



WHAT IF MICHIGAN HAD ENACTED A PRICE BASED GASOLINE TAX IN 1997?

In his Special Message on Infrastructure¹ delivered on October 26, 2011, Governor Snyder proposed replacing the state's current 19 cent per gallon tax on gasoline with a tax based on a percentage of the price at the wholesale level.² Michigan raised its gasoline tax from 15 cents per gallon to 19 cents a gallon in 1997. Since then inflation and declines in gasoline purchases have both significantly eroded the purchasing power of this tax. The Governor's proposal raises the question of what the impact would have been of having enacted such a price based tax on gasoline back in 1997, rather than the 19 cent per gallon tax.

The Governor's office has stated³ that it would take a wholesale tax rate of roughly 6.7 percent of price to generate the same revenue as the current 19 cent gasoline tax. The wholesale rate needed to raise 19 cents per gallon in 1997 would have been much higher since the price of gasoline was so much lower.

According to the Bureau of Labor Statistics⁴, the average price of a gallon of gas in the Detroit region was \$1.26 in 1997. Adjusting the retail price for state and federal gasoline taxes, the state's sales tax, and a small adjustment for delivery fees and a retail markup⁵, suggests a wholesale price of approximately \$0.80 per gallon in 1997. At this price, a wholesale tax rate of 23.8 percent would have been needed to generate the equivalent of 19 cents per gallon in tax revenue in 1997. (Making these same adjustments to 2011 prices would suggest a wholesale rate of 6.6 percent to raise 19 cents, very close to the administration's estimate.)

The tax rate of 23.8 percent is significantly higher than the rate being proposed now. Had this rate been in

place since 1997, the state would have generated significantly more in gasoline taxes than it has garnered from the 19 cents per gallon tax. With a wholesale tax rate of 23.8 percent and a retail price per gallon of \$3.50, the average price for fiscal year 2011, the effective tax would have been approximately 69 cents per gallon in 2011. At 69 cents per gallon, the state would have raised more than \$2 billion more in fiscal year 2011 than what was collected at 19 cents per gallon. In total, the state would have collected approximately \$12 billion in additional gasoline tax revenues between 1997 and 2011 under such a tax.⁶

If a price based wholesale tax had been enacted in 1997, the tax dollars generated would have been less than 19 cents per gallon in 1998 and 1999 because gasoline prices fell in those years compared to 1997. In both years, the tax would have been approximately 16 cents per gallon. However, for every fiscal year after 1999, the tax would have been greater than 19 cents per gallon. The tax would have seen year-to-year declines in two other fiscal years, 2002 and 2009, but in both these years the tax still would have generated more than 19 cents per gallon (See **Chart 1**).

Gasoline prices rose much faster than inflation between fiscal years 1997 and 2011, with gasoline prices rising 177 percent compared to an overall inflation rate of just under 40 percent. Of course, if the state had enacted a price based tax in 1997, the rate might have been cut in subsequent years in light of rapidly rising gasoline prices. If the 19 cent per gallon rate had been adjusted annually for inflation it would be approximately 27 cents per gallon now.

Several factors have contributed to the erosion in the purchasing power of Michigan's gasoline tax since it was last increased in 1997. Tax collections are equal

¹ www.michigan.gov/documents/snyder/102611InfrastructureMessage_367113_7.pdf

² The Diesel Fuel and Liquefied Petroleum taxes would also change from per gallon taxes to price based taxes.

³ www.businessweek.com/ap/financialnews/D9QJNH380.htm

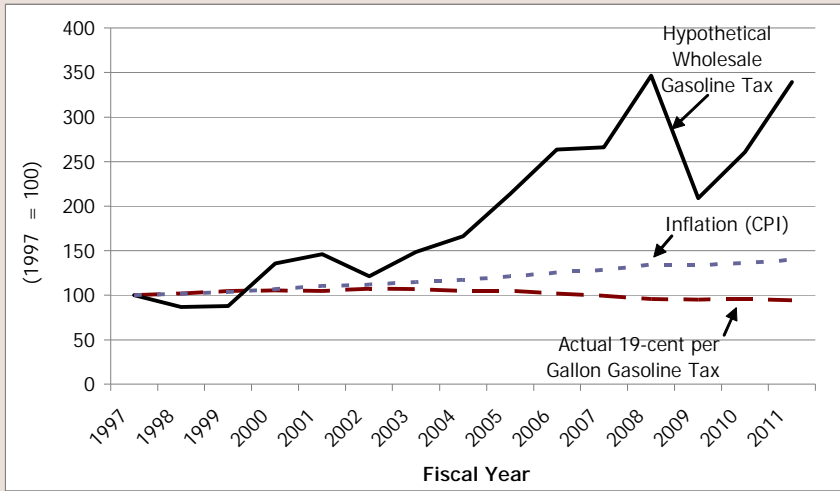
⁴ www.bls.gov/

⁵ www.michigan.gov/ag/0,1607,7-164-17334_17362-93060--00.html

⁶ The higher gasoline taxes would also lead to slightly lower consumption. These estimates have been reduced to reflect this. However, recent studies suggest that gasoline consumption is not very sensitive to prices, so the consumption adjustments did not materially affect the revenue estimates.



Chart 1
Wholesale Gasoline Tax, \$0.19 per Gallon Tax*, and U.S. CPI



* 1997 tax totals adjusted to reflect a full year of collections at the \$0.19 or 23.8% rate. The rate went to 19 cents on August 1, 1997.

Source: U.S. Bureau of Labor Statistics, Michigan Department of Treasury, CRC Calculations.

power of the tax? The answer is unclear. A recovery in Michigan's economy would lead to increased consumption of gasoline, but this increase would be offset, at least to some degree, by the increasing fuel efficiency of cars. The path of gasoline prices is also unclear. Prices rose rapidly between 1997 and 2011, but this does not mean they will continue to rise going forward. In fact, they could decline. Gas prices spiked to an average price of \$1.35 per gallon in 1981 and did not reach this level again until 2000, 19 years later. Gas prices in the 1990s were actually lower on average than they were in the 1980s.

Switching Michigan's gasoline tax to one based on price could better protect the purchasing power of the tax, but it will depend on how gasoline prices change moving forward. Gasoline prices could rise faster or slower than overall inflation and the tax could be stable or volatile depending on what happens with prices. Caps or floors could be added to such a tax to increase stability or to limit any increases or declines. Alternatively, instead of a wholesale tax, the current 19 cent per gallon tax could be indexed to a measure, such as the Consumer Price Index⁷, to keep tax growth consistent with some desired measure of growth.

⁷ www.bls.gov/cpi/data.htm

to the rate times the base. Inflation has eroded the purchasing power of the \$0.19 tax rate. As was previously noted, if the 19 cent per gallon tax had been adjusted for inflation, it would be 27 cents now. Looked at in a different way, what you can buy with 19 cents today could have been purchased with just 13.6 cents in 1997.

The gasoline tax base has also eroded. High gas prices and Michigan's weak economy have both reduced consumption. The number of gallons subject to taxation peaked in 2003 and has been declining since. Taxable gallons

are down 11.9 percent since 2003 and are down 5.8 percent compared to 1997. The combination of the erosion of the tax rate and base has led to a substantial decrease in the purchasing power of the tax. In nominal terms, the 19 cent tax raises 5.8 percent less than it would have in 1997, had the tax been 19 cents for the whole year. In inflation adjusted terms, the purchasing power has fallen by more than 30 percent.

Would changing the tax to one based on the price of gasoline, rather than a fixed number of cents per gallon, protect the purchasing

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**Table 1
Wholesale Gasoline Tax Revenues Compared to \$0.19 per Gallon Tax
Assumes Wholesale Tax Enacted in 1997 Equivalent to \$0.19 per Gallon**

Fiscal Year	Average Retail Price Gasoline		Estimated Wholesale Price Gasoline ⁴		Wholesale Tax Rate		Equivalent Tax in Cents Per Gallon		Estimated Wholesale Tax Revenues		Actual ^{4,5} Gas Tax Collections at \$0.19/gal		Change From Actual	
	Price	Retail	Price	Wholesale	Wholesale	Tax Rate	Per Gallon	Tax Revenues	Actual	Change	Actual	at \$0.19/gal	From	Actual
1997	\$ 1.26		\$ 0.80		23.8%		\$ 0.19	\$ 883.7	\$ 883.7	\$ ---				
1998	\$ 1.13		\$ 0.68		23.8%		\$ 0.16	\$ 765.8	\$ 901.0	\$ (135.2)				
1999	\$ 1.12		\$ 0.67		23.8%		\$ 0.16	\$ 775.0	\$ 925.1	\$ (150.1)				
2000	\$ 1.51		\$ 1.03		23.8%		\$ 0.25	\$ 1,198.5	\$ 931.3	\$ 267.2				
2001	\$ 1.60		\$ 1.12		23.8%		\$ 0.27	\$ 1,291.6	\$ 924.9	\$ 366.7				
2002	\$ 1.38		\$ 0.90		23.8%		\$ 0.22	\$ 1,073.2	\$ 948.0	\$ 125.2				
2003	\$ 1.60		\$ 1.11		23.8%		\$ 0.26	\$ 1,313.4	\$ 945.0	\$ 368.4				
2004	\$ 1.76		\$ 1.27		23.8%		\$ 0.30	\$ 1,468.2	\$ 927.9	\$ 540.3				
2005	\$ 2.15		\$ 1.63		23.8%		\$ 0.39	\$ 1,888.3	\$ 928.2	\$ 960.1				
2006	\$ 2.62		\$ 2.07		23.8%		\$ 0.49	\$ 2,328.4	\$ 901.9	\$ 1,426.5				
2007	\$ 2.71		\$ 2.15		23.8%		\$ 0.51	\$ 2,351.6	\$ 877.9	\$ 1,473.7				
2008	\$ 3.51		\$ 2.91		23.8%		\$ 0.69	\$ 3,061.6	\$ 846.1	\$ 2,215.5				
2009	\$ 2.29		\$ 1.76		23.8%		\$ 0.42	\$ 1,846.2	\$ 840.0	\$ 1,006.2				
2010	\$ 2.75		\$ 2.19		23.8%		\$ 0.52	\$ 2,304.2	\$ 844.6	\$ 1,459.6				
2011	\$ 3.50		\$ 2.90		23.8%		\$ 0.69	\$ 2,998.5	\$ 832.7	\$ 2,165.8				

Notes:

1. Average retail price of gasoline is the average price for all formulations of gasoline for Detroit/Ann Arbor/Flint as reported by the U.S. Bureau of Labor Statistics.
2. Wholesale price calculation assumes a federal gas tax of \$0.184, state tax of \$0.19, state sales tax rate of 6%, 2.5 cents in delivery and distribution fees, and a 0.6% retail markup.
3. Gasoline consumption adjusted under wholesale tax assuming a price elasticity of -0.055.
4. Actual gasoline tax collections are on a cash basis.
5. FY 1997 revenue totals annualized to reflect what the values would have been had the 19 cent tax or wholesale rate been in effect the entire fiscal year. The rate went to \$0.19 on August 1, 1997.