

# What Are the Effects of Missouri Corporate Income Tax Rate Cuts?

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Research in Focus

## 1. Introduction

With state budget surpluses and record high state reserve account balances, Missouri lawmakers are considering policy reforms that continue to support the state’s growth while leaving some reserves available for potential economic downturn in the future. One of these reforms, included in several bills, proposes to reduce the Missouri corporate income tax with gradual rate reductions over the next four to five years.<sup>1</sup>

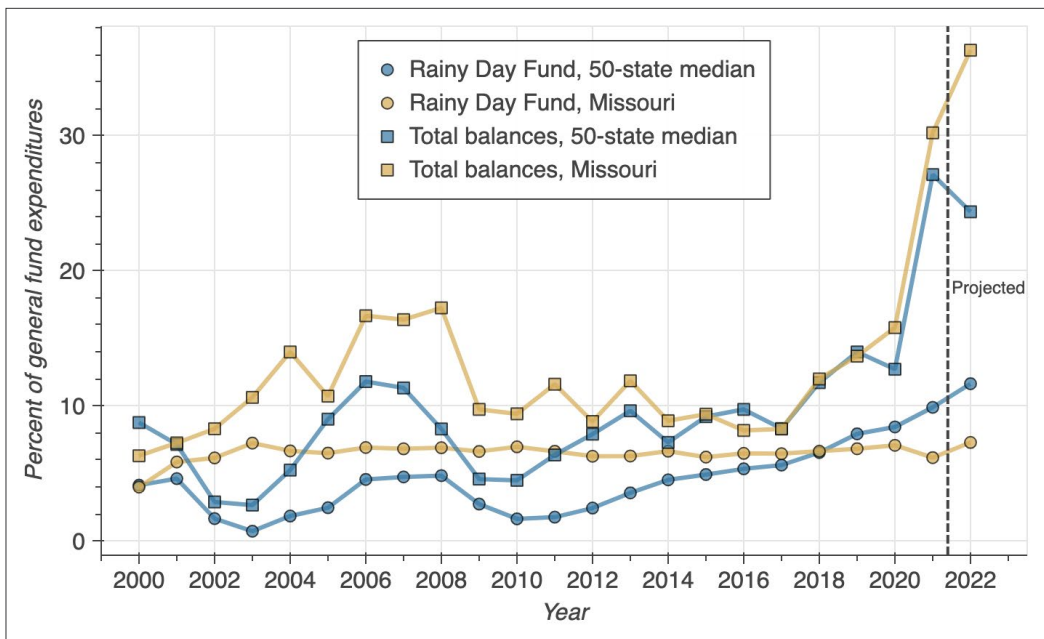
Missouri’s current 4% corporate income tax rate (4.48% on financial institutions) is one of the lowest in the country.<sup>2</sup> This state corporate income tax only represents a small percentage of state revenues, and its removal would have a positive effect on Missouri businesses.

In this paper, I use an open source model of business investment incentives to quantify and compare the effects of two sizes of

Missouri corporate income tax rate cuts on both the investment incentives faced by businesses in the state and also on state revenues. Because all of my modeling structure is open source, I provide all code and source data in a way that is easy to replicate and customize.<sup>3</sup>

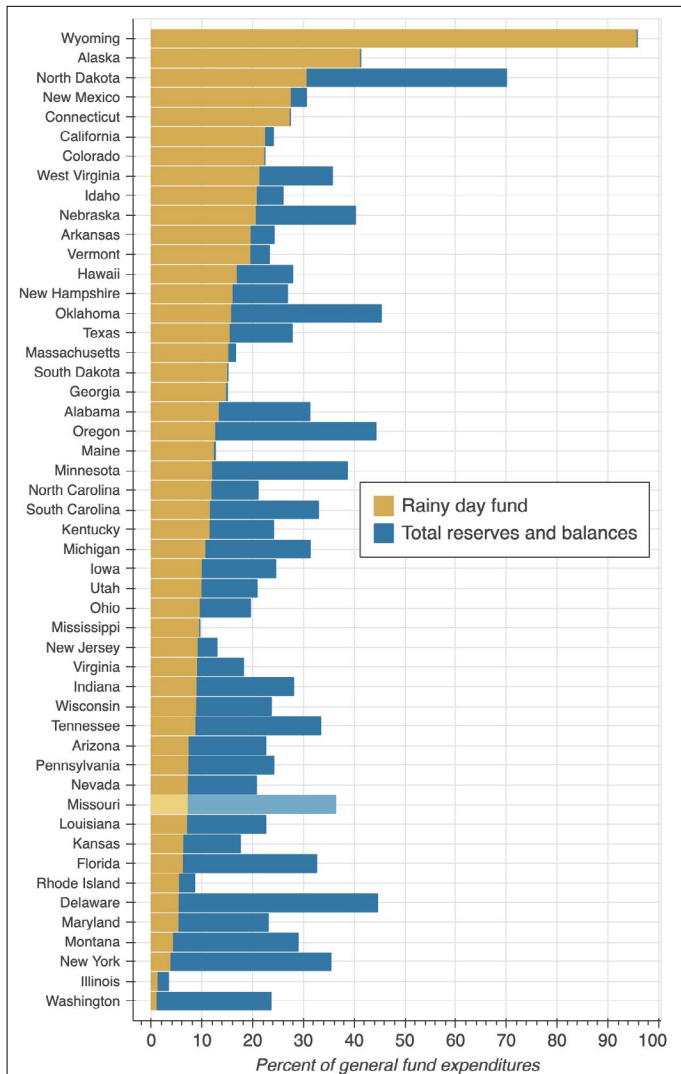
Budget surpluses, tax revenues, and rainy day funds are projected to be at 20-year highs in most states for year end 2022, thanks to a surprisingly resilient US economy.<sup>4</sup> Missouri is no exception, with a projected record high rainy day fund balance of \$772 million at the end of 2022 and a record high total reserves and balances of \$3.85 billion.<sup>5</sup> Figure 1 shows the time series from 2000 to the estimated values of 2022 of the rainy day fund balance and the total reserves and balances as percentages of general fund expenditures for both the state of Missouri and for the 50-state median values.

Figure 1. Rainy Day Fund and Total Reserves as Percentages of General-Fund Expenditures, Missouri and 50-State Median: 2000–2022



Source: Pew Charitable Trusts, "Fiscal 50: State Trends and Analysis," December 16, 2022, accessed December 31, 2022.

Figure 2. Estimated 2022 Rainy Day Fund Balances and Total Reserves and Balances as Percentages of General-Fund Expenditures



Source: Pew Charitable Trusts, "Fiscal 50: State Trends and Analysis," December 16, 2022, accessed December 31, 2022.

Note: For states in which the blue bar is not visible for total balances and reserves, the value equals the rainy day fund balance percentage.

Figure 2 shows the estimated 2022 rainy day fund balances and total reserves and balances as percentages of general fund expenditures for each state, ranked in descending order by rainy day fund balances.

Table 1. Number of States for which Estimated 2022 Amounts Represent 23-year High for Select Categories of Rainy Day Fund and Total Balances and Reserves Statistics: 2000–2022

Category	Number of states for which 2021 was 22-year high	Number of states for which estimated 2022 is 23-year high	Missouri 2021 is 22-year high	Missouri 2022 was 23-year high
Rainy day fund balance	29	36	No	Yes
Rainy day fund balance as percentage of general fund expenditures	26	20	No	Yes
Total balances and reserves	42	26	Yes	Yes
Total balances and reserves as percentage of general fund expenditures	32	20	Yes	Yes

Source: Pew Charitable Trusts, "Fiscal 50: State Trends and Analysis: Reserves and Balances," updated December 16, 2022, accessed December 31, 2022.

Missouri's rainy day fund is more restricted in its use than most state rainy day funds, with strict use and repayment requirements outlined in the state constitution.<sup>6</sup> As such, Missouri total balances and reserves is a better measure of funds the state can draw on to pay for policy reforms like a tax cut. When ranked in descending order by the broader total balances and receipts as percentages of general fund expenditures, Missouri has the ninth highest balance among US states.

Table 1 shows the number of states that had record highs in either of these two reserve categories in either 2021 or 2022. For rainy day fund balances, 36 states had record highs in 2022, and 29 states had record highs in 2021. Missouri had a record high rainy day fund balance in 2022. For total balances and reserves, 26 states had record highs in 2022, and 42 states had record highs in 2021. Missouri had a record high in its total balances and reserves in both 2021 and 2022.

Tempering the optimism from the current surpluses and reserve balances are the continuing risks in 2023 of high interest rates, inflation, and potential economic slowdown. As many state legislatures come into session in early 2023, these policymakers are balancing the opportunity to draw down these reserves with the risk of needing reserve funds in a downturn.

In this vein, Missouri legislators are proposing a phased-in reduction of the state's corporate income tax, along with the financial institutions tax, over a four- or five-year period.<sup>7</sup> As I show in Section 2, the Missouri corporate income tax represents a small fraction of state tax revenue. Reducing it would result in a moderate reduction in state reserve balances. In Section 3, I use the open source Cost of Capital Calculator model to simulate the effects of two potential reforms on business incentives for investment.<sup>8</sup>

My simulations in Section 3 show that reducing the Missouri corporate income tax and financial institutions tax by half—from the current tax rates of 4.00% and 4.48%, respectively, to 2.00% and 2.24%—results in a moderate decline in state tax revenue of \$474 million if the reform were enacted for 2023. This rate cut would also reduce the marginal effective tax rate (METR) on Missouri businesses from the current 3.24% to 2.98%. METR is a broader measure that includes many factors. This decline in METR represents an increase in business investment incentives of 8%.

Table 2. Missouri Business Taxes: Annual Revenue and Percentage of Total Tax Revenue

Tax Category	FY 2022 \$ millions	FY 2022 Percentage total state revenue	FY 2021 \$ millions	FY 2021 Percentage total state revenue
Corporate income tax	\$894.2	4.1%	\$798.1	4.1%
Financial institutions tax	\$53.9	0.2%	\$38.6	0.2%
Local sales and use tax	\$4,629.9	21.2%	\$4,063.2	20.7%
State sales and use tax	\$4,547.9	20.8%	\$4,193.5	21.4%

Source: Financial and Statistical Report, Fiscal Year Ended June 30, 2022, Missouri Department of Revenue, accessed March 7, 2023, <https://dor.mo.gov/revenue-annual-financial-report/documents/FinancialandStatistical-ReportFY22.pdf>.

Fully repealing the Missouri corporate income tax and financial institutions tax would result in a larger decline in state tax revenue of \$948 million. This bigger reform would result in a 16% increase in Missouri business investment incentives, resulting from a reduction in business METR from 3.24% to 2.72%.

The first reform of cutting the corporate income tax rate and financial institutions tax rate in half is more in line with the bills currently in the Missouri legislature. But both rate cuts are within realistic budgetary options in a state with the ninth highest total reserves and balances in the country of \$3.85 billion.

## 2. Missouri Business Tax Landscape

Excluding licenses, permits, fees, and the gaming gross receipts tax, Missouri currently imposes three main categories of taxes on business income and sales: corporate income tax, financial institutions tax, and sales and use taxes. Table 2 shows the total revenue from each of these three tax revenue categories and the percent of total state revenue in fiscal years 2021 and 2022.<sup>9</sup> I have broken out sales and use taxes into both state and local revenues. I include the local sales and use tax component because it is equal in size to the state portion. Taken together, state and local Missouri sales and use tax revenue represents more than 40% of total state revenue. I also exclude the property tax because it is administered locally and varies from city to city.

### 2.1. Corporate Income Tax

The Missouri corporate income tax (CIT) is a tax on net business earnings or income. It is similar to the federal corporate income tax and is based off of federal taxable income reported on the federal tax return.<sup>10</sup> The Missouri CIT rate is currently 4.0% of state taxable income. As shown in table 2, Missouri's CIT represented 4.1% of gross state revenue in fiscal years 2021 and 2022, respectively.<sup>11</sup>

### 2.2. Financial Institutions Tax

The Missouri financial institutions tax (FIT) is similar to the CIT in that it is a tax on the net earnings or income of financial institutions operating in the state. These financial institutions include banks, trust companies, credit institutions, savings and loan associations, and credit unions. The current FIT rate is 4.48%. This tax is administered and calculated differently from the CIT mainly in how net earnings or taxable income is defined.<sup>12</sup> As shown in table 2, Missouri's FIT represented only 0.2% of gross state revenue in fiscal years 2021 and 2022, respectively.<sup>13</sup>

### 2.3. State and local sales and use tax

Missouri's sales and use taxes are, respectively, taxes on the sale or use of goods and property in the state.<sup>14</sup> These taxes are paid by both individuals and businesses in Missouri. At least some of the sales and use taxes paid by individuals fall also on the selling businesses. As such, the Missouri sales and use taxes are a significant part of the state's business tax structure.

A portion of Missouri's sales and use tax structure is decided at the state level and supplies various state-level funds. These state sales and use tax rates vary from 0.1% to 5%, with the most common rate being the 3% general sales tax.<sup>15</sup> Local political subdivisions in Missouri are also authorized to enact local sales taxes "if approved by a specified percentage of voters." These local sales and use tax rates vary across geographies. Fifteen industries are exempted from state and local sales and use taxes.<sup>16</sup>

As shown in table 2, state and local sales and use taxes represented more than 40% of total Missouri revenue in FY 2021 and 2022. Combined Missouri sales and use taxes are the second largest revenue category in Missouri state tax revenues, following only individual income tax revenues, which represented just over 45% of total state revenues in FY 2021 and 2022.

## 3. Investment Incentives

In this section, I compare the effects of two potential reforms to Missouri's corporate tax structure. The first experiment is to cut the current CIT and FIT rates in half, from 4.00% and 4.48%, respectively, to 2.00% and 2.24%.

The second experiment is to estimate the effect of fully repealing the Missouri CIT and FIT. Table 3 shows a summary of the policy reforms and their corresponding effects on businesses' incentives to invest and their effect on state revenues. I simulate these reforms using the open source Cost of Capital Calculator model.<sup>17</sup>

The Cost of Capital Calculator model calculates the marginal effective tax rate (METR) on new investments, given policy and economic characteristics for the average business.<sup>18</sup> The METRs in the first column of table 3 differ from the corporate income tax rate and from the financial institutions tax rate because those two statutory rates are only one respective component of the Cost of Capital Calculator METR calculation.

Table 3. Effects of Missouri Business Tax Reforms in 2023 on Business Incentives to Invest (METR, on Machines) and on State Tax Revenue, Compared against Current Law

Reform	Marginal effective tax rate (METR) faced by the average business <sup>a</sup>	Change in 2023 state tax revenue (\$ millions) <sup>b</sup>
Current law	3.24%	\$0.0
Reduce by one half Missouri's CIT and FIT (2.00% and 2.24%, respectively)	2.98%	-\$474.0
Repeal the Missouri CIT and FIT	2.72%	-\$948.0

<sup>a</sup>The marginal effective tax rates in the first column of Table 3 are calculated using the open source Cost of Capital Calculator model and calculating the METR on machines for the average business. All code for these calculations is available in the Jupyter notebook MO\_CorpRateCut.ipynb in the public repository for this article and in the corresponding Google Colab notebook that performs the computations from your browser in the cloud.

<sup>b</sup>The changes in 2023 state revenue in the second column of Table 3 assume that the losses equal the amounts of revenue from those policies from fiscal year 2022 in Table 2.

The computed METR is a function of the average real return on investment, inflation, federal corporate income tax rates, state income tax rates, investment tax credits, depreciation, bonus depreciation, franchise taxes, gross receipts taxes. For this reason, the METR is a better indication of how much business investment incentives are affected by policy changes than is the change in the corporate income tax rate alone.

The model calculates the METR on machinery and equipment, buildings, and intangible assets, but I focus here on investment in machinery and equipment that is financed with retained earnings by a corporate business entity.<sup>19</sup> The METR is a forward-looking measure that takes into account tax rates as well as deductions, such as the depreciation of a capital asset. The METR therefore will vary, not just according to corporate income tax rates, but also the availability of investment tax credits, the ability to deduct interest costs, and the rates of capital cost recovery, among other features of a tax system.

Under current federal and Missouri law, state and federal taxes combine for an effective marginal tax rate on new investments in machinery and equipment for Missouri businesses of 3.24% as shown in the "Current law" row in table 3. Under current law, Missouri businesses pay the federal corporate income tax, deduct 80% of bonus depreciation from the federal taxable income, and pay the Missouri corporate income tax.

### 3.1. Cutting in half the Missouri CIT and FIT rates

The first proposed reform in table 3 is to cut the Missouri corporate income and financial institutions tax rates in half. This experiment is similar to the reforms currently proposed in the Missouri legislature.<sup>20</sup> This policy reform involves reducing the current CIT and FIT rates from 4.00% and 4.48%, respectively, to 2.00% and 2.24%. I estimate that the cost of cutting the Missouri CIT and FIT in half would be \$474 million, half the total revenue from the CIT and FIT in FY 2022.

This cost is a manageable size, given Missouri's current \$3.85 billion total reserves and the strategy in the current legislative bills to gradually phase in the cut over the next four-to-five years. And this corporate income tax cut would increase business investment incentives by 8%, reducing Missouri marginal effective tax rates from their current 3.24% to 2.98%.

### 3.2. Repealing the Missouri CIT and FIT

The second proposed reform in table 3 is to fully repeal the Missouri corporate income tax and financial institutions tax. I estimate that the cost of repealing the Missouri CIT and FIT would be the full \$948 million total revenue from the CIT and FIT in FY 2022. And repealing the CIT and FIT would increase business investment incentives by 16%, reducing Missouri marginal effective tax rates from their current 3.24% to 2.72%.

## 4. Conclusion

In this article, I describe the current situation of record highs in state rainy day balances and in total reserves and balances across the US and in Missouri. I describe the three main components of Missouri business tax policy and simulate the effects of two pro-growth reforms that reduce marginal effective tax rates on business investment and also result in reductions on state tax revenues.

I find that the first reform of cutting the CIT and FIT in half would cost \$474 million in tax revenue and would increase business investment incentives by 8%, cutting marginal effective tax rates on investment from 3.24% to 2.98%. I also simulate the larger reform of repealing both the Missouri CIT and FIT. This larger policy would cost \$948 million in tax revenue and would increase business investment incentives by 16%, cutting marginal effective tax rates on investment from 3.24% to 2.72%.

Missouri has an opportunity in the face of current record surpluses to enact a pro-growth policy that balances the state's track record of making Missouri an inviting place to live and work while maintaining reserves against any potential economic downturn. Cutting the Missouri CIT and FIT rates in half is a very safe option that balances those two incentives.

**Richard Evans** is a senior research fellow and director of open policy at the Center for Growth and Opportunity. He is leading a new project to build a 50-state micro-simulation model of individual tax and benefit policy in which all of the project will be open source and open-access.

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## Endnotes

- 1 Missouri Senate Bills 93 and 135 and House Bill 660 propose a gradual phase out of the state corporate income tax over the next four to five years, with annual reductions in the current state corporate income tax rate of 4.0% of between 1.0 and 0.8 percentage points per year. See “Bill Search,” Missouri Senate, accessed January 30, 2023, <https://www.senate.mo.gov/BTSSearch/Default?SearchTerm=corporate+income+tax&Submit=Submit>.  
  
In 2018, the Missouri legislature passed Senate Bill 769, which requires that whenever the state corporate income tax is lowered, the financial institutions tax on banks, credit institutions, and other financial institutions receive a proportional reduction. See Missouri S.B. 769, 104<sup>th</sup> General Assembly, 2nd Session, 2018, <https://www.senate.mo.gov/22info/pdf-bill/intro/SB769.pdf>.
- 2 Janelle Fritz, “How High are Corporate Income Tax Rates in Your State?” Tax Foundation, accessed January 30, 2023, <https://taxfoundation.org/publications/state-corporate-income-tax-rates-and-brackets/>.
- 3 All data, analyses, and images in this article can be reproduced using the resources in the GitHub repository for this article at <https://github.com/TheCGO/MO-CorpRateCut>. The code for replicating the analysis and creating the images can be run locally on your machine using the Jupyter notebook `MO_CorpRateCut.ipynb` or can be run from your browser using resources in the cloud from this Google Colab notebook.
- 4 To account for accumulated state surpluses, I use two accounting concepts that are common across states. Total reserves and balances are states’ intentional savings as well as dollars left over in the general fund. See Justin Theal and Joe Fleming, “Budget Surpluses Push States’ Financial Reserves to All-Time Highs,” PEW Charitable Trusts, May 10, 2022, <https://www.pewtrusts.org/en/research-and-analysis/articles/2022/05/10/budget-surpluses-push-states-financial-reserves-to-all-time-highs>. Rainy day funds, also called reserve funds or stabilization accounts, are a subset of total reserves and balances. They are accounts to which state budget surpluses are automatically transferred, subject to varying rules across states. See “What are state rainy day funds, and how do they work?” *The State of State (and Local) Tax Policy Briefing Book*, Tax Policy Center, accessed December 30, 2022, <https://www.taxpolicycenter.org/briefing-book/what-are-state-rainy-day-funds-and-how-do-they-work>.
- 5 “Fiscal 50: State Trends and Analysis: Reserves and Balances,” Pew Charitable Trusts, November 27, 2013, updated December 16, 2022, accessed December 31, 2022, <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2014/fiscal-50#ind5>.
- 6 See discussion on the Missouri rainy day fund Corianna Baier and Elias Tsapelas, *Making Missouri Resilient: Assessing State and Local Government Recession Preparedness*, Report, Show-Me Institute Report, June 2021, p.14, <https://showmeinstitute.org/wp-content/uploads/2021/06/20210602-Recession-Preparedness-Baier-Tsapelas.pdf>.
- 7 Missouri Senate Bills 93 and 135 and House Bill 660. See “Bill Search,” Missouri Senate. See also Missouri S.B. 769, 104<sup>th</sup> General Assembly, which requires a reduction in the state financial institutions tax rate in proportion to cuts in the corporate income tax rate.
- 8 The open source Cost of Capital Calculator model simulates the effect of tax policy on the investment incentives of corporate and non-corporate businesses. It can be found here: <https://ccc.pslmodels.org/content/intro.html>. Documentation for the calculator is available at <https://ccc.pslmodels.org/>, and its source code is available at <https://github.com/PSLmodels/Cost-of-Capital-Calculator>.
- 9 It is important to recognize that Missouri tax revenues represent the tax liabilities of Missouri individual and business tax filers minus their redeemed Missouri transferable tax credits. Missouri issues transferable and nontransferable tax credits for business development across twelve categories. These credits can be bought and sold on the open market by both businesses and individuals, despite the fact that these markets are somewhat opaque, so any revenue values are net of redeemed Missouri tax credits. For a discussion of Missouri transferable credits, see Nicole Galloway, *Tax Credit Programs*, Missouri State Auditor’s Report No. 2022–011, February 2022, <https://auditor.mo.gov/AuditReport/ViewReport?report=2022011>. See also *Tax Credit Report – Second Quarter – Fiscal Year 2023*, Missouri Department of Revenue, accessed March 10, 2023, [https://dor.mo.gov/public-reports/documents/FY232ndQtrReport\\_000.pdf](https://dor.mo.gov/public-reports/documents/FY232ndQtrReport_000.pdf).
- 10 See Missouri Department of Revenue, “Corporate Income Tax,” accessed March 7, 2023, <https://dor.mo.gov/taxation/business/tax-types/corporation-income/>.
- 11 *Financial and Statistical Report, Fiscal Year Ended June 30, 2022*, Missouri Department of Revenue, accessed March 7, 2023, <https://dor.mo.gov/revenue-annual-financial-report/documents/FinancialandStatisticalReportFY22.pdf>.
- 12 “Financial Institutions Tax,” Missouri Department of Revenue, accessed March 7, 2023, <https://dor.mo.gov/taxation/business/tax-types/finance/>.
- 13 *Financial and Statistical Report*, Missouri Department of Revenue.
- 14 “Sales/Use Tax,” Missouri Department of Revenue, accessed March 10, 2023, <https://dor.mo.gov/taxation/business/tax-types/sales-use/>.
- 15 “State Sales and Use Tax” in *Financial and Statistical Report, Fiscal Year Ended June 30, 2022*, Missouri Department of Revenue, p.14, accessed March 7, 2023, <https://dor.mo.gov/revenue-annual-financial-report/documents/FinancialandStatisticalReportFY22.pdf>.
- 16 “Missouri Sales and use Tax Exemptions and Exclusions from Tax,” Missouri Department of Revenue, accessed March 10, 2023, <https://dor.mo.gov/taxation/business/tax-types/sales-use/exemptions.php>. See also the MO Sales and Use Tax Lookup Dashboard, an interactive map that shows how overlapping geographic jurisdictions in the state can cause total sales and use tax burdens to vary significantly: “MO Sales and Use Tax Lookup Dashboard,” Missouri Department of Revenue, accessed March 10, 2023, <https://experience.arcgis.com/experience/1ff88616ff3341c5ad31550471a75296/>.
- 17 All data, analyses, and images in this article can be reproduced using the resources in the GitHub repository for this article at <https://github.com/TheCGO/MO-CorpRateCut>. All data and analysis of the simulation of Missouri corporate tax reforms in the first column of table 3 were performed using the open source Cost of Capital Calculator, which simulates the effect of tax policy on the investment incentives of corporate and non-corporate businesses: <https://ccc.pslmodels.org/content/intro.html>. The code for these experiments can be replicated by running the Jupyter notebook `MO_CorpRateCut.ipynb` locally on your machine or can be run from your browser using resources in the cloud from this Google Colab notebook: <https://colab.research.google.com/drive/1y6P3qMlm9hQFPBzyhETwqRyoOpj43Si9?usp=sharing>.
- 18 The Cost of Capital Calculator methodology follows closely Larry Ozanne and Paul Burnham, “Background Paper: Computing Effective Tax Rates on Capital Income,” Technical Report, Congressional Budget Office, December 19, 2006, <https://www.cbo.gov/publication/18259>.
- 19 More specifically, we assume a piece of equipment with a 7 year depreciable life and a rate of physical depreciation of 10.3% per year, similar to special industrial machinery (BEA Code EI40). More details and code to reproduce the results here are available in the Jupyter notebook for these analyses.
- 20 Missouri Senate Bills 93 and 135 and House Bill 660. See “Bill Search,” Missouri Senate.