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IS THERE A LINK BETWEEN ECONOMIC FREEDOM AND STATE ECONOMIC GROWTH?

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INTRODUCTION

Economists largely agree that there are several crucial factors that explain differences in economic growth across countries and states. These factors are labor, capital, and technology—or, more generically, knowledge. Just how an economy mixes together these necessary building blocks explains why some countries experience sustained economic growth and others do not.

The analysis carried out in this essay is in the spirit of previous work that has examined the effects of different institutions on economic production. In an earlier paper (Hafer, 2014), I explored the relationship between education and economic growth across states. What I found there was that education—providing labor with the knowledge that leads to

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greater productivity and, hence, faster economic growth—and economic growth are positively related. On average, states with better educational outcomes are also states with better economic outcomes. Based on that analysis I argued that Missouri's relatively poor educational record is one probable ingredient that helps explain its recent history of lackluster economic growth.

In this essay I focus on another potential player in the story of economic growth. Improving economic growth requires that individuals and firms make decisions that allow them to more efficiently combine labor, capital, and technology. This means that increased government intrusion into the market, onerous regulations, and lack of competition in labor markets all can hinder economic growth. Or, at least, that is the hypothesis I will examine. More specifically, I set out to address the question: Has Missouri's record in promoting economic freedom stalled its economic success? Looking ahead, the evidence presented here shows that states experiencing improvements in economic freedom over the past couple of decades have been more likely to experience higher rates of economic growth. Unfortunately, Missouri is not one of them.

WHAT IS ECONOMIC FREEDOM?

Economic freedom in its most basic form is the ability of people and businesses to engage in economically beneficial exchanges with few externally imposed restrictions. Gwartney, Lawson, and Block (1996)

provide a workable definition of economic freedom:

Individuals have economic freedom when (a) property they acquire without the use of force, fraud, or theft is protected from physical invasions by others and (b) they are free to use, exchange, or give their property as long as their actions do not violate the identical rights of others. (p. 12)

This definition points out that at its core economic freedom is related directly to establishing and protecting property rights. That is, the right of individuals to determine the use of those goods—whether they be physical goods, such as houses and land, or human, such as their labor or their intellectual creations—over which they have ownership. In this view the government plays an extremely important role in its ability to define and protect property rights.

Why might economic freedom be an important influence on economic outcomes? To illustrate the possible link, think about the effects of economic freedom, or the lack thereof, on entrepreneurial activity. Hafer and Jones (2014) have argued that at some point the level of government activity simply crowds out the private sector. For example, when a government nationalizes an industry it effectively precludes entrepreneurial activity in that industry by private citizens.¹ The government's increased provision of entitlement programs also may

adversely affect entrepreneurial activity. Bjornskov and Foss (2008) found that incentives for wealth creation are negatively affected if government programs effectively raise the reservation wage that entrepreneurs face. How social programs are financed also may reduce the incentive to start up a new business or accrue wealth through new ventures. Because entrepreneurial income is most often taxed as personal income, increasing personal tax rates will negatively affect the market's provision of goods and services. Henrekson (2005) argues that increasing taxes to pay for increased social programs weakens the entrepreneurial spirit and impedes economic growth. An increasingly encroaching government that funds its activities with a punitive tax system does not create an environment in which entrepreneurial activity and economic growth will flourish.

CAN WE MEASURE ECONOMIC FREEDOM?

Think of economic freedom as running along a spectrum with zero representing no economic freedom, to a maximum value of 10 where individuals enjoy complete economic freedom. What will determine where a state or country is located on that spectrum? "The freest economies," Stansel and McMahon (2013) maintain, "operate with minimal government interference, relying upon personal choice and markets to answer basic economic questions such as what is to be produced, how it is to be produced, how much is produced, and for whom production is intended. As government imposes

restrictions on these choices, there is less economic freedom." (p. 4)

While the *concept* of economic freedom is fairly straightforward, trying to *quantify* it is difficult. More than 25 years ago, economists associated with Vancouver's Fraser Institute began a project to quantify the concept of economic freedom across countries. The outcome of that effort, the Economic Freedom of the World (EFW) index, published annually, provides researchers with a consistent data series that has been used extensively to test competing theories of the role of government in a market system. Using the EFW index, many researchers have found that economic freedom is positively correlated with a number of preferred economic outcomes, such as higher levels of wealth, faster rates of economic growth, higher life expectancy, increased political freedoms, and lower child mortality.²

Beginning in 2002 the Fraser Institute began producing another index of economic freedom, this one focusing on state-level freedom. This series, the Economic Freedom of North America (EFNA), provides an empirical measure of economic freedom across all 50 U.S. states, the Canadian provinces, and more recently Mexican states. Like its international sibling, the state-level index of economic freedom has been used in a large number of research studies to assess the link between economic freedom and economic outcomes.³ Like the research conducted using the country-level index, studies using the North American index generally find that state-level economic freedom is

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correlated positively with the level and growth rate of states' real GDP per capita, with higher growth rates in jobs, with lower income inequality, higher rates of entrepreneurial activity, and even population migration patterns.⁴

The purpose of the EFNA index is to aggregate a diverse set of measures of economic freedom into a few values.⁵ Fraser annually publishes state-level values for four freedom measures. The most widely used index is the "Overall" measure of economic freedom. The Overall index is found by aggregating three "area" indexes. These areas include "Size of Government," "Takings and Discriminatory Taxation," and "Regulation." The Overall index and each area are constructed on a zero-to-10 scale. States with very low levels of economic freedom cluster at the lower end of the scale. States where citizens enjoy greater economic freedoms are those with index values closer to 10. To better understand what each area is measuring, I briefly describe them.

Size of Government

The area "Size of Government" (hereafter, Government) gauges the amount of government activity in the economy using three statistics. One component is general consumption expenditures by the government as a percent of GDP. In keeping with the spirit of the index, increased purchases by the government in the market is viewed as supplanting private transactions: The government, not the market, increasingly decides what is to be produced. In the index this

reduces economic freedom. No one disputes the need for government in a market system, such as protection and the enforcement of the "rules of the game." When the government extends its economic reach into market decisions, the state's economic freedom score is reduced.

The Government area also considers the extent of government transfers and subsidies, again as a percent of GDP, in assessing the influence of government. Transfer payments by government (think of Social Security payments or subsidies to farmers) are not payments for activities that increase economic output but transfers of income from one group in the economy to another. While the usefulness of such programs to society is debatable, in the freedom index such governmental programs reduce individual property rights. Thus, the greater the relative amount of transfers and subsidies, the lower the state's freedom score. In a similar vein, the final element of the Government component is the ratio of Social Security payments to GDP. Consistent with the foregoing discussion, the higher this ratio, the lower the economic freedom score.⁶

Takings and Discriminatory Taxation

Another area is referred to as "Takings and Discriminatory Taxation" (hereafter, Taxes). This area accounts for the government's taxing activity and comprises four separate measures. One is total tax revenue as a percent of GDP. Some level of taxation is necessary to finance needed government activities, such as

protection, the courts, etc. When tax burdens grow to finance government programs that are discriminatory in nature, economic freedom is lessened: The government's appropriation of income leaves citizens with less to spend in ways that can be personally beneficial.

Another statistic used to construct the Taxes area is the combination of a state's top marginal income tax rate and the income level at which it becomes effective. This recognizes the economic fact that higher marginal tax rates, all else the same, lower the incentive to engage in income-producing activities.⁷ Constructing the Taxes measure of economic freedom also recognizes the fact that the income level at which the marginal tax rate takes effect is important when considering the economic effect of taxation. Think of state X in which the highest marginal income tax rate is 5 percent and state Y where the highest marginal tax rate is 10 percent. If the income threshold in state X is set relatively low, say \$5,000, it will have a much larger economic effect than in state Y if the latter sets the threshold at \$1 million. Lower marginal income tax rates imposed at a higher income threshold produce a better (higher) freedom score.⁸

This component also accounts for revenues from indirect taxes and sales taxes collected, both as a percent of GDP. The greater these two ratios, the less income individuals have to spend as they see fit. Thus, the higher these two ratios, the lower the measured level of economic freedom.

Regulation

Regulation is the last area that comprises the Overall freedom index. In the EFNA index a state's regulation score is determined by a combination of labor market freedom, the percentage of government employees to total employment, and union density. Because this area focuses on the regulation of the labor market, hereafter I will refer to this area as "Labor." Economic freedom in the labor market is negatively affected by minimum wage legislation. Because minimum wage laws prohibit some individuals from negotiating with potential employers (and vice versa), the economic choices that could have been made by employers and workers are constrained, thus inhibiting economic freedom.⁹ To capture the effect of minimum wage legislation, the EFNA uses the ratio of the estimated annual income of someone working at minimum wage to GDP per capita, the latter being used as a proxy for worker productivity. As the minimum wage increases relative to productivity, firms (and workers) are constrained in the contracts that they could, without such laws, negotiate: Imposing higher minimum wages thus reduces economic freedom.

States in which the government is a relatively large employer will have a lower freedom measure compared with states in which the government's employment roles are small compared to total employment. This inverse relationship between government employment and economic freedom is premised on the idea that because the government uses, for example, tax

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Indeed, there is evidence that “right to work” states tend, on average, to have better records of economic growth.

revenue to fund its payroll, increased government employment relative to private-sector employment represents a reallocation of employment opportunities away from the private sector to the public sector. It also is possible that a higher ratio of government-to-private employment reflects an increased share of government production relative to private; that is, the public sector is undertaking to produce goods and services that would otherwise be produced by the private sector where market forces more fully effect production decisions.

Union density is measured by the percentage of unionized workers in a state. The authors of the EFNA note that in and of itself a higher union density measure may simply reflect the choice of workers to form unions. The role of union density in the EFNA index is to recognize the effect of laws and regulations that force some workers to be union members, or force the use of union labor on production sites. Indeed, there is evidence that “right to work” states tend, on average, to have better records of economic growth.¹⁰ To isolate the effect of rules and regulations on the freedom of labor markets, the EFNA index uses a proxy measure that is based on union density corrected for government employment.

ARE ECONOMIC FREEDOM AND ECONOMIC GROWTH RELATED?

I mentioned earlier that a number of published studies have found a positive correlation between economic

freedom and economic activity: The level of real GDP and the growth rate of real GDP are both positively related to economic freedom. Perhaps more importantly, there is some evidence to suggest that economic freedom *precedes* economic growth. That is, it appears that improvements in economic freedom lead to increases in the growth rate of real GDP.¹¹ A recent study found, however, that when subjected to different estimation techniques some of these previous findings for state-level data—those that relied on comparing economic outcomes to the level of economic freedom—were not robust to the use of different testing procedures.¹² What these authors did find, and what is especially relevant to this analysis, was that the link between the *growth* of economic freedom and the *growth* in real output was robust to changes in the estimation technique used. And, especially relevant to this essay, those results were based on using state-level data.

I dip into this body of work by examining the relationship between changes in economic freedom and the growth of state-level output per person. Changes in economic freedom are measured as the percentage change in the freedom index from the mid-1980s to 2011, the most recent year for which the economic freedom measure is available.¹³ My measure of economic growth is the annual average growth rate in real per capita GDP from 1997 to 2012.¹⁴

To make my analysis accessible to the non-technical reader, I use scatter plots. The vertical axis in each figure measures the average annual growth

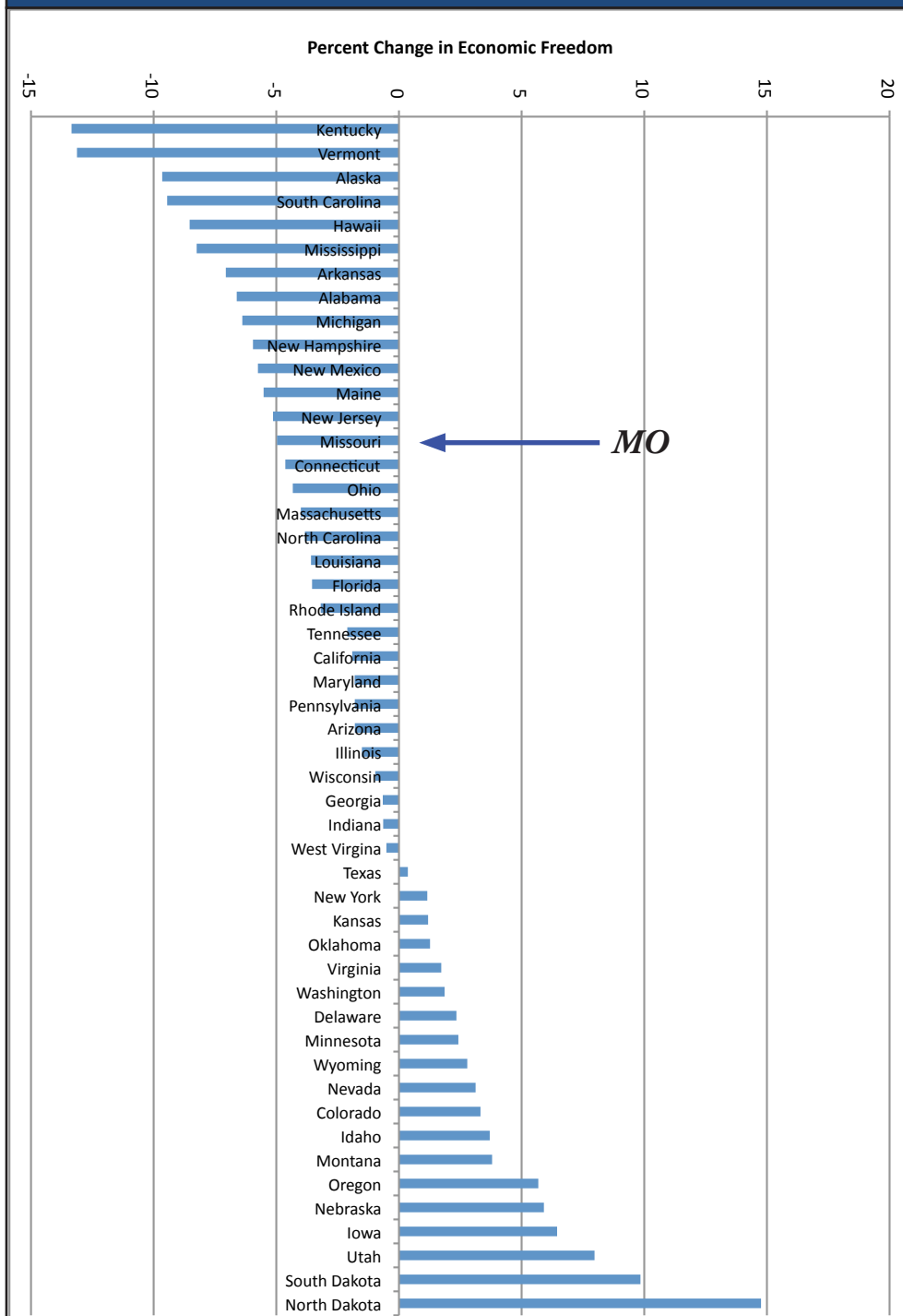
rate of real per capita GDP over the period 1997–2012, and the horizontal axis measures the percentage change in economic freedom. Each “dot” in the figures thus represents an individual state’s percentage change in freedom–growth rate combination. If improvements in economic growth are associated with increases in economic freedom, then I would expect to find that the scatter of points will slant from the southwest to the northeast. That indicates a positive relationship between freedom and growth. To help interpret the results, I superimpose the “best-fitting” line in each figure. This line captures the “average” relationship between changes in economic freedom and economic growth.

I also calculate the correlation between the change in freedom and the economic growth rate to gauge the statistical significance of the “average” relation. Though basic, these two statistical techniques are quite useful in providing a visual and quantitative analysis of the idea that improvements in economic freedom are associated with better economic outcomes.¹⁵

My analysis is carried out using two samples of states. Figures 2 through 5 provide the scatter plots of the change in economic freedom (Overall and each component) and economic growth when all 50 states are used. Table 1 reports the related correlation coefficients. Figures 6 through 9 repeat these plots except that they use data for Missouri and only its neighboring states. Table 2 reports the correlations derived from the data from those figures.

Before looking at the link between economic freedom and economic growth, it is useful to compare the record of changes in economic freedom across states. Figure 1 shows the percentage change in overall

Figure 1
Percentage Change in Economic Freedom Across States



States that undertake actions to improve their economic freedoms—reduce the size of government relative to the overall economy, reduce taxes, improve the competitive nature of the labor market—are, on average, likely to experience faster economic growth in the future.

economic freedom, ranking them from the worst performer to the best. Figure 1 shows that some states experienced relatively significant declines in economic freedom while others experienced increases. At the extremes, Kentucky registered the worst performance with a 13 percent reduction in Overall economic freedom. At the other end of the scale lies North Dakota, which saw the Overall measure of economic freedom increase about 14 percent. Where does Missouri fall in this distribution? With a 4 percent reduction in the Overall index, Missouri ranks 14th from the bottom. Stated differently, 36 other states saw their economic freedom decline less or witnessed improvements in economic freedom over the period covered.

Plots With All 50 States

Figures 2 through 5 present the scatter plots of economic growth and economic freedom using all 50 states. In every instance, I find a positive relationship between changes in economic freedom—Overall, Government, Taxes, and Labor—and economic growth. The general pattern in the scatter of points indicates that

an increase in economic freedom is, on average, associated with an increase in the growth rate of real per capita GDP across states. This is verified by the consistently positive (and statistically significant) correlations reported in Table 1. I also find that the strongest statistical relationship between freedom and growth occurs when changes in the Overall and Government freedom measures are used: The correlations are 0.60 and 0.55, respectively. This is consistent with previous research: States that undertake actions to improve their economic freedoms—reduce the size of government relative to the overall economy, reduce taxes, improve the competitive nature of the labor market—are, on average, likely to experience faster economic growth in the future.

One aspect of Figures 1 through 5 that bears mentioning is the fact that, except for the Labor measure, a number of states have experienced a reduction in economic freedoms over the period examined. That is, based on the Fraser measure, some states have become less economically free since the mid-1980s. This is especially evident in Figure 2, which

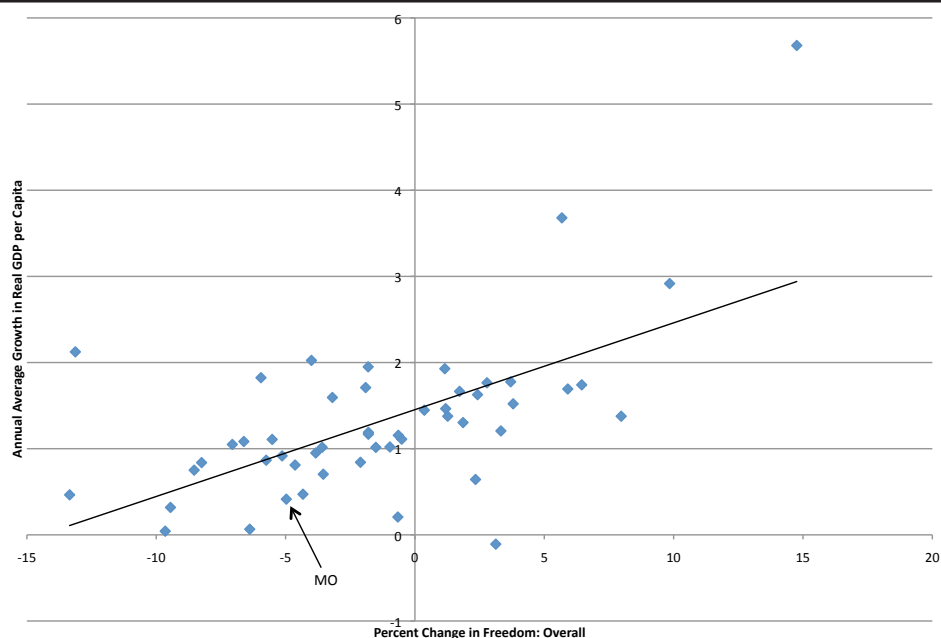
Table 1

Correlation Between Changes in Economic Freedom and Economic Growth Sample: All 50 States

<u>Freedom Measure</u>	<u>Correlation</u>
Overall	0.60
Government	0.55
Taxes	0.29
Regulation	0.40

Figure 2

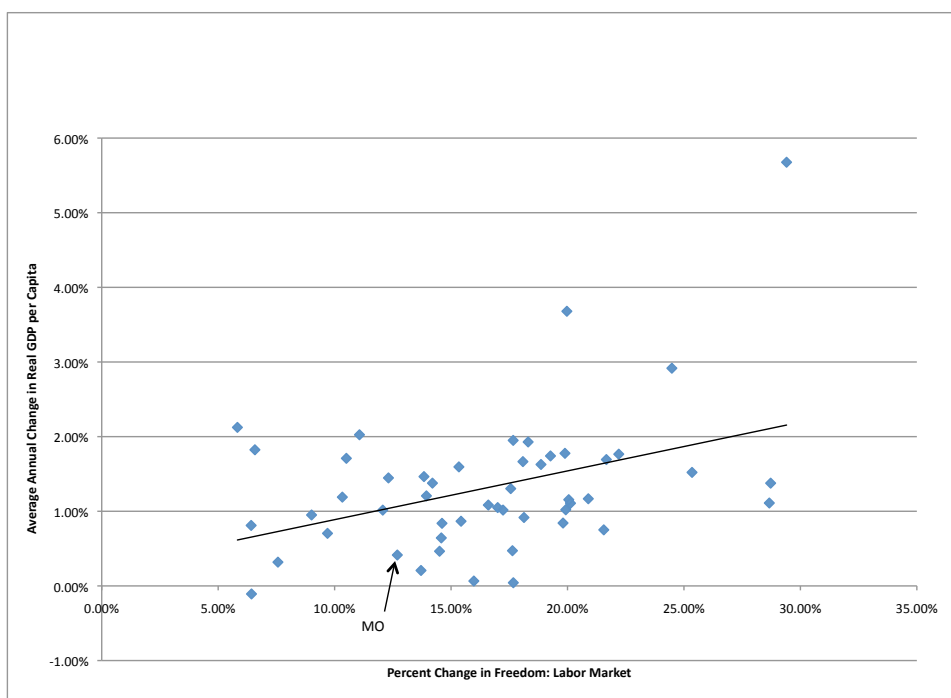
Changes in Overall Economic Freedom
and Economic Growth in All 50 States



*The level of real
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GDP are both
positively related to
economic freedom.*

Figure 3

Changes in Size of Government Component
and Economic Growth in All 50 States



The general pattern in the scatter of points indicates that an increase in economic freedom is, on average, associated with an increase in the growth rate of real per capita GDP across states.

Figure 4

Changes in Taxes Component and Economic Growth in All 50 States

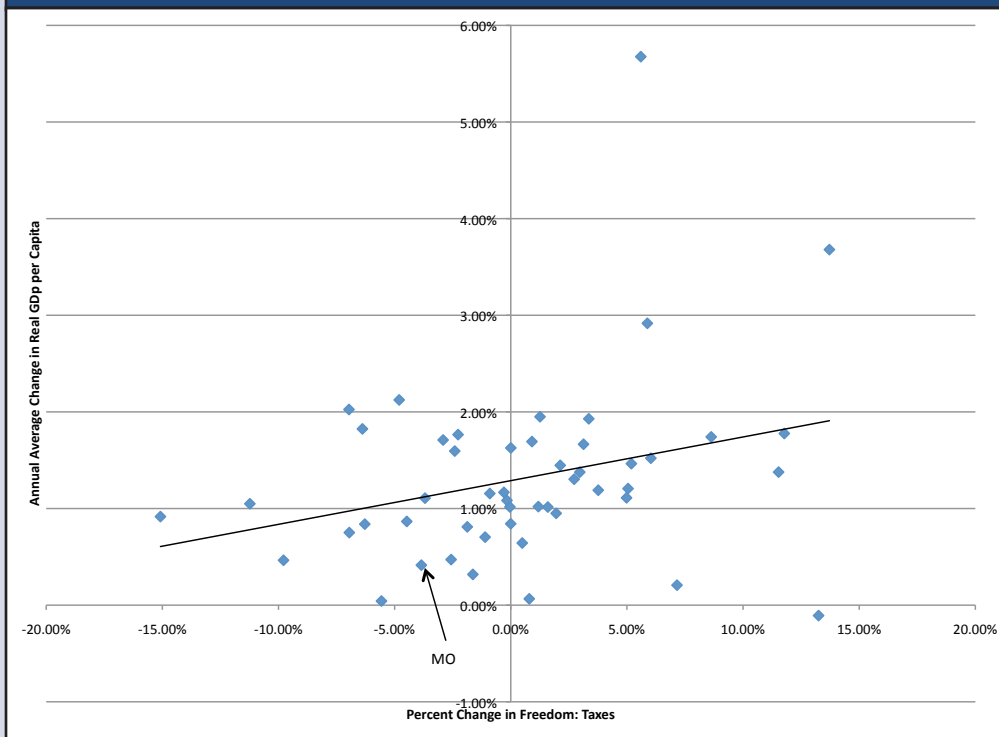
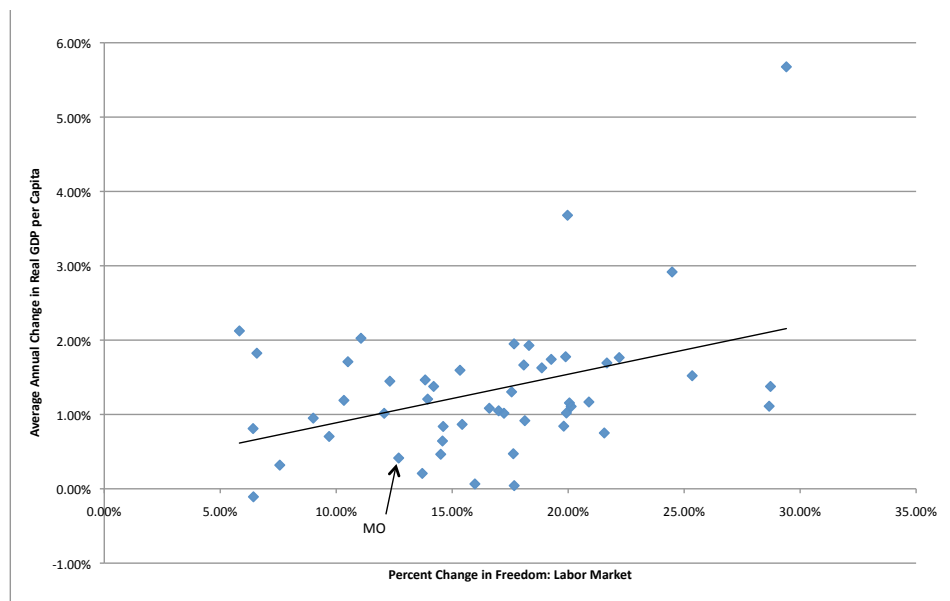


Figure 5

Changes in Labor Market Component and Economic Growth in All 50 States



plots the change in the Government component of the EFNA index against economic growth. In that case, nearly all of the states have seen the size of government (and the components of that area described earlier) increase relative to the states' output.

Where does Missouri fall in the economic freedom–economic growth nexus? I have highlighted Missouri's location in each scatter plot to answer that question. Comparing changes in any of the freedom measures, the majority of states have posted a better record than Missouri. Let's put some perspective on the results and ask the question: What would Missouri's average annual economic growth rate since 1997 have been if its percentage change in economic freedom had matched the average for its neighboring states? Based on the underlying relation depicted in Figure 2, the answer is that Missouri's economic growth rate would have been approximately three times faster.¹⁶ Instead of lagging behind most other states, Missouri would have gotten into the mid-range of economic growth outcomes.

Missouri and Its Neighbors

Figures 6 through 9 repeat the above analysis based on all 50 states, but this time I plot the results for only Missouri and its neighboring states. The first thing to notice is that the general positive relationship between changes in economic freedom and economic growth hold for this limited sample of states: On average, improving economic freedom is associated with more rapid economic

growth. Indeed, although one must be careful not to put too much weight on this observation given the limited sample size, the positive and significant correlations in Table 2 suggest that the freedom–growth rate link is even tighter when the sample is reduced to only these nine states.

How does Missouri fare compared to its neighbors? The first thing to note is that Missouri experienced the slowest growth rate over the 1997–2012 period compared with its neighboring states. With an annual average growth in real per capita GDP of about 0.4 percent, this is much slower than the fastest growing state, which is Iowa. In terms of changes in economic freedom, Missouri's record lags its neighbors. In comparing changes in Overall economic freedom, Missouri does better than only Arkansas and Kentucky (Figure 6). Most notably, states in which Overall economic freedom improved over the period studied registered the highest annual growth rates in real per capita GDP.

When looking at the component measures, Missouri again does not represent a state in which economic

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Table 2

Correlation Between Changes in Economic Freedom and Economic Growth Sample: Missouri and Neighboring States

<u>Freedom Measure</u>	<u>Correlation</u>
Overall	0.88
Government	0.83
Taxes	0.68
Regulation	0.50

Although Figure 7 shows that all states experienced a decline in freedom based on the Government component, Missouri was in the bottom echelon.

Figure 6

Changes in Overall Economic Freedom and Economic Growth in Missouri and Neighboring States

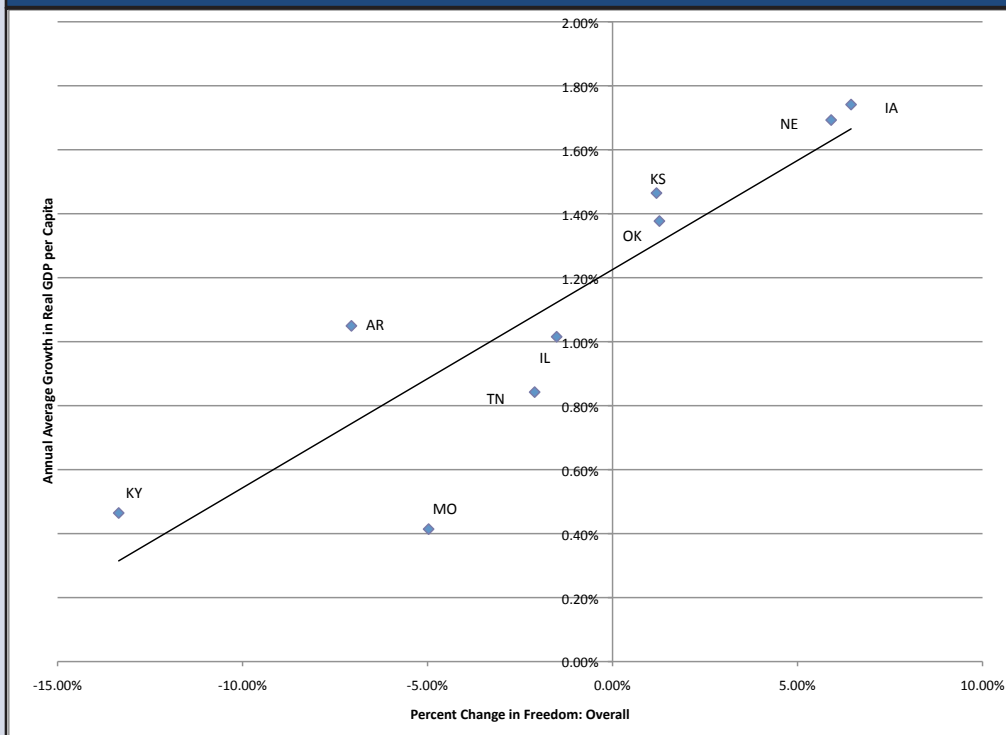


Figure 7

Changes in Size of Government and Economic Growth in Missouri and Neighboring States

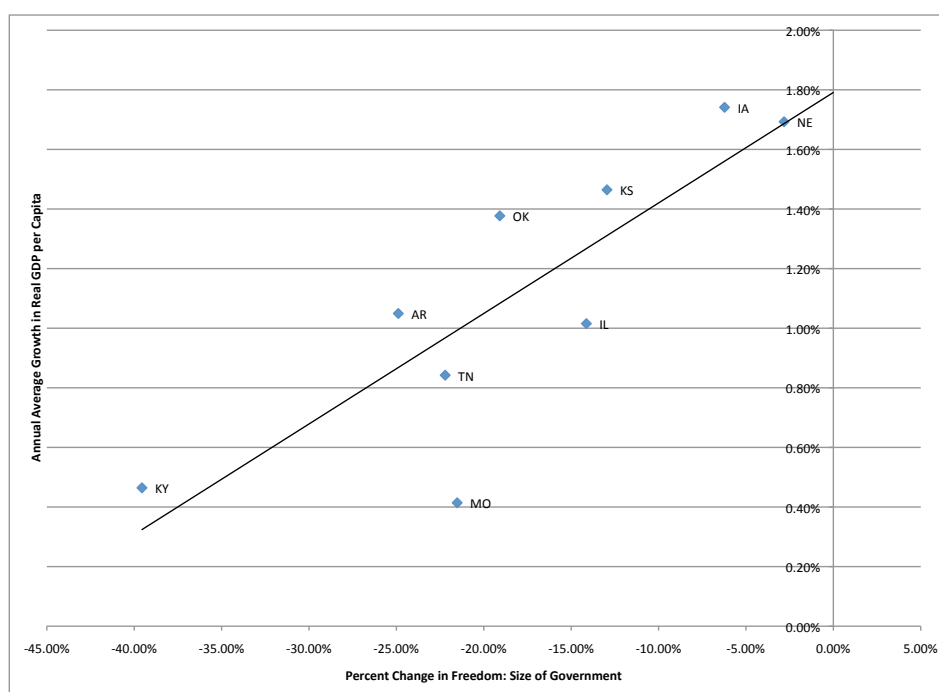
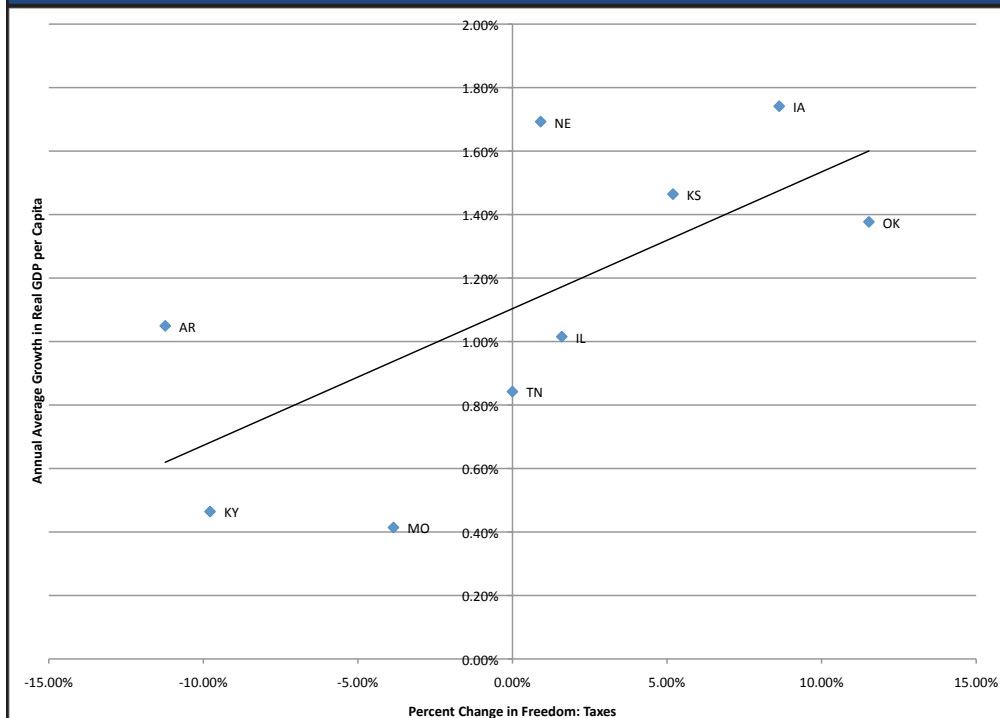


Figure 8

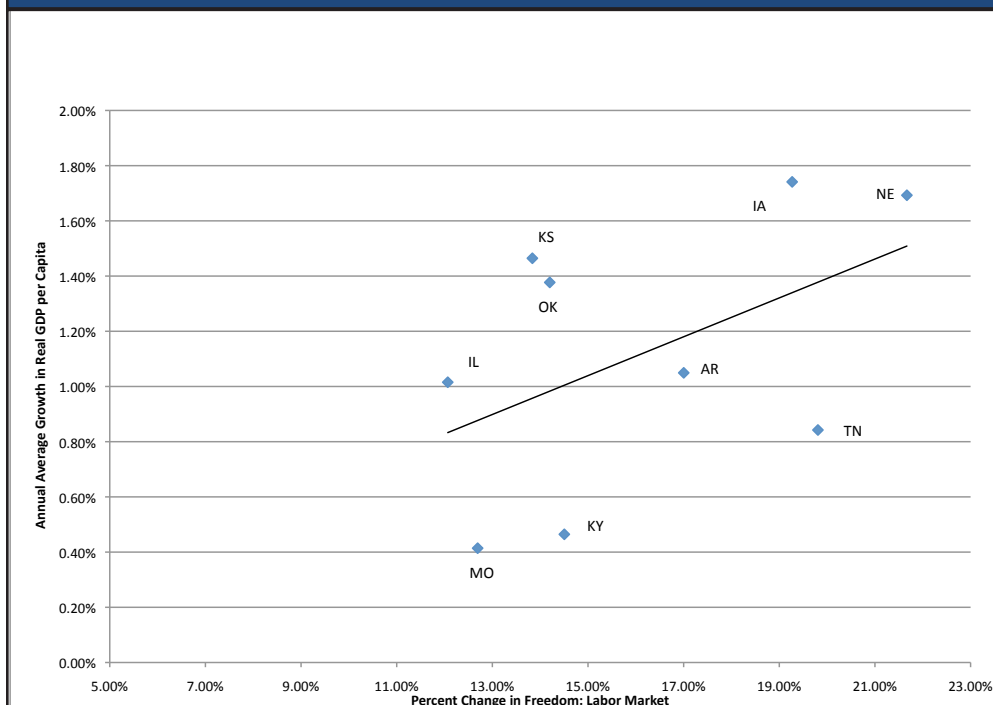
Changes in Taxes and Economic Growth in Missouri and Neighboring States



*In terms of changes
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Figure 9

Changes in Labor Market and Economic Growth in Missouri and Neighboring States



In this essay, I find that another possible contributor to Missouri's tepid economic growth is its lackluster record in improving the economic freedom of its citizens and businesses.

freedom is expanding relative to its neighbors. Although Figure 7 shows that all states experienced a decline in freedom based on the Government component, Missouri was in the bottom echelon. It holds a similar position when I look at Figure 8, which compares changes in Taxes and economic growth. Here again, Missouri saw this freedom measure decline, though not as drastically as in Arkansas and Kentucky. And when it comes to changes in labor market freedom (Figure 9), while all states registered marked improvements—labor markets became more free—Missouri almost trailed the pack were it not for Illinois' even weaker record.

CONCLUSIONS

In this essay, I have compared changes in the level of economic freedom to the growth rates of real output across states. What the evidence suggests is that states experiencing improvements in economic freedom over the past couple of decades are, on average, more likely to have experienced higher rates of economic growth.

Looking specifically at Missouri's record, it is widely known that the state has suffered one of the slowest growth rates in real output since the late 1990s.¹⁷ In an earlier essay, I found that this slow growth could be related to Missouri's comparatively weak educational record.¹⁸ In this essay, I find that another possible contributor to Missouri's tepid economic growth is its lackluster record in improving the economic freedom of its citizens and businesses. Although some states experienced a greater reduction in overall economic

freedom than Missouri, 16 states saw their economic freedoms decline to a lesser degree, and 19 states enjoyed an increase in economic freedom. Closer to home, only Kentucky and Arkansas experienced a larger reduction in economic freedom than Missouri; Illinois and Tennessee experienced smaller reductions while Iowa, Kansas, Nebraska, and Oklahoma all saw economic freedom increase. These latter states registered significantly faster economic growth rates compared to Missouri.

The upshot is that increasing the reach of government into everyday economic interactions, whether through the government as a consumer/producer or as a taker of taxes, is not likely to create an environment in which economic activity will flourish.

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NOTES

¹ The evidence, mostly from international studies, indicates that nationalization of industry—or expropriation of foreign investments—while popular among developing countries in the 1960s has diminished dramatically in more recent years. Indeed, the evidence suggests that developing countries have found that private-sector activity is more conducive to economic growth than increasing the proportion of state-owned businesses. Minor (1994) examines the trend in expropriation. Melek (2014) provides

a case study of Venezuela, where she finds that nationalization not only reduces productivity but the mere threat of nationalizing an industry reduces productivity in that industry prior to being taken over by the government.

² See the compilation of articles at <http://www.freetheworld.com/papers.html>. See also Hall and Lawson (2014) for a survey of the use of this measure.

³ By 2013 there have been more than 90 academic articles published that have either used or cited the North American index. See Appendix C of Stansel and McMahon (2013).

⁴ See the articles cited in Stansel and McMahon (2013), Chapter 3.

⁵ The interested reader is referred to Stansel and McMahon (2013), Appendix A: Methodology for a more detailed description of procedure used to generate the index. It is important to note that the index provides a relative measure of economic freedom across states.

⁶ It is useful to point out that an individual's personal well-being may be negatively affected by greater economic freedom. That is, in a world where only the government provides goods and services may be one in which some individuals are better off than they would be in a market-based economy. The crucial question is whether the benefit to some outweighs the loss to many others who would lose the ability to choose other outcomes. This is a very important issue, one at the heart of most debates over the role of government, and involves the thorny questions of social welfare and "just" distributions of goods and services. As noted by Gwartney and Lawson (2003), "Rating countries across a spectrum from most free to least free or from the minimal state [a score close to 10] to the dominant state [a score close to 0] does not reveal that one position (rating) is superior to another. Many would argue that some intervention beyond the minimal state will lead to greater economic efficiency, less inequality, more rapid growth, or various other attributes of a good society. Whether these perceptions are true is an empirical issue, and the EFW measure should be helpful to those investigating these questions." (408)

⁷ There is evidence indicating that states and countries with lower or no marginal income taxes tend to experience faster rates of economic growth. See Hafer (2007), Ni (2010), Skidmore (2010), Laffer, et al. (2014), and the research cited therein.

⁸ For more on the economic effect of tax structure, see Haslag and Albers (2013).

⁹ See Hafer (2013) and the references cited therein for an analysis of the effects of minimum wage laws.

¹⁰ See, for example, Vedder (2010).

¹¹ Among others, see Heckelman (2000).

¹² Compton, Giedman, and Hoover (2011).

¹³ Specifically, I use the average of economic freedom between 1985 and 1990 as the base measure from which the percentage change is measured. This helps to smooth the data and control for any idiosyncratic aspects of selecting any one year as the initial year. I experimented with alternative measures of the base year and found that each tells a similar story to the one presented here.

¹⁴ The choice of the initial year for economic growth is dictated by data availability: 1997 is the first year for which this measure is available.

¹⁵ The correlation coefficient lies between zero and one. Values closer to one indicate a close positive relationship between the two series; that is, they tend to move together. A negative correlation indicates that the two series move in opposite directions over time.

¹⁶ The estimated effect is based solely on the bivariate relation depicted in Figure 1. Would an improvement in economic freedom by itself increase in economic growth by this magnitude? Probably not. But it is becoming widely agreed that improvements in economic freedom are a precursor to improvements in other economic institutions that lead to increased economic growth. What I am showing is that Missouri could increase the likelihood of improved economic growth if its history of changes in economic freedom looked like some of its neighbors.

¹⁷ See Hafer and Rathbone (2014) or Haslag and Podgursky (2012).

¹⁸ Hafer (2014).

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