



Comparing Taxes in Missouri and Surrounding States

Judith Stallmann, Andrew Wesemann and David Valentine



Dr. Judith Stallmann is a Professor of Agricultural and Applied Economics, Rural Sociology and Public Affairs Community Development Extension Specialist at the University of Missouri



Andrew Wesemann is a Doctoral Candidate, Truman School of Public Affairs, University of Missouri



Dr. David Valentine is a Senior Research Fellow in the Institute of Public Policy, Truman School of Public Affairs, University of Missouri

Talking Points

- Taxes paid are a combination of the tax rate and the tax base. Comparing just tax rates, as is commonly done, ignores important differences in tax bases that affect the total taxes paid.
- This report uses effective tax rates to adjust for differences in bases. Several methods that are used to calculate effective tax rates are reviewed: hypothetical firm analysis (Tables 1, 2 and 3), business taxes as a percentage of private gross state product (Graph 1), taxes per capita and taxes per \$1000 of personal income (Table 4).
- This paper compares Missouri and its neighbors. On the measures of effective tax rates reviewed, Missouri ranks as a middle or low tax state in comparison with its neighbors (Table 5).
- Taxes are but one of many factors, such as labor and other input costs, that enter into a firm's decision making. In addition, the use of tax revenues to fund infrastructure, public safety and education are examples of expenditures that firms rely on to lower their costs.

Introduction

States and communities have pursued economic development strategies for over 30 years but little is known about the overall effectiveness of those strategies. All states are concerned with jobs and economic development, particularly in times of economic downturn, and overall taxes are frequently a part of the discussion of strategies to improve a state's competitive position. Several states reduced individual income tax rates in the early 2000s to spur spending and economic growth, and both Kansas and Nebraska did the same in 2012. Kansas reduced its individual tax rates and cut non-wage income taxes for some corporations—mainly small businesses—explicitly to spur economic development in the state and cut the size of government (Peters, 2012). Although the impact of these changes on the Kansas economy, and on the ability of the state to fund state

programs is unclear, Kansas' action has triggered a discussion about taxes and economic development in Missouri and other states bordering Kansas.

This brief summarizes studies of several measures of taxation in Missouri and the eight surrounding states under the assumption that multiple measures will provide more reliable indicators of a state's overall tax policy. However, numerous other factors influence a state's economic growth and therefore studies that rely solely on taxes provide an incomplete portrayal of state conditions.

A Word on Methodology

This report summarizes existing analyses and data sources that use a variety of measures to present cross-state comparisons. Those involved in economic development policy typically use just one measure, the one that is the most advantageous to their position, to demonstrate the value of, or detrimental effects of proposed economic development strategies. There is significant variability in the measures used and any single measure in isolation can produce misleading conclusions about a state's taxes. To compensate for this problem, we rank the states using multiple measures. We can gain confidence in the results when these measures are reasonably consistent for states used in the comparison.

Before proceeding, however, it is important to note that cross-state comparisons of taxes are fraught with difficulty. For example, discussions of taxes often begin with a discussion of tax rates but taxes paid are a combination of the tax rates and the tax base. The tax base defines what is taxed and the tax rate defines by how much the base is taxed. Often there are exemptions from a base and those exemptions, which vary by state, affect the size of the base and the actual taxes paid. Given these issues, one common alternative is to calculate an effective tax rate. This begins by taking the broadest definition of the base that is used and comparing all other bases to it. For example, a corporation without any tax incentives has a broader base than a firm with incentives. Though each may pay the same official tax rate the first firm has a higher effective rate than the latter because it has a larger base.

We review several recent studies which use the most common methods of estimating effective tax rates. We first examine effective tax rates drawing on hypothetical firm analyses, a tool used by economists to simplify and standardize cross-state comparisons. These comparisons enable us to estimate the level of taxation on businesses, including mature and new firms, and rank each of the nine states on each measure. We also examine business taxes as a percentage of private gross state product. Finally, we examine per capita taxes and taxes per \$1,000 of personal income as measures of tax policy in the states. We use these measures to rank the nine states considered in this analysis. We recognize that taxes are only a part of the economic development picture. We return to this point in the conclusion.

Assessing Effective Tax Rates Using a Hypothetical Firm Analysis

One method to compare effective tax rates across states is to construct a hypothetical or representative firm and apply the existing tax laws of each state to the firm and compare the calculated tax rate or the after-tax rate of return. As the term "hypothetical" indicates, the firm is simplified to its most important aspects, rather than using all of its details. In addition, state tax systems are simplified, usually by focusing on the major taxes paid by the majority of firms.

Two recent national studies use this approach, describing representative firms in several sectors and then applying the tax laws of the state. The first was conducted by Ernst & Young (2011) and the second was produced by the Tax Foundation (2012). Each study has its own focus and its own set of assumptions (see Appendix A for a comparison of the assumptions). It should be pointed out that these studies are representative only of the types of firms included and not business taxes for the entire state.

Ernst & Young (2011) focuses on investment by new firms and calculates the 30-year average effective tax rate for that firm beginning with tax year 2009. Five types of firms were selected specifically because of their mobility—headquarters, research and development, office and career center, and both durable and non-durable manufacturing. The financial characteristics of each type of firm were held constant across states to isolate the effect of taxes. The taxes included were corporate income, franchise and gross receipts taxes; sales and use taxes on business purchases; and property taxes (see Appendix A for more detail). The Ernst & Young effective tax rates for Missouri and the surrounding states are presented in Table 1. Using the Ernst & Young measure, Illinois, Iowa and Kentucky have the lowest effective tax rates, Nebraska, Tennessee and Kansas have the highest, and Missouri falls in the middle third.

TABLE 1: ERNST AND YOUNG OVERALL EFFECTIVE TAX RATES FOR A 30-YEAR INVESTMENT BEGINNING IN 2009 FOR HYPOTHETICAL FIRMS^{1*}

(Weighted by capital investment)

State	Effective Tax Rate	State Rank
Arkansas	8.9%	6
Illinois	4.6%	1
Iowa	6.4%	2
Kansas	11.2%	9
Kentucky	6.5%	3
Missouri	7.1%	4
Nebraska	9.4%	7
Oklahoma	8.8%	5
Tennessee	10.3%	8

*1 is the lowest rank and indicates the lowest tax level.

Source: Ernst & Young (2011), Table 2, p. 9.

Based on tax law as of April, 2011, the Tax Foundation (2012) conducted a hypothetical firm analysis for seven types of mobile firms—corporate headquarters, research and development center, capital-intensive manufacturing, labor-intensive manufacturing, call center, distribution center, and retail store. The firms were divided into categories based on the likelihood that they would locate in a large city (corporate headquarters, call center and retail store) or mid-sized city (the other types of firms), because these factors affect their local taxes. For Missouri the major city is St. Louis and the mid-sized city is Joplin. As with the Ernst & Young (2011) study, all firms are corporations, that is, they are taxpaying rather than tax pass-through entities.

¹ Data on Kansas taxes presented throughout this report do not reflect the 2012 tax changes.

The effective tax rate is based on corporate income, capital stock, unemployment, sales, property, gross receipts and inventory taxes. Effective rates are calculated for mature firms (10 years or older) and new firms (3 years or less) since new firms may be able to take advantage of tax incentives—new job credits and new hire withholding rebates, investment tax credits, R&D credits, property tax abatements, exemptions for sales taxes on equipment, depreciation of buildings and personal property (Tax Foundation, 2012). The national average tax is given a score of 100 and the score for each state is their percentage relative to the national average.

TABLE 2: TAX FOUNDATION STATE TAX INDEX FOR 2011: OVERALL EFFECTIVE TAX RATE AS A PERCENTAGE OF THE NATIONAL AVERAGE TAX RATE*

State	Mature Firm Index	Mature Firm Rank	New Firm Index	New Firm Rank
Arkansas	102.8	5	69.6	4
Illinois	126.4	8	94.2	5
Iowa	116.5	7	126.8	8
Kansas	133.5	9	141.6	9
Kentucky	88.4	3	69.4	3
Missouri	108.8	6	97.0	6
Nebraska	82.5	1	31.7	1
Oklahoma	87.1	2	65.3	2
Tennessee	101.3	4	108.7	7

*Lowest rank indicates lowest tax index score; 1=lowest taxes.

Source: Tax Foundation (2012), Table 7, p. 14.

Table 2 indicates how each of the nine states' effective tax rates affect mature and new hypothetical firms and compares those rates to the national average. Only Nebraska, Oklahoma and Kentucky have overall tax rates that are lower than the national average for mature firms while six of the nine states, including Missouri, tax mature firms at a higher rate than the national average. Alternatively, six of the states have tax rates for new firms that are lower than the national average. Iowa, Kansas and Tennessee have tax rates for new firms higher than the national average. The mature and new firm rankings for seven of the nine states, including Missouri, are similar across both measures.

TABLE 3: RANKINGS FROM THE HYPOTHETICAL FIRM ANALYSES*

State	Ernst & Young Rank	Tax Foundation Mature Firm Rank	Tax Foundation New Firm Rank
Arkansas	6	5	4
Illinois	1	8	5
Iowa	2	7	8
Kansas	9	9	9
Kentucky	3	3	3
Missouri	4	6	6
Nebraska	7	1	1
Oklahoma	5	2	2
Tennessee	8	4	7

*1 is the lowest rank and indicates the lowest effective tax rate (Ernst & Young) and the lowest tax index score (Tax Foundation).

Source: Ernst & Young (2011), Table 2, p. 9; Tax Foundation (2012), Table 7, p. 14.

Table 3 presents the state rankings from the two hypothetical firm studies to demonstrate the range of results for each of the nine states. Some states have relatively little variation across the three measures, including Arkansas, Kansas, Kentucky, and Missouri. Most of these states, including Missouri, have fairly consistent “middling” rankings. Only Kentucky and Kansas have the same rank on all three measures. Kentucky ranks third lowest and Kansas ranks highest.

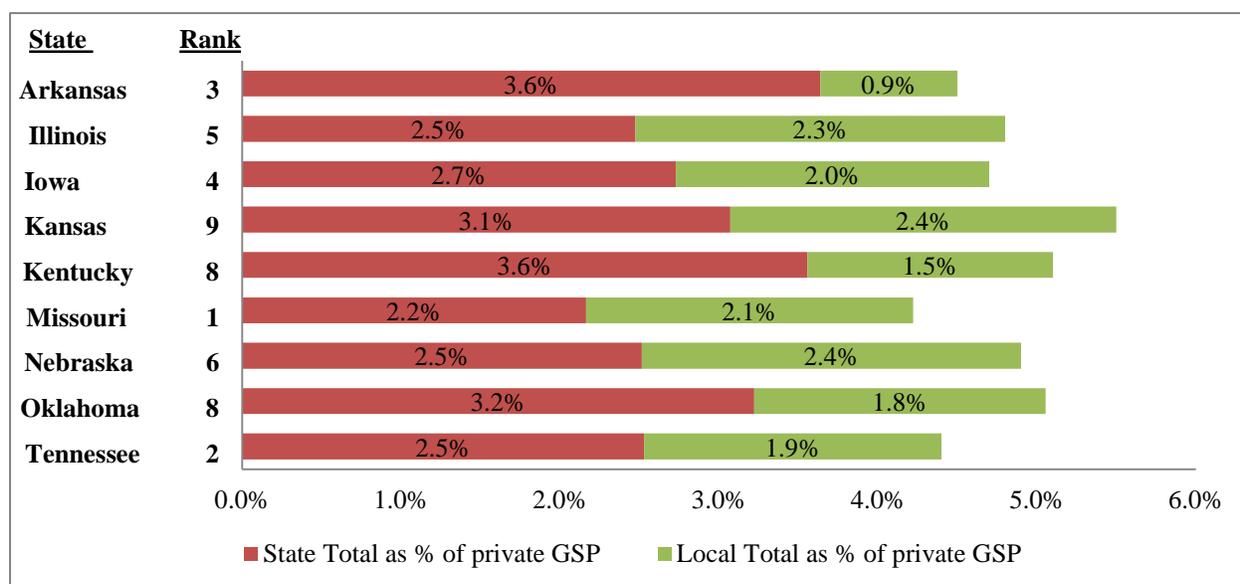
Now consider the states where the variation is wider, such as Illinois, Iowa and Nebraska. Here, the conclusions that one might draw depend upon which study is examined. Put differently, states may appear more or less attractive to firms in terms of effective tax rates that are produced by the hypothetical firm calculations. Consequently, it is important to proceed with caution when making conclusions regarding state effective tax rates because each study makes different assumptions about the firm and the state (see Appendix A). In these hypothetical firm studies, as in all economic development studies, the assumptions can critically influence the findings. For example, effective tax rates are likely higher in the Tax Foundation study because it includes sales taxes charged to consumers. It should also be noted that the analysis applies only to the types of firms studied and, in the case of Tax Foundation study, to the particular cities chosen within each state.

Business Taxes as a Percentage of Private Gross State Product

An alternative to calculating effective tax rates through hypothetical firm analyses is to use business taxes as a percentage of value added by firms in the state, the private gross state product. Ernst & Young (2012) use this approach to calculate an average tax rate per dollar of value added in each state. The taxes include “business property taxes, sales and excise taxes paid by businesses on their input purchases, gross receipts taxes, corporate income and franchise taxes, business and corporate license taxes, unemployment insurance taxes, individual income taxes paid by owners of non-corporate (pass-through) businesses, and other state and local taxes that are the statutory liability of business taxpayers (Ernst & Young, 2012, p.1).” This is a broader range of taxes than what is included in the hypothetical firm studies above. The Ernst & Young study does not take tax shifting to another state into account; however, except for the case

of severance taxes and tourism taxes, there is no reason to think that firms in one state can shift taxes more than firms in another state. State and local taxes as a percentage of private gross state product are presented in Graph 1. For all of the states, local taxes are a lower percentage than state taxes. For Missouri, the state with the lowest taxes as a percentage of private gross state product, the two taxes are nearly the same percentage.

GRAPH 1: STATE AND LOCAL BUSINESS TAXES AS A PERCENTAGE OF PRIVATE GROSS STATE PRODUCT, 2011*



*Private gross state product is the total value of annual production of goods and services within the state by the private sector (i.e. nongovernmental, business entities) (Ernst & Young, 2012, p. 10).

Source: Ernst & Young 2012, Table 4, p.11.

Taxes Per Capita and Per \$1,000 of Personal Income

Researchers have also looked for easier ways to calculate tax comparisons, such as taxes per capita, and taxes per \$1,000 of personal income (or as a percentage of personal income). These calculations include all taxes in the state, not just business taxes. These are used for several reasons: 1) data on tax revenues, population and personal income are readily available by state; 2) all taxes at some point are paid by individuals (even the corporate income tax is passed to individuals in the form of lower dividends and/or higher prices because taxes are a cost to the firm); and 3) because all taxes are included, no assumptions are required to allocate how much of a tax (such as the property tax) is paid by businesses versus individuals. While the effective tax rate will differ from the previous calculations there is no a-priori reason to think that rankings will be affected in one direction or another.

TABLE 4: STATE AND LOCAL TAX REVENUE PER CAPITA AND AS A PERCENTAGE OF PERSONAL INCOME*

State	Per Capita State & Local Tax Revenue, 2009	State Rank	State & Local Tax Revenue as a Percentage of Personal Income, 2009	State Rank
Arkansas	\$3,262	4	10.2%	5
Illinois	\$4,397	9	10.8%	9
Iowa	\$3,717	6	10.6%	8
Kansas	\$4,070	7	10.6%	8
Kentucky	\$3,213	3	10.0%	4
Missouri	\$3,210	2	8.9%	2
Nebraska	\$4,092	8	10.5%	6
Oklahoma	\$3,319	5	9.7%	3
Tennessee	\$2,841	1	8.4%	1

*1 is the lowest rank and indicates the lowest tax level.

Source: O'Leary Morgan and Morgan (2012), p. 301 & 303.

Missouri has the 2nd lowest taxes on these two measures, with only Tennessee lower. As shown in Graph 1 Missouri had the lowest taxes as a percentage of private state gross product. The data presented in Graph 1 and Table 4 are consistent across most states; Kansas is among those in the highest third of states on the measures in Graph 1 and Table 4. The ranking of Illinois, however, ranges from highest in Table 4 to fifth in Graph 1.

Discussion and Conclusion

Table 5 presents a summary of state rankings from the analysis above to demonstrate both the variability and consistency of state tax data across these very different measures.

TABLE 5: SUMMARY OF STATE TAX RANKINGS ON HYPOTHETICAL FIRM ANALYSES, PERCENTAGE OF PRIVATE GSP, REVENUE PER CAPITA AND AS A PERCENTAGE OF PERSONAL INCOME *

State	Ernst & Young Hypothetical Firm Rank	Tax Foundation Hypothetical Mature Firm Rank	Tax Foundation Hypothetical New Firm Rank	Ernst & Young Business Taxes as a Percentage of Private GSP, 2011 Rank	State & Local Tax Revenue Per Capita, 2009 Rank	State & Local Tax Revenues as a Percentage of Personal Income, 2009 Rank
Arkansas	6	5	4	3	4	5
Illinois	1	8	5	5	9	9
Iowa	2	7	8	4	6	8
Kansas	9	9	9	9	7	8
Kentucky	3	3	3	8	3	4
Missouri	4	6	6	1	2	2
Nebraska	7	1	1	6	8	6
Oklahoma	5	2	2	8	5	3
Tennessee	8	4	7	2	1	1

*1 is the lowest rank and indicates the lowest tax level.

Source: Ernst & Young (2011) Table 2, p. 9; Tax Foundation (2012) Table 1, p. ix; O'Leary Morgan and Morgan (2012), p. 301 & 303.

We find some consistency in the rankings across the states. In particular, Arkansas, Kentucky, Missouri, and Tennessee typically are the states with lowest taxes. Conversely, Illinois, Iowa, Kansas, and Nebraska generally are among the states with higher taxes. Oklahoma, however, generally ranks close to the middle on most measures. Part of the variability is because each measure makes different assumptions and these assumptions affect the results. A state's tax system can be portrayed in either a positive or negative light, depending upon which metric one chooses to utilize. Thus, it is crucial to consider multiple methods for examining state tax systems.

Note that in all measures, except those from the Tax Foundation study, Missouri ranks lower than fifth (that is, among those with lowest taxes) while Kansas ranks ninth on four of the six measures (and ranks seventh and eighth on the remaining two). These findings have important implications given the recent tax cuts enacted in Kansas in hopes of spurring economic development and the push by its neighbors, including Missouri, to follow suit. If low taxes lead to economic development, then Missouri and several of its neighbors, with consistently low to mid-range taxes should be experiencing substantially higher levels of economic development than others in this comparison.

Proposals for tax cuts in Missouri must take into account the provisions of the Hancock Amendment. This Amendment limits annual legislatively approved tax increases to \$84 M in FY 2013, without voter approval, making it quite difficult to increase taxes once they are cut. If Missouri adopts significant tax cuts, it will have substantial difficulty raising taxes if the need arises. In contrast, the same policy obstacles do not exist for Kansas, as it is not limited by legislation like the Hancock Amendment.

But a wide range of costs factor into firms' decisions, not just tax rates and taxes paid. In fact, Ernst & Young (2012) suggest that non-tax cost differentials, such as labor, utility, and transportation costs are generally "the most significant variable business costs" which substantially influence firms' investment location decisions. There is also evidence that firms consider factors not directly related to either taxes or incentives when evaluating locations, including infrastructure, availability of a quality work force, and quality of life issues (Karakaya & Canel, 1998; Love & Crompton, 1999; Gabe & Bell, 2004).

Taxes are only one of the policy levers that states have at their disposal. The other side of the tax coin is state expenditures, which influence firms' costs, such as transportation, public safety and education. In a review of the literature, Fisher (1997) finds that in general, public services, government spending, and public capital—specifically transportation, public safety, and education—have both a positive and statistically significant impact on economic development. In addition several reviews of the literature that focus on both taxes and expenditures find that any positive impact of a tax cut is less than the negative impact of the corresponding cut in public spending (Bartik 1992 and 1994, Lynch 2004). Lynch (2004, p. 12) argues that "businesses need to know that they can rely on high-quality, well-administered public services to facilitate the conduct of their enterprises."

In sum, this analysis demonstrates that no single metric or study can provide a comprehensive understanding of a state's tax system, given the substantial variability that can exist. However, when multiple analyses reveal consistent results, it is possible to make preliminary conclusions. As underscored above, Missouri consistently ranked among the lower half of its neighbor states on a majority of the six measures of effective tax rates used in this analysis. In addition, there are numerous other factors not directly related to taxes that can impact states attractiveness and competitiveness including expenditures for public services on which businesses rely (e.g. transportation, public safety, and education).

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APPENDIX A: HYPOTHETICAL FIRM ANALYSIS ASSUMPTIONS

Ernst & Young	Tax Foundation
The analysis is for C corporations, not pass through entities.	The analysis is for C corporations, not pass through entities.
For a 30-year investment beginning in 2009.	For a single year—2011.
Focused on mobile firms: headquarters, research and development, office and career center, and both durable and non-durable manufacturing.	Focused on mobile firms: corporate headquarters, research and development center, capital-intensive manufacturing, labor-intensive manufacturing, call center, distribution center, and retail store.
Taxes included: corporate income, franchise and gross receipts taxes; sales and use taxes on business purchases; and property taxes.	Taxes included: property taxes, corporate income taxes, sales taxes, unemployment insurance taxes, capital stock taxes, inventory taxes, and gross receipt taxes.
Included sales taxes only on business purchases; did not include retail sales taxes charged to consumers.	Included sales taxes on business purchases and retail sales taxes charged to consumers.
The property tax rate of the largest city in the state is used. For Missouri it is St. Louis.	Uses two sizes of cities and each type of firm is located only in the larger or smaller city. For Missouri these are St. Louis and Joplin.
The local sales tax rate is the weighted average by sales of local sales taxes.	The local sales tax rate is based on the location of the hypothetical firm. For Missouri this is St. Louis or Joplin.
Does not include the unemployment insurance tax because the tax is firm specific.	Includes the unemployment insurance tax.
Calculated the effective tax rate over a 30-year investment beginning in 2009 and phased in changes that are written into current tax law through 2014.	Calculated effective tax rates for a single year, 2011. Effective tax rates are converted to an index—the percentage above or below the national average tax rate for that type of firm. The national average is set at 100.
Included tax credits available to most firms, but did not include discretionary incentives. Taxes specific to a particular industry—severance tax, utility tax, etc. are not included as these types of firms were not included as hypothetical firms.	Mature firms are not eligible for incentives. Included discretionary incentives for new firms—new job credits and new hire withholding rebates, investment tax credits, R&D credits, property tax abatements, exemptions for sales taxes on equipment, depreciation of buildings and personal property.
The analysis does not estimate tax shifting by the firm to other business entities or consumers except for the retail sales tax, which it assumes consumers pay.	The analysis does not estimate tax shifting by the firm to other business entities or consumers. It assumes that firms do not shift the retail sales tax to consumers.
Calculated a weighted overall tax rate for all firms using the percentage of new investment in each type of firm as the weight.	Calculated the overall tax rate for all firms by using a simple average of the types of hypothetical firms.

Source: Ernst & Young (2011); Tax Foundation (2012).

**APPENDIX B: EFFECTIVE TAX RATE NATIONAL RANKINGS OF MISSOURI
AND NEIGHBORING STATES ***

State	Ernst & Young National Rank	Tax Foundation Mature Firm National Rank	Tax Foundation New Firm National Rank	State & Local Tax Revenue Per Capita, 2009 National Rank	State & Local Taxes as a Percentage of Personal Income, 2009 National Rank	Ernst & Young Business Taxes as a Percentage of Private GSP, 2011* National Rank
Arkansas	36	30	8	13	23	16.5
Illinois	5	45	24	37	35	23.5
Iowa	14	40	41	28	31.5	21.5
Kansas	48	47	48	32	31.5	35.5
Kentucky	15	18	7	11	20	30.5
Missouri	22	36	26	10	5	9.0
Nebraska	41	9	1	33	28	26.0
Oklahoma	35	16	5	14	15	30.5
Tennessee	45	29	29	2	2	13.5

*1 is the lowest rank and indicates the lowest tax level.

Source: Ernst & Young (2011) Table 2, p. 9; Tax Foundation (2012) Table 1, p. ix; O'Leary Morgan and Morgan (2012), p. 301 & 303; Ernst & Young (2012) Table 4, p.11 .