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Taxing Business in Missouri

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By R. W. Hafer and Howard J. Wall

EXECUTIVE SUMMARY

If one believes popular rankings of "tax climate" across the states, Missouri fares pretty well. Using generic types of business tax rankings, however, can mask underlying issues that may belie their message. This study uses the Tax Foundation's 2015 report "Location Matters: The State Tax Costs of Doing Business" to compare total tax rates paid by different types of businesses in Missouri to those paid by similar businesses in other states. Looking at the total taxes paid—not only corporate income taxes, but also property taxes, unemployment taxes, etc.—is crucial to understanding the total or effective burden of state taxes on businesses. It is this broader picture of tax burdens that allows us to, for example, better understand decisions by firms to locate, or not, in Missouri.

Our comparisons indicate that unlike the overall rankings of Missouri's business tax climate, the state does not fare well in comparing its total effective taxes paid by a variety of firms to other states, both nationally and more regionally.

What we find is that Missouri's tax code places its businesses at a competitive disadvantage for most of the firm types considered. For five out of the seven types of firms considered, Missouri's effective tax rates ranks it 31st place or worse among the states. The worst case is that for an R&D facility—the 2nd-most onerous in the nation. On the other end, however, the effective tax rate facing manufacturers in Missouri are less burdensome than in 38 other states for capital-intensive manufacturers, and sixth best among all states if you are a labor-intensive manufacturer.

Because a state's economic growth rate can depend on the types of businesses it has operating inside its borders, the disparity of effective tax rates may influence the types of firms locating in Missouri and, consequently, the pace of economic activity. To investigate this we compared the rankings of states by average annual growth of real GDP over the past 15 years to their ranking on effective corporate taxes. We find that in a majority of the cases, the correlation between tax burden and economic growth is negative. This suggests that low-tax states on average have relatively higher economic growth rates. The exceptions are for tax rates for the two types of manufacturing firms. Here we find that the correlations are not statistically different from zero. In other words, though this is the one area of tax policy in which Missouri is relatively competitive, it is also the only area in which lower taxes are not positively related to higher state growth.

Missouri does not fare too well in comparing its total effective taxes paid by a variety of firms to other states, both nationally and more regionally. Looking at how Missouri ranks in terms of effective taxes—taxes that include the corporate income tax, property tax, sales tax and unemployment insurance tax—imposed on different types of firms, we have found that the high level of effective corporate taxes might

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partially explain why Missouri has experienced such slow economic growth during this century.

1. INTRODUCTION

A recent analysis of state business taxes by the Anderson Economics Group judged Missouri's business-tax burden to be the sixth lowest among the states.[1] According to their calculations, Missouri's business-tax burden is lower than all but one of its neighbors—Oklahoma—and is about three-fourths that of the average state. Using a different methodology, the Tax Foundation also found Missouri's business-tax climate to be among the most business friendly.[2] Their study ranked Missouri's tax climate as the 15th least burdensome to businesses, ahead of all of its neighbors but Tennessee. Given these two rankings, policymakers and others looking for culprits to explain Missouri's recent tepid economic growth might be tempted to check business taxes off the list of suspects.[3] Because of the combination of two factors, however, it's not that simple. These factors are: (1) Missouri imposes significantly different tax burdens across different types of firms; and (2) the types of firms with the lowest tax burdens in Missouri are ones that correlate the weakest with economic growth. Simply put, within Missouri's tax system lie details and distortions that make the state's tax system more harmful to economic growth than is implied by simple overall rankings, such as those discussed above.

To make the details of Missouri's business-tax system more manageable for our analysis, we use a different Tax Foundation report, its 2015 *Location Matters: The State Tax Costs of Doing Business*, to compare total effective tax rates paid by different types of businesses in Missouri to those paid by similar businesses in other states. Most discussions of corporate taxation focus on a fairly simplistic measure of tax burden, such as the corporate income tax rate. The Tax Foundation's analysis allows for a more detailed accounting of the many ways in which state and local tax laws result in very different tax burdens—all taxes paid by the firm—depending on whether a firm is new or old, involved in retail, manufacturing, R&D, etc. Because a state's economic growth rate can depend on the types of businesses it has operating inside its borders, these are important distinctions to make when analyzing the effects of business taxes. In addition to looking at Missouri's ranking among all 50 states, we also examine how corporate taxes in Missouri compare to those in our neighboring states: Arkansas, Illinois, Iowa, Kansas, Kentucky, Nebraska, Oklahoma, and Tennessee.

In the next section we outline the approach used by the Tax Foundation in calculating the total effective tax rates. This is followed by a look at Missouri's total effective tax rates across seven representative firms (as defined by the Tax Foundation—see below) and how they compare with tax rates in other states. We then briefly examine the role that tax rates on each type of firm might play in explaining overall economic growth of the state. We then close with some questions regarding the creation of Missouri's corporate tax code.

2. CALCULATING EFFECTIVE TAX RATES: AN OVERVIEW[4]

It might seem like a fairly straightforward exercise to compare corporate tax rates across states. For example, Missouri's top corporate income tax rate in 2016 was 6.25 percent, which is much lower than Iowa's 12 percent rate (the highest in the country), but much higher than those of Nevada, Ohio, Texas, and Washington, which impose no corporate income tax.[5] One problem with such a rudimentary comparison is that states apply their marginal tax rates to different levels of income. Missouri's 6.25 percent rate—its only rate—applies to all income. So, compared to New Hampshire's 8.50 percent rate or New York's 6.50 percent rate, both of which also are applied to all income, Missouri businesses face a lower corporate income tax. But suppose we want to compare corporate income taxes in Missouri to neighboring Iowa. Missouri is the lower tax state, right? Well, maybe. If you are a small firm in Iowa making less than $25,000, then the effective marginal tax rate is 6.00 percent, less than what a similar firm would face in Missouri. As these examples suggest, comparing marginal corporate income tax rates can result in misleading conclusions.

The Tax Foundation, together with the consulting firm KPMG LLP, developed a unique approach that enables a more-accurate comparison of business tax costs across states. Tax Foundation economists created seven representative firms: a corporate headquarters, an R&D facility, a retail store, a capital-intensive manufacturer, a labor-intensive manufacturer, a call center, and a distribution center. The idea is to see how these specific types of firms are being taxed across states. In creating these "representative" firms, the Tax Foundation's economists used very precise criteria. Their definition of the "typical" retail store gives an idea of the level of specificity used in defining these firms:

> The retail business scenario is an independent clothing store. This store has 25 employees, most of whom are sales employees. Capital investment is estimated at $2 million, and the business leases 10,000 square feet of downtown commercial space. The average revenue is assumed to be approximately $2.9 million with a gross profit ratio of 45 percent and earnings before tax of 9 percent. The equity ratio is assumed to be 100 percent. The apportionment methodology assumes 100 percent of property, payroll, and sales are all in state. (*Location Matters*, p. 109)[6]

While you might argue that the above description is not what *your* typical retail establishment would look like—Why not sporting goods instead of clothing? Why not located in a suburban mall instead of downtown?—the purpose is not to define *the* typical retail establishment, but to create a reasonable likeness that then can be placed in each state to assess its tax bill. Different types of retail establishments will face different taxes. But to make the exercise manageable and the results comparable, such assumptions are necessary.[7]

Using the Tax Foundation's definitions of the seven firm types, tax specialists at KPMG LLP calculated what each would pay in state and local taxes if it were located in each of the 50 states. A representative firm's effective tax bill thus consists of more than just corporate income taxes; it also includes property taxes, sales taxes, and unemployment insurance taxes. In this way the *total* effective tax burden is more representative of what a firm actually pays in taxes than a simple comparison of its corporate income tax paid might suggest.

Locating the businesses was done by placing them in two types of cities: A "Tier 1" city is a major city, such as Saint Louis; a "Tier 2" city is one with a population below 500,000. A Tier 1 and a Tier 2 city was identified for each state: Missouri's were Saint Louis and Joplin, respectively.[8] As a further constraint, the study assumed that the corporate headquarters, R&D centers, and retail stores all are located only in Tier 1 cities. The two types of manufacturing firms, the call center, and the distribution center were assumed to be located only in Tier 2 cities. This distribution of firms means that the calculated taxes reflect not only state taxes but also taxes at the local level.[9]

Finally, the study compares the typical firm's effective tax bill under two scenarios. Taxes are measured for a "mature" firm—defined as one in operation for more than 10 years—and for a "new" firm—defined as operating for 10 years or less. Together with the constraints laid out above, this additional refinement allows the study to produce an "apples-to-apples comparison of corporate taxes in the 50 states" (p. 1) that accounts for types of firms, whether they are new or mature, and the totality of taxes paid—state and local, income and other. Using this information we'll try first to address the question: "Is Missouri a low (business) tax state?"

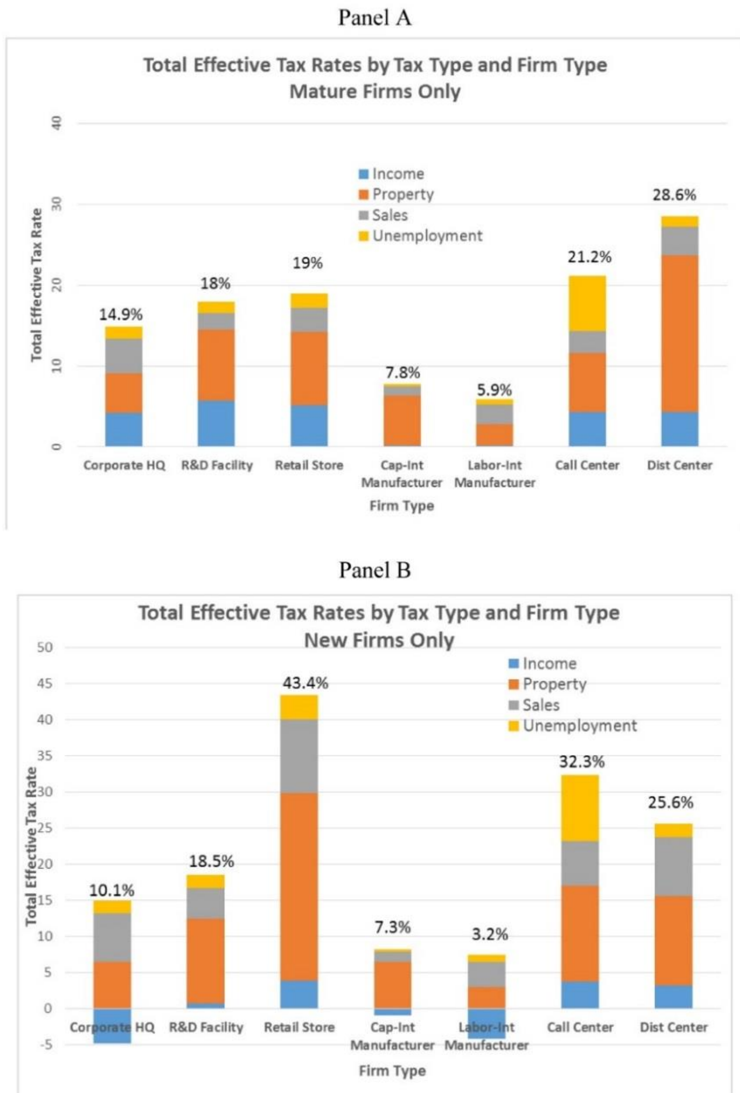
3. HOW TAXES ARE SPREAD ACROSS MISSOURI FIRMS

Figure 1 shows the effective tax rates faced by the seven typical firms used in the Tax Foundation's analysis. The height of each bar is the total effective tax rate paid by that typical firm; it is the sum of the four taxes used in the KPMG calculations. To compare firms properly, the top panel of Figure 1 shows the effective tax rates for mature firms in each of the firm categories, and the bottom panel shows the effective rates for new firms.

Let's first consider the mature corporate headquarters located in Missouri. This firm faces a total effective tax rate of 14.9 percent. This total tax rate consists of a 4.2 percent income tax rate, a 4.8 percent property tax rate, a 4.2 sales tax rate, and a 1.7 unemployment insurance tax rate. Note that the "effective" corporate tax rate—the rate actually paid—is less than the "headline" corporate tax rate of 6.5 percent. This is because the 6.5 percent rate is only on corporate income, and many firms, just like individuals, enjoy tax breaks that reduce the overall rate paid against income. The sales tax rate for this firm is higher than Missouri's state tax rate is 4.23 percent because the corporate headquarters is presumed to be located in a big city (in this case, Saint Louis) which has local sales taxes imposed on top of state sales taxes.

Looking across the different types of firms in Panel A of Figure 1, the effective tax rates differ greatly depending on the type of firm you are. The highest effective tax rate, 28.6 percent, is paid is by the distribution center, with the call center coming in second at 21.1 percent. The bulk of the effective tax rate paid by the distribution center comes from the 19.4 percent property tax rate that it faces, the highest property tax rate across all seven firms. Given that its income

Figure 1
Total Effective Tax Rates on Missouri Firms



Notes: The total effective tax rate is shown above each column. The rate listed is the sum of the rates of income tax, property tax, sales tax, and the unemployment insurance tax.

tax rate of slightly below 5 percent differs little from what the other firms pay, and that property taxes are imposed by local jurisdictions, it's clear that an analysis of the effects of taxes on location decisions should not focus solely on state-level tax rates as determinants of firm location decisions.

At the other extreme in Panel A, the lowest effective tax rates are for the capital-intensive and labor-intensive manufacturing firms: 7.8 percent and 5.9 percent, respectively. Why the comparatively low tax rates? The obvious answer from Figure 1 is that their corporate income tax rates are effectively zero. But there are other reasons too. As noted in the Tax Foundation study, "These firm types benefit from low income tax burdens—driven by the fact that firms have the option of using an evenly factored apportionment formula or a single sales factor formula—and extremely generous incentives, namely the property tax abatement and jobs tax credits." (p. 48). For example, Missouri tax law exempts manufacturing machinery from the sales tax. This special exemption lowers the effective tax costs for manufacturing firms, a benefit not enjoyed by other types of firms. Tax policies have been structured to lend economic support to these types of firms in order to make Missouri a relatively more attractive place to locate a production facility. The question is whether such policies, which have made Missouri one of the lowest-tax states for manufacturers, have improved the performance of the overall economy, an issue we investigate below.

Turning to the "new firm" results in Panel B of Figure 1, there are several notable differences in how mature and new firms are taxed. One is that new businesses pay dramatically higher effective tax rates in two areas: retail store (43.4 vs. 19) and call center (32.3 vs. 21.2). The second observation is that the relative ranking in terms of tax burdens across new firms changes. Among mature firms, for example, the distribution center paid the highest effective tax. But among new firms, the retail store, with a total effective tax rate of 43.4 percent, has that distinction. Again, the internal distribution of taxes (e.g., income vs. property vs. sales) sheds light on why different types of firms face quite varied tax burdens. Even though the effective income tax rate paid by the retail store is in line with those of other new businesses, the retail store pays a whopping 26 percent rate in property taxes, far higher than any of the other businesses, new or old.

We should also note that, unlike mature firms, some types of new firms enjoy a negative income tax rate. (In Figure 1 negative tax rates appear as that part of the bar that lies below zero.) This occurs for new corporate headquarters, new capital-intensive manufacturers, and new labor-intensive manufacturers: –4.8 percent, –0.9 percent, and –4.2 percent, respectively. How do these entities avoid paying income taxes when other firms, such as new retail stores, face an income tax rate of 3.9 percent? Because some states and localities use various types of tax credits, such as investment tax credits as in Florida or R&D tax credits in New Mexico, to lower the overall tax burdens faced by firms. When these tax breaks are large enough, they yield a negative income tax burden or even a negative overall tax burden. "The costs of such generosity," notes the report, "are, of course, borne by mature firms." (p.21)

Finally, what does a tax advantage that benefits one firm at the expense of another look like? Consider the *Report's* illustration using Missouri's sales tax and so-called throwback rule as examples:

> *Missouri offers firms the option of using three-factor or single factor sales apportionment; the latter generally favors firms basing their operations in state, while the former works to the advantage of the corporate headquarters and companies based elsewhere but wishing to do business in Missouri. The state does, however, impose a throwback rule which subjects to Missouri taxes all income earned in another state and not taxed by that state. This eliminates the advantage of single sales factor apportionment for the distribution center, call center, and research and development (R&D) facility. (p.48)*

This quote in part addresses an issue that is popular in arguments over tax reform: Missouri (like most other states) has a complicated set of tax rules by which firms face or do not face certain taxes, such as sales taxes. Such arcane complexity in the tax code often is driven by policymakers' desire to attract a "certain kind of firm" to Missouri, or by a legislative attempt to keep existing firms from migrating to relatively more attractive business environments. But history tells us that such attempts at using tax incentives to lure what at the time appear to be sure economic winners often fail.[10]

4. WHERE DOES MISSOURI RANK?

The previous section makes it clear that Missouri firms face very different tax burdens depending on the type of firm type and its age. And, to be sure, such complexity is not unique to Missouri. So, given this patchwork of corporate taxes across states, how do Missouri's effective tax rates on businesses match up to those in other states? The question is important, because any business owner making a location decision will take into account the tax climate across competing locations. Therefore, where Missouri's taxes rank could, in part, explain its relative ability to attract and keep businesses, and the pace at which Missouri firms start or expand. We will make two comparisons: Missouri relative to the other 49 states, and Missouri relative to its immediate neighbors.

Table 1 reports how Missouri's corporate taxes rank relative to all other states. Looking down the column for mature firms, one is struck by the fact that Missouri's tax code places its businesses at a competitive disadvantage for most of the firm types considered. In five out of the seven categories, Missouri's tax rates place it in 31st place or worse. What really stands out is that the tax rates paid by the mature R&D facility in Missouri are the 2nd-most onerous in the nation. This poor ranking derives from the fact that this type of firm in Missouri faces the 7th-highest property tax burdens, the 10th-highest corporate income tax rate, and sales and unemployment insurance tax rates that higher than the national averages.

Missouri's tax policies are more welcoming to manufacturers. The effective tax rate facing a mature, capital-intensive manufacturer in Missouri is less burdensome than in 38 other states. The story is even better if you are a labor-intensive

Table 1
Total Effective Corporate Taxes: Where Missouri's Firms Rank among All States

	Rank	
Firm Type	Mature	New
Corp. Headquarters	34	13
R&D Facility	49	44
Retail Store	38	47
Capital-Intensive Manufacturer	12	21
Labor-Intensive Manufacturer	6	5
Call Center	31	42
Distribution Center	31	15

manufacturer: The combination of taxes in Missouri places it sixth among all states. "These firm types," notes the Tax Foundation's analysis of Missouri, "benefit from low income tax burdens…and extremely generous incentives, namely the property tax abatement and jobs tax credits." (p. 48).

When we compare rankings by mature and new firms, there are significant differences. Tax burdens facing new corporate headquarters and distribution centers are much lower in Missouri than those paid by their mature counterparts. The ranking for a new corporate headquarters is 13th, and new distribution centers rank 15th. It is unfortunate but worth noting that relative to their mature counterparts, the effective tax burden for a new firm is significantly worse for a retail store, a capital-intensive manufacturer, and a call center. In fact, new R&D facilities, retail stores, and distribution centers locating in Missouri face some of the harshest tax burdens in the country.

Table 1 illustrates that for nine of out of 14 rankings, Missouri falls in the lower half (meaning higher tax burdens). Does Missouri fare any better when compared to its biggest competition, the eight states that border Missouri? To answer that, Table 2 reports each state's effective corporate tax rate by type and age of firm. This table is very useful for comparing tax rates across states. To assist in the comparison, the bottom row of the table lists the average tax rates across the other eight states. And to make comparisons easier, we have highlighted in red those Missouri taxes that are higher than the average of the other eight states, and we have highlighted in green those taxes that are below the neighbors' average.

Looking across the row of taxes for Missouri, unfortunately most are in red. This indicates that Missouri's effective corporate tax rates are higher compared with the average neighboring state in 10 of the possible 14 categories. Admittedly, sometimes Missouri's effective tax rate is only slightly higher than the average, as is the case with the tax burden for corporate headquarters, both new and old. In a number of instances, however, Missouri's tax rate exceeds the average by a wide margin. Note that the eight-state average rate for a mature R&D facility is only about two-thirds that of Missouri. For a new R&D facility the Missouri tax is even more onerous, more than double the eight-state average. Similarly, a new call center in Missouri faces a tax burden that is nearly double the surrounding-state average. And for a new retail stores it's more than a third higher. The fact that the effective tax burden is so much higher for these types of firms must, all else the same, put Missouri at a competitive disadvantage when it comes to attracting new businesses.[11]

Table 2
Total Effective Corporate Taxes: Missouri and Its Neighbors

							Capital-Intensive		Labor-Intensive		Call		Distribution	
	Corp Headquarters		R&D Facility		Retail Store		Manufacturer		Manufacturer		Center		Center	
State	Mature	New	Mature	New	Mature	New	Mature	New	Mature	New	Mature	New	Mature	New
Arkansas	13.6	8.9	14.1	8.1	15.1	32.2	16.2	8.6	12.5	7.3	20.3	10.9	22.9	27.9
Illinois	18.3	14.3	14.5	17	19.7	33.1	14.2	6.5	14.4	10	26.9	29.3	36	25.5
Iowa	20.4	20.8	8.2	10.7	21.8	35	3.9	4.5	7.1	9.6	18.8	27.1	38.1	41.6
Kansas	13.7	5	16.9	8.9	17.6	29.9	11.3	1.8	12.6	3.5	23.8	31.9	38.6	50.6
Kentucky	11.2	7.1	13.3	7.5	13.8	24.5	10.3	9.8	8	6.5	17.6	3.2	22.7	24.7
Missouri	14.9	10.1	17.9	18.4	19.3	43.1	7.8	7.4	5.8	3.3	21.1	32.3	28.6	25.6
Nebraska	14.5	-0.8	-2.3	-7.4	15.1	31.8	7.5	2	5.5	1.6	12.5	2.9	23.9	29
Oklahoma	11.5	6.4	11.8	7.4	14.6	31.1	11.3	4.8	10	3.5	16.6	4	19.1	24.6
Tennessee	14.5	17.8	14.1	16.8	16.1	33.7	11.1	8.8	10.2	11.3	19.2	25.5	27.1	27
Missouri's Rank	6	6	9	9	7	9	3	6	2	2	7	9	6	4
Average	14.7	9.9	11.3	8.6	16.7	31.4	10.7	5.8	10	6.7	19.4	16.8	28.5	31.4

Note: Each cell in the table is that state's total effective tax rate for that type of firm and age. Red entries for Missouri indicate values that are greater than the average of the other eight states, which is shown in the final row. Green entries for Missouri indicate values that are lower than the average of the other eight states. "Missouri's Rank" denotes where total effective tax rate ranks among the nine states shown.

As mentioned earlier, Missouri's tax system is relatively less burdensome in one area: manufacturing. For a new, labor-intensive manufacturing facility, Missouri's effective tax rate of 3.3 percent is less than half the eight-state average of 6.7 percent. For the mature labor-intensive manufacturer, the state rate is about two-thirds of the average. The mature capital-intensive manufacturer and a new distribution center also enjoy relatively lower taxes compared to the average.

In the penultimate row of Table 2 we list Missouri's rank amongst the neighboring states, based on a worst-to-best ordering. As you might suspect from the preceding discussion, Missouri's current corporate tax structure places it in the lower half all too frequently. Missouri ranks in the lower half (sixth or worst) in 10 out of 14 instances. And while it ranks 6th in four out of those 10 ten cases, it is dead last in another four instances. In fact, based on national rankings, the tax burden on R&D facilities in Missouri, both new and old, is the most oppressive compared to any of its neighboring states. These rankings are just another indicator of Missouri's lack of competitiveness when it comes to how it taxes businesses.

5. TAXES AND ECONOMIC GROWTH: WHY WORRY?

We thus far have focused on how Missouri fares in a comparison of its corporate tax structure to that of other states, and it is not pretty: Except for two firm types—capital-intensive manufacturing and labor-intensive manufacturing—Missouri does not rank very well. We should be concerned with this fact because economic theory is pretty clear in showing that because taxes affect the economy's ability to produce goods and services, higher taxes tend to retard economic activity. On the other hand, it has not always been easy to find conclusive evidence that taxes at the state level have had the negative effects on growth.[12] We think that one reason for these difficulties is that studies usually look at broad measures of tax policy, such as marginal corporate tax rates or tax revenue as a percentage of total state income. As the Tax Foundation's work has shown, however, it can be very misleading to make such simplistic comparisons across states, or even across types of firms within a single state. So, using the Tax Foundation's effective corporate tax rates instead of the broad tax measures usually used, we attempt to shed some light on the question of whether higher corporate taxes are associated with slower economic growth?

To do so, we first calculated the average annual growth rate of state-level real GDP from 2000 through 2015. We chose this (admittedly ad hoc) time frame because it includes years before, during, and after the Great Recession of 2007 to 2009, so we are not limiting our analysis to periods of growth, stagnation, or the uneven economic rebound during the past few years. In addition, 15 years seems sufficiently long to avoid any short-term wobbles in the state data while also being relatively timely with respect to the tax rates used in the Tax Foundation's analysis. We ranked the states' average annual output growth rates from the lowest (Michigan at 0.0 percent) to the highest (North Dakota at 5.5 percent). Missouri's average annual growth rate of 0.7 percent over this period places it 47th in the country.

Table 3 reports the correlations between rankings on corporate taxes and rankings on real GDP growth. Because the underlying rankings of growth rates and of tax rates are from lowest to highest, a negative correlation would indicate that high taxes mean low growth.

Table 3
Correlations Between Tax and Real GDP Growth Rate Rankings

Firm Type	Mature	New
Corporate Headquarters	–0.412** (3.13)	0.020 (0.14)
R&D Facility	–0.407** (3.08)	–0.069 (0.48)
Retail Store	–0.505** (4.05)	–0.368** (2.74)
Capital-Intensive Manufacturer	–0.039 (0.26)	0.271* (1.95)
Labor-Intensive Manufacturer	–0.084 (0.56)	0.365** (2.71)
Call Center	–0.316* (2.31)	–0.058 (0.40)
Distribution Center	–0.431** (3.30)	–0.142 (1.00)

Notes: Rankings based on low to high values for real GDP growth and corporate taxes. Correlations used are Spearman Rank Correlations. A negative sign indicates that high-tax states tend to be low-growth states. Figures in parentheses are absolute values of t-statistics. Correlations significantly different from zero at the 1 and 5 percent levels are designated by ** and *, respectively.

The correlations for the seven types of mature firms are found in the second column of Table 3. In five of the seven cases the correlation coefficient is negative and statistically different from zero. This suggests that low-tax states on average have relatively higher economic growth rates. The two exceptions are for tax rates for the two types of manufacturing firms. Here we find that even though the correlation is negative, the correlations are not statistically different from zero. Note that, as summarized in a previous section, while this is the one area of tax policy in which Missouri seems to be competitive, it is also the only area in which lower taxes are not related to higher state growth.

When we look at the correlations between growth and tax rates faced by new firms, a different picture emerges. As shown in in the third column of Table 3, there are four instances where there is no discernible relation between taxes faced by new firms and overall state economic growth; the correlation coefficients are not different from zero. In the case of retail, we once again find that high-tax states tend to low-growth states.

What stands out are the positive and statistically significant correlations between state growth and taxes on the two types of manufacturing firms. Contrary to the results for mature firms, these correlations suggest that states with higher corporate taxes on new manufacturing firms also are states where real GDP growth has grown at a faster rate. These counterintuitive results might be an artifact of fact that, like Missouri, many states provide generous breaks to new manufacturing firms. This is likely because the states providing the largest breaks are ones facing natural disadvantages when it comes to manufacturing.

Because there seems to be a relationship between taxes and economic growth, it's also worth exploring how similar states were in terms of their tax treatments of new and mature firms. Do states with relatively low corporate taxes on mature firms also impose similarly low rates on new firms? Based on the correlations in Table 4, the answer is yes. The uniformly positive and statistically significant correlations indicate that states where mature firms face relatively high effective taxes are also states that impose relatively high taxes on new firms. While this is true as a general statement, the differences in the correlation coefficients across firm types—ranging from just over 0.3 to just under 0.7—suggest a good deal of variation across states in how they treat new and mature firms.

Table 4
Are High Mature-Tax States Also High New-Tax States?

Firm Type	Correlation
Corporate Headquarters	0.492** (3.91)
R&D Facility	0.472** (3.72)
Retail Store	0.696** (6.71)
Capital-Intensive Manufacturer	0.315* (2.30)
Labor-Intensive Manufacturer	0.326* (2.39)
Call Center	0.644** (5.83)
Distribution Center	0.665** (6.17)

Notes: Rankings based on low to high values for corporate taxes by age of firm. Correlations used are Spearman Rank Correlations. Figures in parentheses are absolute values of t-statistics. Correlations significantly different from zero at the 1 and 5 percent levels are designated by ** and *, respectively. A positive sign indicates that states that with higher taxes on mature firms also tend to have higher taxes on new firms.

6. WHAT CONCLUSIONS CAN WE DRAW?

Comparing corporate tax rates across different states and types of firms may seem simple at first glance, but in reality it is quite complicated. Using results from a recent Tax Foundation study, part of the complication arises in defining just what one means by "corporate tax." As we have shown, it is much more than simply the published corporate income tax, but must include other taxes, such as property taxes and sales taxes. When comparing Missouri to other states, we must take into account the total tax burden corporations face.

Missouri does not fare too well in comparing its total effective taxes paid by a variety of firms to other states, both nationally and more regionally. Looking at how Missouri ranks in terms of effective taxes—taxes that include the corporate income tax, property tax, sales tax and unemployment insurance tax—imposed on different types of firms, we have found that the high level of effective corporate taxes might partially explain why Missouri has experienced such slow economic growth during this century. Our analysis also suggests several lines of inquiry that are needed to understand how Missouri's business-tax structure got to this point, and how it might move away from it. A few examples:

- Why isn't the total effective tax rate same across all firm types? An obvious answer is that different firms have different "footprints": Property taxes paid by a large distribution center will be more than those paid by smaller retail operations. But while this might explain total taxes paid, it does not explain why the tax rates are different. Thus the question of why different types of firms pay different effective tax rates still stands.
- Even within a specific category of tax type (e.g., corporate income taxes), why are different types of firms taxed differently? What was—is—the rationale for making it different?
- Who decides which type of firm gets what rate? That is, how is it that one firm or industry gets a lesser tax rate—a tax incentive—while others do not? While "job creation" is often used as a rationale for awarding incentives, the evidence suggests that governments are not especially good at picking winners when it comes to which businesses to subsidize.[13]
- Finally, what would the best tax structure look like? Most conomists would agree that a good tax structure has three "pillars": It should be broad based, it should have low rates, and it should not be complicated.[14] Given our glimpse of the taxes faced by Missouri's businesses, it does not look like it scores very high points on any one of these.

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NOTES

[1] This ranking is from Anderson Economics Group's 2017 State Business Tax Burden Rankings, which calculates total state and local taxes as a percentage of pre-tax operating margin.

[2] See the Tax Foundation's 2017 Business Tax Climate Index, which calculates its index with a weighted average of scores on a variety of tax types.

[3] Missouri's average annual growth between 2000 and 2015 ranks it 47th worse in the country.

[4] From this point on, we will use "effective tax rate" instead of the more cumbersome phrase "total effective tax rate."

[5] The devil is in the tax details: These states do levy a gross receipts tax on business. Only South Dakota and Wyoming have no corporate income tax or gross receipts tax.

[6] A complete description of the other firm types is provided in Appendix D (pp. 108–110) of Location Matters.

[7] In an earlier study, a "typical" family of four was created to compare state personal income tax burdens across states. Even though some disagreed with our definition of the average family, the definition used provided a constant basis with which very different tax structures could be compared. See Hafer, R. W., and Rathbone, Michael. (2015). Comparing Income Tax Liability Across States: Where Does Missouri Rank? Show-Me Institute.

[8] A complete listing of the Tier 1 and Tier 2 cities for each state is found in Appendix D (p.110) of Location Matters.

[9] Note that tax rates used in the calculations were those in place as of April 30, 2014.

[10] Two relevant discussions: Haslag, Joseph. (2008). Bombardier: A Postmortem. Show-Me Institute, and Haslag, Joseph. (2014). Justifying Boeing: A Post-Mortem Analysis on the Process. Show-Me Institute. In both instances, Bombardier in 2008 and Boeing in 2013, companies tried to extract tax incentives from the Missouri government in exchange for keeping or relocating manufacturing facilities in the state. In the end, Bombardier got a sweeter deal and moved its facility to Quebec, and Boeing remained in Washington State. It is worth noting that by 2015 Bombardier had fallen on hard times and was seeking additional funding from the Canadian government. See Patrick Ishmael. (2015). Missouri Dodges a Bullet: Bombardier Seeks Billion Dollar Rescue in Canada. Show-Me Institute.

[11] This could explain the fact that new business formation in Missouri is not very robust. On this see Hafer, R.W. and Sullivan, Andrew. (2105). Entrepreneurship in Missouri. Show-Me Institute. See also Haslag, Joseph. (2017). Births, deaths, and Economic Growth: How Important is Churn for State Growth? Show-Me Institute.

[12] One recent example is a paper by Gale, William, Krupkin, Aaron, and Rueben, Kim. (2015). The Relationship Between Taxes and Growth at the State Level: New Evidence. National Tax Journal, 68(4), 919–942.

[13] For example, see the literature on state tax credits, which is summarized by Wall, Howard J. (2014). Tax Credits as a Tool of State Economic Development Policy. Show Me Institute.

[14] An illustrative discussion of this topic is Haslag, Joseph, and Albers, Haleigh. (2013). What Makes a Good Tax Structure? Show-Me Institute.