The Beer Institute Economic Contribution Study: 2008

Summary Results:

The Beer Institute Economic Contribution study measures the impact of the malt beverage industry, as defined by its traditional three tiers of brewing, wholesaling, and retailing, on the entire economy of the United States. The industry contributes about $198 billion in output or1.4 percent of GDP and, through its production and distribution linkages, impacts firms in all 509 sectors of the US economy.[1] The brewing process (as defined in this study) begins in one of two ways. First, agricultural products – such as barley, corn, rice and hops – are purchased from farmers and agricultural supply companies throughout the country. Alternatively, beer can enter the country as an imported finished product. The 2,083 firms that use agricultural products to produce malt beverages or directly import the product into the United States are denoted as brewers.[2] There are basically three types of brewing firms in the country. First, the major brewers – those that produce over 2 million barrels of malt beverages per year. These include the traditional names such as Anheuser-Busch, MillerCoors and Boston Brewing. There are also several dozen regional brewers in the country, each of which generally produces less than 2 million barrels of malt beverages. Finally, there are literally hundreds of brew-pubs and craft-brewers located throughout America. These firms produce beer for a limited market – sometimes only for their own retail establishment. All told, these firms employ 42,950 people in brewing or importing operations, sales, packaging, and direct distribution.

Once malt beverages have been produced or imported, they enter the second tier of the brewing industry – the wholesaling tier. We estimate that there are nearly 2,870 firms involved in the wholesale supply of malt beverages throughout the country (not including wholesaling operations directly owned and operated by the major breweries).[3] Wholesalers are involved in the transportation of malt beverages from the brewers or a bonded warehouse operated by importers, and the storage of products for a limited period of time. The wholesaling tier of the industry directly employs around 95,400 individuals in every state in the country.

Finally, the third tier of the industry directly sells products to the consumer. This can either be through on-premises sales (as in the case of a restaurant or tavern), or for off-premises consumption (grocery stores, package stores, etc.) The nature of malt beverage retailing varies by state. In some states, liquor stores sell malt beverages, in some grocery stores, and in others bars sell products for off-premises consumption. For this analysis, the retail tier is assumed to consist of firms in the following industries: Restaurants and taverns, retail stores, hotels, airlines, and amusement locales. While there are obviously other venues that may sell beer to the public – street vendors, cruise lines, non-profit groups, etc. they are not included in the analysis due to limited data availability and the small amount of product that they handle. We estimate that there are approximately 522,000 licensed outlets selling malt beverages in the United States, with over 888,400 employees.[4]

Other firms are related to the three tiers of the malt beverage industry as suppliers. These firms produce and sell a broad range of items including ingredients for the production process, fuel, packaging materials, sales displays or machinery. In addition, supplier firms provide a broad range of services, including personnel services, financial services, advertising services, consulting services or even transportation services. Finally, a number of people are employed in government enterprises responsible for the

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1 Based on GDP of $14.4 trillion. See: *Gross Domestic Product: Fourth Quarter 2008 (Final)*, News Release, US Department off Commerce, Bureau of Economic Analysis, March 26, 2009. Economic sectors based on IMPLAN sectors.

2 Throughout this study, the term "firms" actually refers to physical locations. One brewer, for example, may have breweries in 5 or 6 locations throughout the country. Each of these breweries is included in the 2,083 count.

3 Physical locations.

4 Retailer counts are based on data from TDLinx, a division of ACNielsen (US), Inc., provided to John Dunham and Associates by the Beer Institute. Retail job counts are based on data from Dun & Bradstreet.

regulation of the malt beverage industry. All told, we estimate that the malt beverage industry is responsible for 441,300 supplier jobs with these firms generating almost $66.9 billion in economic activity.

An economic analysis of the malt beverage industry will also take additional linkages into account. While it is inappropriate to claim that suppliers to the supplier firms are part of the industry being analyzed[5] the spending by employees of the industry, and those of supplier firms whose jobs are directly dependent on malt beverage sales and production, should surely be included. This spending on everything from housing, to food, to educational services and medical care makes up what is traditionally called the "induced impact" or multiplier effect of the malt beverage industry. In other words, this spending, and the jobs it creates is induced by the production, distribution and sale of malt beverages. We estimate that the induced impact of the industry is more than $45.2 billion, and generates 417,000 jobs, for a multiplier of about 1.84.[6]

An important part of an impact analysis is the calculation of the contribution of the industry to the public finances of the community. In the case of the beer industry, this contribution comes in two forms. First, the traditional direct taxes paid by the firms and their employees provide over $30.1 billion in revenues to the federal, state and local governments. In addition, the consumption of beer generates $5.4 billion in federal and state excise taxes, $5.2 billion in state sales taxes, and just under $576 million in other beer-specific local taxes. These figures do not include local sales taxes.[7]

Table 1 below presents a summary of the total economic impact of the industry in the United States. Summary tables for each state are included in the Output Model, which is discussed in the following section.

Table 1: Economic Contribution of the Malt Beverage Industry

($ In Billions)	Direct	Supplier	Induced
Output	$ 86.049	$ 66.887	$ 45.216
Jobs	1,026,779	441,319	417,077
Wages	$ 28.011	$19.507	$ 14.479
Taxes			$ 41.31

Methodology:

The Economic Contribution of the Beer Industry begins with an accounting of the direct employment in the various sectors. Brewing encompasses company-owned distribution operations, can production and other supplier operations, and beer importers. Wholesaling includes the nationwide network of beer distributors and related warehouse and transportation operations. Retailing includes locations where beer is consumed "on-premise," such as bars, restaurants, sports and entertainment venues, and airlines. "Off-premise" retail outlets are supermarkets, convenience stores, warehouse stores, and similar locations. The data comes from a variety of government and private sources.

It is sometimes mistakenly thought that initial spending accounts for all of the impact of an economic activity or a product. For example, at first glance it may appear that consumer expenditures for a product are the sum total of the impact on the local economy. However, one economic activity always leads to a

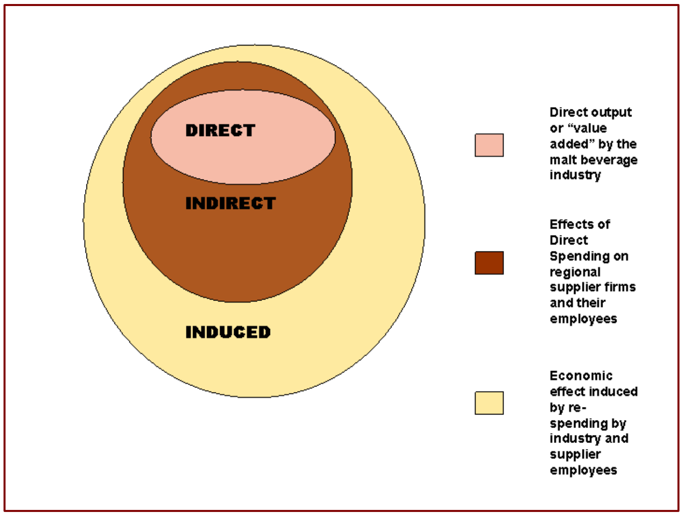
5 These firms would more appropriately be considered as part of the supplier firms' industries.

6 Often economic impact studies present results with very large multipliers – as high as 4 or 5. These studies invariably include the firms supplying the supplier industries as part of the induced impact. John Dunham and Associates believes that this is not an appropriate definition of the induced impact and as such limits this calculation to only the effect of spending by direct and supplier employees.

7 Federal excise taxes are actually paid by the brewer and included in the price of the product. In this analysis, however, they are included as part of consumption taxes (but redistributed based on the location where the beer was produced).

ripple effect whereby other sectors and industries benefit from this initial spending. This inter-industry effect of an economic activity can be assessed using multipliers from regional input-output modeling.

The economic activities of events are linked to other industries in the state and national economies. The activities required to produce a six-pack of beer from malting barley, to packaging, to shipping generate the direct effects on the economy. Regional (or indirect) impacts occur when these activities require purchases of goods and services such as building materials from local or regional suppliers. Additional, induced impacts occur when workers involved in direct and indirect activities spend their wages in the region. The ratio between total economic and direct impact is termed the multiplier. The framework in the chart illustrates these linkages.



This method of analysis allows the impact of local production activities to be quantified in terms of final demand, earnings, and employment in the states and the nation as a whole.

Once the direct impact of the industry has been calculated, the input-output methodology discussed below is used to calculate the contribution of the supplier sector and of the re-spending in the economy by employees in the industry and its suppliers. This induced impact is the most controversial part of economic impact studies and is often quite inflated. In the case of the Beer Institute model, only the most conservative estimate of the Induced Impact has been used.

Model Description and Data:

This Beer Institute Economic Contribution Model (Model) was developed by John Dunham and Associates based on data provided by Dun and Bradstreet (D & B, Inc.), the Beer Institute and the federal government. The analysis utilizes the Minnesota IMPLAN Group Model in order to quantify the economic impact of the malt beverage industry on the economy of the United States. The model adopts an accounting framework through which the relationships between different inputs and outputs across industries and sectors are computed. This model can show the impact of a given economic decision – such as a factory opening or operating a sports facility – on a pre-defined, geographic region. It is based on the national income accounts generated by the US Department of Commerce, Bureau of Economic Analysis (BEA).[8]

- Brewer employment is based on employment at specific locations reported to D & B by the companies as of September 2008. This is modified to account for the portion of brewpub employees that are responsible for the brewing process (10 percent of total employment or a minimum of two employees). In addition, employment at major breweries is adjusted to reflect company employment by location provided by the major brewers and the Beer Institute. The data are further modified to add in company-owned non-brewing operations that may be reported as wholesaling or supplier (e.g. malting or packaging) production. Finally, data from major importers – as reported by D & B – are added to the brewing sector.

8 The IMPLAN model is based on a series of national input-output accounts known as RIMS II. These data are developed and maintained by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool.

- Wholesale employment is employment at specific locations reported to D & B by the companies as of September 2008. These data are adjusted to reflect company employment by location provided by major wholesalers, and the Beer Institute. These data are then adjusted to remove brewer operated distributors and importers.

- Data on the retail sectors are all based on sales of malt beverages in each of the 50 states and the District of Columbia. These amounts are multiplied by either the malt beverage multipliers and output per employee ratios included in the IMPLAN model for the retail components of the industry in order to estimate total employment in each sector, or a calculation based on beer sales as a percentage of total alcohol sales.[9] These results were cross-checked against a wide variety of establishment data by state and were found to present a reasonable estimate of the employment in each sector generated solely by malt beverage sales. Retail data are adjusted to take into account dry counties, and state regulations pertaining to beer sales in grocery and food stores.

- All data on the number of establishments for the brewing and wholesaling sectors come from the D & B data, augmented by data from the Beer Institute and the major brewers and wholesalers. Establishment estimates for retail come from Nielsen TDLinx.[10]

Once the initial direct employment figures have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of direct wages and output in each of the three sectors: brewing, wholesaling and retailing. IMPLAN was originally developed by the US Forest Service, the Federal Emergency Management Agency and the Bureau of Land Management. It was converted to a user-friendly model by the Minnesota IMPLAN Group in 1993. The IMPLAN data and model closely follow the conventions used in the "Input-Output Study of the US Economy," which was developed by the BEA.

- Wages: Data from the US Department of Labor's ES-202 reports are used to provide annual average wage and salary establishment counts, employment counts and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction employees, and certain government employees. Data are then adjusted to account for counties where non-disclosure rules apply. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. It includes all income paid to workers by employees. Further details are available from the Minnesota IMPLAN Group at http://www.implan.com.

- Output: Total output is the value of production by industry in a given state. It is estimated by IMPLAN from sources similar to those used by the BEA in its RIMS II series. Where no Census or government surveys are available, IMPLAN uses models such as the Bureau of Labor Statistics Growth model to estimate the missing output.

- Taxes: The model includes information on income received by the Federal, State and Local Governments. The model produces estimates for the following taxes at the Federal Level: Corporate Income, Payroll, Personal Income, Estate, Gift, and Excise Taxes; Customs Duties; and Fines, Fees, etc. State and Local tax revenues include estimates of: Corporate Profits, Property, Sales, Severance, Estate, Gift and Personal Income Taxes; Licenses; Fees; and certain Payroll Taxes.

- Indirect Taxes paid due to the consumption of malt beverages in each state are also included in the analysis. This is based on estimates of sales by state provided by the Beer Institute. These figures –

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9 For restaurants, bars and food stores. See: *Table 2.4.5U. Personal Consumption Expenditures by Type of Product*, US Department of Commerce, Bureau of Economic Analysis, Revised October 31, 2008.

10 As provided to John Dunham and Associates by the Beer Institute. See http://en-us.nielsen.com/tab/product_families/nielsen_trade_dimensions for more information on these data.

while mostly separate from the reported taxes paid – contain very small double counts. This is because individuals employed by the Beer Industry or its suppliers purchase malt beverages, and the sales taxes on beer as well as state and federal beer excise taxes paid by these people are already included in the direct taxes section. In addition, estimates of certain small beer-specific taxes – such as the Tennessee Gross Receipts Tax or the New York City excise tax – are included. State-level tax collection data does not include license fees and locality-based sales taxes; on a national basis, license fees alone are estimated to be in excess of $340 million.[11]

11 For 1996, the last year for which data are available. See: *2007 State Data Book*, Distilled Spirits Council of the United States, August 2008.