SHOW-ME INSTITUTE

ADVANCING LIBERTY WITH RESPONSIBILITY BY PROMOTING MARKET SOLUTIONS FOR MISSOURI PUBLIC POLICY

CASE STUDY

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PREVIOUS ESTIMATES OVERSTATE 'FAIR TAX' RATES, HARMS

By Joseph Haslag and Abhi Sivasailam

As Missouri's economy struggled during the past state legislative season, legislation aimed at revitalizing the state economy languished on the Senate floor. House Joint Resolution 36 (2009), the "Fair Tax" bill, called for replacing personal and corporate income taxes with a broad, revenue-neutral 5.11-percent sales tax. The legislation also called for a tax rebate to be disbursed on the first day of each month to qualified families in the state. The amount of this rebate would have been determined on an individual basis and would have been equal to the product of the sales tax rate and the federal poverty threshold corresponding to the size of each family.

In our view, Missouri's economy would grow faster if HJR 36 were enacted. With no taxes on the factors of production, more production would occur and standards of living would rise. As such, the policy change would usher in a period of development during which Missouri would enjoy influxes of investment capital and sustainable increases in productivity and real income growth. A policy with this degree of potential influence deserves careful, accurate discussion, although this was not Missouri's experience when recent tax reform was proposed. Through a combination of misinformation, miscalculation, and the promotion of myths, HJR 36 was unfairly maligned.

This is not to say that there are not problems with the bill as it was written. Some things, such as the revenue-neutral sales tax rate, needed to be pinned down more precisely. Other things, such as definitions within the proposed legislation, needed to be carefully documented. For example, there was a dearth of thorough information regarding how the burden was likely to fall on individual taxpayers. Such quantitative information would likely have resulted in a revised version. More importantly, such information would have helped to focus and sharpen the debate.

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The MBP arrives at its inflated rates by overestimating costs and underestimating revenues.

The purpose of this case study is threefold. First, we reconstruct the analysis conducted by the Missouri Budget Project (MBP). In our view, its report repeated errors made in the Fiscal Note produced by the Office of Administration's Division of Budget and Planning.[1] Further, we point out that these errors are repeated, and in some places compounded, in separate analyses by the Institute on Taxation and Economic Policy. Second, we conduct numerical analyses correcting these flawed analyses. Our objective here is transparency. With data and detailed explanations, interested parties can replicate our results and identify places where they would change the assumptions. By taking this approach, we are attempting to promote debate. Third, we identify areas in which HJR 36 could be improved. In particular, some definitions remain open for interpretation.

We begin by tackling and dispelling three myths:

MYTH 1: THE REVENUE-NEUTRAL RATE IS 6.40–9.00 PERCENT

The MBP has argued that the legislation's proposed 5.11-percent rate would not provide a dollar-for-dollar replacement of the revenue lost by eliminating the income tax. Taking a sober second look at the data, it is easy to spot the numerous miscalculations that led the MBP to its alarming conclusions. For a tax rate to be revenue neutral, it must pay for itself. This revenue-neutral rate can be found by dividing the cost of implementing the policy — in this case, the cost is the sum of revenue monies lost from both the repeal of the income tax and the expenses of the rebate program — by the volume of taxable consumption. The MBP arrives at its inflated rates by overestimating costs and underestimating revenues.

The MBP estimates that the yearly cost of the rebate program would be between \$3.14 billion and \$7.49 billion. These high-cost figures are rooted in two grave errors.

First, to calculate the total cost of the rebate program, the MBP reports numbers computed by the Office of Administration's Division of Budget and Planning. The MBP's calculation is the result of multiplying the amount of each rebate by the entire population of Missouri, rather than only by the number of families in Missouri who qualify, as stipulated in the resolution. The text of the resolution clarifies the definition of a qualified family as "one or more family members, including a spouse, child, stepchild, grandchild, parent, grandparent, brother, sister, or any such relations of the spouse of the member, sharing a common residence." The average size of a family in Missouri is three people, so components of the MBP's projections could be up to three times as high as the resolution's language would warrant.

Using data from the Economic & Policy Analysis Research Center at the University of Missouri–Columbia, we estimate the number of families qualified for the rebate to be 2,626,800 — the number of resident filers for Missouri's individual income tax, as of 2007. Dividing Missouri's population by the number of resident filers yields an average family size of 2.2.[2] The federal poverty threshold approximation associated with a family of 2.2 is \$15,393, which — when multiplied by the sales tax rate — amounts to an average rebate value of $786.58.[3] Multiplying the rebate value by the number of rebates, we estimate the total cost of the rebate to be $2,066,167,540, nearly $1 billion below the smallest cost estimate reported by the MBP.

Second, even if the MBP is correct in assuming that rebates are given to all state residents and not just state families, there is still no basis for the $7.49 billion upper range of the organization's rebate cost estimate. The MBP computes its range by multiplying its estimated number of rebate filers by the lowest and highest possible rebate amount. Given that the highest rebate amount is given to families of seven, MBP's upper range assumes that every individual citizen of Missouri would receive the rebate check corresponding to a family of seven — something the bill clearly did not favor.

To make matters worse, the denominator in the MBP's calculations is too small. A reasonable interpretation of the bill would be that the tax base corresponds to personal consumption expenditures.[4] The MBP underestimates the amount of total personal consumption spending by roughly $13 billion. Historically, national consumer spending averages 70 percent of Missouri's statewide gross domestic product (GDP). (For our calculations, we use a two-thirds ratio of personal consumption expenditures to GDP. In part, this uses a more conservative tax base and also allows for a reasonable amount of elasticity in consumer spending.) Given Missouri's 2008 GDP of $237.8 billion, personal consumption is estimated at around $158.5 billion.

The last step is to compute the tax rate. This is simply the ratio of the revenue to the tax base. The sum of the net government revenue necessary to replace the individual income, corporate income, and sales taxes is $7,117,761,408 in fiscal 2009, according to the Department of Revenue. Further, the cost of the rebate program is $2,066,167,540. Dividing this by personal consumption, at $158,531,333,333, we arrive at a revenue-neutral sales tax rate of 5.79 percent. This means that if families were to devote their entire incomes to taxable consumption, their average tax burdens would drop by a quarter of a percent relative to the current system.

MYTH 2: EXPANDING THE LIST OF SERVICES THAT ARE TAXED WILL DRAMATICALLY INCREASE COST OF LIVING

In making this claim, the MBP considers young families with child care costs. Using data from the Missouri Economic Research and Information Center, the MBP calculates that if the bill were passed, young families would pay an additional $371. It also asserts that families would be unable to shoulder the burden of this new tax and others like it. If these claims were true, they would provide great cause for concern, but the claims ignore a key feature of the proposed policy: Individuals and corporations would be richer after a repeal of the income tax. In Missouri, the personal income tax rate is 6 percent; if this tax were repealed, consumers would be richer by that same amount.

Consider the case of a young family with one child and a household income of

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$45,012, the median household income in Missouri during 2008. Assuming that both parents are employed and are contributing equally to household income, this family's income tax burden is $1,125. The federal poverty threshold guideline for this family of three is $17,600, which amounts to a sales tax rebate of $899.36. Taken together, the sales tax rebate and the income tax relief furnish this household with an additional $2,024.36. With these monies, consumption spending can be maintained even as prices — base price and sales tax amount combined — rise.

The introduction of a new tax code would bring with it a new structure of incentives, which shape consumer demand. It is difficult to quantify the effects of new incentives or determine the elasticity of supply and demand in the markets for things like child care. It is clear that average costs could increase by $371 at most, but it is likely that market forces would dampen this price inflation. Moreover, in the absence of corporate income taxes, corporations would also be richer, and could afford to charge lower prices. These factors, along with the sales tax rebate, would largely enable families to bear increased sales tax burdens.[5]

MYTH 3: HJR 36 WOULD BURDEN MISSOURI BUSINESSES AND REDUCE ECONOMIC OUTPUT

The MBP asserts that an increased sales tax would force local businesses to cede competitive advantage to border states with lower sales taxes. Drastic

Table 1. Sales Tax Rates of Missouri and Bordering States

RANKING	STATE	TAX RATE
1	Oklahoma	4.50%
2	Iowa	5.00%
3	Kansas	5.30%
4	Nebraska	5.50%
5	**Missouri**	**5.79%**
6	Arkansas	6.00%
7	Kentucky	6.00%
8	Illinois	5.25%
9	Tennessee	7.00%

economic change creates winners and losers, and HJR 36 is no exception. It is indeed possible that fringe businesses operating along the state borders would face increased competitive pressure, but it is important to put this change into perspective with two observations.

First, at the 5.79-percent rate, Missouri would have a sales tax rate squarely in the middle of the range of sales taxes imposed by border states. This change would still leave Missouri's rate competitive with states like Nebraska, and more competitive than peer states such as Arkansas, Illinois, Kentucky, and Tennessee.

Second, sales taxes do not operate in a vacuum. In addition to the impact the bill would have on household tax burdens, Missouri's corporations would realize benefits because the corporate income tax would be eliminated. HJR 36 would leave corporations 6.25 percent richer. In 2008, a repeal of the corporate income tax would have restored $613,499,479 to corporate coffers. Facing immediate increases in wealth, the private sector can choose to hire workers and expand present output, invest in capital and secure future growth, or defray operational costs and reduce prices. All of these

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options increase the long-run competitive advantage of Missouri corporations as a whole, with the added potential benefits of putting more Missourians to work, and lowering the costs for their goods and services. Some businesses could be hurt by a change in the tax code, but the private sector as a whole would see great opportunities for growth.[6]

Table 2

INCOME BRACKETS	RATIO OF TAXABLE INCOME TO ADJUSTED GROSS INCOME
<$10,000	0.145
Between $10,001 and $20,000	0.379
Between $20,001 and $30,000	0.471
Between $30,001 and $40,000	0.517
Between $40,001 and $50,000	0.54
Between $50,001 and $60,000	0.569
Between $60,001 and $70,000	0.596
Between $70,001 and $100,000	0.65
Between $100,001 and $200,000	0.734
Between $200,001 and $500,000	0.791

TAX INCIDENCE

Both the MBP and the Institute on Taxation and Economic Policy (ITEP) contend that HJR 36 would shift the tax burden to Missouri's middle class. MBP does so anecdotally, citing concerns that the bill would require taxation for some services that had previously not been subject to sales taxes, such as daycare spending by families and spending by the elderly on nursing home care. Meanwhile, ITEP cites the results from its microsimulation tax model, reporting that the highest 5 percent of income earners would see a reduction in their tax burdens. The other 95 percent of taxpayers would see an increase in their tax burdens. We cannot speak to the merits or faults of ITEP's tax model.

For our purposes, we compute two separate tax burdens for Missourians. In the first, we concentrate on the combined burden with an income tax and with the existing sales tax. In the second, we compute the tax burden with the broad-based sales tax, using the higher 5.79-percent rate that we find would be revenue-neutral. In the second case, the tax burden is net of the rebate paid to households.

Because all other taxes would remain the same, we must specify the income earned by each household, the marginal state income tax rate, and the current sales tax rate. The critical part is to quantify the amount of spending subject to the sales tax in each scenario.

Case I: In Missouri, different income groups have different ratios of earned income subject to the state income tax. Lower income groups, on average, have lower ratios of earned income subject to the state income tax. Table 2 reports the ratio of Missouri taxable income to adjusted gross income for different income groups.

Thus, in order to compute the income tax burden for a household, we apply the appropriate ratio to the earned income. To illustrate, a household with earned income of $9,500 would, on average, have income subject to the state income tax equal to 9,500 times 0.145, which equals $1,378. To simplify the calculations, we multiply the measure of taxable income by 0.04. In other words, we assume that the average marginal income tax rate is 4 percent. With taxable income equal to $1,378, that household's state income tax would be $55.[7] Suppose a household earns $50,000 in annual income. The taxable income for that household would be $50,000 times 0.54, which equals $27,000. The tax on this income would be $27,000 times 0.04, equaling $1,080.[8]

Some businesses could be hurt by a change in the tax code, but the private sector as a whole would see great opportunities for growth.

The evidence indicates that it is the highest-income households that would realize a higher tax burden.

Next, we compute the amount of sales tax paid by a Missourian with a specific income level. Here, we use consumption spending as the tax base, and use an equation specified by John Maynard Keynes to predict the increase in consumption that would result with each additional dollar of income. Holding everything else constant, we specified that household consumption was represented by the function $c_i = a + by_i$ where the ith household spends a subsistence amount, here denoted by *a,* so that even with an absence of earned income, a household would spend some money to sustain itself. Further, the household consumes a portion of each dollar of earned income, here denoted by *b*. For our purposes, a = $14,573 and b = 0.95.

Thus, for a given income level, we compute the amount of expected consumption spending. We then multiply expected consumption spending by 0.3 to obtain the historic average amount of consumption spending in Missouri that is subject to the state sales tax. As such, the product represents the sales tax base. To capture the part of the sales tax that would go into Missouri general revenue, we multiply the sales tax base by 3 percent.

Case II: Here, the structure is simplified. Total consumer spending is the sales tax base, so the household with earned income would spend the expected amount on consumer goods and be subject to the tax rate of 5.79 percent.

To illustrate, consider a household earning $50,000 per year. This household is expected to consume $62,073. Note that the extra spending owes to transfer payments, or non-earned income, such as Temporary Assistance for Needy Families, unemployment insurance benefits, and the Women, Infants and Children Nutrition Program. Thus, the household's gross tax burden would be $3,594.

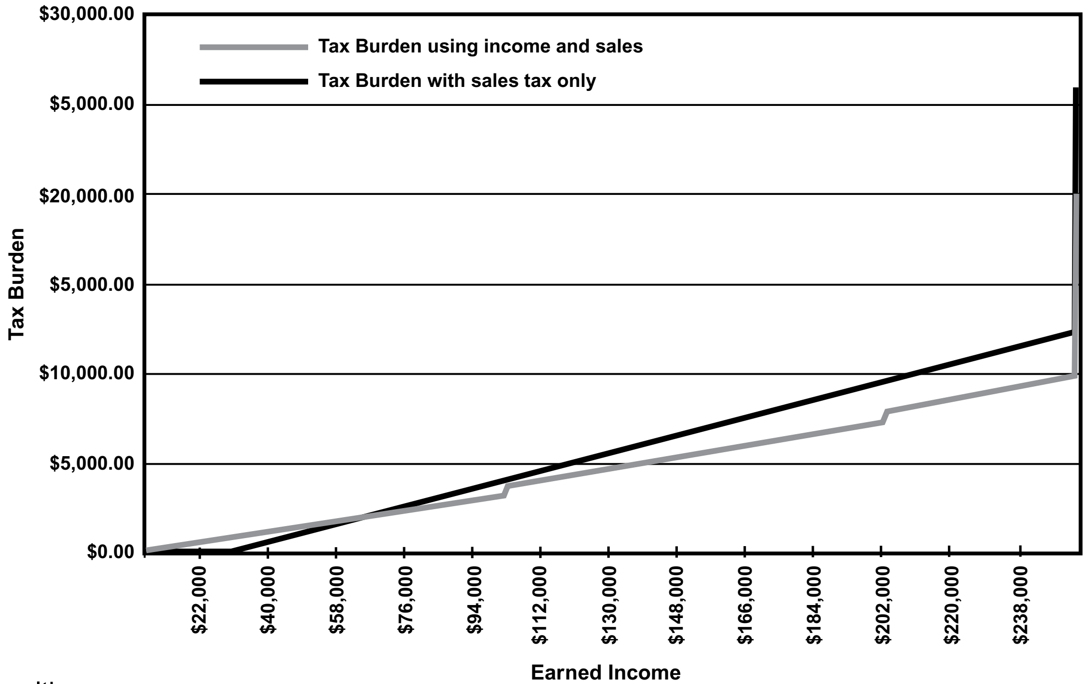
The rebate is computed as follows. For everyone with earned income equaling $27,000 or less, the household would receive a payment equal to their expected sales tax. For those earning $27,001 and above, the rebate would be capped at the amount paid to the household earning $27,000. For households with earned income at or less than $27,000, the rebate would be computed in exactly the same way as the sales tax burden: sales tax base (consumption spending) times the sales tax rate of 5.79 percent.

Comparison: Figure 1 plots the tax burden for each of the two cases. The size of the tax burden is measured on the vertical axis while the earned income level is on the horizontal axis. The most important feature of Figure 1 is where the expected tax burden lines cross. The analysis indicates that households with earned income at or below $60,000 would expect to pay less under HJR 36 than under the current tax structure. The rebate is structured so that the lowest-income households would not pay any sales or income taxes under HJR 36. Because of these assumptions, the evidence indicates that it is the highest-income households that would realize a higher tax burden.

Two parameters play critical roles in our findings of the tax incidence. First, the rebate is structured so that low-income households would see a reduction in their tax burdens under HJR 36. Second, expected consumption is sensitive enough to income that the tax base would increase for high-income households.
To further illustrate this point, the sales

tax rate would be set at 5.79 percent under HJR 36, and the current effective income tax rate is 4 percent. Because expected consumer spending increases almost dollar for dollar with income, high-income households would see an extra dollar of income taxed at nearly 5.79 percent under HJR 36. Under the current sales tax and income tax structure, however, that extra dollar of income is taxed at slightly less than 5 percent for high-income households. As Figure 1 shows, the effect of the sales tax rebate is relatively less and less important as income increases, resulting in high-income households bearing a larger overall tax burden under HJR 36 than under the current tax structure.

Figure 1



A policy that would make government revenue more reliable, that would transform the state into a lightning rod for investment funds, and that would create jobs, increase productivity, empower personal choice, and make citizens and firms richer is one that the state should seriously consider. It is of paramount importance that the dialogue on the issue continues to be informed by the best available data, and subject to the most careful review. Missouri deserves access to every opportunity for growth available to it. Missouri deserves fair debate on a fair tax.

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NOTES

1. **Online here: tinyurl.com/ycjdzfz**
2. **Note that resident filers can include multiple filers within the set of qualified families. For instance, teenagers living with their parents and working will file a Missouri individual income tax form to secure a refund on Missouri income taxes withheld from their paycheck.**
3. **Formally, we compute the poverty threshold as the level for a family of two plus 0.2 times the additional amount associated with a family of three.**
4. **HJR 36 was not clear enough. Throughout this analysis, we interpret the tax base as personal consumption expenditures.**
5. **Make no mistake, HJR 36 would implement a distortionary tax. Sales taxes affect prices and distort changes to quantities traded in the market. The question is, which tax structure would result in distortions that have the smallest impact on people's welfare?**
6. **The Missouri Budget Project's claim is akin to one that former presidential candidate H. Ross Perot made when he argued against the North American Free Trade Agreement (NAFTA). Perot spoke of a "giant sucking sound" that would follow as industries fled the United States after NAFTA's passage. Many things affected the United States' economy after 1994, when NAFTA was enacted, but one is hard-pressed to identify the "giant sucking sound" in the economic data, because per-capita GDP increased sharply beginning in 1995.**
7. **This is a little higher than what would be computed from the tax tables. The tax burden for this household would be $2, according to the tax table.**
8. **Note that the tax table yields a tax burden of $315 plus $1,080 = $1,395 according to the Missouri tax form.**

SHOW-ME INSTITUTE POLICY AREAS

TAXES

Our economy works better when the tax system is simple, fair, and lets workers keep more of the money they earn. Show-Me Institute scholars study the impact of tax and spending policies, and develop reforms that will give us more for our tax dollars and spur faster economic growth.

EDUCATION

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