



## The Vermont Legislative Research Service

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### Sugar-Sweetened Beverage Excise Tax

Excise taxes are taxes imposed on specific goods, such as gasoline, and are included in the price of the product because distributors are often the ones taxed.<sup>1</sup> There are three justifications policy makers use to levy an excise tax. One is to generate a reliable stream of revenue. Following the Ramsey rule, governments seeking a steady stream of revenue will target products with greater price inelasticity (that is products for which supply and demand are not greatly affected by changes in price).<sup>2</sup> If consumer behavior does not change much with the tax, then this gives states a predictable source of revenue without affecting the economy significantly. The second justification for excise taxes is as user fees for public goods provisions where taxpayers directly benefit. This means the excise tax revenue funds goods that consumers need but the market fails to supply. And, finally, excise taxes may be levied as corrective taxes on products that usually have negative effects.<sup>3</sup>

### Soda and Obesity

Soda consumption has been hypothesized as one of the leading causes of the rapid growth rate of obesity in the US.<sup>4</sup> Not only does soda contribute to caloric intake but it and other foods rich in free sugars have been shown to reduce appetite control.<sup>6</sup> There is a strong correlation

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<sup>1</sup> Internal Revenue Service, "Excise Tax," last modified January 22, 2015, <http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Excise-Tax>.

<sup>2</sup> William Shughart, "Taxing Choice: The Predatory Politics of Fiscal Discrimination," (Piscataway, NJ: Transaction Publishers, 1997). 1-8.

<sup>3</sup> Shughart, "Taxing Choice: The Predatory Politics of Fiscal Discrimination."

<sup>4</sup> Jason M. Fletcher, David Frisvold, and Nathan Teft, "Can Soft Drink Taxes Reduce Population Weight?" *Contemporary Economic Policy* 28(2009): 23-35, accessed March 23, 2015, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2908024/>.

<sup>6</sup> Fletcher et al., "Can Soft Drink Taxes Reduce Population Weight?"; Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases, "Diet, Nutrition, and the Prevention of Chronic Diseases", *World Health Organization Technical Report Series* 916(2002): 65-66, accessed March 23, 2015, <http://www.who.int/dietphysicalactivity/publications/trs916/en/>.

between increased consumption of sugar-sweetened beverages (SSB), an above average body mass index (BMI),<sup>7</sup> total daily caloric intake, and lowered nutrient intake.<sup>9</sup>

According to data from the National Health and Nutrition Examination Survey (2005-2008), one half of the US population age 2 and older consumes a sugar-sweetened beverage on any given day. Among the SSB drinkers, 25% consume 200 or fewer calories from SSBs, 20% consume between 200 and 567 calories, and 5% consume more than 567 calories per day.<sup>10</sup> As the American Heart Association recommends consuming less than 450 calories per week of SSB,<sup>11</sup> current consumption rates put some sugary beverage consumers at risk for “poor diet quality, weight gain, obesity, and in adults, Type 2 diabetes.”<sup>13</sup>

Habitual intake of sugar-sweetened beverages is believed to have long-term health effects that extend beyond obesity. For a more complete discussion of the relationship between soda, obesity, and other health impacts, see the VLRS report on [Soda Taxes and Obesity](#).<sup>14</sup>

### Why Tax Sugar Sweetened Beverages?

The correlation that exists between the consumption of SSBs and a heightened risk of obesity and obesity-related conditions is much clearer than the link that exists with other snack foods. In addition, SSBs lack nutritional value.<sup>15</sup> Sugar-sweetened beverages are also easier to define than snack foods, allowing them to be taxed more easily. This allows lawmakers more leverage in taxing the beverages.

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<sup>7</sup> For adults, a BMI  $\geq 25$  is considered overweight, while a BMI  $\geq 30$  is considered obese.

<sup>9</sup> Fletcher et al., “Can Soft Drink Taxes Reduce Population Weight?”; Lenny R. Vartanian, Marlene B. Schwartz, and Kelly D. Brownell, “Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis,” *American Journal of Public Health* 97(2007): 667-675, accessed March 23, 2015, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1829363/>.

<sup>10</sup> Cynthia L. Odgen, Brian K. Kit, Margaret D. Carroll, and Sohyun Park, “Consumption of Sugar Drinks in the United States, 2005-2008,” *National Center for Health Statistics Data Brief* 71(2011), accessed March 23, 2015, retrieved from <http://www.cdc.gov/nchs/data/databriefs/db71.htm#ref4>.

<sup>11</sup> Donald M. Lloyd-Jones, Yuling Hong, Darwin Labarthe, Dariush Mozaffarian, et al., “Defining and Setting National Goals for Cardiovascular Health Promotion and Disease Reduction: The American Heart Association’s Strategic Impact Goal Through 2020 and Beyond”, *Circulation* 121(2010): 586-613, accessed March 23, 2015, <http://circ.ahajournals.org/content/121/4/586.full>.

<sup>13</sup> Odgen et al., “Consumption of Sugar Drinks in the United States, 2005-2008,”; Vartanian et al., “Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis.”

<sup>14</sup> Lindsay Cyr, Martha Jean Moreo, John Sadek, Benjamin Lidofski, Ryan Kendall Waingortin, and Kate Fournier, “The Use of Soda Taxes for Obesity Prevention,” *The University of Vermont James M. Jeffords Vermont Legislative Research Service*, August 10, 2010, accessed March 23, 2015, <http://www.uvm.edu/~vlrs/Health/soda%20tax%20and%20obesity.pdf>.

<sup>15</sup> Roland Sturm, Lisa M. Powell, Jamie F. Chriqui, and Frank J. Chaloupka, “Soda Taxes, Soft Drink Consumption, and Children’s Body Mass Index,” *Health Affairs* 29(2010): 1052-1058, accessed March 23, 2015, <http://content.healthaffairs.org/content/29/5/1052.abstract>.

## Would a Tax on SSBs Reduce Consumption?

A tax on SSBs could be aimed to reduce consumption of these products, promote public health, or reinvest revenue generated from the tax.<sup>16</sup> Soft drinks are one of the more responsive food groups to price changes.<sup>17</sup> Consumer preferences for soft drinks are dependent on the price charged.

The price elasticity of demand is a dimensionless construct referring to the percentage change in purchased quantity or demand with a 1% change in price. It is determined by a multitude of factors: availability of substitutes, household income, consumer preferences, expected duration of price change, and the product's share of a household's income.<sup>18</sup>

Soft drinks have high price elasticity and it has been estimated that consumption could decrease by eight to ten percent with a ten percent tax.<sup>19</sup> Some studies indicated that high taxes could affect consumption and therefore reduce rates of obese and overweight persons. Several studies have indicated that a ten percent increase in the price of these beverages would diminish consumption by eight to eleven percent.<sup>20</sup>

Food selection tends to change depending upon cost of the product. For example, when SSBs are too costly, consumers tend to purchase more reduced-fat milk, juice, coffee, or tea, according to one study conducted in 2014.<sup>21</sup> While these findings imply that taxation of unhealthy foods leads to substitutions of healthier foods, another study found that a tax on saturated fat led to an increase in salt consumption and a decrease in unsaturated fats.<sup>22</sup> These changes in consumption meant that the tax actually led to unhealthier food choices.<sup>23</sup> A study on cross-price elasticity found that this phenomenon might also occur with soft drinks, as decreases in soft drink consumption were paired with increases in the consumption of other

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<sup>16</sup> Tatiana Andreyeva, Michael Long, and Kelly Brownell, "The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food," *American Journal of Public Health* 100(2010): 216-222, accessed March 23, 2015, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2804646/>.

<sup>17</sup> Cliona Ni Mhurchu, Helen Eyles, Chris Schilling, Qing Yang, William Kaye-Blake, Murat Genãş, Tony Blakely, and Harry Zhang, "Food Prices and Consumer Demand: Differences across Income Levels and Ethnic Groups," *PLoS ONE* 8(2013): e75924, accessed March 23, 2015, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0075934>.

<sup>18</sup> Andreyeva et al., "The Impact of Food Prices on Consumption."

<sup>19</sup> Andreyeva et al., "The Impact of Food Prices on Consumption."

<sup>20</sup> Roberta R. Friedman and Kelly D. Brownell, "Sugar-Sweetened Beverage Taxes: An Updated Policy Brief" *Yale Rudd Center for Food Policy and Obesity* (2012): 2-6, accessed March 24, 2015, [http://www.uconnruddcenter.org/resources/upload/docs/what/reports/Rudd\\_Policy\\_Brief\\_Sugar\\_Sweetened\\_Beverage\\_Taxes.pdf](http://www.uconnruddcenter.org/resources/upload/docs/what/reports/Rudd_Policy_Brief_Sugar_Sweetened_Beverage_Taxes.pdf).

<sup>21</sup> We Waterlander, Ni Mhurchu, and Steenhuis Ih, "Effects of a Price Increase on Purchases of Sugar Sweetened Beverages," *National Center for Biotechnology Information* 78(2014): 32-9, accessed March 24, 2015, <http://www.ncbi.nlm.nih.gov/pubmed/24667153>

<sup>22</sup> Karen McColl, "Fat Taxes and the Financial Crisis," *The Lancet*, 373(2009): 979-978, accessed March 24, 2015, <http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2809%2960463-3/abstract>.

<sup>23</sup> McColl, "Fat Taxes and the Financial Crisis."

caloric beverages, such as whole milk and juice-related drinks,<sup>24</sup> and that this change in consumption may explain the modest reduction in obesity levels.<sup>25</sup>

## Current Sugar-Sweetened Beverage Excise Taxes

### United States

For SSBs, excise taxes are taxes imposed on manufacturers, distributors, wholesalers, and retailers. Retailers are the businesses that sell directly to the consumers. Arkansas, Tennessee, Virginia and West Virginia have an excise tax on distributors. Distributors are the manufacturers' direct point of contact for prospective buyers of products.<sup>26</sup>

In the state of Arkansas, the tax to wholesalers, distributors, and retailers is \$2.00 per gallon of soft drink syrup or simple syrup, \$0.21 per gallon of bottled soft drinks, and \$0.21 per gallon of soft drink that is produced from a package. From 2001 through 2014, Arkansas has gross soft drink revenue over \$631 million.<sup>27</sup> Tennessee's excise tax applies to the bottlers or anyone manufacturing, producing, or importing bottled soft drinks. These Tennessee bottlers have gross receipts of 1.9%.<sup>28</sup> Virginia's Soft Drink Excise Tax includes payment brackets for gross receipts. The tax for gross receipts over \$10,000,000 is \$7,200, while for those over \$25,000,000 it is even higher.<sup>29</sup> Lastly, West Virginia's excise tax is \$0.01 per 16.9 fluid ounces, \$0.80 per gallon of soft drink syrup, and \$0.01 per ounce of dry mixture used to make soft drinks.<sup>30</sup>

### Mexico

In Mexico, an SSB tax was implemented in January of 2014.<sup>31</sup> The tax is an excise tax of one peso, about eight US cents, per liter of sugar sweetened beverage.<sup>32</sup> A preliminary study

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<sup>24</sup> Christiane Schroeter, Jayson Lusk, and Wallace Tyner, "Determining the Impact of Food Price and Income Changes on Body Weight," *Journal of Health Economics*, 27(2008): 45–68, accessed March 24, 2015, [http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1095&context=agb\\_fac](http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1095&context=agb_fac).

<sup>25</sup> Jason M. Fletcher, David Frisvold, and Nathan Tefft, "The Effects of Soft Drink Taxes on Children and Adolescent Consumption and Weight Outcomes," *Journal of Public Economics* 94(2010): 967-974, accessed March 24, 2015, <http://www.sciencedirect.com/science/article/pii/S0047272710001222>.

<sup>26</sup> The Council of State Governments, "Soda Taxes: 2014," accessed March 9, 2015, <http://knowledgecenter.csg.org/kc/content/soda-taxes-2014>

<sup>27</sup> Arkansas Department of Finance and Administration, "Soft Drink Tax," accessed March 9, 2015, <http://www.dfa.arkansas.gov/offices/exciseTax/MiscTax/Pages/softDrinkTax.aspx>.

<sup>28</sup> State of Tennessee, "Gross Receipts Tax," accessed March 11, 2015, <http://www.tn.gov/revenue/tntaxes/gross.shtml>.

<sup>29</sup> Virginia Department of Taxation, "Miscellaneous Taxes," accessed March 10, 2015, <http://www.tax.virginia.gov/content/miscellaneous-taxes>.

<sup>30</sup> Connecticut Government, "Taxes on Soft Drinks and Candy," last modified November 7, 2012, <http://www.cga.ct.gov/2012/rpt/2012-R-0490.htm>.

<sup>31</sup> Instituto Nacional de Salud Pública, "Resultados preliminares sobre los efectos del impuesto de un peso a bebidas azucaradas en México," last modified November 25, 2014, <http://www.insp.mx/epppo/blog/preliminares-bebidas-azucaradas.html>.

conducted by the Carolina Population Center at the University of North Carolina and the Instituto Nacional de Salud Pública has estimated that the new excise tax resulted in a decline of ten percent in the purchase of beverages affected by the tax in the first quarter of 2014. Along with a decline in SSB consumption, there was a seven percent increase in the consumption of non-taxed beverages including diet sodas, water, milk without added sugar, and 100% fruit juices. Inside of this category, plain water purchases rose approximately thirteen percent during the same period of time.<sup>35</sup> These results are still preliminary pending the completion of data analyses and peer review.

### Programs Funded By SSB Taxes

Since taxation of SSBs is intended to improve public health, states have considered using the funds raised by the tax to fund programs which would also promote public health. West Virginia directs the proceeds from its excise tax on SSBs to fund the state's four year medical, dentistry, and nursing schools at West Virginia University.<sup>36</sup> The excise tax was one cent on every 16.9 fluid ounces of soda,<sup>37</sup> and in 2011 raised \$16.2 million dollars, which went towards the West Virginia schools.<sup>38</sup> Virginia used the nearly \$192,000 collected from its soda excise tax in 2013<sup>39</sup> to fund the Litter Control and Recycling Fund.<sup>40</sup> The California Senate had a bill, which did not get past committee in 2013, that proposed a one-cent per ounce excise tax with revenue going to the Children's Health Promotion Fund (a fund targeting such health concerns as childhood obesity prevention, childhood dental health care, exercise through parks and recreation programs, and nutrition education programs).<sup>41</sup>

Directing revenue from the implementation of a sugar sweetened beverage tax is not the only option. When the tax is directed to a particular task, there is more flexibility in where the money can be spent. Of the 33 states in which there are sales taxes on sugar-sweetened beverages, none have the taxes earmarked for programs related to health.<sup>42</sup>

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<sup>32</sup> Instituto Nacional de Salud Pública, "Resultados preliminares sobre los efectos del impuesto de un peso a bebidas azucaradas en México."

<sup>35</sup> Instituto Nacional de Salud Pública, "Resultados preliminares sobre los efectos del impuesto de un peso a bebidas azucaradas en México."

<sup>36</sup> *Excise Tax on Bottled Soft Drinks, Syrups and Dry Mixtures*, West Virginia Code (1951), §11-9-2.

<sup>37</sup> *Excise Tax on Bottled Soft Drinks, Syrups and Dry Mixtures*, §11-9-2.

<sup>38</sup> Lori Kersey, "Taxing Sugary Drinks in W. Va advised," *The Charleston Gazette*, May 17, 2013, accessed March 24, 2015, [http://www.wvgazette.com/News/201305170135?cid=xrs\\_rss-nd%3C](http://www.wvgazette.com/News/201305170135?cid=xrs_rss-nd%3C).

<sup>39</sup> Virginia Department of Environmental Quality, "Litter Prevention and Recycling Grant Programs," accessed March 24, 2015,

<http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/RecyclingandLitterPreventionPrograms/LitterPreventionandRecyclingGrantPrograms.aspx>.

<sup>40</sup> *Virginia Soft Drink Excise Tax Act*, Virginia Code (1995), §58.1-1702-1705.

<sup>41</sup> Senate Bill 622, 2013, Reg. Sess. (Cal. 2013), accessed March 24, 2015,

[http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201320140SB622](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB622).

<sup>42</sup> Kelly D. Brownell, Thomas Farley, Walter C. Willett, Barry M. Popkin, Frank J. Chaloupka, Joseph W. Thompson, and David S. Ludwig. "The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages," *New England Journal of Medicine* 361(2009): 1599-1605, accessed March 12, 2015,

<http://www.nejm.org/doi/full/10.1056/NEJMp0905723>.

## Other Methods of Taxing SSB

While excise taxes are considered one of the most effective ways to combat SSB consumption through policy changes, the vast majority of taxes on SSBs currently in place are sales taxes, not excise taxes. Thirty-four different states apply sales taxes to soda sold through grocery stores or retailers and 39 states along with the District of Columbia tax soda in vending machines.<sup>43</sup> The most common rate to tax soda at is the prevailing general sales tax rate of the state, with 29 states taking that route. The average tax rate on soda sold in stores is 5.2 percent with the lowest tax rate being 1.225 percent in Missouri and the highest being a 7 percent tax in Indiana, Mississippi, Rhode Island, and New Jersey.<sup>45</sup> These taxes are directly placed on the price of the soda and are not based on volume or weight like an excise tax is. These taxes are considered to be too small to have an effect on the consumption of soda and the proceeds from these taxes are not earmarked for health improvement.<sup>46</sup>

## Diet Soda

### Health

Research on the health impacts of diet soda, which use artificial sweeteners instead of sugar, is far less conclusive than research on caloric soft drinks. A study by University of North Carolina researchers demonstrates that replacing caloric soft drinks with non-caloric diet soft drinks or water resulted in caloric reductions and modest weight loss over three and six months periods.<sup>47</sup> Some studies, however, have found an association between artificially sweetened beverages and weight gain. In a long-term study in San Antonio, Texas, researchers found a positive relationship between diet soda consumption and weight gain.<sup>48</sup> Though there is no direct causal link between the two variables, they suggest that the findings could be attributed to both psychological and physiological responses to artificially sweetened beverages. In an examination of data from the National Health and Nutrition Examination Survey (NHANES), researchers concluded that “although overweight and obese adults who drink diet beverages eat a comparable amount of total calories as heavier adults who drink sugary beverages, they consume significantly more calories from solid food at both meals and snacks,” suggesting that the caloric deficit created through drinking diet soda is negated by increased consumption of

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<sup>43</sup> The Council of State Governments, “Soda Taxes: 2014.”

<sup>45</sup> The Council of State Governments, “Soda Taxes: 2014.”

<sup>46</sup> Brownell et al., “The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages.”

<sup>47</sup> Deborah F. Tate, Gabrielle Turner-McGrievy, Elizabeth Lyons, June Stevens, Karen Erickson, Kristen Polzien, Molly Diamond, Xiaoshan Wang, and Barry Popkin, “Replacing Caloric Beverages with Water or Diet Beverages for Weight Loss in Adults: Main Results of the Choose Healthy Options Consciously Everyday (CHOICE) Randomized Clinical Trial,” *The American Journal of Clinical Nutrition* 95(2012): 555-563, accessed March 12, 2015, <http://www.ncbi.nlm.nih.gov/pubmed/22301929>.

<sup>48</sup> Sharon P.G. Fowler, Ken Williams, and Helen Hazuda, “Diet Soda Intake Is Associated with Long-Term Increases in Waist Circumference in a Biethnic Cohort of Older Adults: The San Antonio Longitudinal Study of Aging,” *Journal of the American Geriatrics Society* (2015), accessed March 23, 2015, <http://onlinelibrary.wiley.com/doi/10.1111/jgs.13376/abstract>.

calories in solid food.<sup>49</sup> Furthermore, scientists found that consumption of artificial sweeteners is associated with a greater response from reward centers in the brain, demonstrating that drinking diet beverages can lead to increased food consumption.<sup>50</sup>

## Excise Taxes

SSB excise taxes in Arkansas, Tennessee, West Virginia, and Virginia do not distinguish between caloric and noncaloric beverages, and so all include diet sodas.<sup>51</sup> Indeed, Virginia and West Virginia's taxes, originally passed in 1950 and 1951 respectively, were levied before the creation of diet soda in 1952.<sup>55</sup> Although Arkansas' and West Virginia's excise taxes, as discussed previously, had health related purposes, they were not passed with the express intention of fighting obesity. On the other hand, Berkeley, California's Measure D specifically exempts diet beverages because they do not have added sugar.<sup>56</sup> Berkeley's measure is expressly aimed at reducing the prevalence of diabetes, obesity, and tooth decay.<sup>57</sup> Diet soda has also been exempted from SSB tax proposals for political reasons. While New York's failed 2010 soda tax was proposed to "offset health care cuts,"<sup>58</sup> the tax included an exemption on diet sodas to lessen the opposition of the beverage industry, according to the Paterson administration.<sup>59</sup> Based on current laws and proposals, there is no consensus on the exclusion of diet soda from SSB excise taxes.

## Other Excise Taxes

### Tobacco Excise Tax

The federal cigarette tax was enacted in 1864, and in 2005 the federal excise tax totaled 37 cents per pack. Iowa was the first state to implement tobacco excise taxes in 1921, and today

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<sup>49</sup> Sara N. Bleich, Julia A. Wolfson, Seanna Vine, and Y. Claire Wang, "Diet-beverage consumption and caloric intake among US adults, overall and by body weight," *The American Journal of Public Health* 104(2014): 72-78, accessed March 12, 2015, <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2013.301556>.

<sup>50</sup> Erin Green and Claire Murphy, "Altered processing of sweet taste in the brain of diet soda drinkers," *Physiology and Behavior* 107(2012): 560-567, accessed March 12, 2015, <http://www.ncbi.nlm.nih.gov/pubmed/22583859>.

<sup>51</sup> *Arkansas Soft Drink Tax Act*, Arkansas Code (1992), § 26-57-902; *Soft Drink Manufacturers and Exports*, Tennessee Code (1999,) § 67-4-402; *Virginia Soft Drink Excise Tax Act*, §58.1-1702-1705; *Excise Tax on Bottled Soft Drinks, Syrups and Dry Mixtures*, §11-9-2.

<sup>55</sup> Benjamin Siegel, "Sweet Nothing: The Triumph of Diet Soda", *American Heritage*, 57(2006), accessed on March 11, 2015, <http://www.americanheritage.com/content/sweet-nothing%E2%80%94triumph-diet-soda-0>.

<sup>56</sup> Berkeley City Council, "Imposing a General Tax on the Distribution of Sugar-Sweetened Beverage Products," accessed March 11, 2015, <http://www.cityofberkeley.info/uploadedFiles/Clerk/Elections/Sugar%20Sweetened%20Beverage%20Tax%20%20-%20Full%20Text.pdf>.

<sup>57</sup> Berkeley City Council, "Imposing a General Tax on the Distribution of Sugar-Sweetened Beverage Products."

<sup>58</sup> Anemona Hartocollis, "Failure of State Soda Tax Plan Reflects Power of an Antitax Message," *The New York Times*, July 2, 2010, accessed March 12, 2015, <http://www.nytimes.com/2010/07/03/nyregion/03sodatax.html?pagewanted=all>.

<sup>59</sup> Joseph Berger, "New Strategy for Soda Tax Gives Diet Drinks a Break," *The New York Times*, May 19, 2010, accessed March 11, 2015, <http://www.nytimes.com/2010/05/20/nyregion/20sodatax.html>.

all states have some form of excise taxes. In 2012, the state of Vermont received \$80,230 in excise tax revenue.<sup>60</sup> For the most part, excise taxes were enacted to reduce smoking among the population, but its effectiveness has been called into question.

A study from Massachusetts Institute of Technology (MIT) measured how an excise tax on tobacco impacted the health of smokers and potential smokers. The study found that the percentage of adult smokers did not change with an increase in the excise tax because they were already addicted to the product and willing to pay the higher taxes. Even though the addicted adults continued to smoke, there was a decrease in the amount of cigarettes they consumed. The higher taxes were more effective as a preventive measure for potential smokers. MIT estimated that cigarette consumption reduced by 4% among adolescents. Additionally, MIT discovered the percentage of underage smokers decreased significantly with the rise in the tax.<sup>61</sup> Also, the tax has the added benefit of funding programs aiding the tobacco reduction effort. In FY 2010, seven states completely funded their tobacco prevention programs with the cigarette excise tax.<sup>62</sup>

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<sup>60</sup> Tax Policy Center, "Tobacco Tax Revenue," last modified January 12, 2015 <http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=403>.

<sup>61</sup> Serginio Sylvain, "The Effects of Excise Tax on Cigarette Consumption: A Divergence in the Behavior of Youth and Adults," *Massachusetts Journal of Business*, 1(2008): 87-89.

<sup>62</sup> National Conference of State Legislators, "State Cigarette Excise Taxes: 2011 and 2012," last modified January 2015, <http://www.ncsl.org/research/health/2011-state-cigarette-excise-taxes.aspx>.