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Massachusetts Sales Tax Hike Would Destroy 10,000 Jobs and \$41 million in Investment

The growing budget gap on Beacon Hill is prompting several lawmakers to seriously consider increasing the state's sales tax by 20%. Supporters of the measure, which would add one penny to the current 5% sales tax, maintain the increase would generate an additional \$750 million into the treasury.¹ However, such an increase would ripple through the state's economy destroying jobs and income, and shifting sales out of state, all the while making the state less competitive. A sales tax increase would also take a toll on the retail industry which employs 18% of all workers in Massachusetts.

¹ Hillary Chabot, "Politicians look to hike sales tax," *Boston Herald*, March 11, 2009.
<http://www.bostonherald.com/news/politics/view.g?articleid=1157729>. (accessed March 23, 2009).

Proponents argue that the sales tax, would be an equitable and swift way to raise new revenue to reduce the budget gap. The trouble with such reasoning is that it ignores one of the bedrock

A 20% sales tax increase would represent 0.41% of the income of a household earning between \$5,000 and \$10,000 annually, while only 0.21% of the income of a household earning more than \$70,000.

principles of economics: Higher taxes entail sacrifices beyond those incurred directly by taxpayers. Higher taxes, especially higher state sales taxes, do not simply produce revenue. Because taxes discourage the activities (work and investment) on which they are imposed, they cause reductions in economic activities. Thus, in addition to imposing higher burdens on individual taxpayers, corporations or property owners, each tax hike option would inflict collateral damage on the broader economy in the form of lost jobs, wages and investment. While increasing tax revenue, higher sales taxes will reduce spending on business capital, such as factory equipment, office buildings, delivery trucks and computers. These effects are not small and should be strongly considered by lawmakers eager to raise the sales tax.

Using its trademark STAMP model, the Beacon Hill Institute finds that a 20% increase in the Commonwealth’s sale tax would destroy 10,182 private sector jobs, diminish real per capita disposable income by \$16.81 and lower the state’s capital stock by \$41.31 million. With a 6% sales tax in place, the average person would lose approximately \$369 per year in spending power.

Table 1: Economic Variables Summary CY 2010

Employment Change		Change in Wage Rates	Disposable Income	Disposable Income	Gross Private Domestic Investment
Private	Public	(\$ /person /year)	(\$ Million)	(\$ per Capita)	(\$ million)
-10,182	4,879	(\$369.456)	(\$220.963)	(\$16.81)	(\$41.311)

The reasons for these ill-effects are threefold: First, a higher sales tax means that a greater part of the consumer's dollar goes to the government (in this case to hire 4,879 public sector workers) rather than back into the economy where it can be used to create jobs and finance capital spending. Second, it means that buying goods in Massachusetts becomes more expensive, and eventually this increase will result in lost jobs. And, third, it means that Bay Staters have even more incentive to cross the state line to the familiar tax haven to the north known as New Hampshire, or to make purchases online tax free. This is certainly important for border cities such as Lowell, Haverhill and Methuen, but also for any Massachusetts community within an hour’s drive from New Hampshire. A sales tax increase in the magnitude of 20% will most likely be more harmful for small “mom ‘n pop” retailers operating on Main Streets across the state than for chains which already operate in New Hampshire and/or online.

Not to be overlooked is the inherent regressivity found in most sales taxes. Low income workers will pay more of their income in the tax than high income earners.

The State Sales Tax Base and Its Future

Sales and use taxes continue to be an important source of revenue for states, although their relative importance in comparison to that of state income taxes has waned since the 1970.² Over the last 10 years, (1998-2008) sales taxes in the Commonwealth accounted for roughly 23% of total state tax revenues, proving to be a fairly reliable revenue stream.³ Moreover, since 1998, the sales tax revenues have grown on average 3.3%.

Yet the sales tax continues to face a number of technological, economic and political issues. Because of generous exemptions for goods determined to be necessities and for services, the sales tax base excludes a sizeable portion of total consumption.⁴ The emergence of a service based economy has also limited the tax base. The sales tax base has been further diminished by demographic changes as an older population consumes services, drugs and medical products not subject to sales taxation.⁵ The growing popularity of Internet commerce poses the most serious threat to the sales tax base. One estimate suggests that state governments lost 3% of total tax revenue as a result of Internet sales.⁶ According to public finance economists who have studied electronic commerce trends, Massachusetts was projected to lose between 2.2% and 3.5% of its tax revenue to Internet sales in 2008.⁷ It should be noted that Amazon.com saw a 16% increase in sales during the 2008 holiday sales season, while the Commonwealth saw sales tax revenues plummet by 8.6% during that period.⁸ That trend is expected to continue as consumers look to the Internet—which provides no jobs or tax revenue for the Commonwealth—for both increased convenience and for tax avoidance.

² David Brunori, *State Tax Policy: A Political Perspective* (Washington D.C.: Urban Institute Press, 2001), 67-87.

³ Authors calculations based on Massachusetts Department of Revenue statistics.

⁴ George R. Zodrow, *State Sales and Income Taxes: An Economic Analysis* (College Station, TX: Texas A&M University Press, 1999), 78.

⁵ Paul L. Menchik, "Demographic Change and Fiscal Stress," *National Tax Association Proceedings*, 2001, 90-98, in David N. Hyman, *Public Finance: A Contemporary Application of Theory to Policy* (Mason, OH: Thomson Higher Education, 2008), 640.

⁶ Robert Tannewald, "Are State and Local Revenue Systems Becoming Obsolete?" *National Tax Journal* 60, 3 (September 2002): 467-489.

⁷ Donald Bruce and William F. Fox, "State and Local Sales Tax Revenue Losses from E-Commerce: Estimates as of July 2004," Center for Business and Economic Research (July 2004), 10, <http://cber.utk.edu/ecomm/ecom0704.pdf>. (accessed March 27, 2008).

⁸ Amazon.com Press Office, "Amazon.com announces fourth quarter sales up 18% to \$6.7 billion; 2008 Free cash flow grows 16% to \$1.36 billion," (January 29, 2009). http://media.corporate-ir.net/media_files/irol/97/97664/consolidated_pressrelease_Q408.pdf. See also Massachusetts Department of Revenue, Monthly Revenue Collections December 2007 over December

2008) http://www.mass.gov/Ador/docs/dor/Stats/BlueBook/FY2009/December_2008.pdf (accessed April 9, 2009).

While public finance economists often argue about the virtues of sales taxes in comparison to other taxes (often on grounds of efficiency, popularity and administration), they tend to agree strongly that sales taxes are regressive. An increase in the sales tax is not likely to make it less so.

Applying STAMP to Score a 6% Sales Tax in Massachusetts

To estimate the economic effects of tax policy changes, BHI has developed a Computable General Equilibrium (CGE) model. The purpose of the BHI model, called STAMP (State Tax Analysis Modeling Program), is to identify the the economic effects and understand how they operate through a state's economy.⁹

Table 2: Economic Variables Details CY 2010

Economic Variable	CY 2010
Total Employment (Jobs)	-5,303
Private (Jobs)	-10,182
Government (Jobs)	4,879
Gross Wage Rate (\$/person/year)	-369.456
Investment (\$ millions)	-41.311
Real Disposable Income (\$ millions)	-220.963
Real Disposable Income DI per Capita (\$)	-16.806
State Funds (\$ millions)	539.534
State sales tax	834.256
State tax on motor fuel	(2.369)
State tax on motor vehicle	(1.381)
State corporation excise tax	(7.735)
State personal income tax	(104.585)
State cigarette tax	(7.684)
State other taxes, fees and other revenue	(160.873)
State unemployment insurance	(10.095)
Local Funds (\$ millions)	(19.871)
Local residential property tax	(5.371)
Local business property tax	(14.500)
Total Funds (\$ millions)	519.664

Massachusetts-STAMP is a five-year dynamic CGE model that simulates changes in taxes, costs (general and sector specific) and other economic inputs. As such, it provides a mathematical description of the economic relationships among producers, households, governments and the rest of the world. It is general in the sense that it takes all the important markets, such as the capital and labor markets, and flows into account. It is an equilibrium model because it assumes that demand equals

⁹ For a description about the model see www.beaconhill.org.

supply in every market (goods and services, labor and capital). This equilibrium is achieved by allowing prices to adjust within the model. It is computable because it can be used to generate numeric solutions to concrete policy and tax changes.⁷

Against the baseline case, a 20% increase in the sales tax, Massachusetts-STAMP generated a series of results that quantify the dynamic effects of a higher tax. Table 2 above shows that an increase of the sales tax from 5% to 6% would have negative effects on the Massachusetts economy.

It is easy to understand what might happen if the increase takes effect. The sales tax increases the price of goods. Standard economic theory shows that price increases of a good or service leads to a decrease in overall consumption, and subsequently a decrease in the production of those goods and services. This is certainly especially true in periods of economic decline as we now are facing. As producers' output falls, the decrease in productions results in a lower demand for labor. Here STAMP finds that the private sector will shed 10,182 jobs. Though the public sector workforce would increase by 4,879, total employment in the state would decrease by 5,303 jobs.

The increase in the sales tax is expected to raise \$834.26 million in sales tax revenue. However, the actual total increase for 2010 will be far less, only \$519 million.

The decrease in labor demand, as seen in the private sector job losses, also means that the gross wage rate will fall by \$369.46 per capita per year. When combined price increases associated with the new rate take effect disposable income per capita will decrease by \$16.81 per capita totally \$220.96 million per year. Furthermore, investment in the state will fall by \$41.31 million.

In theory, the increase in the sales tax (from 5% to 6%) will raise \$834.26 million in sales tax revenue, but the actual total increase (all taxes collected by the Commonwealth) is only \$519.67 million in calendar year 2010. This accounting of the dynamic effects can be attributed to a decrease in state personal income tax receipts since the Commonwealth will see lower employment and lower base wages as well as decreases in state other tax and fee revenue. Moreover, dynamic effects also account for behavioral changes consumers make do to the tax increase, such as employing tax avoidance strategies. At the margin, the tax hike increases the incentive for consumers to shop in New Hampshire or online to avoid the higher sales tax. As more consumers seek these alternatives, the potential sales tax receipts would be lower.

The sales tax increase would also hurt local property tax collections. Local governments can expect their business property tax collections to fall by \$14.5 million and residential property tax revenues to decrease by \$5.37 million. Lower retails sales translate into fewer retails paying property taxes, while households would have less money available to improve their properties.

Distributional Effects: The Sales Tax is Not Progressive

A 20% sales tax increase will modestly impinge upon the ability of Massachusetts households' to spend their overall incomes. However, the impact is not equal across income groups. By their nature, sales taxes, even those with exemptions, tend to be regressive, since low income workers spend more of their income on necessities while higher income households are able to save a higher percentage of their incomes. The Massachusetts sales tax, with its numerous exemptions for food, clothing, housing and most services, tends to dampen the regressive nature but an increase will not diminish the pressure on low income earners' expenditures.¹⁰

It is important to note that lower income families are also less able to take advantage of tax avoidance options readily available to higher income families. For instance, a low income family may not have transportation available to drive to New Hampshire to avoid the increased taxation in Massachusetts. In addition, they would be less likely to have Internet access or credit card availability to purchase online to also avoid the Massachusetts tax.

BHI measures the progressivity of the higher sales tax proposal by estimating the cost increase that households in different income groups would face. In order to measure the progressivity of a 20% increase, we first constructed a data set based on both expenditure and income that included information from a sample of households. The next step was to apply the tax increase to those spending categories for which the sales tax applies and not to exempt items like food and clothing.

Table 3: Distributional Effects of a Six Percent Sales Tax

Household Income Categories	Average Annual Disposable Income (\$)	Average Annual Expenditures (\$)	Expenditure Increase (\$)	Percentage of Income	Percentage of Expenditure
<5,000	447	20,338	50	11.08	0.24
5,000 to 9,999	8,139	15,706	33	0.41	0.21
10,000 to 14,999	12,575	19,803	51	0.41	0.26
15,000 to 19,999	17,278	23,887	54	0.31	0.22
20,000 to 29,999	24,594	29,355	84	0.34	0.29
30,000 to 39,999	34,215	35,078	106	0.31	0.30
40,000 to 49,999	43,752	40,322	114	0.26	0.28
50,000 to 69,999	57,459	50,240	165	0.29	0.33
>70,000	130,999	85,201	273	0.21	0.32

¹⁰ Massachusetts Department of Revenue, "A Guide to Sales and Use Tax,"

http://www.mass.gov/?pageID=dorterminal&L=6&L0=Home&L1=Individuals+and+Families&L2=Personal+Income+Tax&L3=Forms+%26+Publications&L4=Publications&L5=Publications+Index&sid=Ador&b=terminalcontent&f=dor_publ_sales_use&csid=Ador. (accessed March 24, 2009).

Table 3 above displays households sorted into specific income brackets, taken from the Consumer Expenditure Survey from the U.S. Bureau of Labor Statistics.¹¹ When our data set is sorted into income groups, the new 6% sales tax appears regressive, as the total sales tax burden represents a higher percentage of income for those individuals in the lower groups and a lower percentage of the income of those in the higher income groups. A 20% sales tax increase would represent 0.41% of the income of a household earning between \$5,000 and \$10,000 annually, while only 0.21% of the income of a household earning more than \$70,000. On average, the new tax rate would subtract nearly \$156 per year, or 0.24% of the annual incomes of Massachusetts households.

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However, income fails to capture the true lifetime earnings of individuals who find themselves temporarily in an income group, which is clearly evident by the discrepancy between income and expenditures experienced at the bottom of the income scale. Households in the first six income groups are spending more than their incomes, as they are in the process of acquiring houses, cars, and other “big ticket” items in anticipation of higher incomes in the future.

Other household earners, namely sole proprietors, individuals in partnerships, and contract workers, have very erratic and unpredictable income patterns which can result in negative incomes over the course of a year. Both situations push average income levels down, relative to average expenditure, at the lower end of the scale, especially the bottom three income groups in Table 3 above.

As a result, when we measure households by average annual expenditures, the difference between the income groups narrows; as the sales tax increase represents between 0.21% and 0.32% of expenditure. Nevertheless, the distribution of the burden remains intact: Households in the four highest income groups suffer only a slightly higher burden, between 0.30% and 0.33% than households earning \$29,999 and below. The lowest income group’s burden ranges from 0.21% to 0.29% of their annual expenditures. Irrespective of our measure of income (current or lifetime), a 6% sales tax burden would fall on Massachusetts households fairly evenly across the income spectrum.

¹¹ U.S. Department of Labor, Bureau of Economic Analysis, Consumer Expenditure Survey, 2005-2006; “Table 31: Northeast region by income before taxes: Average annual expenditures and characteristics:” <ftp://ftp.bls.gov/pub/special.requests/ce/crosstabs/y0506/regbyinc/xregns.txt>. (accessed April 6, 2009).

The Beacon Hill Institute at Suffolk University in Boston focuses on federal, state and local economic policies as they affect citizens and businesses. The institute conducts research and educational programs to provide timely, concise and readable analyses that help voters, policymakers and opinion leaders understand today's leading public policy issues.

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