

The Case for Taxing Consumption of Sugary Drinks in Texas

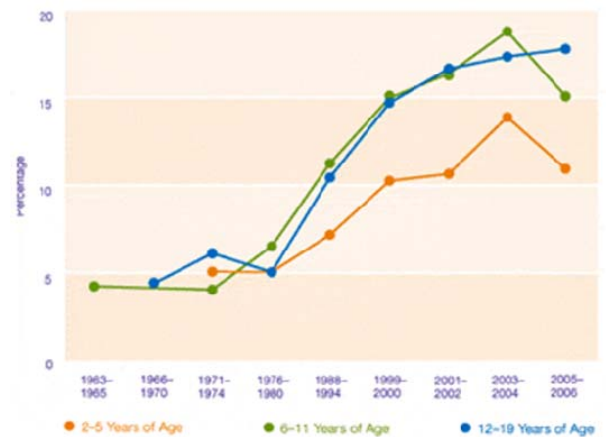
Children disproportionately drink sugary drinks and are most sensitive to differences in price. The key to reducing child obesity in the state—and weight-loss averaging five pounds per year per overweight child—is a penny-per-ounce tax on the drinks driving the problem.

Americans' consumption of sugary drinks like soda has more than doubled in the past four decades,ⁱ in direct relationship to the dramatic rise in obesity rates. The national child and adolescent obesity rate has increased from an average of 5% in the 1970s, to nearly 17% today.ⁱⁱ In Texas, one-third of all 10-17 year olds are overweight or obese.ⁱⁱⁱ Multiple studies have found a direct link between consumption of sugary drinks and weight gain and overweight status in children and adults,^{iv} but children are disproportionately likely to have sugary drinks every day.

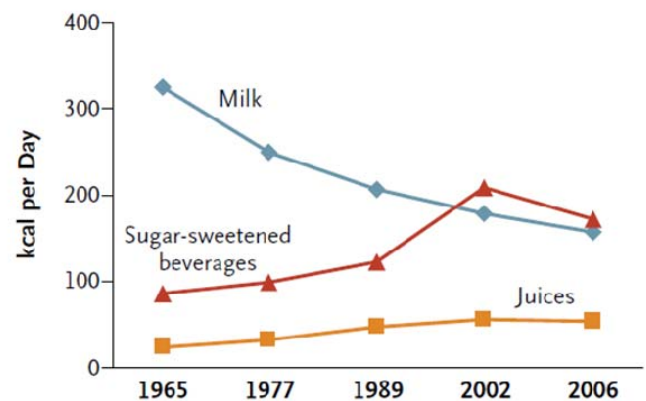
The obesity epidemic has become so stark, and the scientific research has built such a clear link between obesity and sugary-drink consumption that now the Institutes of Medicine,^v the U.S. Conference of Mayors,^{vi} and the Brookings Institution,^{vii} along with major public health associations and others, all recommend that state and local governments enact a tax on sugary drinks. The United States Department of Agriculture has found that a tax on sweetened beverages could result in the average adult losing an estimated 3.8 pounds per year and the average child losing 4.5 pounds per year, which would begin to reduce rates of obesity and overweight for both children and adults.^{viii}

Public health experts attribute 43% of the rise in children and adults' caloric intake over the last thirty years to increased consumption of sweetened beverages alone.^{ix} No single category of food accounts for more calories in the average child's diet than sugary drinks.^x Research indicates that daily consumption of even one 12-ounce sugary beverage can result in an annual weight gain of up to 15 pounds.^{xi} According to a recent survey of over 15,000 Texas children in middle and high schools, 83% of boys and 78% of girls consumed

National Trends in Childhood Obesity



National Trends in Drink Consumption among Children



Source: The **Rudd** Center for Food Policy and Obesity

at least one sugar-sweetened beverage per day; 35% of boys and 22% of girls consumed three or more sugar-sweetened beverages per day.^{xii} Unlike sweet foods that might be energy-dense but contribute to a feeling of fullness or contribute some nutritional value, sugary drinks meet no critical health needs and do not contribute to a sense of fullness the way that solid foods do.

Decreasing soda consumption could help reverse the obesity trend since consumer demand for specific food and drink products is sensitive to increases in prices, especially for children and teens. Taxation can be an effective way of reducing soft drink consumption, and, ultimately, obesity; the level of demand reduction depends on the level of the tax.^{xiii} In terms of the effectiveness of taxation compared to other ways of reducing consumption, there are many parallels with smoking. Research into anti-smoking campaigns shows that taxation has been the single most effective mechanism at reducing the behavior.^{xiv}

Today, Texas has a 6.25% general sales tax that applies to most goods, including all prepared foods, candy, and sugar-sweetened beverages.^{xv} Unprepared food is exempt from the Texas sales tax, and the state has no tax specific to sodas or junk food.^{xvi} Approximately 40 U.S. states take a similar approach, taxing soft drinks and junk foods through the state general sales tax, which are usually broadly applied and thus have no effect on consumption of a particular item.^{xvii} A targeted tax on soda has two public interest goals: curbing consumption of an unhealthy product in order to reduce obesity and overweight prevalence, and raising revenues for obesity prevention initiatives.^{xviii}

Some proponents of the sugary drink tax, including the Rudd Center for Food Policy and Obesity at Yale University, have done extensive research and public education on ways in which the marketing of unhealthy beverages exploits vulnerabilities in consumers' judgment. When people do not have complete information about health consequences and other considerations, they make decisions in the short-term that act against their own expressed long-term interests.^{xix} Many economists note that public policies can counter imbalances in information, so that consumers' choices better reflect these long-term preferences. Additionally, sodas and other sugar-sweetened beverages are marketed extensively to children,^{xx} who are especially susceptible to prioritizing short-term preferences over longer-term wellbeing. The food and beverage industry spends more marketing sweetened beverages to consumers aged 2-17 than they do for any other category of products.^{xxi}

People who become obese also impose increased healthcare costs on others. The public shoulders cost for obesity-related increases in healthcare expenditures through higher premiums for private health insurance and taxation to pay for mounting public health insurance program costs.^{xxii} Average healthcare costs for a child treated for obesity are three times the cost of an average child, both for privately insured children and those insured by public programs like Medicaid.^{xxiii} Further, the number of hospitalizations and associated costs for obese children nearly doubled in just six years from 1999 to 2005.^{xxiv} The CDC reports that the average annual medical costs for an obese adult are \$1,429 more than those for an adult with a normal weight.^{xxv} Obesity is a product of genetics, individual choices, and environmental factors, and can be controlled in many, though not all, cases. The rationale for levying a tax on sodas due to the costs imposed by obese people is parallel to the justification for levying taxes on cigarettes— these taxes balance the negative impact on the rest of society.

Since demand for most goods is price-sensitive, the higher the tax, the less consumers drink rather than paying the higher price. When consumers decrease their demand greatly in response to a price increase, their demand is said to be relatively elastic; when they pay the higher price without reducing demand much, their demand is said to be relatively inelastic. Based on research from the Rudd Center for Food Policy and Obesity at Yale University^{xxvi}, the soda industry itself,^{xxvii} and the Center for Science in the Public Interest (CSPI),^{xxviii} the elasticity of demand for sodas falls somewhere between -.6 and 1, with the -.8 estimate by the Rudd Center in the middle of that range and the most commonly cited in publications. This means that, for a 10% increase in price, there is an 8% decrease in consumption. Research shows that children and teenagers are more sensitive to price than adults since they often have less disposable income.^{xxix}

For comparison purposes, the elasticity of demand for cigarettes is somewhere between -.3 and -.5.^{xxx} In other words, the elasticity of demand for sodas is nearly twice that of cigarettes. For a 10% increase in cost, the decrease of demand for sodas would fall by twice as much as cigarettes. The relatively high elasticity of demand for sodas compared to cigarettes implies that price changes would be an even more effective way to reduce demand for sodas than it is for cigarettes. There is every reason to believe that a sugar-sweetened beverage tax would have the intended outcome of reducing consumption that leads to obesity.

The Rudd Center and CSPI both have online calculators that allow policymakers to estimate revenues generated by a sugary drink tax structured as an excise tax, where the tax is levied per ounce at the distribution level rather than a sales tax taken at the register. An excise tax is visible to consumers in the price of a product, making it more likely that it will affect demand, and is relatively easy to enforce.^{xxxi} The CSPI calculator uses the most conservative estimate of demand elasticity, -.6, and estimates that, **a penny-per-ounce tax would raise \$1.3 billion per year for Texas.** As an alternate estimate, using regional consumption data from the Beverage Marketing Corporation, the Rudd Center finds that the same level of tax would bring Texas \$1 billion annually.^{xxxii} By contrast, the total annual medical cost directly attributable to obesity, just for adults, in Texas today is \$6.8 billion per year.^{xxxiii} It is expected that as the tax continues to impact price, demand for sugary beverages will fall. This decrease in consumption will have a positive impact on the health of Texas children, and although decreased consumption also means less revenue, healthier Texans means lower costs related to obesity.-

Recommendation: Texas should adopt a penny-per-ounce soft drink tax to accomplish both the public health goal of reducing obesity through decreasing consumption of sugary drinks and the fiscal goal of generating revenue to offset the costs created by obesity. New revenue raised by the tax should be committed to obesity prevention, fully funding the Texas School Health Network and the robust implementation of coordinated school health statewide.

ⁱ Brownell et al. "The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages." *The New England Journal of Medicine*. September 16, 2009. <http://www.nejm.org/doi/full/10.1056/NEJMhpr0905723>. Accessed August 10, 2010.

ⁱⁱ Henry J. Kaiser Family Foundation, StateHealthFacts.org on Texas Children.

<http://www.statehealthfacts.org/profileind.jsp?cat=2&sub=14&rgn=45>. Accessed September 2010.

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- ^{iv} Yale University Rudd Center for Food Policy and Obesity. Study Synposes: Sugar-sweetened beverages and childhood obesity. <http://www.yaleruddcenter.org/resources/upload/docs/what/policy/SSBTaxes/SSBStudiesChildhoodObesity8.09.pdf>. Accessed August 10, 2010.
- ^v <http://iom.edu/Reports/2009/ChildhoodObesityPreventionLocalGovernments/Action-Steps-Local-Government-Actions-to-Prevent-Childhood-Obesity.aspx>. Accessed August 5, 2010.
- ^{vi} http://usmayors.org/resolutions/76th_conference/chhs_07.asp, Accessed August 6, 2010.
- ^{vii} http://www.brookings.edu/~media/Files/rc/reports/2009/0826_btc/0826_btc_fullreport.pdf, Accessed August 6, 2010.
- ^{viii} <http://www.ers.usda.gov/Publications/ERR100/ERR100.pdf>. Accessed August 4, 2010.
- ^{ix} Woodward-Lopez G, Kao J, and Ritchie L. To what extent have sweetened beverages contributed to the obesity epidemic? *Public Health Nutrition*, Sept 2010.
- ^x National Public Radio, "Soda in America: Taxes and a Debate over Health." May 4, 2010, <http://www.npr.org/templates/story/story.php?storyId=126511372> referencing Fletcher, J.M., Frisvold, D., and Tefft, N. "Taxing Soft Drinks and Reducing Access to Vending Machines to Curb Child Obesity." *Health Affairs*. May, 2010. <http://content.healthaffairs.org/cgi/content/abstract/29/5/1059>
- ^{xi} Apovian CM. Sugar-sweetened soft drinks, obesity, and type 2 diabetes. *JAMA*. 2004;292(8):978–979. http://jama.ama-assn.org/cgi/content/full/292/8/978?ijkey=21578c9e864342b94ce540a822e41d05622440e3&keytype=tf_ipsecsha
- ^{xii} Dietary and Activity Correlates of Sugar-Sweetened Beverage Consumption Among Adolescents *PEDIATRICS* Vol. 126 No. 4 October 2010, pp. e754-e761 (doi:10.1542/peds.2010-1229)
- ^{xiii} Miljkovic et al. Economic factors affecting the increase of obesity in the United States: differential response to price. *Food Policy* 2008.
- ^{xiv} Four sources cited in "Sugar-Sweetened Beverage Taxes and Public Health." Robert Wood Johnson Foundation Policy Brief. 7/2009.
- ^{xv} Texas Administrative Code. Title 34, Part 1, Chapter 3, Subchapter O, Rule §3.293. Accessed 10/2009
- ^{xvi} "State sales tax rates for soft drinks and snacks sold through grocery stores and vending machines." *Journal of Public Health Policy* 29.2 (July 2008): p226(24) <http://www.palgrave-journals.com/jphp/journal/v29/n2/full/jphp20089a.html>. Accessed September 2010.
- ^{xvii} Institute for Health Research Policy at University of Illinois at Chicago, in "A Tobacco-Style Tax on Fattening Drinks," *Business Week Online*, 1/12/2009. http://www.businessweek.com/bwdaily/dnflash/content/jan2009/db20090111_790778.htm?campaign_id=rss_daily Accessed September 2010.
- ^{xviii} Baxandall, Phineas. "Taxing Habits." *Regional Review*, 2003. <http://www.bos.frb.org/economic/nerr/rr2003/q1/taxhabits.htm>. Accessed September 2010.
- ^{xix} O'Donoghue, Ted, and Matthew Rabin. "Optimal Sin Taxes." *Journal of Public Economics*. May 2006.
- ^{xx} Kelly Brownell and Thomas Friedan, "Ounces of Prevention—The Public Policy Case for Taxes on Sugared Beverages." *The New England Journal of Medicine*. 4/30/2009. (<http://www.nejm.org/doi/full/10.1056/NEJMp0902392>)
- ^{xxi} Berkeley Media Studies Group. "Sugar Water Gets a Facelift: What Marketing Does for Soda." September, 2009.
- ^{xxii} Brownell et al. "The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages." *The New England Journal of Medicine*. September 16, 2009. <http://www.nejm.org/doi/full/10.1056/NEJMhpr0905723>.
- ^{xxiii} Marder W and Chang S. Childhood Obesity: Costs, Treatment Patterns, Disparities in Care, and Prevalent Medical Conditions. Thomson Medstat Research Brief, 2006. http://www.medstat.com/pdfs/childhood_obesity.pdf. Accessed August 5, 2010.
- ^{xxiv} Trasande L, Liu Y, Fryer G, et al. "Effects of Childhood Obesity On Hospital Care and Costs, 1999– 2005." *Health Affairs*, 28(4): w751–60, 2009 as cited in Robert Woods Johnson Foundation, "F as in Fat, 2010." <http://healthyamericans.org/reports/obesity2010/Obesity2010Report.pdf>. Accessed August 2010.
- ^{xxv} U.S. Centers for Disease Control and Prevention, "Vital Signs: Adult Obesity" August 2010. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm59e0803a1.htm>. Accessed August 2010.
- ^{xxvi} Rudd Center for Food Policy and Obesity. "Sugar-Sweetened Beverage Taxes." http://yaleruddcenter.org/what_we_do.aspx?id=271. Accessed September 15, 2010.

^{xxvii} Kelly Brownell and Thomas Friedan, "Ounces of Prevention—The Public Policy Case for Taxes on Sugared Beverages." *The New England Journal of Medicine*. 4/30/2009. <http://www.nejm.org/doi/full/10.1056/NEJMp0902392>. Accessed September 2010.

^{xxviii} Center for Science in the Public Interest (CSPI). <http://www.cspinet.org/liquidcandy/>. Accessed October 2010.

^{xxix} Phineas Baxandall. "Taxing Habits." *Regional Review*, 2003. Accessed September 2010.

<http://www.bos.frb.org/economic/nerr/rr2003/q1/taxhabits.htm>

^{xxx} Phineas Baxandall. "Taxing Habits." *Regional Review*, 2003. Accessed September 2010.

<http://www.bos.frb.org/economic/nerr/rr2003/q1/taxhabits.htm>

^{xxxi} Kelly Brownell and Thomas Friedan, "Ounces of Prevention—The Public Policy Case for Taxes on Sugared Beverages." *The New England Journal of Medicine*. 4/30/2009, <http://www.nejm.org/doi/full/10.1056/NEJMp0902392>

^{xxxii} Email correspondence with The Rudd Center at Yale, August 2010.

^{xxxiii} Center for Science in the Public Interest (CSPI), <http://www.cspinet.org/liquidcandy/>. Accessed August 5, 2010.