The Economic Contribution of the Craft Brewing Industry in Maine

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Introduction

This report outlines the economic contribution of the brewery members of the Maine Brewers' Guild. The Maine Brewers' Guild is a nonprofit organization dedicated to promoting and protecting the craft beer industry in Maine. Their mission is to keep Maine at the forefront of the craft beer revolution by offering high quality and creative diversity for the customer. Craft beer production has seen substantial growth over the last decade and the number of breweries in Maine have risen substantially. Thus, the industry has become a significant component of the Maine economy. This study surveyed members of the Maine Brewers Guild to capture information on different aspects of the brewing industry including employment, output and their supply chain.

The survey also sought to forecast where breweries believed their businesses would be over the next 2 years. This data along with other secondary information has been used to estimate the overall economic contribution of the guild on the State of Maine, as shown below.

	Direct Impact	Multiplier Effect	Total Impact
Output	$168,104,356	$92,271,588	$260,375,944
Employment	1,910	650	2,560
Labor Income	$26,306,319	$28,468,580	$54,774,899

Some of the other key findings from the research:

- The guild has grown to over 133 breweries as of 2018
- Craft breweries employed 1,910 people across the state in 2017
- Estimated total revenue exceeded $168 million in 2017
- Maine's output of beer was 319,590 barrels in 2017
- Total wages and salaries including multiplier effect stood at over $54 million in 2017
- Geographically brewery growth is continuing to spread with all counties in Maine now having at least one craft brewery

1. Growth of Craft Beer in Maine

Craft breweries in Maine have seen significant growth in numbers over the last decade with on average 11 new breweries opening each year. In 2017, the year on year growth rate was 34%. This impressive growth rate resulted in 19 new breweries opening between 2017 and 2018. The spatial distribution of breweries across the State has also evolved over the same period. Cumberland County still has the largest concentration of breweries but over the decade other parts of the state, notably Penobscot, York, and Knox counties have seen significant numbers of new breweries. Since the previous 2017 report, a new milestone has also been reached with all counties in Maine now having at least one craft brewery.

Table 1. Number of Breweries in Maine

Before 2007	2012	2015	2016	2017	2018
14	29	62	85	114	133

Table 2. Growth Rates. US and Maine Numbers of Breweries (%)

Growth in Breweries (% change) from previous year	2010	2011	2012	2013	2014	2015	2016	2017
US	12	11	15	16	22	13	19	16
Maine	14	18	34	23	21	25	35	34

*Data obtained and numbers estimated from Maine Survey 2018 and Brewers Association USA.
**The years selected were chosen due to available of data for comparison.

Table 3. Change in Geographical Distribution of Breweries 2007- 2018

TOTAL NUMBER OF BREWERIES AT YEAR's END			
County	**2007**	**2017**	**2018**
Androscoggin	1	4	4
Aroostook	0	2	2
Cumberland	7	37	46
Franklin	1	3	5
Hancock	1	7	7
Kennebec	1	5	5
Knox	0	6	7
Lincoln	1	5	5
Oxford	1	5	5
Penobscot	1	11	12
Piscataquis	0	1	2
Sagadahoc	0	0	1
Somerset	2	3	3
Waldo	2	7	9
Washington	0	2	2
York	2	16	18

2. Characteristics of Craft Breweries in Maine

Employment in craft breweries has grown to 1910 full and part-time workers. Output in 2017 was estimated to be 319,590 Barrels (there are 31 gallons in a barrel). This has grown by 7% since the last study published in 2017. Total labor income including the multiplier effect is now estimated at over $54 million for 2017 (See table 6). The types of breweries now operating in the State range from large scale production to restaurants with small 200 barrel breweries. 87% of the industry is made up of small breweries producing less than 50,001 gallons.

Table 4. Estimated Employment Data

Total Employment Full and Part-Time	Average Small Brewery Employment	Average Large Brewery Employment
1910	8	49

Table 5. Output Data

Total Barrel (31 Gallons) Output	Average Large Brewery Barrel Output	Average Small Brewery Barrel Output
319,590 Barrels	20,398 Barrels	434 Barrels

*Output here is referring to barrels there are 31 gallons in a barrel

Table 6. Labor Income Data

Total Labor Income*	Average Large Brewery Salary	Average Small Brewery Salary
$54,774,899.00	$29,789.00	$22,521.00

*This includes the associated multiplier effects

3. Economic Impact

Table 7 presents information on the estimated economic impact of the Maine brewer's guild for 2017. The direct spending figure was estimated using data from the survey of craft breweries, this also allowed the estimation of employment and labor income. The multiplier effect can be interpreted as the in-state economic activity supported by the expenditures of the craft breweries, their suppliers, and the employees who work in these companies. To establish the multipliers, the IMPLAN model is used. IMPLAN estimates multipliers using an input-output framework that traces flows of expenditures and income through the economy with a complex system of accounts that are specifically tailored for the region under study, in this case Maine. For more detail about the modelling method please consult the note at the end. The total impact below is the sum of the direct contribution plus these multiplier effects.

Table 7. Statewide Economic Contribution of Maine Brewers Guild (2017)

	Direct Impact	Multiplier Effect	Total Impact
Output	$168,104,356	$92,271,588	$260,375,944
Employment	1,910	650	2,560
Labor Income	$26,306,319	$28,468,580	$54,774,899

Notes: The direct spending figure comes from the estimated total revenue based on the underlying official output data obtained from the Brewers Association data. The Employment figures combines both full and part-time estimated from the survey.

4. Forecast Output and Employment

Output in Maine looks strong for the next 3 years, with breweries on average, anticipating a 10% increase in output by the end of 2019 and 15% by the end of 2020. Employment growth is expected to be modest, continuing to rise year on year, driven by new small brewery openings. From the survey one important finding raises a note of caution for the future, with 45% of breweries noting that they are almost at full capacity.

Table 8. Forecast Output Growth (%)

% Change	Average
Output Growth by 2019	10%
Output Growth by 2020	15%

***Estimated from Survey**

Table 9. Forecast Employment Growth (%)

Forecast Employment Growth (%)	All Breweries
2019	2%
2020	5%
2021	7%

***Estimated from Survey**

Table 10. Capacity to Grow (%)

%	Capacity to Grow	Full Capacity
Brewery	55	45

***Estimated from Survey**

5. Tax Estimation

Table 11 breaks down the estimated tax generated from the craft brewery industry in Maine. Excise duty is estimated using the number of barrels converted into Gallons.

Table 11. Estimated Taxes Generated by the Craft Beer Industry

Maine Excise Taxes
$1,506,012

*Based on excise tax of $0.35per gallon

A Note on the Data and Method

The survey that was used to estimate the data was collected online using Survey Monkey. It was sent to all members of the guild during the months of November and December 2018. There was a response rate of close to 34%. Not all respondents completed the survey in its entirety, as a result some of the figures were estimated using statistical methods calibrating against all the completed responses. To maintain confidentiality, averages were calculated instead of using raw values.

IMPLAN is the acronym for "IMpact analysis for PLANing." IMPLAN is a well-established and widely used economic model that uses input-output analyses and account for over 500 industries to estimate regional and industry-specific economic impacts of a specific industry. Underlying the accounts is transaction data occurring between local businesses, spending patterns of households, and transactions occurring between local business and the rest of the world. To establish this IMPLAN uses data from County Business Patterns from the U.S. Census Bureau, Regional Economic Information System and the Bureau of Economic Analysis as well as the ES-202 statistics from the Bureau of Labor Statistics.

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