



# The Missouri-Wide Effects of City Earnings Taxes

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## **ABSTRACT**

Unlike most American cities, the Missouri cities of St. Louis and Kansas City levy earnings taxes on their residents and on non-residents who work in the cities. These taxes have been shown to reduce population and employment growth in the taxing cities and in their surrounding metro areas. This study extends the analysis to the rest of Missouri and finds that the effects of the taxes accounted for about two thirds of Missouri's employment losses over the 2000-2010 period. Only one-quarter of the employment losses occurred in the cities themselves, and nearly one-fifth occurred in outstate Missouri.

## 1. INTRODUCTION

The cities of St. Louis and Kansas City, Missouri, impose a 1 percent tax on residents' earnings and non-residents' earnings within the cities. Previous research has found that the taxes affect not only the economies of the two cities themselves, but also of the metro areas that surround them.<sup>1</sup> This paper takes things a step further and estimates the effects of the taxes on the parts of Missouri outside the two metro areas. It does so by accounting for other research that looked at links between growth in the St. Louis and Kansas City metro areas and growth in other parts of Missouri.<sup>2</sup> Such links would imply that policies enacted in the state's two largest cities have effects that extend beyond the cities' borders and even the borders of their respective metro areas. Coupling this research with updated estimates of the effects of earnings taxes on the two metro areas, I derive a more complete picture of how earnings taxes affect growth in Missouri as a whole.

Because people and jobs are relatively mobile, especially within a metro area, cities in the United States usually prefer to tax immobile things like property rather than income or earnings. In a typical year, US cities raise about seventeen times more revenue from property taxes than from income/earnings taxes.<sup>3</sup> In St. Louis and Kansas City, however, revenue from property taxes accounts for only a fraction of revenue from income/earnings taxes: Property taxes and earnings taxes account for, respectively, about 5.6 percent and 14.2 percent of the city of St. Louis's total revenue and about 8.5 percent and 13.8 percent of Kansas City's total revenue.<sup>4</sup>

Earnings taxes distort the decision of where to live and work within a metro area. Most obviously, they have led to a relocation of jobs and people from the central cities to the surrounding metro areas. In addition, because a strong central city is vital to the overall health of a metro area, they have resulted in net harm to metro area growth.<sup>5</sup> For example, Wall (2014), which looked at the period 2000-2010, found that the earnings tax in the city of St. Louis meant a net population loss for the metro area of 11,200—a loss of 14,700 for the city and a gain of 3,500 for the rest of the metro area. For Kansas City, the earnings tax meant a metro-level population loss of 16,600—a loss of 18,700 for the city and a gain of 2,100 for the rest of the metro area.<sup>6</sup>

Because the Missouri portions of the St. Louis and Kansas City metro areas account for more than 60 percent of the state economy, these within-metro effects alone amount to a significant loss for

one of the slowest-growing states in the nation.<sup>7</sup> Making matters worse is that, as found by Wall (2017), what happens in St. Louis doesn't stay in St. Louis (although what happens in Kansas City appears to stay in Kansas City). That is, the St. Louis metro area is not simply a large proportion of the state economy, it is an important driver of the economies of other parts of the state. If its policies retard or accelerate growth in St. Louis, they will do the same elsewhere.<sup>8</sup> Once this link is taken into account, the city earnings taxes are shown to be even more deleterious to Missouri than has been realized previously.

## 2. WITHIN-METRO EFFECTS

Whereas Wall (2014) looked at the effects of earnings taxes on population, this paper looks at their effects on household employment—the number of residents working. This is done to match up with the estimates with Wall (2017), which used household employment because of data availability. As such, the first step is a straightforward modification of the data and empirical model in Wall (2014). Details of the model and results are provided in the Appendix, and the results are summarized below.

Because the incentives of where and whether to work differ from where to live, the expected effects of an earnings tax will differ somewhat between employment and population. For instance, an earnings tax should mean that fewer of the taxing city's residents choose to work: it doesn't matter where they work because they will be taxed in any event. In addition, some employed city residents will choose to live elsewhere in the metro area so that they can continue to work—perhaps even at the same job—without having to pay the tax. Consistent with these expectations, my estimates indicate a 1 percent earnings tax tends to mean a 3.8 percentage points lower ten-year growth rate than if a city had raised revenue by conventional means.

The rest of the metro area should see somewhat higher employment because of the aforementioned effect of employed people choosing to live outside of the taxing city. On the other hand, earnings taxes will also affect the employment of metro-area residents who would live outside the taxing city with or without the tax. Fewer of these people would choose to work in the taxing city and, although some will simply work elsewhere in the metro area, some who would have worked in the city won't work at all because of the tax. It turns out that the latter effect is dominant: My estimates

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are that a 1 percent earnings tax in the central city is associated with a 2.8 percentage point lower employment growth rate in the rest of the metro area. One explanation for this wider effect is that many types of jobs and firms are concentrated in central cities, which are usually the cities levying earnings taxes. For example, if jobs for legal secretaries are usually concentrated in central cities, a legal secretary living outside the central city who wants to avoid the earnings tax will have few options and might opt to leave employment or the area altogether. In addition, because an earnings tax makes it more difficult at the margin to find employees, some establishments might find it unprofitable to operate under the tax, thereby reducing employment opportunities for residents from throughout the metro area.

Table 1 translates the estimated percentage effects of earnings taxes described above into the number of people employed. As indicated by the first column of numbers, because of their earnings taxes, Kansas City and the City of St. Louis had, respectively, 8,600 and 5,900 fewer employed residents in 2010 because of their earnings taxes. Note that, between 2000 and 2010, employment in the city of St. Louis actually fell by 6,300 and rose by 500 in Kansas City. This means that without their earnings taxes, the city of St. Louis would have seen modest employment losses over the period, while Kansas City would have experienced strong *positive* employment growth instead of near-zero growth.

**Table 1**  
**Effects of City Earnings Taxes on Household Employment, 2000-2010**

Taxing City\Area	Central City	Rest of Metro	Rest of Metro (MO Part Only)	Outstate Missouri	Missouri Total
<b>City of St. Louis</b>	-5,900	-33,900	-24,900	-11,300	-42,000
<b>Kansas City</b>	-8,600	-20,400	-9,900	0	-18,500
<b>Total</b>	<b>-14,500</b>	<b>-54,200</b>	<b>-34,700</b>	<b>-11,300</b>	<b>-60,400</b>

*In each cell the top number is the estimated effect on the number of people employed. Due to rounding, the numbers don't necessarily add up across rows or down columns.*

According to the second column of numbers in Table 1, the earnings taxes had larger effects on the parts of the metro areas outside the central cities than they did on the taxing cities themselves: The

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rest of the St. Louis and Kansas City metro areas had, respectively, 33,900 and 20,400 fewer employed residents in 2010 because of their central city's earnings taxes.

The third column of numbers in Table 1 shaves off the out-of-state portions of the metro areas to provide the Missouri-only metro effects. The combined metro-area effects of earnings taxes are, therefore, 49,200 fewer employed Missourians in 2010 (14,500 fewer in the taxing cities and 34,700 fewer in their surrounding metro areas). To put these results into perspective, consider what employment growth between 2000 and 2010 would have been in the two metro areas without earnings taxes: the Missouri part of the St. Louis metro area would have seen a modest increase of 5,800 instead of the loss of 26,000 that actually occurred, while the Missouri part of the Kansas City metro area would have seen employment growth of 23,400 instead of 4,900.

### 3. STATEWIDE EFFECTS

The next step is to account for the link between employment in the St. Louis metro area and employment in outstate Missouri. These effects are reported in the final two columns in Table 1. The rule of thumb derived in Wall (2017) is that for each percentage point change in annual employment growth in the St. Louis metro area, growth in outstate Missouri changes by 0.3 percentage points in the same direction the following year. Recall that there was no analogous effect for the Kansas City metro area. If we assume that the percentage-point effect of the earnings tax on the St. Louis metro area was the same for each year of the decade, the total effect on outstate Missouri of St. Louis's earnings tax was 11,300 fewer employed outstate residents by 2011. This represents a loss of about 0.9 percentage points in the ten-year employment growth rate.<sup>9</sup>

Adding up across the entire state, the estimated total effect of the city of St. Louis and Kansas City earnings taxes over the period 2000-2010 was 60,500 (or 2.1 percent) reduction in employment.<sup>10</sup> Actual Missouri employment fell by about 90,000 (3.2 percent) over the period, so the employment loss from earnings taxes alone accounts for about two-thirds of the statewide employment losses. According to the estimates above, and considering the Missouri effects only, about 24 percent of the employment loss from the earnings taxes was experienced in the taxing cities themselves, another 57 percent was experienced in the cities' surrounding metro areas, and the final 19 percent was experienced in outstate Missouri.

#### 4. SUMMARY AND CONCLUSIONS

This study uses new findings of a link between growth in the St. Louis metro and growth in outstate Missouri to estimate the effects of city earnings taxes on the state as a whole. I estimate that over the decade from 2000 to 2010 the earnings taxes in Kansas City and St. Louis reduced household employment in the taxing cities by about 14,500, and by about 34,700 in the Missouri portions of their surrounding metro areas. When the link between the St. Louis metro area and outstate Missouri is considered, the state-wide employment loss from the cities' earnings taxes rises to 60,500, or about two-thirds of the state's total employment loss over the decade. In all, about three quarters of the employment losses from the two cities' earnings taxes were felt outside of the cities themselves, and nearly one fifth was felt in outstate Missouri.

For state policymakers in particular, the implications of these findings are clear. The earnings taxes levied by the cities of St. Louis and Kansas City aren't simply local issues with local effects. Their negative effects on the economy of the state extend well beyond the two cities' borders, and there is a strong argument for earnings taxes to be determined by state-level rather than local-level legislation.

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#### Appendix: Empirical Model and Results

The data set covers the period 2000 through 2010 and includes 185 cities from nine states for which at least one city in the state levies an earnings taxes—seventy-nine cities in the data set levy earnings taxes. The empirical model is:

$$\dot{N}_i = a_s + b t_i + c T_i + d N_i + f D_i + g(N_i \times D_i) + h S_i + k M_i + e_i,$$

for which the dependent variable is  $N_i$ , the percentage change in employment for city  $i$  between 2000 and 2010. The estimation controls for agglomeration by including the initial employment

levels and population densities for each city ( $N_i$  and  $D_i$ , respectively), along with their interaction ( $N_i \times D_i$ ). To control for suburban sprawl, the model includes each city's initial share of total metro area employment ( $S_i$ ); and to control for the decline in manufacturing, the model includes the share of employment that was in manufacturing in 2002 ( $M_i$ ), the closest year to 2000 for which data were available. Finally, to capture the effects of trends that occurred at the state and regional levels, the model includes state dummy variables (as).

The variables of most interest are  $t_i$  (city  $i$ 's earnings tax rate) and  $T_i$  (the difference between the tax rate in the largest city in the metropolitan area and city  $i$ 's tax rate). Recall that an earnings tax is levied on residents no matter where they work, and on nonresidents who work in the city.

The estimation results are summarized by Table A and indicate that a city earnings tax reduces employment growth in the taxing city and its surrounding metro area. More precisely, a 1 percent earnings tax, as levied by the city of St. Louis and Kansas City, reduced ten-year employment growth by about 3.8 percentage points in the taxing city, and by 2.8 percentage points in the rest of the metro area.

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**Table A**  
Estimation Results: Earnings Taxes and Household Employment Growth

Role	Variable (notation)	Parameter	Coeff.	t-stat.
Effect on the city levying the tax	Earnings tax rate ( $t_i$ )	$b$	-3.845*	-1.84
Effect on the rest of the metro area	Intra-metro tax differential ( $T_i$ )	$c$	-2.804*	-1.74
Agglomeration effects	Initial employment ( $N_i$ )	$d$	-0.735	-0.31
	Initial employment density ( $D_i$ )	$f$	0.843	0.03
	Interaction of employment and density ( $N_i \times D_i$ )	$g$	5.042	0.58
Suburban sprawl	Initial share of metro employment ( $S_i$ )	$h$	-0.295**	-1.99
Decline of manufacturing	Initial manufacturing share ( $M_i$ )	$k$	-0.364**	-1.98
Explanatory power	$R^2$		0.333	

Standard errors are corrected for heteroskedasticity. Statistical significance at the 5 percent and 10 percent levels are indicated by a double or single asterisk, respectively. The estimates of the state dummy variables, which are statistically significant, are suppressed for space considerations.

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## NOTES

<sup>1</sup> The most recent estimates are in Howard J. Wall, “Updated Estimates of the Effects of Earnings Taxes on City Growth,” Show-Me Institute Essay, September 4, 2014, accessed at <https://showmeinstitute.org/publication/taxes-income-earnings/updated-estimates-effects-earnings-taxes-city-growth>. See also Howard J. Wall, “New Evidence of the Effects of City Earnings Taxes on Growth,” Show-Me Institute Essay, October 1, 2013, accessed at <https://showmeinstitute.org/publication/taxes-income-earnings/new-evidence-effects-city-earnings-taxes-growth-0>; and Joseph Haslag, “How an Earnings Tax Harms Cities Like Saint Louis and Kansas City,” Show-Me Institute, Policy Study No. 1, March 8, 2006, accessed at <https://showmeinstitute.org/publication/taxes-income-earnings/how-earnings-tax-harms-cities-saint-louis-and-kansas-city>.

<sup>2</sup> Howard J. Wall, “Is Growth in Outstate Missouri Tied to Growth in the Saint Louis and Kansas City Metro Areas?” Show-Me Institute Essay, June 2017, accessed at [https://showmeinstitute.org/sites/default/files/Regional%20Interdependence%20in%20Missouri\\_0.pdf](https://showmeinstitute.org/sites/default/files/Regional%20Interdependence%20in%20Missouri_0.pdf).

<sup>3</sup> Jeffrey L. Barnett and Phillip M. Vidal, “State and Local Government Finances Summary: 2011.” US Census Bureau, 2013.

<sup>4</sup> City of Saint Louis. “Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2012;” and City of Kansas City. “Popular Annual Financial Report for the Fiscal Year Ending April 30, 2013.”

<sup>5</sup> For a discussion, see Edward Glaeser, “Viewpoint: Triumph of the City,” *Journal of Transport and Land Use* 5, no 4 (2013): 1-4.

<sup>6</sup> Ibid.

<sup>7</sup> See Michael Podgursky and Nick Pretnar, “Weak Economic Growth in Missouri’s Largest Cities is Holding Down Statewide Growth Rates,” Show-Me Institute Essay, April 2016, accessed at <https://showmeinstitute.org/sites/default/files/Weak%20Economic%20growth%20in%20Missouri's%20Largest%20Cities%20-%20Podgursky.pdf>; and Rik Hafer and William Rogers, “The Missing Million: Missouri’s Economic Performance Since the Moon Landing,” Show-Me Institute Essay, April 17, 2019, accessed at <https://showmeinstitute.org/publication/employment-jobs/missing-million-missouris-economic-performance-moon-landing>.

<sup>8</sup> Ibid. Specifically, for each percentage point change in growth in the St. Louis metro area, growth in what I will call outstate Missouri—the parts of Missouri not in either the Kansas City or St. Louis MSAs—are changed by 0.3 percentage points in the same direction in the following year. Note that the research did not find a similar link between the economies of Kansas City and outstate Missouri.

<sup>9</sup> Accounting for the relative shares of the city of St. Louis and the rest of its metro area, the effect of the earnings tax on total metro growth is 2.92 percentage points over ten years. Taking account of compounding, this implies an annual effect of about 0.288 percentage points. Applying the result

from Wall (2017), this suggests that outstate Missouri's growth rate would be about 0.09 percentage points lower each year. The cumulative effect is an employment decrease of about 11,300 through 2011.

<sup>10</sup> Keep in mind that the effect for the two metro areas occurred during 2000-2010 whereas the effect for outstate Missouri occurred for 2001-2011.