepreneurial activity. The data on business formation corroborates this picture of lagging entrepreneurial activity. Since 2005,

Missouri's record in creating new establishments pales compared to the national average and to the average neighboring state. Finally, the outcome of not creating new businesses is slower growth in jobs.

It is beyond the scope of this essay to say definitively whether Missouri's dismal economic growth has led to or is an outcome of its relatively poor record in business creation. Even so, it is hard to imagine robust economic growth first seeing opportunities for economic gain and exploiting these opportunities by starting new businesses that increase employment.

Since effective entrepreneurship promotes economic growth, how can such activity be encouraged in

Missouri? Some look to government and elected representatives to pass legislation or enact special incentives such as tax abatements to attract certain businesses or industries.<sup>18</sup> Picking winners in business is fraught with danger, however. The hopes of many small towns have risen when their hopes are pinned to one firm or industry, only to fall when the chosen company leaves, or when its products lose out to competition.<sup>19</sup>

Public policy intended to encourage entrepreneurship would be better off to consider improving the economic and social environment within which all entrepreneurs will operate. This would mean working to improve the tax climate, labor market conditions, and the educational attainment of the population. Given that Missouri is not a low-tax state, usually ranks poorly in measures of economic freedom, and has a poor record in educational attainment by its citizens, several issues must be addressed if Missouri is to attract entrepreneurs who will spur economic development.

*R.W. Hafer is professor of economics and director, Center for Economics and the Environment, Lindenwood University. At the time of this writing, Andrew Sullivan was an intern at the Show-Me Institute, St. Louis, Missouri.*

## NOTES

<sup>1</sup> Hafer and Rathbone (2014) examine the state's economic growth; Hafer and Rathbone (2015) investigate the claim that Missouri is a low-tax state; Hafer (2014a) looks at Missouri's educational record; and Hafer (2014b) deals with economic freedom and how it effects economic growth.

<sup>2</sup> Sadeghi (2008), p. 3.

<sup>3</sup> These figures and the quotation are from Decker, et al (2014), p. 4.4. Legislation

passed in 2014 reduces the top rate of 6 percent to 5.5 percent in 2021, provided revenues rise sufficiently.

<sup>4</sup> The data used here is available for any state from the Office of Advocacy [www.sba.gov/advocacy](http://www.sba.gov/advocacy). The specific publication used is the “Small Business Profile.”

<sup>5</sup> A “small” business is as a business with fewer than 500 employees.

<sup>6</sup> These percentages are not abnormal. Using data for 2013, the percentage of small businesses (again, those with fewer than 500 employees) that are classified as non-employers is, for the U.S., 20 percent. Compared to the states that border Missouri, the percentage ranges from a low of 16 percent in Tennessee to a high of 24 percent in Nebraska.

<sup>7</sup> As an alternative, we could ask, “Ahat percentage of the population in a certain demographic group are self-employed?” There we also find that a smaller percentage of Missouri’s minority population (5.3%) is self-employed compared to the nation (7.3%), and that more of Missouri’s veterans are self-employed (11.8%) than in the nation as a whole (10.9%).

<sup>8</sup> An example is the Global Entrepreneurship Monitor (GEM), which measures entrepreneurship at the national level. For more information, the interested reader is directed to their website: <http://gemconsortium.org/>

<sup>9</sup> The idea that one way to measure entrepreneurship is to account for the climate in which entrepreneurship can occur is a key ingredient in other measures, such as the Global Entrepreneurship and Development Index, published by the GEDI Institute in Washington D.C.

<sup>10</sup> These data and the establishment birth data used below are from Thompson and Walstad (2014).

<sup>11</sup> This data is similar to that of non-farm establishments, though not identical, partly because of the different samples used to collect the information. The two series often are used in entrepreneurship research and so we use them here.<sup>12</sup> This is the same conclusion reached by Ishmael in “Taxes Matter and They’re Too High for Missouri.”

<sup>12</sup> For a discussion of how Missouri’s economy fared relative to neighboring states during the period, see Hafer and Rathbone (2014).

<sup>13</sup> The National Bureau of Economic Research ([www.nber.org](http://www.nber.org)) dates the Great Recession as beginning in December 2007 and ending in June 2009.

<sup>14</sup> Data for the first quarter, as originally reported by the BLS, are incorrect. As noted in the Business Employment Dynamics First Quarter 2013 press release, the first-quarter 2013 data incorrectly count establishments in education and health service industries. In effect, the original data greatly overstate both births and deaths. To adjust for this, we simply take the average of the fourth quarter 2012 and second quarter 2013 data on births and deaths and use these to calculate net job gains. We make a similar adjustment to the data used for Figures 4 and 5. For more on this, see the December 10, 2013 BLS News Release.

<sup>15</sup> “Business Employment Dynamics in Missouri: First Quarter 2014” Bureau of Labor Statistics. Available at: [http://www.bls.gov/news.release/archives/cewbd\\_11192014.htm](http://www.bls.gov/news.release/archives/cewbd_11192014.htm). (Accessed October 6, 2015)

<sup>16</sup> In other words, we plot the difference between the ratio of gross job gains relative to total employment in Missouri relative to that ratio in the different states and for the U.S.

<sup>17</sup> That is, the average over time is about zero: the Missouri-average border state line fluctuates around zero.

<sup>18</sup> Recently there have been notable failures in using tax incentives to lure business. Two well-publicized examples are Bombardier and Boeing. For more on those episodes, see Haslag (2008) and Haslag (2014), respectively.

<sup>19</sup> Glaeser (2011) provides many relevant and interesting examples.

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