

The Tax Burden on the Brewing Industry

**PREPARED BY
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THE TAX BURDEN ON THE BREWING INDUSTRY

Study Goals and Scope

Tax burdens include:

- taxes paid at all stages of production, distribution, and sales;
- taxes related to sales, income, profits, and payroll;
- taxes paid to Federal, state, or local governments;

A standard procedure was adopted to obtain reliable, consistent results for these three industries: malt beverages, baked goods, and boats valued over \$100,000.

- The data sources for the calculations are public, published information primarily from the Department of Commerce and the Internal Revenue Service, allowing confirmation of the conclusions by any interested parties.
- Economic value-added components and taxes are presented in both absolute magnitudes (billions of U.S. dollars) and proportions (shares of value added and effective average tax rates.)
- 1997 was the most recent year for which all necessary data was available, thus this is the reference year for all computations.

Summary of Findings

The tax burden borne by beer consumers is far higher than average for the U.S. economy.

- Taxes represent 44% of the retail price of beer. In comparison, total Federal, state, and local taxes equal 31.7% of final sales of all products (GNP) in the U.S., approximately 20% at the Federal level and 12% at the state-local level depending on the year.
- In the reference year (1997), taxes on beer raised just under \$25 billion. The income generated by beer industry manufacturers and related sales and distribution partners added \$10.7 billion in Federal personal income, profit, and payroll revenues and \$3.6 in similar state-local revenue. Sales and excise taxes on the beer value-added chain added a further \$10.7 billion to government coffers.
- In contrast, bakery products are found to be a typical good in terms of U.S. tax burden, with a 33% effective rate. Boats are more highly taxed, with a 36% burden. On the other hand, services and capital goods face lower tax burdens because they tend not to be subject to sales or excise taxes of any type.

SUMMARY TABLE

Tax Burdens Through the Production Chain
(Billions of Tax Dollars Paid on Value Added)

	Sales & Excise Taxes			Income, Profit, & Payroll Taxes						Total Taxes		
	Beer	Bread	Boats	Federal			State & Local			Beer	Bread	Boats
Retail Services	\$ 2.97	\$ 0.89	\$ 0.10	\$ 4.65	\$ 5.39	\$ 0.05	\$ 1.36	\$ 1.30	\$ 0.01	\$ 8.98	\$ 7.58	\$ 0.16
Wholesale Services	\$ 2.34	\$ 1.20	\$ 0.01	\$ 1.78	\$ 0.96	\$ 0.01	\$ 0.31	\$ 0.15	\$ 0.00	\$ 4.43	\$ 2.31	\$ 0.02
Transportation Services	\$ 0.03	\$ 0.02	\$ 0.00	\$ 0.20	\$ 0.11	\$ 0.00	\$ 0.04	\$ 0.03	\$ 0.00	\$ 0.27	\$ 0.15	\$ 0.00
Producer (incl. spec. taxes)	\$ 5.33	\$ 0.16	\$ 0.01	\$ 4.04	\$ 9.05	\$ 0.34	\$ 1.92	\$ 3.62	\$ 0.13	\$ 11.30	\$ 12.83	\$ 0.48
Producer-direct	\$ 0.06	\$ 0.16	\$ 0.01	\$ 4.04	\$ 9.05	\$ 0.34	\$ 1.92	\$ 3.62	\$ 0.13	\$ 6.02	\$ 12.83	\$ 0.48
Special product taxes	\$ 5.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.27	\$ -	\$ -
Net Imports	\$ 0.01	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.01	\$ -	\$ -
Total Tax	\$ 10.66	\$ 2.27	\$ 0.12	\$ 10.68	\$ 15.51	\$ 0.41	\$ 3.64	\$ 5.09	\$ 0.14	\$ 24.98	\$ 22.87	\$ 0.67

The Value-Added Chain

	Beer		Bread		Boats	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Retail Services	\$ 21.75	39%	\$ 22.43	32%	\$ 0.28	15%
Wholesale Services	\$ 9.22	16%	\$ 4.72	7%	\$ 0.04	2%
Transportation Services	\$ 0.86	2%	\$ 0.49	1%	\$ 0.01	0%
Producer (incl. spec. taxes)	\$ 23.48	42%	\$ 41.18	60%	\$ 1.55	83%
Producer-direct	\$ 18.20	32%	\$ 41.18	60%	\$ 1.55	83%
Special product taxes	\$ 5.27	9%	\$ -	0%	\$ -	0%
Net Imports	\$ 1.10	2%	\$ 0.33	0%	\$ (0.01)	-1%
Total Value Added	\$ 56.40	100%	\$ 69.16	100%	\$ 1.87	100%

Tax Dollars Paid as a Percent of Value Added

	Sales & Excise Taxes			Income, Profit, & Payroll Taxes						Total Taxes		
	Beer	Bread	Boats	Federal			State & Local			Beer	Bread	Boats
Retail Services	14%	4%	36%	21%	24%	18%	6%	6%	3%	41%	34%	57%
Wholesale Services	25%	25%	25%	19%	20%	27%	3%	3%	5%	48%	49%	58%
Transportation Services	3%	3%	3%	23%	23%	23%	5%	5%	5%	31%	31%	31%
Producer (incl. spec. taxes)	23%	0%	1%	17%	22%	22%	8%	9%	8%	48%	31%	31%
Producer-direct	0%	0%	1%	22%	22%	22%	11%	9%	8%	33%	31%	31%
Special product taxes	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Net Imports	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Total Tax	19%	3%	6%	19%	22%	22%	6%	7%	8%	44%	33%	36%

Tax Detail on a Per-Bottle Basis:

Total Consumer Cost Per Bottle **\$0.92**

Breakdown of 44% of cost that is taxes:

Sales and excise taxes	\$0.17
Federal income, payroll, and other taxes	\$0.17
State and local income, payroll, and other taxes	\$0.06
Sum of Taxes	\$0.41

Stages of Production Tax and Business Cost-Per-Bottle (US\$)

Cost		Taxes
\$0.09	Suppliers to Brewers	\$0.04
\$0.13	Brewing	\$0.14
\$0.08	Transportation/Wholesaling	\$0.08
\$0.20	Retailing	\$0.15
\$0.51	Totals	\$0.41

Stages of Production Tax and Business Cost-Per-Bottle (%)

Cost		Taxes
10%	Suppliers to Brewers	4%
15%	Brewing	16%
9%	Transportation/Wholesaling	8%
22%	Retailing	16%
56%	Totals	44%

METHODOLOGY

This Standard & Poor's DRI study identifies the economic value-added chains and tax burdens of the beer, baked goods,¹ and boat building industries. Data taken from a variety of sources including the Bureau of Economic Analysis (BEA) National Income and Product Accounts, the 1997 Internal Revenue Service (IRS) Corporation Source Book of Statistics of Income, and the BEA's most recent Benchmark Input-Output Accounts of the United States were utilized to calculate the value added and associated tax burden along the process of production, transport, and distribution.

Description of Summary Table

The summary table which precedes this section of the report contains three sections: Tax Burdens Through the Production Chain, The Value-Added Chain, and Tax Dollars Paid as a Percent of Value Added. The first section, Tax Burdens Through the Production Chain, is a compilation of tax calculations from the three supporting tables--one for each of the industries--contained in the Data Appendix which follows. "Sales and Excise Taxes" in the summary table were taken from the columns labeled "Total Taxes: Indirect" on page 2 of each industry's supporting table. Taxes associated with retail beer sales are the sum of on-premise (eating and drinking establishments) and off-premise (grocery and liquor stores) activities. The "Income, Profit, and Payroll Taxes" in the summary table represent all other taxes as calculated in the tables in the Data Appendix. "Total Taxes" on the summary page are equal to the "Grand Total" as found in the supporting tables.

The middle section of the summary table, The Value-Added Chain, was also taken directly from the supporting tables, and is discussed at length below. In each step of producing, transporting, and distributing the various products to the consumer, value is added through the employment of workers, the depreciation of capital, and the realization of profit. Each line item, in billions of dollars, represents a portion of the total final national expenditure for the various products analyzed.

The last section of the summary table, Tax Dollars Paid as a Percent of Value Added, simply divides the values in the first section by the values in the second. This section indicates the relative tax burden that each industry bears at each stage of production and distribution. For example, 44% of the total value added to the economy by the beer industry represents taxes of one form or another. A large portion of the taxes on the beer industry are paid at the producer level.

Description of Supplementary Tables

The top-line number used for each commodity considered--beer, baked goods, and boats--is a total domestic consumption² number for the year 1997. (See, for example, page 1, cell B17 of the supplementary table entitled, "Brewing Industry Data Appendix".) For all three industries

¹ Note that the numerous data sources we relied on for this analysis precluded our considering the bread industry separately from the bakery industry.

² As used in this report, "consumption" refers to purchases by all users.

considered, the dollar values for total consumption--which include both at home and restaurant expenditures--were sourced from the National Income and Product Accounts, "Personal Income and Outlays," produced by the BEA. Additional information from the BEA's most recent input-output table of the U.S. Economy, which describes the buying and selling relationships among industries, was also used to calculate restaurant consumption of bakery items. Total consumption of boats was calculated using the same BEA source, but was adjusted downward to account for only boats with a value greater than \$100,000 using detailed shipments data available from the 1997 Economic Census published by the U.S. Census Bureau.

In order to arrive at a domestic production and distribution number--i.e., how much U.S. companies produce and distribute--we adjusted the total consumption number by subtracting imports and adding in exports. Sources for these trade numbers are the U.S. International Trade Commission, with data compiled from the U.S. Department of Commerce, the U.S. Treasury, and the U.S. International Trade Commission. As with the consumption figure, the boating trade data were also shared down to account for trade of boat valuing over \$100,000.

The total consumption number adjusted for trade for each good was then decomposed into its value-added chain, i.e., producer's contribution, transportation services, wholesale services, and retail services. For beer, the producer's contribution is the 1997 shipments value from the Annual Survey of Manufactures prepared by the Bureau of the Census. The producer contribution for bakery was similarly sourced although some upward adjustment was made to account for the baked goods made in bakeries--as distinct from manufacturing plants--using BEA's input-output table. The producer contribution for boats is also the shipments value from the Annual Survey of Manufactures, adjusted by the share of boats valued over \$100,000. The input-output accounts were again used to estimate the transportation, wholesale and retail services along each product's value-added chain.

The producers' contribution to value added includes the value added of all suppliers to the manufacturer. These inputs are then further detailed in the bottom half of each industry's table with the distribution among the various inputs derived from the input-output accounts. The value of these inputs plus depreciation and other small value-added contributions of the manufacturer are reported as "Other Value Added." For example, in the supplementary table for the brewing industry, the value of beer shipped by manufacturers is roughly \$18 billion. "Other Value Added" is \$14 billion of which approximately \$10 billion is brewing inputs detailed in the lower half of the table.

Taxes on Labor

Labor compensation was calculated as a portion of output for each industry and each associated link along the value-added chain. Wages and salaries (taxable compensation) were taken as a percentage of total labor compensation calculated through statistics presented in the National Income and Product Accounts. Effective tax rates for Federal payroll and income and state and local income for 1997 were multiplied by wage and salary compensation, and are listed under the "Taxes on Labor" columns, specified in millions of dollars.

Effective tax rates were calculated as the gross tax receipts as documented by the National Income and Product Accounts divided by the relevant tax base developed by Standard and Poor's DRI. For example, the average Federal personal income tax rate for 1997 was 18.3%.

Marginal Federal tax rates begin at 15% and rise to 39.6%, but exemptions and deductions reduce the ratio of taxes to income to 18.3%. Similarly, tax credits and other adjustments reduce the effective Federal corporate income tax rate from the statutory 35% to a 27.3% effective average rate.

Taxes on Profits

Profits were calculated as industry-specific percentages of revenue based on data in the Corporation Source Book of Statistics of Income compiled by the IRS. These profit margins were then multiplied by the revenues associated with the calculated value-added components. Federal, and state and local profit taxes are taxes on corporate profits. Federal, and state and local income taxes are taxes on dividends and capital gains realized by shareholders; we estimated these dividends and gains as corporate profits minus taxes. As noted above, the effective average tax rates were calculated by Standard and Poor's DRI using inputs from the National Income and Product Accounts.

Tax on Other Value Added

Other value added includes items such as depreciation and non-corporate income, and represents additional taxable output to the economy. Depreciation, for example, represents capital expenditure and thus, income to firms that provide related goods and services. Effective Federal and state tax rates that are applied to the general economy were multiplied by a calculation of other value added along the relative production chains for each analyzed industry.

Indirect Taxes

Indirect taxes represent all sales, excise, and product-related taxes. Sales taxes and non-tax government payments (e.g., licenses, fees, penalties) were calculated as a percentage of total output through input-output accounts, with the exception of retail taxes. These taxes were calculated based on tax rates presented in a study by the Institute on Taxation and Economic Policy. Product-related taxes for the brewing industry were calculated from reliable industry-specific literature.

DATA APPENDIX

SEE TAX2000.XLS