

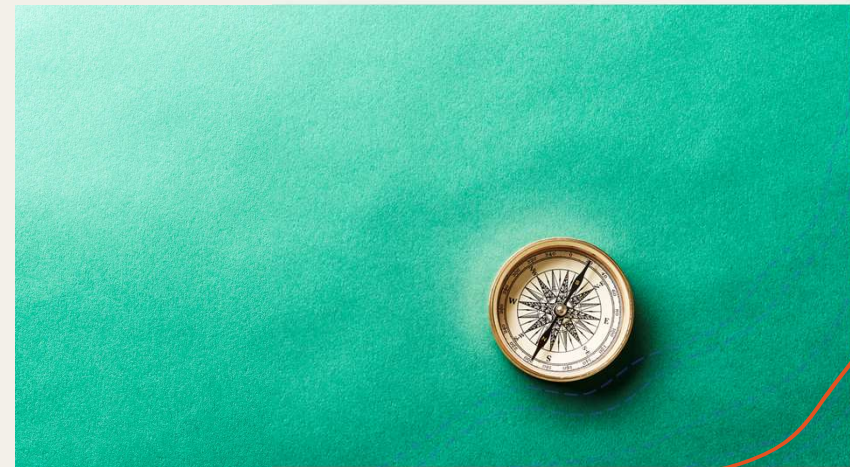
Economic Effects of Replacing
major State Taxes with Property
Tax or Land Tax (Preliminary)

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Introduction and Disclaimer

- Comparing efficiency of taxes(land tax, property tax, sales tax, personal income tax) in a state level, and issues for modeling.
- Massachusetts Department of Revenue has no responsibility for the results of the study, despite the study was conducted using Tax-PI+ which Mass DOR owns.
- The results of this study belong solely to the author.
- I thank Kazim Ozyurt, our office chief who approved for me to conduct the study using Tax-PI+.

Comparison of Taxes

Personal Income Tax

- + **Tax Base:** wages, salaries, dividends, interest, and other forms of income.
- + Very high marginal tax rates might **disincentivize additional work** or seeking higher-paying positions, particularly if jumping to a higher tax bracket results in a significant take-home pay difference.
- + Regions with very high personal income taxes **might face challenges in attracting top talent**, especially if comparable regions offer lower rates.

Property Tax

- + **Tax Base:** the value of both real property (like homes or commercial buildings) and sometimes personal property (like cars or boats).
- + Property taxes that don't distinguish between land value and improvement value **might disincentivize land development.**
- + Property taxes **can increase rental costs**, as landlords might pass on the costs to tenants.

Sales Tax

- + **Tax Base:** the sale of goods and sometimes services.
- + **A higher sales tax can reduce consumption**, especially of non-essential goods, as it raises the price for consumers.
- + Sales tax is generally considered **regressive** as it takes a larger percentage of income from low-income earners than from high-income earners.
- + If one region has a significantly higher sales tax than a neighboring region, **consumers might cross borders** to make significant purchases.

Comparison of Taxes

Land Tax

- + **Tax Base:** Value of land, excluding the values of buildings or improvements made to the land
- + **Efficient Land Use:** A pure land tax encourages efficient use of land. Owners are incentivized to develop or utilize land to its fullest potential to generate revenue, as they'll be taxed regardless of whether or how they use it. So, only most efficient users will own the land.
- + **Preventing Speculation:** It can deter speculative land buying, where investors buy land and leave it undeveloped, waiting for its value to increase.
- + **No Discouragement of Improvement:** Unlike property tax, land tax doesn't tax improvements, so property owners are not penalized for enhancing their property.
- + **Stability:** Land cannot be moved or hidden, making land tax a stable source of revenue compared to other taxes that might encourage avoidance behaviors.

REMI Modeling Scenarios

- S1: Increase in Property Tax by 9.1 billion dollars, and equal decrease in personal income tax.
- S2: Increase in Property Tax by 9.1 billion dollars, and equal decrease in sales tax.
- S3: Increase in Land Tax by 9.1 billion dollars, and equal decrease in sales tax.
- S4: Increase in Residential Land Tax by 9.1 billion dollars, and equal decrease in sales tax.

Effects of Property Tax Hike

- **Housing Cost & Production Cost**

A state-wide hike in property tax increases the cost of housing for individuals and the cost of production for businesses.

- **Substitution effects Due to Lower Demand⁺ for Housing and Capital-Intensive Investment**

The increase in property tax will result in the lower demand for housing at the consumer level and a decrease in capital-intensive investment at the producer level.

Effects of Property Tax Hike

- **Substitution effects between Labor and Capital**

Producers would replace some capital with labor.

- **Substitution effects between Capital-Intensive Goods and Labor-Intensive Goods.**

Consumers can shift their demand from more capital-intensive goods to less capital-intensive goods, producers cannot pass the tax burden onto the consumers fully.

Effects of Property Tax Hike

- **Overall Increase of Price Level in the Economy**
- **Some - Moving Out**

Some residents and businesses might choose to move out of the state. Residents are harder to move than Businesses.

Effects of Lower Personal Income Tax

- **Increase of Disposable Income and of Consumer Expenditure**

The state-wide decrease in personal income tax will result in the increase of disposable income by the tax reduction amount fully, and the increase of consumer expenditure.

- **Consumer Spending Would Not Increase As Much**

Households can choose between saving and consumption, the increase of the disposable income would not increase consumer spending by the tax reduction amount. Saving rate is usually low.

Effects of Lower Personal Income Tax

However, saving rates are not high, and most of the increased income will be used for spending on goods.

- **Net Positive Effects from Increase of Property Tax and Equal decrease of Personal Income Tax** +

Because the tax reduction in personal income tax affects the economy more directly, net economic impacts of the tax changes will be positive. The overall increase of price level will offset the positive effects to some degree.

Effects of Lower Sales Tax

- **Decrease of Production Cost**

The state-wide decrease in sales tax will result in the decrease of production cost to some degree.

- **Increase of Disposable**

+

It will also result in the increase of disposable income and consumer expenditure.

Effects of Lower Sales Tax

- **Overall Decrease of Price Level in the Economy**
- **Net Positive Effects from Increase of Property Tax and Equal decrease of Sales Tax** +

Because the tax reduction in sales tax lower production cost and increase disposable income, net economic impacts of the tax changes are positive. Furthermore, the overall decrease of price level will reinforce the positive effects.

REMI does not capture the following effects directly

- **Land is not malleable and movable,** buildings(improvements) are somewhat malleable and movable, the other properties are much more malleable and movable.
- **In the model of a closed region without migration,** therefore, landowners must bear the burden of the **property tax hike fully**, the owners of buildings would bear the burden of the property tax hike less fully.

REMI does not capture the following effects directly

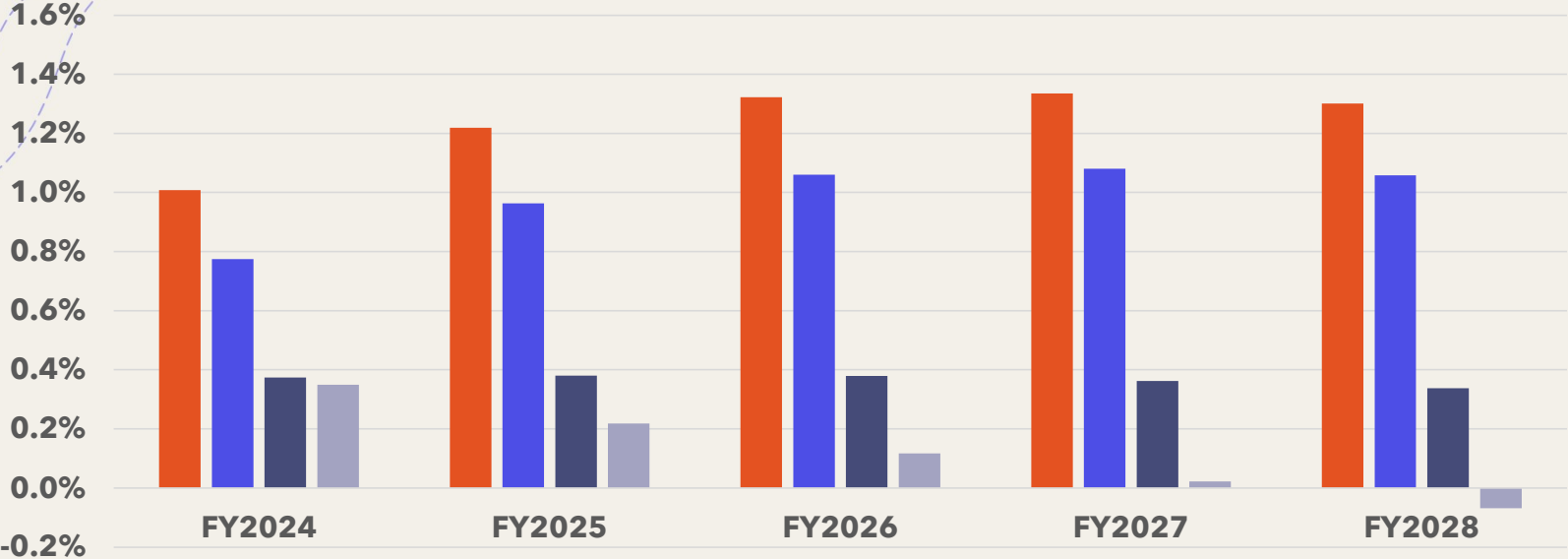
- **The owners of the other properties** would be likely to pass the burden of the property tax hike onto the producers to some or much degree.

+

Employment Changes



Real GDP Changes



- Replacing sales with residential land tax
- Replacing sales with land tax
- Replacing sales tax with property tax
- Replacing personal income tax with property tax

Price Index Changes



S1-Economic Impacts (increase in property tax and equal decrease in personal income tax)

Category	Units	2024	2025	2026	2027	2028
Total Employment	Thousands (Jobs)	31.6	25.4	20.6	15.8	11.1
Population	Thousands	19.6	31.2	38.2	41.8	42.7
Gross Domestic Product	Billions of Fixed (2012) Dollars	1.9	1.2	0.7	0.1	-0.4
Personal Income	Billions of Current Dollars	3.0	2.8	2.6	2.3	1.8
PCE-Price Index	2012=100 (Nation)	1.7	1.7	1.7	1.6	1.6

S1-Economic Impacts (increase in property tax and equal decrease in personal income tax)

Category(% changes)	2024	2025	2026	2027	2028
Total Employment	0.6%	0.5%	0.4%	0.3%	0.2%
Population	0.3%	0.4%	0.5%	0.6%	0.6%
Gross Domestic Product	0.3%	0.2%	0.1%	0.0%	-0.1%
Personal Income	0.5%	0.4%	0.4%	0.3%	0.2%
PCE-Price Index	1.2%	1.2%	1.2%	1.1%	1.1%

S2-Economic Impacts (increase in property tax and equal decrease in sales tax)

Category	Units	2024	2025	2026	2027	2028
Total Employment	Thousands (Jobs)	32.8	33.7	34.0	33.3	32.2
Population	Thousands	16.4	28.4	37.3	43.7	48.0
Gross Domestic Product	Billions of Fixed (2012) Dollars	2.0	2.1	2.1	2.1	2.0
Personal Income	Billions of Current Dollars	2.9	3.4	3.8	4.0	4.1
PCE-Price Index	2012=100 (Nation)	-0.4	-0.3	-0.3	-0.3	-0.3

S2-Economic Impacts (increase in property tax and equal decrease in sales tax)

Category(% changes)	2024	2025	2026	2027	2028
Total Employment	0.7%	0.7%	0.7%	0.7%	0.6%
Population	0.2%	0.4%	0.5%	0.6%	0.7%
Gross Domestic Product	0.4%	0.4%	0.4%	0.4%	0.3%
Personal Income	0.5%	0.5%	0.5%	0.5%	0.5%
PCE-Price Index	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%

S3-Economic Impacts (increase in land tax and equal decrease in sales tax)

Category	Units	2024	2025	2026	2027	2028
Total Employment	Thousands (Jobs)	59.2	69.8	74.6	74.6	72.2
Population	Thousands	29.6	53.9	73.2	87.3	97.0
Gross Domestic Product	Billions of Fixed (2012) Dollars	4.1	5.3	6.0	6.3	6.3
Personal Income	Billions of Current Dollars	5.6	7.3	8.6	9.2	9.5
PCE-Price Index	2012=100 (Nation)	-0.4	-0.3	-0.2	-0.2	-0.2

S3-Economic Impacts (increase in land tax and equal decrease in sales tax)

Category(% changes)	2024	2025	2026	2027	2028
Total Employment	1.2%	1.4%	1.5%	1.5%	1.4%
Population	0.4%	0.8%	1.0%	1.2%	1.3%
Gross Domestic Product	0.8%	1.0%	1.1%	1.1%	1.1%
Personal Income	0.9%	1.1%	1.2%	1.3%	1.3%
PCE-Price Index	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%

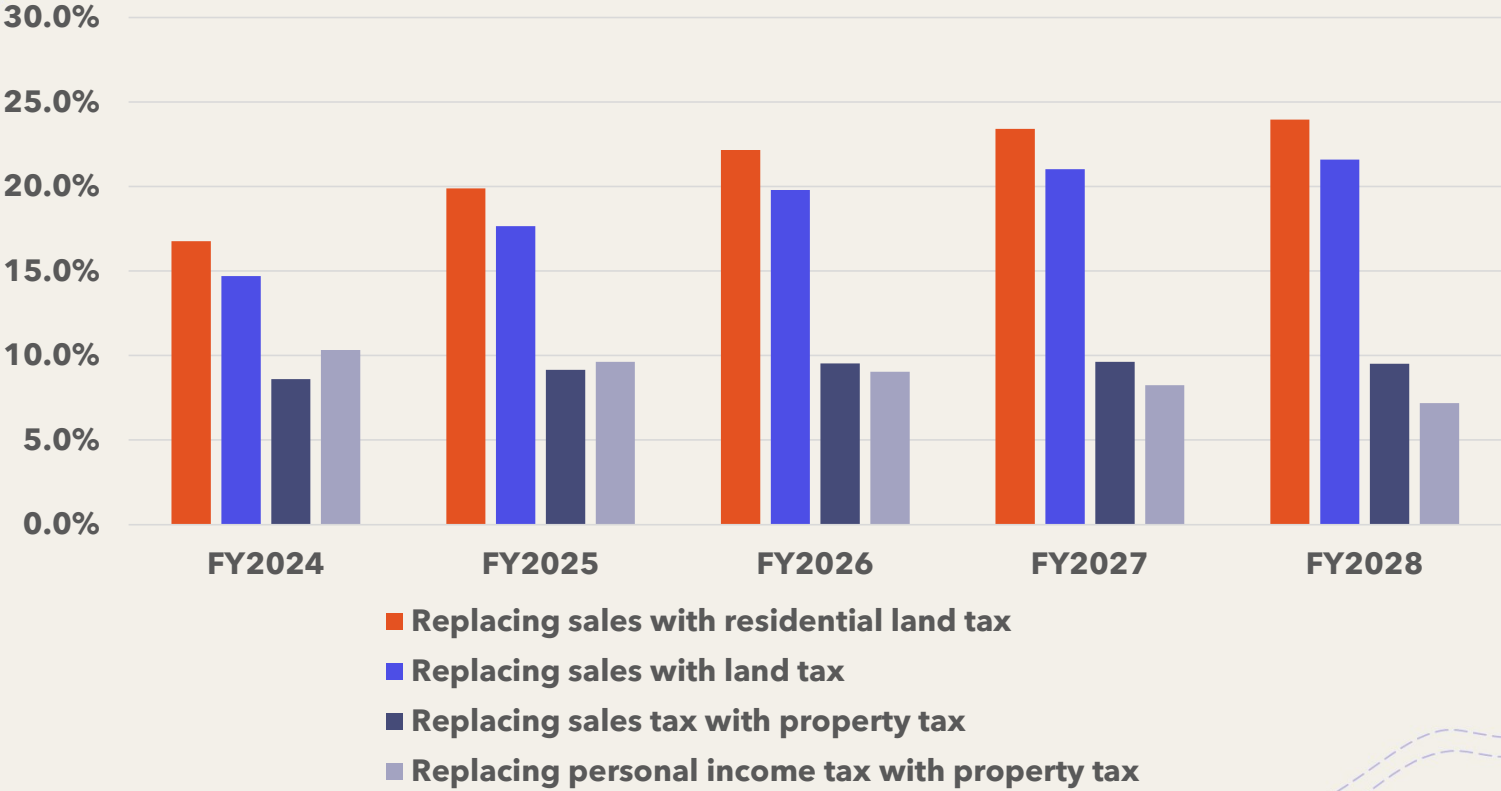
S4-Economic Impacts (increase in residential land tax and equal decrease in sales tax)

Category	Units	2024	2025	2026	2027	2028
Total Employment	Thousands (Jobs)	72.8	85.0	90.2	89.7	86.5
Population	Thousands	27.4	50.4	69.0	82.6	91.7
Gross Domestic Product	Billions of Fixed (2012) Dollars	5.4	6.7	7.5	7.7	7.7
Personal Income	Billions of Current Dollars	6.3	8.3	9.6	10.3	10.7
PCE-Price Index	2012=100 (Nation)	-0.7	-0.4	-0.4	-0.3	-0.3

S4-Economic Impacts (increase in residential land tax and equal decrease in sales tax)

Category(% changes)	2024	2025	2026	2027	2028
Total Employment	1.5%	1.7%	1.8%	1.8%	1.7%
Population	0.4%	0.7%	1.0%	1.1%	1.3%
Gross Domestic Product	1.0%	1.2%	1.3%	1.3%	1.3%
Personal Income	1.0%	1.2%	1.4%	1.4%	1.4%
PCE-Price Index	-0.5%	-0.3%	-0.3%	-0.2%	-0.2%

Tax Revenue Impacts



S1-Tax Revenue Impacts (increase in property tax and equal decrease in personal income tax)

Revenue	Units	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax		14.9	9.0	4.1	(0.7)	(5.6)
Personal Income Tax		(9,001.3)	(9,007.3)	(9,014.9)	(9,026.3)	(9,041.1)
Sales Tax	Millions of Current Dollars	71.9	60.7	52.2	43.5	34.2
Property Tax		9,100.0	9,100.0	9,100.0	9,100.0	9,100.0
All other taxes		21.8	22.4	22.9	22.8	21.8
Total		207.3	184.7	164.4	139.3	109.3

S1-Tax Revenue Impacts (increase in property tax and equal decrease in personal income tax)

Revenue(% changes)	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax	0.5%	0.1%	-0.3%	-0.7%	-1.0%
Personal Income Tax	-99.5%	-99.6%	-99.6%	-99.7%	-99.8%
Sales Tax	4.5%	4.0%	3.7%	3.4%	3.0%
Property Tax	100.0%	100.0%	100.0%	100.0%	100.0%
All other taxes	4.8%	5.1%	5.3%	5.3%	5.0%
Total	10.3%	9.6%	9.0%	8.2%	7.2%

S2-Tax Revenue Impacts (increase in property tax and equal decrease in sales tax)

Revenue	Units	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax		16.9	17.7	18.3	18.0	17.3
Personal Income Tax		95.0	111.0	123.0	129.5	132.8
Sales Tax	Millions of Current Dollars	(9,047.8)	(9,044.9)	(9,042.3)	(9,041.7)	(9,041.9)
Property Tax		9,100.0	9,100.0	9,100.0	9,100.0	9,100.0
All other taxes		23.0	25.0	26.8	28.1	28.9
Total		187.0	208.9	225.7	233.9	237.1

S2-Tax Revenue Impacts (increase in property tax and equal decrease in sales tax)

Revenue(% changes)	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax	0.8%	0.6%	0.5%	0.3%	0.2%
Personal Income Tax	0.5%	0.5%	0.5%	0.5%	0.5%
Sales Tax	-97.8%	-97.8%	-97.8%	-97.8%	-97.9%
Property Tax	100.0%	100.1%	100.1%	100.1%	100.1%
All other taxes	5.2%	5.8%	6.3%	6.5%	6.7%
Total	8.6%	9.2%	9.6%	9.7%	9.5%

S3-Tax Revenue Impacts (increase in land tax and equal decrease in sales tax)

Revenue	Units	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax		34.7	44.9	51.2	54.1	54.9
Personal Income Tax		181.4	239.5	279.2	301.0	311.2
Sales Tax	Millions of Current Dollars	(9,000.6)	(8,978.3)	(8,964.1)	(8,957.5)	(8,955.1)
Land Tax		9,100.0	9,100.0	9,100.1	9,100.1	9,100.1
All other taxes		34.8	41.9	48.1	52.8	56.4
Total		350.3	448.0	514.4	550.4	567.4

S3-Tax Revenue Impacts (increase in land tax and equal decrease in sales tax)

Revenue(% changes)	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax	1.7%	2.0%	2.3%	2.4%	2.5%
Personal Income Tax	0.9%	1.1%	1.2%	1.3%	1.3%
Sales Tax	-95.9%	-95.4%	-95.1%	-95.1%	-95.2%
Property Tax	100.0%	100.0%	100.0%	100.0%	100.0%
All other taxes	8.0%	9.9%	11.4%	12.4%	13.0%
Total	14.8%	17.9%	20.3%	21.7%	22.4%

S4-Tax Revenue Impacts (increase in residential land tax and equal decrease in sales tax)

Revenue	Units	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax		45.5	57.3	64.5	67.5	68.1
Personal Income Tax		204.1	269.6	314.0	337.6	348.4
Sales Tax	Millions of Current Dollars	(8,975.6)	(8,950.4)	(8,934.8)	(8,928.1)	(8,926.1)
Residential Land Tax		9,100.0	9,100.0	9,100.1	9,100.1	9,100.1
All other taxes		38.0	45.4	51.9	56.9	60.6
Total		411.9	521.8	595.7	633.9	651.1

S4-Tax Revenue Impacts (increase in residential land tax and equal decrease in sales tax)

Revenue(% changes)	FY2024	FY2025	FY2026	FY2027	FY2028
Corporate Tax	2.1%	2.5%	2.8%	2.9%	3.0%
Personal Income Tax	1.0%	1.2%	1.4%	1.4%	1.4%
Sales Tax	-94.9%	-94.4%	-94.1%	-94.1%	-94.3%
Property Tax	100.2%	100.4%	100.7%	107.0%	101.1%
All other taxes	8.7%	10.5%	12.1%	13.2%	13.8%
Total	16.9%	20.3%	22.8%	24.3%	25.1%

Conclusion

- **Tax on properties, especially on real estates have merits over personal income tax, sales tax, many other taxes.**
- **Tax on land has more merits, more efficient and equitable.**
- **Even though tax on land has a lot of merits, it is important to abolish or reduce other taxes when we increase tax on land, because otherwise homeowners and other property owners would just leave the state.**



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Thank You

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