

BEER TAX FACTS:

THE ECONOMIC AND SOCIETAL IMPACTS OF STATE AND FEDERAL TAXES ON BEER

A report for government officials,
journalists and other opinion
leaders.



122 C Street NW, Suite 350
Washington DC 20001
info@beerinstitute.org

Beer.

Economic Impact of the U. S. Beer Industry

■ Directly employs more than one million people in brewing, wholesaling, and retailing. Including economic ripple-effects, the industry contributes more than 2.0 million jobs to the U.S. economy.

■ These jobs represent nearly \$80 billion in wages each year and a total economic output of over \$246 billion.

■ More than 2,700 brewers nationwide reach consumers through 3,700 independent distributors, who provide product to over 576,000 on-premise and off-premise retail establishments.

That word conjures up many pleasant images ... hot days and ball games ... a tall, cold one at the end of a hard day's work ... good times ... good friends.

What doesn't come to mind for most beer drinkers – but perhaps should – is TAX. Because in the process of enjoying the simple pleasure of beer, consumers are also making a \$5.3 billion hidden excise tax payment to their state and federal governments. Surprisingly, taxes are the single most expensive ingredient in beer, costing more than the labor and raw materials combined. A detailed economic analysis (Global Insight / Parthenon Group, 2005) found that **if all the taxes levied on the production, distribution and retailing of beer are added up, they amount to more than 40% of the retail price!** Most consumers would be shocked to learn how much they ultimately pay in taxes on their beverage of choice.

In the study year, total taxes levied on the production, distribution and sale of beer amounted to \$31.9 billion. Even in an era of enormous government budgets, that's a lot of money coming from a single product! The total includes all of the taxes imposed on beer – not only the sales and excise taxes, but also state and federal income taxes, payroll taxes and other taxes. **All told, when people buy beer, the tax burden is nearly 70% higher than for the average purchase made in the U.S.**

This Backgrounder looks at some of the real world impacts of these taxes and considers what happens when beer taxes are increased or reduced. The effects are quite wide-ranging, with the potential to touch many lives in many different ways.

Beer taxes get an “F” in fairness

A basic fairness principle is that people with similar ability to pay should pay similar amounts in taxes. Beer taxes fail badly on this count. Instead of taxing equitably across all income groups, **beer taxes place a much heavier burden on low- and middle-income taxpayers than on the rich.** That’s because many more beer drinkers are men and women with modest incomes rather than wealthy people.

An analysis by the Beer Institute found that households earning less than \$50,000 per year pay half of all beer taxes, while accounting for less than one-fourth of all income earned in the U.S. Beer taxes are actually 6.5 times higher as a percent of income for lower-income households (those earning less than \$20,000 per year) compared to higher-income households (earning \$70,000+ per year). **The tax on beer is thus one of the most discriminatory of all taxes in the federal and states’ tax codes** (Chamberlain and Prante, 2007; Beer Institute, 2008).

The effect of beer taxes on overall tax fairness is simple: increasing beer taxes makes the tax system more inequitable; cutting beer taxes makes it more fair.

Placing such a skewed tax burden on low- and middle-income Americans is particularly unfair in light of a 2011 study by the Congressional Budget Office, which reported that income distribution has vastly favored the wealthy in recent years. The CBO found that from 1979 to 2007, average household income of the nation’s top 1% soared by more than 275%. At the same time, middle- and lower class incomes have stagnated. The rich did nearly 7 times better than the middle class, and 15 times better than the poorest 20% of American families.

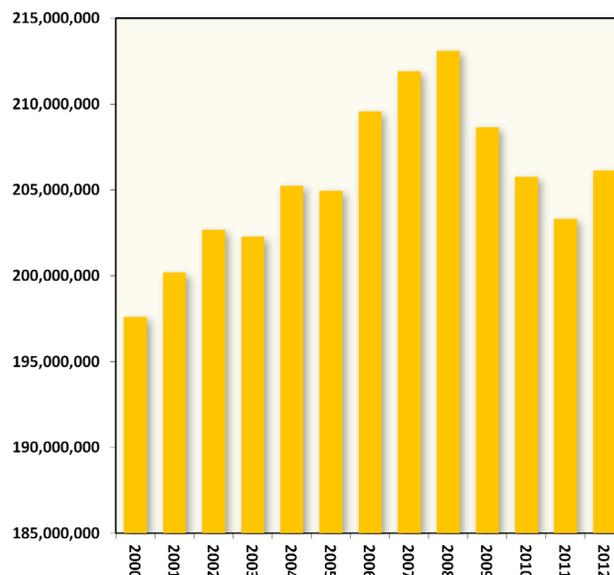
Raising beer taxes costs American jobs

When beer taxes go up, the price of beer rises. As with any consumer product, higher prices mean that some consumers purchase less. And fewer sales means that brewers, distributors and retailers do not need -- and cannot afford -- the same size workforce. Higher taxes, therefore, directly result in job losses within the industry, and beyond:

- In 1991, federal government doubled the beer tax from \$9.00 to \$18.00 per barrel, the largest single increase in the federal beer tax in American history. As a result, it is estimated that some 60,000 hardworking Americans lost their jobs. (Brinner, 2003)
- A 2009 study estimated that a proposal to raise federal alcohol taxes as a partial funding mechanism for health care reform would have resulted in the loss of 96,000 jobs. (Brinner, 2009)
- US beer sales dropped during the 2008-2009 recession. Despite the official ending date of June 2009, persistent unemployment continued to depress beer sales in 2010 and 2011. This was the third year of beer volume declines due to the economic downturn. Beer sales rebounded slightly in 2012.
- When states increase their tax on beer, more jobs are lost. And cross-border shopping exacerbates the problem. Hiking a state's beer tax can cause some consumers to buy their beer in a neighboring state, shifting the tax collections and business activity across state borders. Often, other goods and services are purchased on these cross-border trips, making the impact even greater. (Moody and Warcholik, 2004).

The beer industry is by no means recession-proof, and has recently seen significant sales declines. Higher beer taxes, in this economic environment, would be especially damaging.

U.S. Beer Sales
31-Gallon Barrels, 2000-2012



Taxpayers deserve efficient taxes

No one – rich or poor – wants to pay more than necessary to support the functions of government. That's why it is important to understand that **beer tax increases are very inefficient as a way to raise revenue**. This inefficiency comes from two major sources.

■ First, the excise tax on beer is levied, by law, at the brewery and becomes an indistinguishable part of the product cost as it moves through the distribution system. Like other costs, it is marked up by wholesalers and again by retailers. It is also included in the price used to compute state and local sales taxes, thus causing consumers to pay a tax on a tax. As a result, **beer drinkers actually end up paying about \$2.00 out-of-pocket for each \$1.00 of tax levied by government** (Young and Bielinska-Kwapisz, 2002).

■ Second, because they are narrowly-based, beer taxes inflict more economic damage, dollar for dollar, than broad-based taxes. A 2002 study compared the economic impact of a nationwide 1% increase in state income taxes compared to an equal increase in sales and excise taxes (DRI-WEFA and The Parthenon Group). **The broad-based taxes cause far less harm, resulting in less than half the losses in GDP, employment and consumer confidence.** This clearly shows that if taxes *must* be raised, it is best to utilize broad-based taxes.

On the other hand, cutting back on excise taxes could be an extremely *efficient* way to provide lower and middle-class tax relief. The benefits are further multiplied because when beer taxes are cut, new jobs are created, and this increases income taxes and related revenues for the government.

Dollar for dollar,
broad-based taxes
do far less harm to
GDP, employment
and consumer
confidence than
excise taxes.



Beer taxes & “social cost”

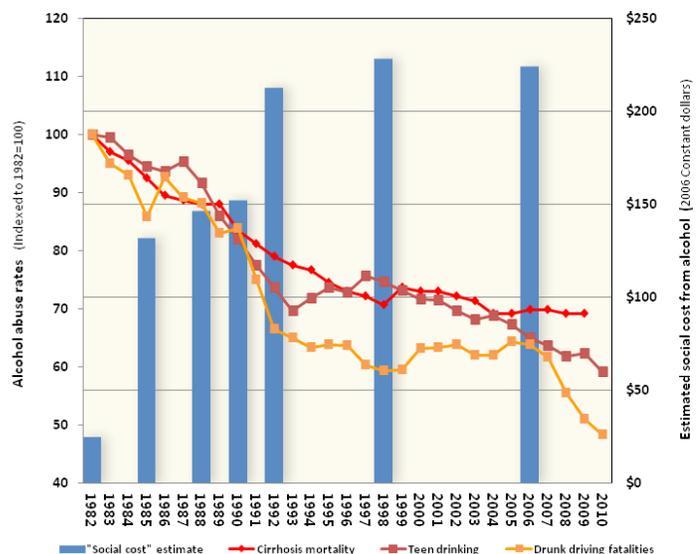
Some government agencies and advocacy organizations suggest that regardless of their negative impacts on consumers and the American economy, beer taxes should be raised even higher in order to pay for the problems caused by abusive drinkers. They claim that individuals who abuse alcohol create a “social cost” and that all beer drinkers should pay society back for these costs in the form of higher taxes.

The most recent such claim comes from the Centers for Disease Control (CDC) which released a study October 2011 with the headline that “Excessive Drinking Costs U.S. \$223.5 Billion” or an astonishing \$746 per person. This is a far cry from the \$12 billion estimated by independent economists Heien and Pittman (1989, 1993), and is simply the latest in a long series of such government-funded studies reporting higher and higher estimates over the last two decades – *despite the fact that the major empirical indicators of alcohol abuse, drunk driving, and underage drinking have all greatly declined over this time period.*

■ As the National Conference of State Legislatures summarizes, however, “there is no agreed upon methodology for social cost accounting, nor any movement to apply social cost tax adjustments consistently for products thought to have social costs” (NCSL, *Tax Policy Handbook*, 2003). Even the authors of one social cost study point out, “there have been literally hundreds of differences in data and methodology from study to study” (NIH, 2000). This is why social cost estimates range from \$10-20 billion (Heien and Pittman), or \$28 billion (Manning), to the grossly inflated government estimates of more than \$150 billion (NIH) or CDC’s latest \$224 billion.

Reality check:
Major indicators of alcohol abuse have greatly declined over the past 20 years, to historic lows – yet the alleged social costs of alcohol abuse have skyrocketed.

Alcohol Abuse Indicators vs. Social Cost Estimates



Sources: Data on alcohol abuse all come from the U.S. Government - National Institutes of Alcoholism and Alcohol Abuse; Center for Disease Control; U.S. Department of Education; and U.S. Department of Transportation.

■ The largest single “cost” in the government studies is a theoretical estimate of “lost productivity” – not actual dollars that are paid to anyone. If someone dies prematurely from an alcohol-related illness or accident, the agency computes a career-long loss of income and treats that as a cost to “society.” That’s equivalent to saying that if someone decides to stop being a high-paid lawyer and start being a low-paid poet, it “costs society” the difference in his/her reduced lifetime earnings. It’s a controversial – if not dangerous – logic, particularly troubling coming from government agencies.

■ Social cost studies cited by tax advocates never look at the other side of the ledger – the societal and individual benefits of moderate consumption. These studies overlook the billions of dollars in economic output from the production, distribution and sale of alcohol beverages. They ignore the fact that moderate drinkers tend to have *higher* incomes than nondrinkers, implying *increased* productivity (see for example McDougal and Shields, 2001). Nor do they acknowledge the large and growing body of evidence that moderate drinking provides health benefits for many individuals. Based on a review of the scientific literature on the health benefits of moderate drinking, the *Journal of the American Medical Association* has noted that more than 80,000 lives would be lost each year if light and moderate drinkers were forced into becoming abstainers (Pearson, 1994).

■ But there is an even more basic problem with the entire “social cost” argument. At heart, it suggests that some people’s taxes should be raised because they make *personal* choices which are a cost to “society,” primarily in the form of lost productivity and lost quality of life. That is, government should manipulate private behavior through the tax code.

The “social cost” argument as a basis for higher beer taxes is logically equivalent to mailing out speeding tickets to all drivers because some people exceed the speed limit.

■ If we tax all beer drinkers to pay for the alleged “social cost” created by a small minority of problem drinkers, will the government next start mailing out speeding tickets to *all* drivers because *some* people exceed the speed limit and cause accidents and injuries? Ridiculous exaggeration? A number of activist groups have recently campaigned for new excise taxes to be levied on soft drinks, butter, potato chips, whole milk, cheeses, meat and other foods to reduce their consumption, and to generate new revenues earmarked to fund government-sponsored fitness campaigns (CSPI, 2000). After all, according to yet another study, the social cost of people’s inactive lifestyles exceeds \$150 billion per year.

Unfortunately, some alcohol abusers *do* inflict costs on others. But that does not justify taxing *all* drinkers for the abuses of the few. Such an approach is not consistent with the way our society goes about solving problems or helping people, and should be rejected by our nation’s policymakers.

Raising taxes will not reduce alcohol abuse

One variation of the social cost argument is that beer taxes can have a beneficial impact on problem drinking and should be used to discourage alcohol abuse. Raising alcohol taxes is sometimes promoted as a way for government to force people to cut back on their drinking.

The problem is, life is just not that simple.

Scientific studies confirm precisely what we all know from common sense: *people can't be taxed into responsible behavior*. Abusive drinkers are the very last people who will reduce their consumption when the price of alcohol goes up. In response to higher prices, abusers have many ways to maintain their high level of alcohol intake – they can switch to cheaper brands, switch from on-premise to off-premise consumption, or purchase less expensive forms of alcohol including non-taxed illegally produced beverages (Treno, 2006).

Abusive drinkers
are the very last
people who will
reduce their
consumption
when the price of
alcohol goes up.

Several recent studies clearly show that while light and moderate drinkers are sensitive to price, that's not true for the heaviest drinkers. For example, a 2011 study that examined data for 3,921,943 individuals from 1984-2009 and found that light and moderate drinkers exhibited a price elasticity that was about 20 times higher than the heavier drinkers in the sample, and that the heavier drinkers showed no statistically significant change in their consumption levels in response to higher alcohol tax rates (An and Sturm, 2011). Earlier work by Manning et al. (1995) utilized another very large dataset from the National Health Interview Survey to analyze drinking patterns among light, moderate and heavy drinkers. The researchers found that the heaviest drinkers were not influenced by the price of alcohol, while that the moderate drinkers in the study were most sensitive to prices, cutting back most when prices rose.

Even the U.S. Supreme Court has noted this behavioral pattern, finding that "... the evidence suggests that the abusive drinker will probably not be deterred by a marginal price increase, and that the true alcoholic may simply reduce his purchases of other necessities" (*44 Liquormart, Inc. v. Rhode Island*, 116 S. Ct. 1495 (1996)). The evidence clearly shows that higher beer taxes discourage purchases by responsible drinkers but have no impact on alcohol abusers.

Alcohol abuse is a complex problem which deserves a meaningful response. Programs and policies designed to reduce abuse must directly target individuals who have problems with alcohol, and offer them assistance that can be reasonably expected to make a difference. Beer taxes just don't fall into that category.

Higher taxes won't deter drunk drivers

The “tax them into responsibility” rationale is also used by some groups who lobby for higher beer taxes as a way to reduce drunk driving. Here again, the basic idea is that by raising the price, beer sales will fall, and in the process this will lead to less drunk driving on the nation’s roadways.

Beer taxes are not the answer to drunk driving. Instead, the evidence clearly points to a small group of hard core drivers who repeatedly drive while very intoxicated. These individuals are often repeat offenders, stubbornly refuse to obey the law, often drive on suspended licenses and are responsible for a very large portion of the drunk driving fatalities which occur each year.

Hardcore drunk drivers are those who drive with a high blood alcohol concentration of .15 or above, who do so repeatedly, and who are highly resistant to changing their behavior.

A study by the Traffic Injury Research Foundation (Simpson, et al., 1996) clearly show the magnitude of the problem. On a typical weekend night, “hard core” drinking drivers make up 1% of the traffic on the road, but contributed to approximately 50% of all the traffic fatalities that occur.

Today, data from the U.S. Department of Transportation show that the most frequently reported blood alcohol concentration (BAC) among drivers involved in fatal crashes in 2008 was 0.17 – more twice the 0.08 legal limit in all states.

These are not people who can be taxed into responsibility. Instead, serious and *targeted* policies are required – programs which provide appropriate professional assistance, as well as countermeasures such as ignition interlocks, vehicle confiscation and mandatory jail time.

Some early studies of the relationship between beer taxes and drunk driving suggested that higher taxes reduce traffic fatalities (see for example Cook, 1981; Saffer and Grossman, 1987; Chaloupka, 1993). More recently, at least five different studies that utilize longer time series and more current data (including the doubling of the federal beer tax in 1991) consistently find no impact from beer taxes on reducing drunk driving by adults and/or teens (see Sloan et al., 1994; Dee, 1999; Mast, et al., 1999; Stout, 2000; Young & Likens, 2000).

One likely reason that these recent studies find no impact for beer taxes is that their effect may have dissipated over time. During the 1980s, grassroots movements such as MADD and SADD developed extensive media campaigns to educate people about the consequences of drunk driving and successfully lobbied for stiffer penalties for drunk driving offenders. People responded, and today there is much less drunk driving than in the 1980s (total drunk driving

fatalities are down 36% since 1982, and teen drunk driving fatalities are down 63%). Any possible impact from beer taxes on drunk driving, if it ever existed, must have been significantly reduced or eliminated (see Ponicki, et al. 2007 for a detailed discussion.)

In addition, the newer studies by Mast, Dee, and Young and Likens – argue that earlier analyses failed to use appropriate statistical techniques and controls. The most recent studies typically use much more comprehensive data sets along with more powerful statistical techniques to sort out the effect of taxes versus other possible explanatory variables. In doing so, they find that beer taxes have no explanatory power in predicting changes in drunk driving rates, across states and over time.

Powerful econometric techniques aside, simply looking at what actually happened following the 1991 beer tax increase is highly informative. As shown in the graphic below, showing data from the U.S. Department of Transportation's National Highway Traffic Safety Administration, for the five years prior to the 1991 tax hike the U.S. drunk driving fatality rate has steadily declined. If higher beer taxes could truly save hundreds of additional lives each year, the drunk driving trend should have exhibited a steeper decline in 1991 and beyond than it did in the years preceding the federal beer tax hike.

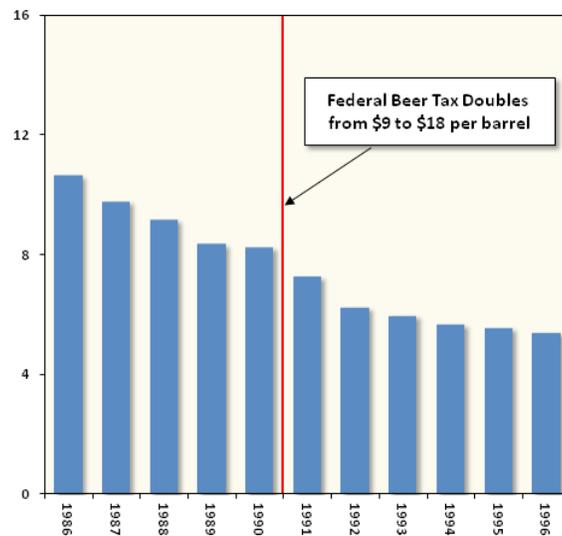
It didn't happen. In fact, the long-term decline in drunk driving simply continued its steady downward pace. No impact from the tax hike can be discerned.

REALITY CHECK

Fatalities in Crashes
Involving a Drunk
Driver (.08+ BAC)
per Billion Vehicle
Miles Traveled.
1986-1996



*No change in the
downward trend.*



Data Source: U.S. Dept. of Transportation, Fatality Analysis Reporting System.

Higher taxes won't stop teen drinking

Teen Spending Facts

Teens accumulate spending money through part time jobs, allowances and gifts. They actually have a surprising *large* amount of discretionary income – more than many adults since they do not have to pay for groceries, rent or home mortgages, health insurance, and many other costs incurred once they leave home.

■ A report by Packaged Facts, based on surveys from Simmons Market Research, estimates that America's teens ages 12-14 have an average annual income of \$2,167, while teens ages 15-17 generate an average annual income of \$4,023.

■ Since almost all of their income is discretionary, teens are less motivated by price than other purchasing considerations. (See Zollo, 1995.)

Some advocates claim that beer taxes are a weapon in the fight against underage drinking. Their theory is that teens do not have as much discretionary income as adults, so they should be more sensitive to changes in beer prices than adult drinkers. "Raise the beer tax and there will be less underage drinking," the theory goes.

This claim misses the fact that teenagers, unlike adult consumers, must actually *break the law* when they attempt to buy a beer. In many states, teens risk steep penalties which can include huge increases in their car insurance premiums as well as the loss of one of their most prized possessions – their driver's license.

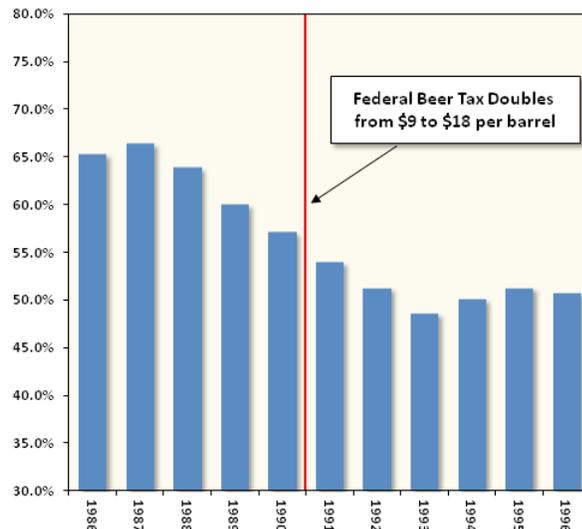
If underage drinkers are willing to break the law and take these kinds of risks, it is extremely unlikely that beer taxes can be used as a way to curtail their delinquent behavior. Further, teens' decisions about drinking are quite removed from shelf prices simply because most teens who drink do not directly purchase alcohol, but obtain it from their parents' home supplies or from other noncommercial sources such as parties, older siblings and friends (Pemberton, M., 2008).

Real world data on teen drinking is again highly informative. The federally-funded *Monitoring the Future* survey has tracked teen drinking in the U.S. for decades. The graphic below shows unambiguously that the level of past 30-day drinking by high school seniors continued its steady decline in 1991, 1992 and 1993 (and increased 1994) – **completely unaffected** by the federal tax hike.

REALITY CHECK

Percentage of
High School Seniors
Who Report Any
Drinking in the
Past 30 Days,
1986-1996

—
No change in the
downward trend.



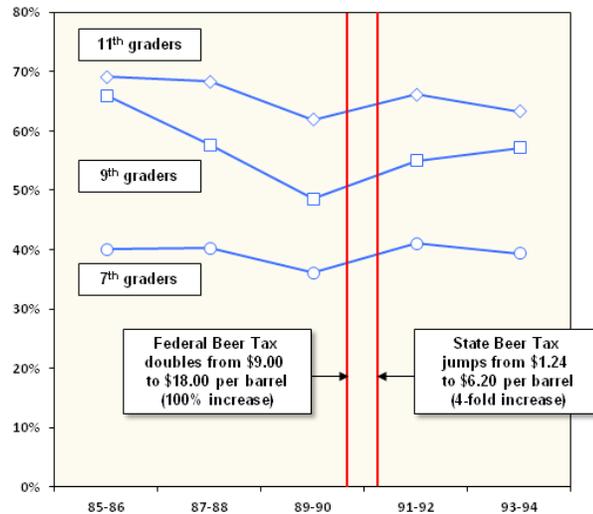
Data Source: The University of Michigan Monitoring the Future Study, sponsored by the National Institute on Drug Abuse, U.S. Department of Health & Human Services.

What happened in California over that same time period is especially telling. Not only was the federal beer tax doubled in 1991, but that same year California lawmakers increased the state's beer tax from \$1.24 to \$6.20 per barrel, a four-fold increase. Yet despite these simultaneous tax hikes, teen drinking actually *increased*. According to data from an ongoing survey conducted by the California Department of Education, drinking among all of the age groups surveyed (7th, 9th, and 11th graders) was higher immediately following the tax hikes than in the two-year period that preceded it.

REALITY CHECK

California:
Teen Alcohol
Consumption in the
Previous 6 Months,
1985-86 - 1993-94.

Consumption rates
increased after the
federal and state
beer tax hikes.



Data Source: California Department of Health Services. Fifth Biennial Statewide Survey of Drug and Alcohol Use Among California Students in Grades 7, 9, and 11. Appendix A, August, 1996. Shown: Any consumption in past 6 months.

These real world examples strongly rebut the claim that raising beer taxes will reduce teen drinking. So do rigorous statistical analyses. For example, a comprehensive study published in the prestigious *Journal of Public Economics* examined data representing the responses of 255,560 high school seniors over a 15 year period (Dee, 1999). The conclusion: No statistically significant relationship was found between beer taxes and three different measures of drinking by high school-aged youth – any drinking, “moderate” drinking, and “binge” drinking. The hypothesized impact of beer taxes simply wasn’t there.

Roll back that “luxury” tax

On January 1, 1991, the federal government doubled the beer tax from \$9.00 to \$18.00 per barrel, as part of a budget-balancing effort.

This was the largest single increase in the federal tax on beer in American history, and resulted in an estimated 60,000 people losing their jobs in brewing, distributing, retailing and related industries, according to estimates by the economic firm of DRI/McGraw-Hill (1993).

As part of the same budget package, and justified as an effort to be even-handed, Congress also raised taxes on some of the luxury toys of the very rich – top-of-the-line automobiles, yachts, private airplanes, expensive furs and high-end jewelry.

Less than a year later, however, Congress yielded to pressure and repealed or phased out the tax on every one of those luxury items. But not the tax on beer! While federal excise taxes collected from wealthy Americans were eliminated, working Americans continue to pay the doubled federal beer tax, at the rate of \$70 million a week, plus an additional \$150 million per week in state sales and excise taxes on beer.

As a basic matter of fairness, the time is long overdue to roll back the beer tax to its pre-1991 level. There is strong historical precedent for a rollback, since on four other occasions the federal beer tax was rolled back, after increases to pay for extraordinary war costs. Today, a rollback would correct a serious inequity, and at the same time could restore an estimated 50,000 jobs to the U.S. economy (DRI/McGraw-Hill, 1996).

The bottom line: Fair taxes, not beer taxes

Historically, beer taxes have been levied to pay for the enormous cost incurred in fighting wars. They were first imposed to help pay for the Civil War, and raised to provide revenues for the Korean War. Unfortunately, taxes have a tendency to take on a life of their own, even after the national emergency is long past.

Many policymakers have come to recognize, however, that excise taxes of any kind are an antiquated way to levy taxes. As recently as 1900, 50 percent of federal revenues were collected via excise taxes. By 1950, that share had shrunk to 19 percent. And with the elimination of many taxes on luxury goods imposed in 1991 and the recent rollback of the federal excise taxes on telephone service, the share of the federal budget represented by excise taxes now stands at about 3 percent. But there are those who keep pressing for higher excise taxes on beer (U.S. Office of Management and Budget, 2009).

It's time to stop thinking of beer excise taxes as simple, painless solutions to budgetary problems or as a way to deal with alcohol abuse. In the real world, beer taxes are:

- Job killers – directly and indirectly reducing employment and hurting low and middle-income families.
- Inefficient and fiscally unwise – costing taxpayers much more than they raise in new revenues.
- Unfair and divisive – tagging one group of consumers to pay for government services that benefit all.
- Ineffective – failing to have any real impact on alcohol abuse.

Sound tax policy clearly dictates that these taxes be reconsidered as we strive to make the tax system fairer and more efficient. It is time to consider phasing out beer taxes in the interest of a tax policy that makes sense in the 21st century, and beyond.

References

- An, Ruopeng and Sturm, Roland. Does the response to alcohol taxes differ across racial/ethnic groups? Some evidence from 1984-2009 Behavioral Risk Factor Surveillance System. *Journal of Mental Health Policy and Economics*. 2011 April; 14(1): 13–23.
- Beer Institute. 2008. Beer Tax Regressivity Analysis. <http://www.BeerInstitute.org>.
- Center for Science in the Public Interest, 2000. Tax junk foods. *Nutrition Action Health Letter*, December, 2000.
- Chaloupka, Frank J., et al. 1993. Alcohol control-policies and motor-vehicle fatalities. *Journal of Legal Studies*, Vol. 22.
- Chamberlain, Andrew and Gerald Prante. 2007. Who pays taxes and who receives government spending? An analysis of federal, state and local tax and spending distributions, 1991-2004. *Tax Foundation Working Paper*, No. 1. March 2007
- Dee, Thomas S. 1999. State alcohol policies, teen drinking and traffic fatalities. *Journal of Public Economics*, 72:289-315.
- DRI/McGraw-Hill. 1993. *Macroeconomic impacts of higher federal excise taxes on beer*. May, 1993.
- DRI/McGraw-Hill. 1996. *The macroeconomic implications of a \$9 decrease in the federal beer tax*. March 8, 1996.
- DRI-WEFA and The Parthenon Group. 2002. *State Revenue Prospects & Strategies*.
- Global Insight, Inc. and the Parthenon Group. 2005. *The Tax Burden on the Brewing Industry*.
- Harwood, H., et al. 2000. *Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods and Data*. Report to the National Institutes of Alcohol Abuse and Alcoholism.
- Heien, Dale and David J. Pittman. 1989. The economic costs of alcohol abuse: An assessment of current methods and estimates. *Journal of Studies on Alcohol*, 50(6):567-579.
- Heien, Dale and David J. Pittman. 1993. The external costs of alcohol abuse. *Journal of Studies on Alcohol*, 54(3):302-307.
- Horgen, K. and K. Brownell. 1998. Policy change as a means for reducing the prevalence and impact of alcoholism, smoking and obesity, in *Treating Addictive Behaviors*, Second Edition. Plenum Press.
- Keeler, E. B., et al. 1989. The external costs of a sedentary lifestyle. *American Journal of Public Health*, 79(8):975-81.
- Manning, Willard G., et al. 1995. The demand for alcohol: The differential response to price. 1995. *Journal of Health Economics*, 14:123-148.
- Mast, Brent D. et al. 1999. Beer taxation and alcohol related traffic fatalities. *Southern Economic Journal*. 66(2):214-249.
- MacDonald, Ziggy and Michael A. Shields. "The Impact of Alcohol Consumption on Occupational Attainment in England." *Economica* 68 (August 2001): pp. 427-453.
- National Conference of State Legislatures. 2010. *Tax Policy Handbook for State Legislators*, Third Edition.

- Office of Management and Budget, Executive Office of the President. 2009. Historical Tables, Budget of the U.S. Government, Fiscal 2011. Table 2.1—RECEIPTS BY SOURCE: 1934–2016.
- Packaged Facts. 2007. Teen market to surpass \$200 billion by 2011, despite population decline. June 28, 2007. (Downloaded from <http://www.marketingcharts.com/interactive/teen-market-to-surpass-200-billion-by-2011-despite-population-decline-817/>, November 16, 2011.)
- Pearson, Thomas A. and Paul Terry. 1994. What to advise patients about drinking alcohol: The clinician's conundrum. *Journal of the American Medical Association*, 272(12):967-968.
- Pemberton, M. R., Colliver, J. D., Robbins, T. M., & Gfroerer, J. C. 2008. *Underage alcohol use: Findings from the 2002-2006 National Surveys on Drug Use and Health* (DHHS Publication No. SMA08-4333, Analytic Series A-30). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Ponicki, William R., et al. 2007. Joint Impacts of Minimum Legal Drinking Age and Beer Taxes on U.S. Youth Traffic Fatalities, 1975 to 2001. *Alcoholism: Clinical Experimental Research*, 31:5, 804-813.
- Pratt, M. et al. 2000. Higher direct medical costs associated with physical inactivity, *The Physician and Sportsmedicine*, 28: 63-70.
- Simpson, Herb M. and D. R. Mayhew, 1991. *The Hard Core Drinking Driver*, Traffic Injury Research Foundation, Ottawa, Canada.
- Simpson, Herb M. et al., 1996. *Dealing With the Hard Core Drinking Driver*, Traffic Injury Research Foundation, Ottawa, Canada.
- Single, E., et al. 1995. *The Costs of Substance Abuse in Canada*. Canadian Centre on Substance Abuse.
- Sloan, Frank A., Reilly, Bridget A., Schenzler, Cristoph M. 1994. Tort Liability versus Other Approaches for Deterring Careless Driving. *International Review of Law and Economics*, 14: 53-71.
- Standard & Poor's DRI. 2001. *The tax burden on America's beer drinkers*. January 17, 2001.
- Stout, E. et al. 2000. Reducing harmful alcohol-related behaviors: effective regulatory methods. *Journal of Studies on Alcohol*. 61:402-412.
- Treno, A.J. et al. 2006. The price of alcohol: A consideration of contextual factors. *Alcoholism: Clinical and Experimental Research* 30(10):1734-42. Wagenaar, Alexander C. 1996. Sources of alcohol for underage drinkers. *Journal of Studies on Alcohol*, 57(3):325-333.
- Young, D.J. & Bielinska-Kwapisz, A. (2002). Alcohol Taxes and Beverage Prices. *National Tax Journal*. LV(1):57-74.
- Young, Douglas J. and Thomas W. Likens. 2000. Alcohol regulation and auto fatalities. *International Review of Law and Economics*. 20:107-126.
- Zollo, Peter. 1995. Talking to teens. *American Demographics*, November, 1995, pages 22-39.

For more information on issues facing the brewing industry, please call the Beer Institute at 202-737-2337 or 1-800-379-BREW
Or visit our website at www.beerinstitute.org.