How does the calculator work? What assumptions underlie the revenue estimates?

Do I have to enter a tax increase for each category?

What if my state taxes beer by the gallon and wine by the liter? Can the calculator accommodate this?

When I select my state from the drop down menu, a message appears telling me it is a Control State for spirits and/or wine. What does this mean?

How do I interpret the Estimated Revenue results?

Why is sales tax revenue included in the results box?

What does it mean if the sales tax revenue is negative?

What if the sales tax revenue is zero?

Can I be certain to see this exact amount of revenue in my state?

How can I get an estimate for my county or city?

Where does the county- and city-specific data come from? What are the additional assumptions underlying the revenue calculations for counties and cities?

What is a proof gallon? Can the calculator be used to estimate revenue for taxes levied by proof gallon?

How does the calculator work? What assumptions underlie the revenue estimates?

The revenue calculator is based on a relatively simple mathematical formula underpinned by the most currently available beverage, consumption, and state tax information—as well as research from the leading published econometric studies of the alcohol industry.

**Increase in Tax or Fee Revenue = New Fee or Tax Revenue - Old Excise Tax Revenue**

\[
= (t_c + t_f) \cdot [c_e \cdot (1 + p_c/p_e) e] - (t_c) \cdot c_e
\]

**Increase in Sales Tax Revenue = New Sales Tax Revenue - Old Sales Tax Revenue**

\[
= (p_c + t_f) \cdot [c_e \cdot (1 + p_c/p_e) e] - (p_c) \cdot c_e) \cdot t_s
\]

Where:
- \( t_c \) = current excise tax rate\(^1\)
- \( t_f \) = new excise tax or fee increase
- \( c_e \) = current consumption volume\(^2\)
- \( p_c \) = current retail price\(^3\)
- \( p_e \) = retail price increase due to tax or fee\(^4\)
- \( e \) = elasticity of demand\(^5\)
- \( t_s \) = current sales tax rate\(^1\)
1. Excise tax, sales tax and ad valorem retail tax information from the NIAAA Alcohol Policy Information System, the Tax Foundation and available state data. State rates include ad valorem retail tax rates levied on off-premise sales. Counties and city local tax rates are used for county and city level estimates, where available. See county and city FAQ detail, below.


3. The average drink price is based on the most recently available per gallon US average (2007): $14.87 (beer), $40.21 (wine), $145.54 (spirits). Price data has been updated to reflect inflation rates for alcoholic beverages through August 2012, to $16.98 (beer), $45.91 (wine), and $166.17 (spirits). (Source: http://www.bls.gov/cpi/). Average Price Source: The Beverage Information Group's 2008 Beer Handbook, 2008 Wine Handbook, and 2008 Spirits Handbook. These prices may slightly overstate revenue increases for states with lower than average alcohol prices.

4. Retail price estimates after a tax or fee increase assume the alcohol industry passes on 100% of the tax to consumers. This is a conservative estimate: Young D.J., Bielinska-Kwapisz A. Alcohol taxes and beverage prices. National Tax Journal. LV-1: 57-73. 2002.


Do I have to enter a tax increase for each category?

No. You may enter an amount for one, two or all three categories.

What if my state taxes beer by the gallon and wine by the liter? Can the calculator accommodate this?

Absolutely. For each category, you can choose whatever unit of measurement makes sense. The example below shows how you would input the numbers to raise beer excise taxes by a dollar a barrel, wine taxes by thirty-cents a liter, and spirits taxes by five cents a drink.
When I select my state from the drop down menu, a message appears telling me it is a Control State for spirits and/or wine. What does this mean?

In control states, the state government regulates alcohol sales in one or more beverage categories. Because profits flow directly to the government, these states do not generally levy excise taxes in those alcohol categories.

You may plug tax increases into the calculator for all categories regardless of whether they are state controlled. But keep in mind that control states handle revenue differently in controlled beverage categories, and so revenue estimates must be put into context with a state’s particular laws and regulations.

How do I interpret the Estimated Revenue results?

The example below shows how much revenue a state could expect to raise if it increased its beer tax by a dollar a barrel and its spirits tax by five cents a drink.

By increasing the beer tax rate by a dollar a gallon, the beer excise tax revenue would increase by an estimated $669 million. The state could expect to raise another $25 million in sales tax revenue, for a total revenue increase of $694 million.

Similarly, by raising the spirits tax by five cents a drink, the state could expect to increase its spirits excise tax revenue collections by $213 million. Sales tax revenue would increase by $2.84 million, for a total of $215 million.

In total, by raising the beer tax by a dollar a gallon and in the spirits tax by five cents drink, this state could expect to see revenue collections increase by more than $900 million a year.

Note that the $0 revenue for wine does not indicate that wine revenues will be zero. It means that wine revenues will not be expected to increase if you choose to leave that blank.
Estimated Revenue

<table>
<thead>
<tr>
<th></th>
<th>Beer</th>
<th>Wine</th>
<th>Spirits</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excise Tax Revenue</td>
<td>$669,000,000</td>
<td>0</td>
<td>$213,000,000</td>
<td>$881,000,000</td>
</tr>
<tr>
<td>Change in Sales</td>
<td>$25,600,000</td>
<td>0</td>
<td>$2,840,000</td>
<td>$28,500,000</td>
</tr>
<tr>
<td>Revenue</td>
<td>$694,600,000</td>
<td>0</td>
<td>$215,840,000</td>
<td>$910,440,000</td>
</tr>
</tbody>
</table>

Why is sales tax revenue included in the results box?

The alcohol industry typically passes all excise taxes and fee increases on to the consumer by raising prices. For example, if the state raises its excise beer tax by a nickel a drink, beer producers will usually respond by raising the price of a six-pack by thirty-cents or more. We have assumed that industry passes on 100% of the tax to consumers, even though it's usually more. Higher retail price in turn generate higher sales tax revenue in states that have a sales tax, up to a point (see below).

What does it mean if the sales tax revenue is negative?

The flipside of charging more for a six-pack of beer is that some people will buy less beer. Even though sales tax revenue on a six-pack is higher when the price goes up, if enough people drink a little less beer, the total alcohol sales tax revenue will drop, indicated by a negative number. This may sound drastic, but in California a five-cents per drink beer tax increase would likely result in people drinking only 1.3% less beer. And, such an increase would generate an estimated $362 million in new revenue-plus another $14 million in sales tax revenue.

What if the sales tax revenue is zero?

This probably means your state has no sales tax on alcohol. You can verify this by checking footnote #1 below the revenue estimate table, which has your state's sales tax and excise tax rates. (It is also possible, but very unlikely, that the tax increase you chose happened to be the mathematically perfect amount that would lead to no expected change in the sales tax revenue.)

Can I be certain to see this exact amount of revenue in my state?

The calculator is intended to be used as a guide to estimating potential new revenue. Actual revenue
collections may be different than predicted levels.

How can I get an estimate for my county or city?

You can now drill down to the county or city level for many places in California and New Mexico. In California, all counties are available, as well as the 25 most populous cities. In New Mexico, the 5 most populous cities and their counties are available. If you are interested in getting an estimate for new fee/tax revenue for any city or county not currently included in the calculator, please contact Alcohol Justice.

Examples of how to ensure you are getting state-level data for California or New Mexico, and how to drill down to the county-level and city-level are shown below.

State Level Estimate: When you choose California or New Mexico, a box will appear that gives you the option to drill down to the county level. If you want an estimate for a state-wide tax or fee, select All in the county box and proceed on to Step 2 of the calculator.

County Level Estimate: The calculator now allows you to estimate fee revenue for all California counties and the five most populous counties in New Mexico. When you select California or New Mexico in the state box, the county box will appear. Simply select the county of interest from the drop down menu.

Note: For California counties that do not house one of the 25 most populous cities, you will not have the option to drill down farther. Santa Barbara County is an example of this. In cases like this, proceed on to Step 2.

For all five New Mexico counties in the calculator and the California counties which house one or more of the twenty-five most populous cities, a city box will appear, signaling you have the option to drill down to further. Los Angeles County is an example of this. If you want an estimate for Los Angeles County, leave the city box clicked to All and proceed to Step 2.

City Level Estimate: The calculator will estimate fee revenue for the 25 most populous cities in California and the 5 most populous cities in New Mexico. In order to drill down to the city level, you will need to know the county in which the city resides. For example, if you want data for the city of Long Beach, California, you would drill down to it by first selecting the state of California and the county of Los Angeles. Then proceed on to Step 2.

Where does the county- and city-specific data come from? What are the additional assumptions underlying the revenue calculations for counties and cities?

Data sources:

1. Consumption data is not available at the county or city level. A county or city's share of a state's consumption is estimated based on adult population. Population data source: U.S. Census Bureau, 2010 Demographic Profile.
2. Sales tax and gross receipts taxes are calculated using local rates. For California, the sales and use 
tax rates are obtained from the California Board of Equalization. For New Mexico, the gross 
receipts tax rates are obtained from the State of New Mexico Taxation and Revenue.

Assumptions:

1. Per capita alcohol consumption is constant across a state.
2. There is no adjustment made for tourism consumption.

What is a proof gallon? Can the calculator be used to estimate revenue for taxes levied by proof 
gallon?

A "proof gallon" is a gallon of beverage that is 50% alcohol by volume, or "100 proof." The tax calculator 
was designed to estimate revenue from volumetric tax increases (e.g. a ten-cent tax increase per gallon of 
beer sold), rather than proof gallon based taxation, because almost all alcohol sold in the US is currently 
taxed by volume. (The federal government is a notable exception, taxing spirits --and only spirits--by proof 
gallon.) The idea of switching to taxing alcohol by proof gallon has been gaining popularity because some 
lawmakers believe it is more fair to tax alcoholic beverages based on the amount of alcohol they contain.

You can use the calculator to estimate revenue increases from taxes levied in proof gallons, using the 
simple conversions shown below:

**Beer:**
Desired new proof gallon beer tax rate – current per gallon tax rate for beer:
11.1

For example, at the federal level, beer is currently taxed at $.58 a gallon. If you wanted to know how much 
revenue would be raised if beer taxes were increased to $16 a proof gallon you would calculate:

$16 - $0.58 = $1.44 - $0.58 = $0.86.
11.1

Simply plug $0.86 into the beer area of the tax calculator and click "gallon".

**Wine:**
Desired new wine proof gallon tax rate – current per gallon tax rate for wine:
4.545455

Using the federal tax rate again as an example, where wine is taxed at $1.07 a gallon, to estimate how much 
revenue would be raised if wine taxes were raised to $16 a proof a gallon, you would calculate:

$16 - $1.07 = $3.52 - $1.07 = $2.45
4.545455

To estimate the new revenue expected from such a tax increase, you would plug $2.45 into the wine 
column of the tax calculator and click "gallon".

**Spirits:**
Desired new spirits proof gallon tax rate – current per gallon tax rate for spirits:
As mentioned above, the federal government taxes spirits at $13.50 a proof gallon, which is equivalent to $10.80 a gallon (assuming an average ABV of 40%). To see what would happen if the federal spirits tax were raised from $10.80 a gallon of spirits to $16 a proof gallon, your calculation would be:

$16 - $10.80 = $12.80 - $10.80 = $2.00

To estimate the revenue from this tax increase, you would enter $2.00 into the spirits box in the tax calculator and click "gallon."

Footnotes

The calculations assume an average alcohol by volume (ABV) of 4.5% for beer, 11% for wine, and 40% for spirits. Average alcohol ABV estimates are taken from the US Senate Finance Committee's May 20, 2009 report: Description of Policy Options Financing Comprehensive Health Care Reform: Proposed Health System Savings and Revenue Options.

You can find state and federal gallon tax rates on the Tax Calculator page by clicking on the desired location in Step 1, hitting "calculate", and reading footnote #1 in the results section.