IRET *Congressional Advisory*

INSTITUTE FOR RESEARCH ON THE ECONOMICS OF TAXATION

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EXCISE TAXES ILL-SUITED FOR HEALTH CARE FUNDING

The Senate Finance Committee has two excise taxes on its list of possible revenue sources for funding a universal health care bill.[1] It calls them "lifestyle taxes." One would be an increase in the existing alcoholic beverage tax. The other would be a new tax on sugar-sweetened soft drinks. Neither would be good tax policy. They would not raise the expected revenues, and would not necessarily make good sense from a health standpoint. These options are lazy tax policy and the opposite of good government. Congress should exercise more sober judgment and restrict its appetite for playing Carrie Nation and Jenny Craig. Big Sister can be as obnoxious as Big Brother.

The government has conflicting objectives in raising a "sin tax". One is to raise revenue; the other is to discourage the harmful activity. One cannot stamp out the sin and collect the sin tax at the same time. If government imposes a high enough tax to stamp out the sin, there will be no revenue. To achieve revenue, the government must keep the tax rate low enough to keep the sinners active, or it must find a sin so attractive that the sinners will not quit. Having the government relying on sin for its revenues smacks of something unappetizing.
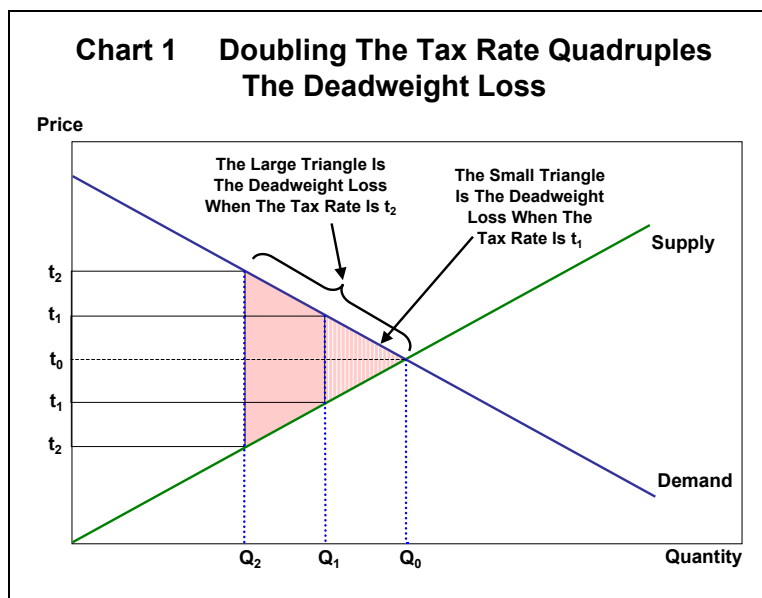
Selective excise taxes distort output, reduce consumer welfare

Economists generally prefer a low rate tax applied evenly on a broad base to a high rate tax applied unevenly on a narrow base. The even tax produces less economic distortion and "dead weight loss" than the uneven tax.

Imposition of a tax reduces output of the taxed product or resource. (See Chart 1.) The tax (a smaller tax like t_1-t_1 or a larger tax like t_2-t_2) drives a wedge between the price paid by the consumer and the price received by the supplier. The higher price discourages consumption, and production is reduced.

The tax revenue is the tax rate times the quantity produced and consumed (the tax base). (Shaded rectangles.) Because people demand less of a product when the tax raises its price, quantity shrinks. That shrinkage of the tax base must be factored into the revenue projection. At very low rates, a tax may cause a small percentage drop in the base, and the tax clearly raises revenue. The higher the tax rate, the greater is the percentage shrinkage in the base. At very high rates, a tax hike may cause the base to

Chart 1   Doubling The Tax Rate Quadruples The Deadweight Loss

Price

The Large Triangle Is The Deadweight Loss When The Tax Rate Is t_2

The Small Triangle Is The Deadweight Loss When The Tax Rate Is t_1

Supply

t_2
t_1
t_0
t_1
t_2

Demand

Quantity

Q_2 Q_1 Q_0

shrink more than the rate rises, resulting in no revenue gain, or even a loss.

The lost value of the product to consumers (areas under the demand curve between Q_0 and Q_1 or Q_2) exceeds the value of the resources released for other uses (areas under the supply curve). The difference (triangle) is the "dead-weight social loss". Resources are forced into a second best alternative use, where they produce and earn less.

The dead-weight loss from the tax rises with the square of the tax rate. Double the tax, quadruple the loss. (Chart 1, large versus small triangle.[2]) Triple the rate, multiply the loss by nine. This means that, for a given amount of revenue, a tax applied at the same low rate across a large number of items does less damage than a high tax rate on some items and no tax on others. Selective excise taxes do more economic damage than a general, flat-rate sales tax.

It is true that general consumption taxes do less to discourage work, saving, and investment than broad-based income taxes. However, highly distorting types of consumption taxes are also economically damaging. Even a broadly applicable, evenly-applied sales tax (which is neutral between saving and consumption decisions, and does relatively little to curb capital formation, productivity, wages, and income) does some harm to production incentives, because we all work and save in order to consume at some point. All taxes devalue labor and capital earnings to some degree.

There are exceptional cases where the demand for or supply of a product is very insensitive to the tax. (The demand or supply curve is nearly vertical.) The craving of illegal drugs by addicts, and the need for emergency medical care by victims of cardiac arrest and serious injury, are cases of fairly inelastic demand by desperate consumers. Demand for gasoline is fairly inelastic in the short run, until people replace old gas guzzlers with new cars. In these cases, a tax will do little to reduce production or consumption. (Taxing illegal drugs is also

impractical.) Most activities do not display such extreme traits.

By contrast, if the production or consumption is very sensitive to price (highly elastic supply or demand), then the supply or demand curve is nearly horizontal. There would be a large change in quantity due to a small tax. Taxing something with a close substitute would display this characteristic.

The alcoholic beverage tax

The alcohol tax is imposed at three different levels on beer, wine, and hard liquor — roughly 10 cents per ounce of alcohol for beer, 8 cents for wine, and 21 cents for distilled spirits. Within each category, the tax is proportional to the alcohol content of the item.

The proposal would impose a higher, more equal tax on alcohol from all three sources, at just under 25 cents per ounce of alcohol for distilled spirits, and something close to that number for beer and wine (or just under). The percent increases in the taxes would be about 18.5% for spirits, 149% for beer, and 211% for wine.

Regressive nature. The federal tax on alcoholic beverages is regressive. Note first that lower income households spend a higher fraction of their after-tax income on alcoholic beverages than do higher income households. According to the Bureau of Labor Statistics 2007 Consumer Expenditure Survey, households in the lowest income quintile spend on average 1.67% of after-tax income on alcoholic drinks, versus 0.61% of after-tax income in the highest quintile. (See table for percent of income, dollar outlays, and income levels for all quintiles.) Of course, some members of each quintile spend a good deal more or a good deal less than the average, and many people do not drink alcohol at all.

Second, lower income consumers pay more tax per dollar spent on alcohol than upper income buyers. The federal tax is on the alcohol content, not the

price of the beverage. The tax is a higher fraction of the price of lower-cost alcohol than higher-cost alcohol. Lower income buyers favor less expensive brands and types of drink than higher income consumers. As a result, the physical quantities of alcohol consumed at various income levels are more equal than indicated by the dollar outlays in the table. Putting the two effects together, one sees that lower income consumers pay more alcohol tax per dollar of income than upper income taxpayers. (State sales taxes on alcoholic beverages may be imposed per bottle — more regressive — or imposed ad valorem, i.e., percent of the price — less regressive.)

In recent testimony to the May 12 Senate Finance Committee Roundtable Discussion on Financing Comprehensive Health Care Reform, one witness claimed that the regressivity is overstated because people in the bottom quintile buy only 8 percent of the alcohol while those in the top quintile buy 38 percent.[3] [The 2007 figure for the top quintile is nearer 40 percent.] This is misleading in two ways:

First, regressivity is defined by measuring the tax as a percent of income for people of various income levels, not as the percent of the total tax paid on the product by lower versus higher income groups.

Second, quintiles are defined as having roughly equal numbers of households, not as having equal numbers of people. There are fewer individuals per "consumer unit" (household) in the lower quintiles than the higher quintiles (ranging from 1.7 persons in the bottom quintile to 3.2 in the top), which exaggerates the spread of income and the difference in the amounts spent on alcohol on a per capita basis. Per capita, the alcohol tax burden on the low income householder is higher than on the upper-income householder by even more than the household or quintile figures indicate.

The degree of regressivity of the federal alcohol tax is every bit as large as the normal calculation indicates.

Effect on consumption and revenue. An increase in the tax on alcohol would reduce consumption of alcoholic beverages. As a result, the revenue gain from the tax would be less than the percentage increase in the rate. The higher cost would discourage alcohol consumption over-all, and in each category (beer, wine, and spirits). In addition, the tax increase would alter the mix of consumption.

The tax per ounce of alcohol would rise the most for beer and wine, but distilled spirits have more alcohol by volume. Consequently, for the least expensive items in each category, the percent increase in price would be very roughly equal across types of beverage. However, within each category of beverage, the rise in the tax is the same per ounce of alcohol, whether the item is cheap or pricey. Therefore, in percentage terms, the tax increase

Regressivity of Taxes on Alcohol					
Income Quintile	I	II	III	IV	V
Percent of After-Tax Income Spent on Alcohol	1.67%	0.99%	0.91%	0.72%	0.61%
Spending in Dollars	$176	$272	$413	$506	$917
After-Tax Income	$10,534	$27,419	$45,179	$70,050	$150,927
Persons per Consumer Unit	1.7	2.2	2.5	2.9	3.2
Source: Bureau of Labor Statistics, Consumer Expenditure Survey					

would raise the price of cheap beer more than premium beer, cheap wine more than expensive wine, and cheap spirits more than premium spirits. Broadly speaking, it would raise the price of domestic products versus imports.

The relatively lower percentage increase in the price of the more expensive items in each beverage category would cause less reduction in the consumption of the more expensive products. Therefore, the tax increase would provoke some substitution from lower-priced to higher-priced items. State revenue from alcohol taxes would fall as the federal tax increase discourages consumption, with the impact influenced by how the states tax the alcohol and the shifts in consumption from lower to higher value items. States that tax per bottle could lose more than states with ad valorem taxes, especially if the ad valorem sales taxes are imposed on the total sales price, inclusive of the higher federal tax.

Externality argument not convincing absent better cost-benefit analysis. Advocates of higher alcohol taxes often point to external costs imposed by abusive drinkers to justify higher taxes. Excessive consumption of alcohol by a small minority of drinkers leads to many serious health problems, as well as injury and death from drunk driving and other accidents. Some of these costs are externalities (costs imposed on other parties). Externalities are often addressed by taxes to discourage the behavior that leads to the damage to others.

However, alcohol consumption has benefits as well as costs. Judicious consumption of alcohol in moderation has significant health benefits, such as reducing the risk of heart attack and stroke among those susceptible to these ailments. A higher tax on alcohol would make these benefits more expensive to obtain. The resulting reduction in these health benefits for millions must be weighed against the costs of excessive consumption imposed by a few.

Alcohol abusers incur more medical costs than non-abusers and non-drinkers, and their claims may increase medical insurance premiums for others. However, moderate drinkers are healthier than non-drinkers and abusers, and they tend to lower medical insurance premiums. Abusers die earlier than non-abusers. Therefore abusers earn less and pay less in taxes, but they also receive lower social security benefits than non-abusers. Moderate drinkers are healthier and live longer, earn more, and pay more in taxes. On the other hand, they collect retirement benefits for a longer time.

Some studies count the cost of government-funded medical care for alcohol-related injuries or illness as an externality on the taxpayer. They generally attempt to adjust that cost for savings to the government from reduced Social Security benefits for those who die earlier from their injuries or illnesses. The cost must also be adjusted for the payroll and income taxes that the drinkers paid that helped to fund the health care. Only the net extra cost, if any, could be considered "external".

Government has only itself to blame for putting itself on the hook for the medical costs of the abusive drinkers. These costs can better be reduced by charging higher premiums, deductibles, or copayments to alcohol abusers, rather than taxing non-abusers.

Note that the damage drinkers do to themselves is not an externality, and does not justify government intervention. Wages or other income lost to death or incapacity are mainly losses to the drinker and his or her family, not to other parties or government. Lost income results in lost tax payments to the government, but the government is expected to provide services in return for taxes. Unless government is systematically exploiting taxpayers, the loss of the taxpayer should not be a federal budget consideration. Nor are damages to other parties that are recovered in court an externality. Some studies fail to take adequate care with such distinctions.

Much more work needs to be done to determine the optimal tax on alcohol before taxes are raised further. There are a number of studies that try to

compare the adverse externalities associated with alcohol abuse to the taxes already in place. Some of these suggest that the taxes may already exceed the damage suffered by innocent parties; other studies recommend higher levels.[4] The estimates of the optimal tax vary widely, straddle current levels of tax, and suggest that the structure of the tax across beverages may not reflect the distribution of costs.

All these estimates depend heavily on assumptions that are hard to quantify. The wide range of results makes it hard to know if the existing tax is too high or too low. What the studies do show clearly that a tax is a highly inefficient way of reducing abuse of alcohol. It falls on the huge majority of drinkers who do not abuse alcohol, as well as on those who need to be dissuaded, and the amount of the tax is hardly high enough to dissuade a determined abuser.

The best deterrents to drink-related damage and injury to external parties, as from drunk driving, are severe legal and financial penalties for those convicted. These would include restitution, fines, imprisonment, and revocation of drivers licenses. If the current penalties do not reflect the costs associated with alcohol abuse, and permit repeat offenders to continue to threaten others, then the penalties should be increased. The courts should award the damages to the injured parties, not to the government (unlike a tax). Higher non-tax penalties would lower the worst external damages, and lower the optimal tax on alcohol.

The Congress has not performed any cost benefit examination of the medical and social aspects of the existing tax on alcohol to determine the optimal level to impose, let alone examine the effects of the proposed increases. The only cost benefit calculation undertaken has been the political one: will the votes lost by offending drinkers be more or less than the votes gained by promising additional health care subsidies to lower-middle income voters?

Sugar- and corn-syrup-sweetened beverage tax

The Finance Committee tax options document contains a proposal for taxing soda, sports drinks, fruit drinks, flavored milk products, coffees, and teas sweetened with sugar or corn syrup. Soda fountain syrups would be taxed in proportion to their sugar content. The rationale is that these drinks add empty calories that increase obesity and drive up medical costs, which raises the cost of federal health programs, and boosts private health costs as well. This proposal is bad economics and bad science.

Regressive nature. Nonalcoholic beverage taxes would be regressive. Lower income households spend a higher percent of their budgets on food and non-alcoholic beverages than upper income households. (See table.)

Consumption and revenue. There is not much difference in cost of production between the regular and diet versions of soft drinks. Most versions of a company's cola, for example, sell for the same price,

Regressivity of Taxes on Nonalcoholic Beverages					
Income Quintile	I	II	III	IV	V
Percent of After-Tax Income Spent on Nonalcoholic Beverages	1.91%	1.00%	0.71%	0.55%	0.32%
Spending in Dollars	$201	$273	$319	$386	$486
After-Tax Income	$10.534	$27,419	$45,179	$70,050	$150,927
Source: Bureau of Labor Statistics, Consumer Expenditure Survey					

absent any tax differential. It is easy to swap production facilities from one to the other, and there is little change in costs from doing so. That means there is no unit cost saving to be had from trimming the output of regular drinks to absorb a tax on them. A new tax on regular drinks would be passed through to consumers as a higher price. If consumers are very willing to switch to the diet drinks due to the price differential, it could collapse the revenues from the tax. (Picture Chart 1 with fairly flat supply and demand curves; it would take a large drop in quantity to separate the curves by enough to accommodate even a small tax.) Stamp out the sin, stamp out the revenue. Taxes of this nature are highly uncertain revenue sources for a health care program that would certainly require huge and growing federal outlays year in and year out.

Externalities lacking. A seriously obese individual may have health issues, but the physical discomfort and danger, and the cost of any lost income, is suffered mainly by the individual, not by third parties. (People who are only modestly over-weight may live longer than people of normal weight or people who are significantly under-weight.[5]) The case for an externality that needs to be addressed by government is very weak. It consists of the claim that obesity results in additional health care outlays paid for by government programs. Yet, just as with smoking or drinking, an early demise due to obesity reduces a person's lifetime social security benefits. These budget savings must be netted against any claims that obesity raises costs to the taxpayer.

Government has only itself to blame for putting itself on the hook for any net additional medical costs of the seriously over-weight. The correct remedy is not to tax food and drink that hundreds of millions of people consume without becoming obese. The remedy is to impose more of the related health care costs on the individuals who have failed to take care of themselves. We should encourage risk-adjusted premiums, deductibles, and copayments for health insurance, rely more on private insurance and health saving accounts, and have less government subsidy of medical care.

To be blunt, the obesity-externality argument provides no rationale for levying any form of food or drink tax on a skinny person. Should we have check-out clerks comparing a customer's weight to his height at the cash register? The checkers are required to card people buying alcoholic beverages to see if they are of legal age. Why not require an obesity check? Of course, an over-weight consumer could send a thin friend to buy the soda, so there would be the same enforcement dilemma as with age limits on alcohol sales when seniors at the fraternity house go on booze runs for sophomores.

Arbitrary selection of sugar- and corn-syrup-flavored beverages. Singling out beverages sweetened with sugar and corn syrup for causing obesity is bad science. Calories are calories. Too many calories, from whatever source, and too little exercise, are the chief factors that jointly determine body weight. Since other sources of calories contribute to over-weight, where is the tax on other sources? On sucrose and corn syrup in candy? Fructose in fruits? Calories from other carbohydrates, like cakes, pies, other pastries, and frosted cereals? And chocolate!?

Protein and fats (especially fats) are very dense in calories, and saturated fats can boost cholesterol as well as weight. Should Congress enact a dairy tax: a 50 cent tax on a gallon of whole milk, a 25 cent tax on a gallon of 2.5% milk, and no tax on skim milk? Ditto for regular, reduced fat, and non-fat yoghurt, cheese, and ice cream?

Should Congress tax meat according to its fat and calorie content? Perhaps 10 cents a pound on 90%-lean hamburger, turkey franks, and pork loin; 20 cents a pound on 80%-lean hamburger and beef franks; and 40 cents a pound on bacon. Tax chicken with the skin on, but not skinless breasts and thighs.

Tax lard and butter. Subsidize olive oil, canola oil, fish, tofu, and beans with the proceeds. Ban transfats outright, as some cities are doing; or if revenue is the goal, impose a tax inadequate to eliminate them.

Tax eggs, or more specifically, tax egg yolks. There would be no tax on egg substitutes that consist only of egg whites. To avoid discriminating against people who want to separate their eggs at home, impose a 12 cent tax on a dozen whole large eggs, but allow a refund of 1 cent for each egg yolk the consumer returns to the store. (To maximize faux-precision, adjust the tax by egg size: 0.87 cents for small, 1.14 cents for extra-large.)

Impose a couch potato tax on sofas, recliners, televisions, and computer games. Mandate gym memberships, and subsidize ski lifts and running shoes.

Tax wages differentially according to the degree of physical activity involved: a 10% payroll tax surtax for desk jobs (including Congress and its staff) and farmers who drive air-conditioned tractors and harvesters; a 10% reduction for construction workers, professional athletes, farmers who plow with a mule team, and farm laborers who harvest by hand. Tax actors, subsidize stuntmen.

Political economy is not the dismal science, if you have a morbid sense of humor. The soda tax is certainly laughable. The situation is also morbid, because the soda tax is horrible tax policy and a wholly outrageous expansion of government's role in our lives. The government is already in our toilets in the name of water conservation. Now it wants to enter our pantries. It should first wash its hands of the whole concept.

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Endnotes

1. "Financing Comprehensive Health Care Reform: Proposed Health System Savings and Revenue Options", Senate Finance Committee, May 20, 2009. Accessed on the Internet at http://www.finance.senate.gov/sitepages/leg/LEG%202009/051809%20Health%20Care%20Description%20of%20Policy%20Options.pdf.

2. The area of the first, smaller triangle is ½ base times height: $A_1 = \frac{1}{2} * b * h$. Doubling the original base and height increases the area four-fold: $A_2 = \frac{1}{2} * 2b * 2h = 4 * \frac{1}{2} * b * h = 4A_1$.

3. Michael F. Jacobson, "Health Care Reform: *Prevention* is Essential," Center for Science in the Public Interest, May 12, 2009, p. 5.

4. See Dale M. Heien, "Are Higher Alcohol Taxes Justified?" CATO Journal, vol. 15, Nos. 2-3 (Fall/Winter 1995/96), Washington, DC. This is a study with a tightly drawn definition of purely external effects. Heien concludes that the current level of alcohol taxes may be more than adequate to satisfy any externality concerns. See Ian W. H. Parry, Ramanan Laxminarayan, and Sarah E. West, "Fiscal and Externality Rationales for Alcohol Taxes", Discussion Paper, Resources for the Future, Washington, DC, November, 2006. This study employs a more expansive definition of external costs, plus certain other effects not normally considered as "externalities." These include productivity effects and a presumed difference in impact on the supply of labor between a tax on labor and a tax on consumption. This paper suggests that the tax should be raised. The range of cost estimates in this study is so broad that it offers no clear guidance, and suggests that some of the assumptions need to be rethought and narrowed. Both papers have extensive references for further reading.

5. Study by a Japanese Health, Labor and Welfare Ministry team, reported in *Medicine and Health*, June 18, 2009, accessed on the Internet at http://www.phsyorg.com/print164519566.html.