The Economic Contribution of the Craft Brewing Industry in Maine

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Introduction

This report outlines the economic contribution of the Maine Brewers' Guild brewery members. The Maine Brewers' Guild is a nonprofit organization dedicated to promoting and protecting the craft beer industry in Maine. Craft beer production has seen substantial growth over the last decade and the number of breweries in Maine has 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 understand how breweries have fared during the COVID-19 pandemic. Data captured from a primary survey 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	$167,877,728	$92,785,236	$260,662,701
Employment	1,883	516	2399
Labor Income	$28,852,304	$29,473,873	$58,326,177

Some of the other key findings from the research:

- The guild has grown to represent over 150 licensed breweries as of 2020
- While COVID-19 interruptions saw large employment number fluctuations, Maine's craft breweries employed directly employed 1,883 people across the state in 2020
- Estimated total revenue exceeded $167 million in 2020
- Maine's output of beer was estimated to be 283,590 barrels in 2020
- Total wages and salaries including multiplier effects stood at over $58 million in 2020
- Over 85% of respondents indicated that COVID-19 had a moderate or large negative effect on their business in 2020
- In spite of a difficult year, the industry remains optimistic with over 90% of respondents projecting sales growth by 2026

1. Growth of Craft Beer in Maine

Craft breweries in Maine have continued to experience significant growth in numbers and it is again outpacing the US growth rate. The spatial distribution of breweries across the State has continued to change. Cumberland County still has the largest concentration of breweries but since the last report in 2017 the number of breweries outside of the Portland area has continued to expand notably in Piscataquis, Aroostook and Oxford counties.

Table 1. Number of Breweries in Maine

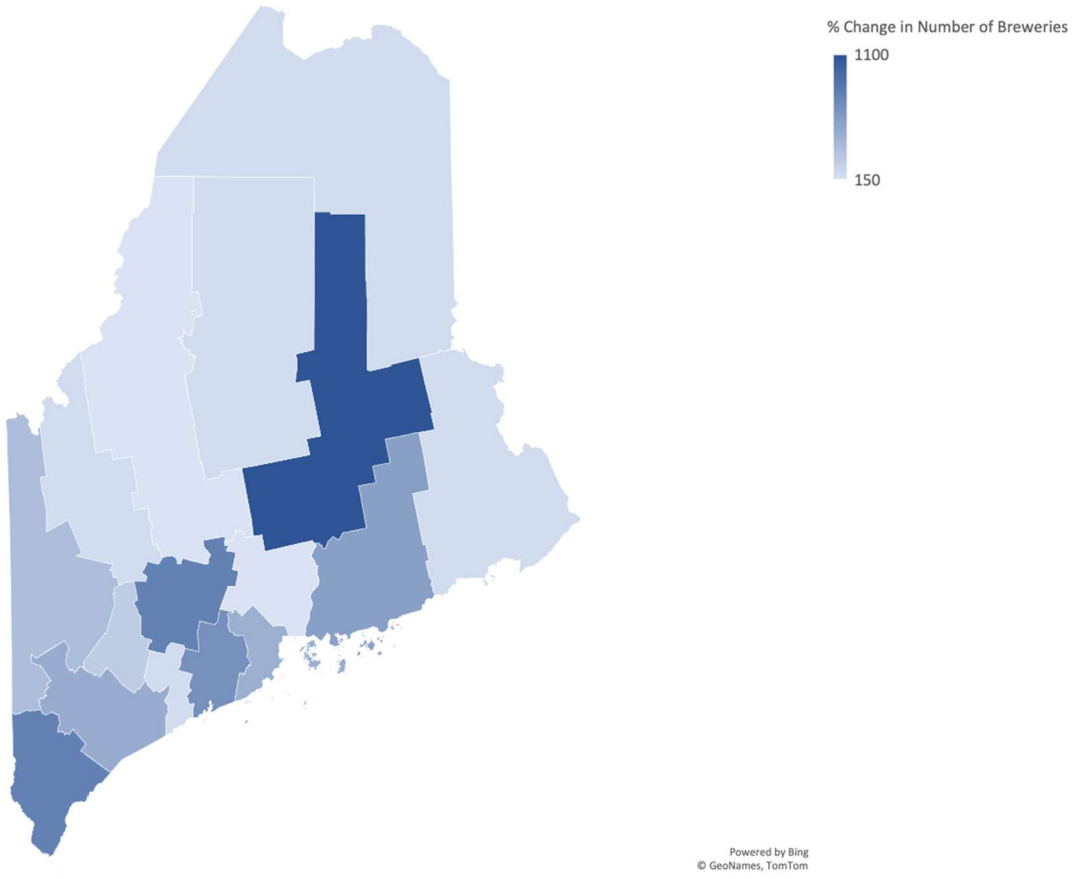
Before 2007	2012	2015	2016	2017	2018	2019	2020
14	29	52	63	82	101	136	154

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	2018	2019	2020
US	**12%**	**11%**	**15%**	**16%**	**22%**	**13%**	**19%**	**16%**	**14%**	**10%**	**4.5%**
Maine	**14%**	**18%**	**34%**	**23%**	**21%**	**25%**	**21%**	**30%**	**23%**	**34%**	**10%**
Variance (percentage points)	**+2**	**+7**	**+19**	**+7**	**-1**	**+12**	**+2**	**+14**	**+9**	**+24**	**+5.5**

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

Map 1. Change in Spatial Distribution of Maine Craft Breweries 2007-2020



2. Characteristics of Craft Breweries in Maine

Employment in craft breweries in Maine stood at 1,883 full and part-time workers. Output in 2020 was estimated to be 284,539 barrels (there are 31.5 gallons in a barrel). Barrelage has fallen since the previous study conducted in 2017 by 11% - some of which is attributable to the knock-on effects of the COVID-19 pandemic. Total labor income, including the multiplier effect, is now estimated at over $58 million for 2020 (See Table 7). The types of breweries now operating in Maine range from large-scale production breweries brewing >75,000bbls of beer per year to nano-scale production facilities producing fewer than 100 barrels per year.

Notably, the average number of barrels produced by smaller breweries (under 10K total barrels) has more than doubled from 434 barrels in 2017 to 926 barrels in 2020. Since the first economic contribution report published in 2017, there has been a significant change in the structure of the industry.In this first report, large breweries were the drivers of growth both in terms of employment and output.[1] 2020 has seen a reversal in this trend with smaller breweries seeing substantive growth resulting in a greater geographical distribution of craft breweries.

Table 3. Estimated Employment Data

	Average Brewery Employment (>10K Barrel Output)	Average Small Brewery Employment (<10K Barrel Output)
January	102	12
May	54	8
December	76	11
2020 Average	**77**	**10**

N=64

*The survey asked respondents to confirm employment during different months to better understand the impact of the pandemic on breweries.

Table 4. Output Data

Total Barrel (31.5 Gallons) Output	Average Brewery (>10K) Barrel Output	Average Small Brewery (<10K) Barrel Output
284,539 Barrels	26,829 Barrels	926 Barrels

*Output here is referring to barrels there are 31.5 gallons in a barre

Table 5. In Maine, are you currently self-distributed or contracted with a distributor?

Distribution Type	Percent
Self-Distributed	48%
Contracted with a Distributor	52%

N = 65

[1] In 2017 the largest brewery in the state was Shipyard, this company has since shifted a greater percentage of its activity out of state.

Table 6. What percentage of your direct sales in 2020 were attributable to the following venues or activities?

	Average
Beer brewed by my brewery sold on-premises	36%
Beer brewed by my brewer sold for off-site consumption	42%
Beer/Wine/Spirits from other companies sold for on-premises consumption	3%
Revenue from non-beer sales-merchandise	5%
Revenue from food	13%

N = 56

3. Economic Impact

Table 7 presents information on the estimated economic impact of the Maine Brewers Guild for 2020. The direct spending figure was estimated using data from the survey of craft breweries as well as information from the Maine Bureau of Alcoholic Beverages and Lottery Operations. 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 of the report. The total impact estimated below is the sum of the direct contribution plus these multiplier effects.

It must be noted some respondents reported their purchasing of local agricultural ingredients. Although beyond the scope of the present study, this is an area for further research given its growing importance for the state of Maine.

Table 7. Statewide Economic Contribution of Maine Brewers Guild (2020)

	Direct Impact	Multiplier Effect	Total Impact
Output	$167,877,465	$92,785,236	$260,662,701
Employment	1,883	516	2,399
Labor Income	$28,852,304	$29,473,873	$58,326,177

Notes: The direct spending figure comes from the estimated total revenue based on the underlying output data obtained from the primary survey of Maine brewers and the Maine Bureau of Alcoholic Beverages and Lottery Operations. The direct employment figure combines both full and part-time employment estimated from the survey. Employment values were calculated using a combination of survey responses, census data as well as extrapolation from IMPLAN.

5. Tax Estimation

Table 8 shows the estimated tax generated from the craft brewery industry in Maine. The taxes were estimated using survey responses and the Maine IMPLAN model.

Table 8. Estimated Taxes Generated by the Craft Beer Industry

Maine Income Tax	State Taxes
$1,404,851.05	$25,210,363.98

*These figures were extrapolated from the IMPLAN modeling system which include social insurance, property, sales, corporate profit taxes.

6. COVID-19

COVID-19 created major health and economic challenges and the hospitality sector was one of the most affected due to stay-at-home orders and general changes in consumer behavior. The survey asked brewers how they fared during this period. 61% of survey respondents indicated that they had started making direct to consumer sales, that is delivery or curbside pick-up.
Furthermore, in addition to changes in operating practices, we found that 58% of respondents had to furlough workers during the pandemic. Over 85% of respondents indicated that COVID-19 had a moderate or large negative effect on their business. When asked to rank their most pressing business concerns during 2020, cash flow (63%) and social distancing/operating restrictions (53%) were the areas of highest concern.

Table 9. In the last year have you started to deliver beer directly to consumers?

	Percent
Yes	61%
No	39%

N = 66

Table 10. Since the initial State closure order on March 13, 2020, did your business have to furlough workers?

	Percent
Yes	58%
No	42%

N = 64

Table 11. What effect has the COVID-19 pandemic had on your brewery?

	Percent
Large negative effect	29%
Moderate negative effect	58%
Little or no effect	3%
Moderate positive effect	9%
Large positive effect	2%

N = 66

Table 12. Since March 13, 2020, has this business requested financial assistance from any of the following sources?

Assistance Type	Percent
Paycheck Protection Program (PPP)	82%
Economic Injury Disaster Loans (EIDL)	58%
SBA Loan Forgiveness	49%
Other Federal programs	28%
State or local government programs	57%
Banks	23%
Self	34%
Family or Friends	9%
Other sources	5%
This business has not requested financial assistance from any source since March 13, 2020	3%

*note: businesses checked all that applied; percentages are based on share of 65 businesses that selected at least one answer

Table 13. In 2020 what were the biggest concerns for your brewery? Please rank these concerns on a scale of 1-5 with 5 being highly concerned and 0 if it does not concern your business.

Consumer Confidence (N = 44)	Revenue/Cash Flow/Finances (N=49)	Difficulty Hiring/Labor Market Conditions (N=46)	Social Distancing/ Operating Restrictions (N=62)	Supply Chain Disruptions (N=45)
34%	63%	35%	53%	47%

*note: this table shows percent of those who ranked each issue a 4 or 5 on the scale

4. Forecast Output and Capacity

Breweries were asked to project what their sales growth was likely to be by 2026, over 90% of respondents projected growth and 27% expected 51% change in revenue. The most common response amongst all breweries was that growth would be between 25-50%. Breweries were also asked about their present *capacity* for growth. 29% indicated that they were at capacity, suggesting they would have to expand to meet increased demand. 30% indicated that they would be able to increase production at their current facilities. Only 15% said they were under-utilizing their production facilities.

Table 14. By how much do you expect your brewery's sales revenue to change by 2026?

	Percent
Fall by 51% or more	0%
Fall by 25% - 50%	3%
Fall by 1% - 24%	3%
No Change	2%
Grow by 1% - 24%	24%
Grow by 25% - 50%	41%
Grow by 51% or more	27%

N=66

Table 15. What best describes the current capacity of your brewery?

	Percent
At capacity with little or no flexibility to increase production	29%
Comfortably utilizing capacity with some flexibility to increase production	30%
Somewhat under-utilizing capacity	26%
Significantly under-utilizing capacity	15%

N = 66

A Note on the Data and Method

The survey that was used to estimate the data was collected online using Qualtrics. It was sent to all members of the guild during the months of April and May 2021. There was a response rate of about 50%. 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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