Erosion of State Alcohol Excise Taxes in the United States

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ABSTRACT. Objective: In the United States, excessive alcohol consumption is responsible for 88,000 deaths annually and cost \$249 billion, or \$2.05 per drink, in 2010. Specific excise taxes, the predominant form of alcohol taxation in the United States, are based on the volume of alcohol sold rather than a percentage of price and can thus degrade over time because of inflation. The objective of this study was to describe changes in inflation-adjusted state alcohol excise taxes on a beverage-specific basis. **Method:** State-level data on specific excise taxes were obtained from the Alcohol Policy Information System and the Tax Foundation. Excise tax rates were converted into the tax per standard U.S. drink (14 g of ethanol) for beer, wine, and distilled spirits, and

converted into 2015 dollars using annual Consumer Price Index data. **Results:** Across U.S. states, the average state alcohol excise tax per drink in 2015 was \$0.03 for beer, \$0.05 for distilled spirits, and \$0.03 for wine. From 1991 to 2015, the average inflation-adjusted (in 2015 dollars) state alcohol excise tax rate declined 30% for beer, 32% for distilled spirits, and 27% for wine. Percentage declines in state excise taxes since their inception were more than twice as large as those from 1991 to 2015. **Conclusions:** In 2015, average state specific excise taxes were \$0.05 or less per standard drink across all beverage types and have experienced substantial inflation-adjusted declines. (*J. Stud. Alcohol Drugs*, 79, 43–48, 2018)

IN THE UNITED STATES, excessive alcohol consumption is responsible for approximately 88,000 deaths annually and, in 2010, cost \$249 billion, or \$2.05 per drink (Centers for Disease Control and Prevention, 2015). To reduce excessive alcohol consumption and related harms, increasing alcohol taxes is effective and is recommended by the Community Preventive Services Task Force (Babor et al., 2010; Chaloupka et al., 2002; Elder et al., 2010; Wagenaar et al., 2009; Xuan et al., 2013). Alcohol tax increases are typically passed on to consumers, resulting in price increases of equal or greater magnitude than the tax itself (Siegel et al., 2013b).

Specific excise taxes (subsequently referred to as excise taxes) are the predominant form of alcohol taxation in the United States and exist at the federal level and in all 50 states. Alcohol excise tax rates are based on a fixed-dollar amount per volume of alcohol rather than on a percentage of the retail price, so the value of alcohol excise taxes can decline because of inflation unless they are periodically increased. However, neither the federal government nor states currently index alcohol excise tax rates for inflation.

No recent studies have examined current, beverage-specific alcohol excise tax rates in states or changes in state

alcohol excise tax rates over time. The purpose of this study was to calculate state alcohol excise taxes on a beverage-specific basis per standard drink and to examine changes in state excise taxes during the 25 years from 1991 to 2015 and since their inception in each state.

Method

Tax data

State-level alcohol tax data were derived from multiple sources. Tax rates from 1991 to 2015 were obtained from the Alcohol Policy Information System (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2012) and the Tax Foundation (2010) and were cross-checked using the WestlawNext legal database utilizing standard legal research methods. Alcohol excise tax data from the point of their inception were obtained from a database developed by Ponicki (2004). Inception tax rates, which vary by state, were defined as those present during the first year of alcohol taxation in a given state.

Analysis

Taxes for beer, distilled spirits, and wine were converted to a per-drink basis using the standard drink size in the United States (i.e., 14 g of ethanol per standard drink). This translates into 12 oz. of 5% alcohol-by-volume (ABV) beer, 1.5 oz. of 40% ABV distilled spirits, or 5 oz. of 12% ABV wine (NIAAA, 2017).

Tax data on beer were collected and analyzed for all 50 states. Tax data on distilled spirits and wine were collected

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and analyzed for the 32 states that licensed both of these beverage types for wholesale and retail sales, commonly referred to as “license states” (i.e., states that did not have wholesale or retail monopolies on either distilled spirits or wine during the study period, since states with monopolies use a variety of markup procedures and do not levy excise taxes). Excise taxes were inflation-adjusted to 2015 U.S. dollars and rounded to the nearest cent. Annual Consumer Price Indices, available from the Bureau of Labor Statistics, were used to adjust for inflation (U.S. Department of Labor, 2016). The value of each tax rate at 2015 was compared with the inflation-adjusted value of these taxes in 1991 (the most recent year in which alcohol taxes were increased at the federal level) and since their inception (U.S. Department of Labor, 2016).

Results

State alcohol excise tax rates in 2015

Among the 50 U.S. states in 2015, average state alcohol excise taxes were \$0.05 or less per standard drink for beer, distilled spirits, and wine. The average alcohol excise tax for beer in 2015 was \$0.03 per drink (range: \$0.00 [Wyoming]–\$0.12 [Tennessee]). Of these, 43 (86%) states had a beer excise tax of \$0.05 or less per drink, including 16 (32%) states with a beer excise tax of \$0.01 or \$0.00 per drink (Table 1). Among the 32 license states (i.e., states that did not have a retail or wholesale monopoly for distilled spirits or wine), the average spirits excise tax in 2015 was \$0.05 per drink (range: \$0.02 [Kentucky, Maryland, Missouri]–\$0.15 [Alaska]), and 22 (69%) states had a spirits excise tax of \$0.05 or less per drink. Among the 32 license states, the average wine excise tax in 2015 was \$0.03 (range: \$0.00 [Louisiana]–\$0.10 [Alaska]); 28 (88%) states had a wine excise tax of less than \$0.05 per drink, including 13 (41%) states with a wine excise tax of \$0.02 or less per drink.

Changes in inflation-adjusted state alcohol excise tax rates

During the 25 years from 1991 through 2015, the average inflation-adjusted state alcohol excise tax declined by 30% for beer, 32% for distilled spirits, and 27% for wine (Table 1, Figure 1). For beer, 5 states (10%) increased beer excise taxes in 2015 dollars during the study period. Among these states, the average alcohol excise tax rate was \$0.06 per drink in 2015 dollars, and 3 of 5 states had beer taxes of \$0.04 or less per drink. For distilled spirits, 3 states (9%) increased inflation-adjusted excise taxes; among these states, the average tax was \$0.10 per drink in 2015. For wine, 6 states increased inflation-adjusted excise taxes; among these states, the average alcohol excise tax rate was \$0.06 per drink in 2015.

Since the first year that alcohol excise taxes were introduced in each state, the average inflation-adjusted state excise taxes has declined by 64% for beer, 67% for distilled spirits, and 70% for wine (Table 2). Since the year of inception, 4 states (Alabama, Alaska, Georgia, Tennessee) have had increases for beer excise taxes, 1 state (Alaska) has had an increase for distilled spirits, and 4 states (Alaska, Florida, Nebraska, New Mexico) have had increases for wine.

Discussion

In 2015, the average state alcohol excise taxes were \$0.05 or less per standard drink for beer, distilled spirits, and wine. Beer accounts for more than half of the alcohol consumed, and approximately two thirds of binge drinks consumed each year in the United States (Naimi et al., 2007). Even so, the average state alcohol excise tax on beer in 2015 was about \$0.03 per drink, and 43 states had beer excise taxes of \$0.05 or less per drink. On average across states, alcohol excise taxes experienced inflation-adjusted declines of approximately 30% across all beverage types from 1991 to 2015, and percentage declines in state excise taxes since their inception were more than twice as large as those from 1991 to 2015.

Although there were large relative differences between states in terms of the magnitude of alcohol excise taxes (with some Southern states tending to have slightly higher taxes), between-state differences were modest in absolute amounts, typically a few cents. Overall, current state alcohol excise taxes comprise only a small percentage of the total price of alcohol (Siegel et al., 2013a), typically less than 5% of the price even for alcohol purchased in an off-premises establishment. Recent research finds that alcohol excise taxes are also low by historical standards and that alcohol has become increasingly affordable in recent decades (Kerr et al., 2013). Although alcohol was taxed differently before Prohibition, at one time alcohol taxes accounted for approximately 40% of U.S. government revenue; at present, however, they account for less than 0.5% of federal tax revenue (Cook, 2007).

People may be unaware of alcohol excise taxes in their own states and how taxes have changed over time because of inflation or other factors. There are several reasons for this. First, excise taxes are incorporated into the shelf price of alcohol products, rather than added at the time of checkout. As such, most consumers never see the taxes that have already been charged on the products they purchase. Second, alcohol taxes are levied in units of volume (e.g., dollars per gallon of beer), which are not intuitively understood on a per-drink basis, even though public health-related recommendations for alcohol consumption are based on U.S. standard drinks. Third, because alcohol excise taxes are nominal, the general public may not be aware of the declining rates resulting from inflation (i.e., there is no “news” that taxes are actively being lowered).

TABLE 1. State alcohol excise taxes in 2015, and changes in inflation-adjusted excise taxes since 1991, by beverage type

Variable	Beer ^a		Distilled spirits ^{b,e}		Wine ^{c,e}	
	2015 tax rate, \$ per drink	% change since 1991 ^d	2015 tax rate, \$ per drink	% change since 1991 ^d	2015 tax rate, \$ per drink	% change since 1991 ^d
State average	0.03	-30%	0.05	-32%	0.03	-27%
Alabama	0.10	-42%	N.A.	N.A.	N.A.	N.A.
Alaska	0.10	77%	0.15	32%	0.10	70%
Arizona	0.02	-42%	0.04	-42%	0.03	-42%
Arkansas	0.02	-42%	0.03	-42%	0.03	-42%
California ^f	0.02	-42%	0.04	-42%	0.01	-42%
Colorado	0.01	-42%	0.03	-42%	0.01	-42%
Connecticut	0.02	-27%	0.06	-31%	0.03	-31%
Delaware	0.02	-42%	0.04	-60%	0.04	-42%
Florida	0.05	-42%	0.08	-42%	0.09	-42%
Georgia	0.09	-42%	0.04	-42%	0.06	-42%
Hawaii	0.09	-34%	0.07	-34%	0.05	-39%
Idaho	0.01	-42%	N.A.	N.A.	N.A.	N.A.
Illinois	0.02	91%	0.10	147%	0.05	249%
Indiana	0.01	-42%	0.03	-42%	0.02	-42%
Iowa	0.02	-42%	N.A.	N.A.	N.A.	N.A.
Kansas	0.02	-42%	0.03	-42%	0.01	-42%
Kentucky	0.01	-42%	0.02	-42%	0.02	-42%
Louisiana	0.03	-42%	0.03	-42%	0.00	-42%
Maine	0.03	-42%	N.A.	N.A.	N.A.	N.A.
Maryland	0.01	-42%	0.02	-42%	0.02	-42%
Massachusetts	0.01	-42%	0.05	-42%	0.02	-42%
Michigan	0.02	-42%	N.A.	N.A.	N.A.	N.A.
Minnesota	0.01	-42%	0.06	-42%	0.01	-42%
Mississippi	0.04	-42%	N.A.	N.A.	N.A.	N.A.
Missouri	0.01	-42%	0.02	-42%	0.02	-33%
Montana	0.01	-42%	N.A.	N.A.	N.A.	N.A.
Nebraska	0.03	-22%	0.04	-28%	0.04	-27%
Nevada	0.02	3%	0.04	1%	0.03	1%
New Hampshire	0.03	-42%	N.A.	N.A.	N.A.	N.A.
New Jersey	0.01	-31%	0.06	-24%	0.03	1%
New Mexico	0.04	32%	0.07	-11%	0.07	4%
New York	0.01	-49%	0.08	-42%	0.01	-9%
North Carolina	0.06	-33%	N.A.	N.A.	N.A.	N.A.
North Dakota	0.02	-42%	0.03	-42%	0.02	-42%
Ohio	0.02	-42%	N.A.	N.A.	N.A.	N.A.
Oklahoma	0.04	-42%	0.07	-42%	0.03	-42%
Oregon	0.01	-42%	N.A.	N.A.	N.A.	N.A.
Pennsylvania	0.01	-42%	N.A.	N.A.	N.A.	N.A.
Rhode Island	0.01	-36%	0.06	-17%	0.05	35%
South Carolina	0.07	-42%	0.05	-42%	0.04	-42%
South Dakota	0.03	-42%	0.05	-42%	0.04	-42%
Tennessee ^g	0.12	486%	0.05	-36%	0.05	-36%
Texas	0.02	-42%	0.03	-42%	0.01	-42%
Utah	0.04	-33%	N.A.	N.A.	N.A.	N.A.
Vermont	0.02	-42%	N.A.	N.A.	N.A.	N.A.
Virginia	0.03	-42%	N.A.	N.A.	N.A.	N.A.
Washington	0.02	-2%	0.09	N.A.	0.03	N.A.
West Virginia	0.02	-42%	N.A.	N.A.	N.A.	N.A.
Wisconsin	0.01	-42%	0.04	-41%	0.01	-42%
Wyoming	0.00	-42%	N.A.	N.A.	N.A.	N.A.

Notes: N.A. = not applicable. ^aTaxes imposed in dollars per 12 oz. of 5% alcohol-by-volume (ABV) beer, rounded to the nearest cent. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. ^bTaxes imposed in dollars per 1.5 oz. of 40% ABV distilled spirits, rounded to the nearest cent. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. ^cTaxes imposed in dollars per 5 oz. of 12% ABV wine, rounded to the nearest cent. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. ^dPercent change from 1991 to 2015 was inflation adjusted using the Consumer Price Index. ^eWine and distilled spirits data were collected for only the 32 states that licensed both wine and distilled spirits for wholesale and retail sales through the duration from 1991 to 2015 (i.e., the states that did not have wholesale or retail monopolies on either distilled spirits or wine during this period). ^fAt the start of 1991, California's wine tax was 1 cent per gallon and increased to \$0.20 per gallon by the end of 1991. However, we used the earlier amount because our methodology was to use the rate that was in effect for the greatest number of days during a given year. ^gTennessee's excise taxes increased because the state eliminated a large ad valorem tax in exchange for an increase in the volume-based (excise) tax.

TABLE 2. Year of tax inception, inflation-adjusted rate at inception, and inflation-adjusted change in value of state alcohol excise tax rates from inception through 2015, by beverage type

State	Beer ^a			Distilled spirits ^b			Wine ^c		
	Year of inception	Rate at inception (inflation adjusted)	% change	Year of inception	Rate at inception (inflation adjusted)	% change	Year of inception	Rate at inception (inflation adjusted)	% change
All states	1933	0.08	-64%	1935	0.15	-67%	1934	0.11	-70%
Alabama	1937	0.08	27%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Alaska	1933	0.08	21%	1937	0.10	54%	1933	0.03	182%
Arizona	1933	0.08	-82%	1933	0.17	-79%	1934	0.17	-80%
Arkansas	1934	0.05	-55%	1935	0.08	-62%	1935	0.03	-10%
California	1933	0.03	-44%	1935	0.16	-76%	1934	0.01	-44%
Colorado	1934	0.05	-85%	1934	0.17	-84%	1934	0.17	-92%
Connecticut	1933	0.05	-55%	1937	0.12	-46%	1937	0.06	-57%
Delaware	1933	0.05	-70%	1933	0.21	-79%	1934	0.28	-86%
Florida	1933	0.13	-66%	1935	0.16	-53%	1934	0.04	112%
Georgia	1935	0.06	47%	1938	0.19	-77%	1937	0.26	-77%
Hawaii	1986	0.16	-46%	1986	0.13	-46%	1986	0.11	-50%
Idaho	1933	0.08	-83%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Illinois	1933	0.03	-35%	1934	0.10	-03%	1934	0.07	-21%
Indiana	1933	0.08	-87%	1933	0.41	-92%	1934	0.35	-95%
Iowa	1933	0.07	-73%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Kansas	1937	0.08	-80%	1949	0.11	-74%	1949	0.06	-79%
Kentucky	1934	0.07	-89%	1934	0.10	-78%	1934	0.03	-29%
Louisiana	1933	0.08	-64%	1935	0.10	-71%	1934	0.03	-87%
Maine	1933	0.07	-51%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Maryland	1936	0.03	-73%	1933	0.23	-92%	1935	0.13	-88%
Massachusetts	1933	0.05	-80%	1933	0.08	-43%	1934	0.07	-69%
Michigan	1933	0.07	-71%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Minnesota	1934	0.11	-87%	1934	0.12	-53%	1934	0.07	-83%
Mississippi	1934	0.07	-40%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Missouri	1934	0.05	-89%	1934	0.17	-86%	1934	0.14	-88%
Montana	1933	0.05	-74%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Nebraska	1933	0.05	-42%	1935	0.10	-56%	1935	0.03	11%
Nevada	1935	0.04	-65%	1935	0.08	-47%	1935	0.07	-59%
New Hampshire	1933	0.05	-44%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
New Jersey	1933	0.06	-80%	1933	0.21	-69%	1934	0.07	-51%
New Mexico	1943	0.04	-08%	1934	0.17	-57%	1934	0.06	20%
New York	1933	0.06	-76%	1933	0.21	-64%	1934	0.07	-83%
North Carolina	1933	0.18	-68%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
North Dakota	1934	0.07	-77%	1937	0.12	-75%	1935	0.07	-70%
Ohio	1935	0.26	-93%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Oklahoma	1934	0.13	-72%	1959	0.23	-71%	1959	0.11	-75%
Oregon	1934	0.05	-84%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Pennsylvania	1934	0.07	-89%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Rhode Island	1933	0.05	-81%	1933	0.10	-39%	1934	0.14	-60%
South Carolina	1933	0.35	-80%	1935	0.16	-67%	1935	0.10	-58%
South Dakota	1934	0.07	-62%	1935	0.10	-54%	1935	0.07	-46%
Tennessee	1933	0.06	86%	1939	0.14	-62%	1939	0.16	-71%
Texas	1934	0.08	-77%	1936	0.16	-82%	1935	0.17	-95%
Utah	1934	0.07	-42%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Vermont	1933	0.05	-50%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Virginia	1934	0.18	-85%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Washington	1934	0.05	-51%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
West Virginia	1933	0.05	-67%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Wisconsin	1933	0.05	-89%	1934	0.21	-81%	1934	0.17	-94%
Wyoming	1933	0.05	-97%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Notes: N.A. = not applicable. ^aTaxes imposed in dollars per 12 oz. of 5% alcohol-by-volume (ABV) beer. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. Year of inception for all states represents the state median; rate at inception and percent change since inception were inflation adjusted to 2015 dollars using the Consumer Price Index. ^bTaxes imposed in dollars per 1.5 oz. of 40% ABV distilled spirits. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. Year of inception for all states represents the state median; rate at inception and percent change since inception were inflation adjusted to 2015 dollars using the Consumer Price Index. Wine and distilled spirits data were collected for only the states that licensed both wine and distilled spirits for wholesale and retail sales throughout the study period (i.e., the states that did not have wholesale or retail monopolies on either distilled spirits or wine during this period). ^cTaxes imposed in dollars per 5 oz. of 12% ABV wine. This is equivalent to 14 g of ethanol, which is a U.S. standard drink. Year of inception for all states represents the state median; rate at inception and percent change since inception were inflation adjusted to 2015 dollars using the Consumer Price Index. Wine and distilled spirits data were collected for only the states that licensed both wine and distilled spirits for wholesale and retail sales throughout the study period (i.e., the states that did not have wholesale or retail monopolies on either spirits or wine during this period).

FIGURE 1. Average U.S. state alcohol specific excise tax rates per standard drink, inflation adjusted to 2015 dollars, by beverage type, 1991–2015. The analysis includes all 50 U.S. states for beer and 32 states for distilled spirits and wine (the 32 states without any state monopoly on wholesale distribution or retail sales of either distilled spirits or wine). A standard drink in the United States is 14 g of ethanol, which is equivalent to 12 oz. of 5% alcohol-by-volume beer, 1.5 oz. of 40% alcohol-by-volume distilled spirits, or 5 oz. of 12% alcohol-by-volume wine.

Although this study was about state alcohol excise taxes, which are the predominant form of alcohol taxation, other taxes may be applied to alcohol in U.S. states. For example, 46 states and the District of Columbia apply general sales taxes to alcohol (NIAAA, 2013; Xuan et al., 2015). Sixteen states also apply alcohol-specific “ad valorem” taxes that are based on a percentage of the wholesale or retail price (NIAAA, 2013). Last, states with monopolies on distilled spirits or wine use a variety of markup procedures, so there is no comparable excise tax rate for those beverages in those states. Therefore, our results for distilled spirits and wine were restricted to the 32 license states without monopolies for either beverage during the study period. Federal excise taxes are also applied to alcohol; the current per-drink federal excise taxes for beer (\$0.05), distilled spirits (\$0.16), and wine (\$0.04) (Alcohol and Tobacco Tax and Trade Bureau, 2016) have also eroded with inflation. For example, the inflation-adjusted federal beer tax has declined by 42% since

it was last increased in 1991 (Alcohol and Tobacco Tax and Trade Bureau, 2016).

In 2010, excessive drinking cost the United States approximately \$249 billion, or approximately \$2.05 per drink, of which approximately 40% was borne by the federal and state governments (Sacks et al., 2015). Even considering all tax types, current alcohol-related costs exceed alcohol tax revenues (Naimi, 2011). Therefore, increasing alcohol taxes would help address the erosion of these taxes and also reduce the considerable discrepancy between alcohol-related costs and revenue from alcohol excise taxes. Conversely, failing to raise state excise taxes would contribute to lower prices in inflation-adjusted terms in the future, which could result in increases in consumption and related harms.

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