
COLORADO BREWERS GUILD

Craft Brewers Industry Overview and Economic Impact 2013 and 2014

BUSINESS RESEARCH DIVISION

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TABLE OF CONTENTS

Table of Contents	i
Executive Summary.....	1
Project Overview.....	3
Methodology.....	3
Definitions.....	4
Literature Review.....	4
History of Brewing in Colorado.....	5
Survey Results.....	7
Employment, Benefits, and Wages.....	7
Revenues	8
Economic Impact.....	9
Factors Impacting Growth	11
Additional Community Benefits.....	12
Conclusion.....	13
Bibliography	14

EXECUTIVE SUMMARY

Colorado remains at the forefront of the craft brewing industry, ranking among the top states for number of breweries, per capita production, economic impacts, and favorable excise taxes. The Colorado Liquor Enforcement Division identified 309 manufacturing brewery and brew pub licenses as of August 2015, marking 178% growth in the number of breweries since the recession ended in 2009. By count, Colorado ranks third in the number of breweries, behind only California and Washington according to data from the Brewers Association. In terms of state excise taxes on production, Colorado is tied for fourth-lowest nationally.

Craft breweries, and especially brewpubs, are inherently labor intensive, making the economic impacts fundamentally local. While labor, as an input cost, is sourced 100% locally, only a fraction of other inputs are purchased in Colorado—weighted by production, 14% of hops are sourced within the state, 13% of grains, and 28% of other brewing ingredients. However, other inputs are more local—the majority of electricity, packaging, chemicals, and distribution are sourced from within the state. The industry is fragmented by size; some small brewers have little reach throughout the state while others are on such a growth trajectory that they cannot meet current national demand. Regardless of size, sales, brand recognition, and expansion plans, all industry players have an important role in Colorado's culture and economy.

This study quantifies the economic impacts of the craft brewing industry on the state of Colorado, including both breweries and brewpubs. The report details the direct, indirect, and induced economic impacts in terms of output, employment, and income. Primary data were collected from the craft brewers in an online survey.

Through the buying and selling of goods in Colorado, the industry recorded total economic benefits of \$1.15 billion in 2014. Converting mostly raw materials inputs such as hops and water into the craft beers sold domestically and internationally, the industry tallied \$247 million in direct value added in 2014. Contributing to this economic impact are the workers—in 2013 there were an estimated 5,268 workers and in 2014, workers on both the brewery and restaurant sides of the business totaled 6,021. Industry wages averaged \$25,845 in 2013 and \$26,956 in 2014, partially lower due to the part-time nature of restaurant jobs and the ramping up phase of start-up breweries. Many brewers offer employee benefits.

In addition to the economic benefits that include employee wages and buying and selling goods in Colorado, survey responses indicate that, as a whole, craft brewers and brewpubs are very active

philanthropists in their respective communities. About 90% of brewers reported participating in fundraising and charitable events. While these contributions are largely intangible and cannot fully be quantified, they reveal Colorado craft brewers' and brewpubs' continued participation in, and commitment to, their local community.

More than 59% of respondents project growth in excess of 20% in 2015 and 56% in 2016. Although brewers are projecting growth, respondents ranked factors that could inhibit or could influence growth. The factors that brewers indicated would most encourage business expansion today is increased market access and lower taxes, followed by increased access to distribution channels and additional financing. High-ranking factors that brewers indicated would inhibit growth include the cost of brewery equipment, the cost of employees, and cumbersome regulations.

PROJECT OVERVIEW

The Business Research Division conducted a study of the economic impact of the craft brewing industry in Colorado in 2012 and 2014. This study provides an update of the economic impact of an industry that is in a rapid state of change. The report quantifies the economic contributions related to craft brewing in the state of Colorado by collecting publicly available secondary data and primary data obtained from a survey of Colorado brewers, primarily Colorado Brewers Guild members. This study estimates direct industry sales, employment, average wages, and fiscal impacts. Input-output analysis is used to illustrate the supply chain impacts of the industry and demonstrates the scope and reach of the industry within the state. This study does not include the large international brewers located in the state.

METHODOLOGY

This study was conducted in cooperation with the Colorado Brewers Guild and with 113 craft brewers across the state of Colorado representing 184 locations. Economic impacts on Colorado were estimated by examining data provided on revenues, operating expenditures, employee salaries and benefits, and production in the state. This approach accounted for the leakage that occurs when brewers and brewpubs make purchases outside the state. Furthermore, this study estimated the multiplicative impacts of direct expenditures on other industries in the economy through input-output modeling by using IMPLAN, a widely used economic modeling software. Intangible benefits, including community service, charitable giving, and fund-raisers, are described to illustrate additional community benefits derived from the presence of craft brewers, but are not directly quantified when determining the overall economic contribution.

Data requests were made directly to craft brewers and brewpubs in order to obtain information on revenue, expenditures, employment, salaries, benefits, and production, as well as factors that influence or deter growth. Information was collected through an online survey sent directly to points-of-contact within each brewery. More than three-quarters of the survey responses were directly from people in ownership or top leadership (e.g., CEOs); the remainder were from other high-level positions (e.g., brew masters, COOs, VPs, etc.). Additional information was gathered from other public and private sources to verify and augment data.

Revenues and expenditures were split by license (brewing or brewpub) and entered into the IMPLAN model by respective function (brewing, food and beverage stores).

Augmenting the initial studies, this study collects additional information on occupations in order to provide labor force data back to Colorado brewers. This information illustrates work status and average wages for specialized brewery occupations. This study garnered more responses and more detail from respondents compared to the previous two studies. Also, a departure from the first two studies, this study estimates the economic impact using reported revenues rather than estimating impacts based on variable supply chain data.

DEFINITIONS

Gross Domestic Product (GDP): A measure of economic activity, GDP is the total value added by resident producers of final goods and services.

Gross Output (Output): The total value of production is gross output. Unlike GDP, gross output includes intermediate goods and services.

Value Added: The contribution of an industry or region to total GDP, value added equals gross output, net of intermediate input costs.

Company: Includes all establishments under the same responding parent entity.

Establishment: Refers to individual company locations.

Employment: Refers to headcount (full time and part time), not FTEs.

Induced: Economic activity generated through household income spending.

Indirect: Economic activity generated through the upstream or backward supply chain.

LITERATURE REVIEW

Several studies have been conducted to quantify the economic contributions of the U.S. beer industry nationally and in select markets. Most of these studies are conducted on behalf of industry associations, including the America's Beer Distributors and the Brewers Association, which have a national constituency; or the California Craft Brewers Guild and the Montana Craft Brewers Association, which serve their respective states.

According to a report conducted on behalf of the National Beer Wholesalers Association (2013), U.S. beer distributors directly employ approximately 130,000 full-time equivalent positions. When multiplier effects are considered, beer distributors generate more than 345,000 jobs across the nation. Beer distributor operations generate a total of \$10.3 billion in federal, state, and local taxes.

According to the study *From Farm to Glass: The Value of Beer in Canada*, craft beer is also growing in other countries, including Canada. The beer economy supports 1 out of every 100 jobs in Canada and generates \$5.8 billion in government revenue in the form of product, income, and corporate taxes. The brewing industry is more than three times larger than the winery and distillery industries combined.

Regionally, craft breweries have tremendous impacts on their local communities. A study of Montana breweries conducted by the University of Montana found that beer production rose 49% from 2010 to 2013. In the same period, brewery employment in the state more than doubled, from 231 to 486 jobs, and compensation climbed 84%.

According to a study conducted on behalf of the California Craft Brewers Association, the craft brewing industry increased production by 21% in 2012, generated approximately \$4.7 billion in total economic impact, and supported 45,000 jobs.

A study published by the Brewers Association reported the top five states for total output in 2012 were: California (\$4.7 billion), Texas (\$2.3 billion), New York (\$2.2 billion), Pennsylvania (\$2.0 billion), and Colorado (\$1.6 billion). The Brewers Association study is broader than this report, including downstream wholesale and retail activities. According to the report, the study includes,

“The figure is derived from the total impact of beer brewed by craft brewers as it moves through the three-tier system (breweries, wholesalers and retailers), as well as all non-beer products like food and merchandise that brewpub restaurants and brewery taprooms sell.”¹

HISTORY OF BREWING IN COLORADO

Colorado has a long brewing history, with breweries dating back to 1859—before Colorado was a state. Brewing grew as miners, farmers, and ranchers made the territory home. The number of breweries expanded across the state and barrelage increased. Pre-prohibition, the number of breweries peaked in 1875, at 58. In 1916, Prohibition made breweries obsolete in Colorado. Five Colorado breweries survived an 18-year period without selling beer. Alternatives like ice, ice cream, ceramics, and malted milk products were made instead. Prohibition was repealed in 1933.

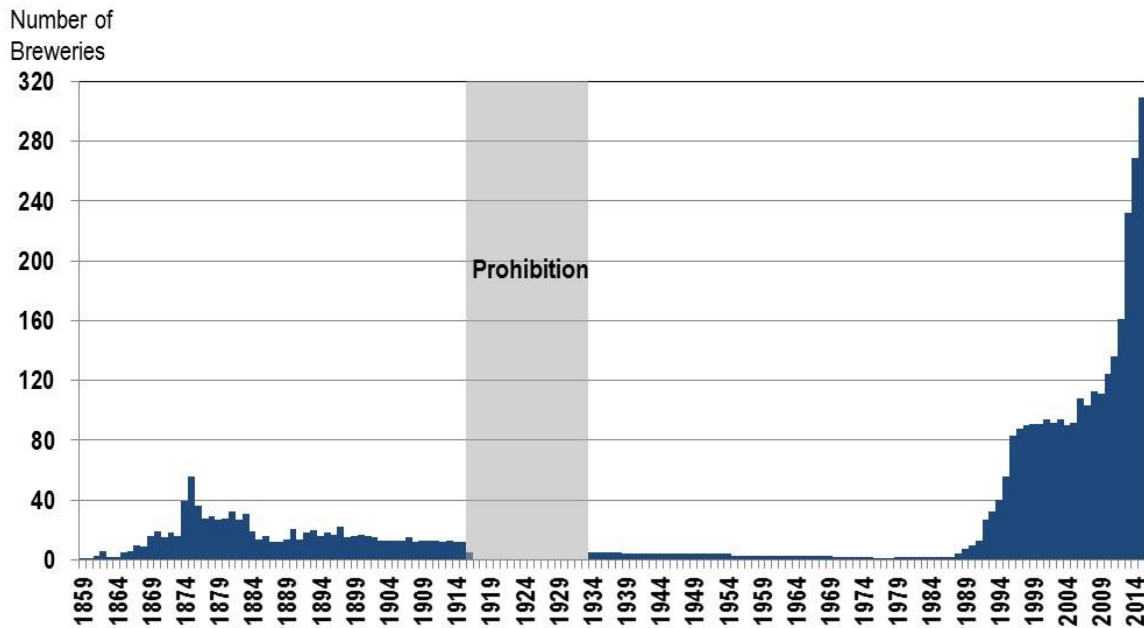
Nonetheless, the decline of breweries continued a slow descent to one brewer in 1976.² In 1988, Carver Brewing Company in Durango and Wynkoop Brewing Company in Denver began brewing beer and selling it in their attached restaurants. A brewpub industry segment was born in Colorado. In 1996, a

¹ <https://www.brewersassociation.org/statistics/economic-impact-data/>, accessed July 15, 2015.

²Excluding prohibition.

Colorado brewpub license was created, blending aspects of a traditional brewery, restaurant, and beer wholesaler. The industry has been rapidly building breweries, growing to 309 licenses in August 2015.³ The 1990s and the 2000s experienced profound growth in breweries, and this trend has accelerated in the 2010s. This growth in breweries is by and large craft brewers.

FIGURE 1: COLORADO BREWER GROWTH, 1859-2015



Source: Colorado Brewers Guild and the Colorado Liquor Enforcement Division. *As of August 2015.

Seventy-eight percent of 83 responding breweries indicated having seasonal outdoor seating. The average outdoor seasonal space totaled 1,950 square feet.

Colorado’s beer industry, by law, operates under a three-tier system that includes legally separate manufacturers, distributors, and retailers for the production, distribution, and sales of beer and other alcoholic beverages. This study examines the craft brewers within the first tier; thus, this study does not directly examine distribution or sales, which alone account for thousands of employees and millions of dollars in economic activity.

Along with the industry impacts that range from agriculture and manufacturing to marketing, transportation, and sales, the industry plays a role in tourism in the state. Visitors tour Colorado breweries, as well as take part in the Great American Beer Festival, which boasts the nation’s largest and oldest gathering of brewers and 50,000 visitors annually.

³Not all licenses represent an active operating brewery. Some breweries have been issued licenses, but were not yet active.

SURVEY RESULTS

The Business Research Division received survey responses from 113 brewers and brewpubs representing 126 locations in Colorado. Of the 113 returned surveys, 73% reported being licensed with the Colorado Liquor Enforcement Division as a brewery and 27% as a brewpub. In Colorado, 60% of producers are manufacturing breweries according to published statistics from the Liquor Enforcement Division. Most beer was reportedly packaged in bottles (52%), followed by kegs (31%), cans (16%), and growlers (<1%). Compared to the 2014 study, values were nearly identical, with a two percentage point decline in keg volume absorbed by a 2 percentage point increase in cans.

Colorado craft brewers are largely serving the Colorado market—only 23% of respondents ship outside the state, and 12% ship internationally. This is a slight decrease from the prior survey, which may be a reflection of industry growth in small breweries primarily serving a local market. The craft brewers who did report domestic exports collectively identified 50 states and Washington D.C. as destinations.

Colorado, like the nation, has seen a rapid increase in the number of craft brewers in recent years. Survey respondents illustrate this rapid increase—nearly 78% of responding companies formed over the past 10 years. Nearly 59% of respondents project growth in excess of 20% in 2015, and 56% expect to exceed this level of growth in 2016.

TABLE 1: EXPECTED GROWTH

Percentage Growth	2015	2016
<0	1%	0%
0–5%	6%	5%
5–10%	9%	6%
10–15%	10%	16%
15–20%	15%	17%
>20%	59%	56%

EMPLOYMENT, BENEFITS, AND WAGES

Colorado breweries and brewpubs employed an estimated 5,269 workers in 2013, paying nearly \$136 million in total wages. This averages to \$25,845 per employee, diluted by the many restaurant and bartender jobs that are less than full time. In 2014, the industry recorded 6,021 workers earning \$162 million, or \$26,956 per worker. Full-time workers represented 64% of employment, based on a weighted average from 109 responding breweries.

The bulk of employment is concentrated in the largest firms—36 establishments have more than 60 employees and represent 55% of total sector employment. Firms with 20 or fewer employees represent 16% of employment. Mid-size firms (21–60 employees) account for the remaining 29% of employment.

Wages, too, are concentrated in large firms. Wages in the largest size class (more than 60 employees) averaged \$31,594 in 2014. Wages in the medium- and small-size class averaged \$22,773 and \$18,545, respectively.

Nearly 47% of responding brewers and brewpubs offer employee benefits. Of the respondents indicating employee benefits, 75% offer health insurance, 69% offer paid annual leave, 58% offer paid sick leave, and 50% offer dental insurance. However, other benefits, such as retirement, life insurance, and disability, are available less frequently to employees. Beyond traditional benefits, additional noted benefits range from ski passes and beer allowances to EcoPasses and profit sharing.

TABLE 2: CRAFT BREWER BENEFITS

Benefit	Percentage
Health Insurance	75%
Paid Annual Leave	69%
Paid Sick Leave	58%
Dental Insurance	50%
Retirement	37%
Other	33%
Life Insurance	29%
Short-Term Disability	27%
Long-Term Disability	19%

REVENUES

Of the 91 craft breweries reporting both revenues *and* employment for 2014, average Colorado revenues per employee were \$174,000. Differentiating by size class, the smallest size class averaged \$62,000 in 2014, the medium-size class averaged \$91,000, and the largest size class averaged \$244,000.

Extrapolating revenue per employee to total employment in the industry, direct sales are estimated at \$609 million for 2014.

Large brewers/brew pubs are also the largest exporters (domestic and international), both in absolute and percentage terms. Nearly 87% of small brewers indicated 100% of sales occurred within Colorado, compared to 65% of medium brewers and 44% of large brewers/brew pubs. This is even more pronounced for manufacturing breweries exclusively—86% of small manufacturing breweries indicated

100% of sales from within Colorado, but only 33% of medium manufacturing breweries and no large manufacturing breweries record solely Colorado sales.

Manufacturing brewer respondents indicated that 93% of industry revenue is derived from brewing; brew pubs indicated 39% of revenue was from brewing with the restaurant side of the business recording the majority of sales.

ECONOMIC IMPACT

Based on Colorado brewery and brewpub sales, labor income, and employment, the craft brewing industry yielded total economic benefits of \$1.08 billion in 2013 and \$1.15 billion in 2014. More than \$247 million of the 2014 total was in direct value added. Craft brewers directly employed 6,021 workers in 2014. An additional 3,132 indirect and induced workers brings the total employment impact to 9,153 Colorado employees. Total income to Colorado workers topped \$335 million, of which \$164 million went directly to craft brewery employees.

Based on this level of activity, direct state and local fiscal impacts are estimated at \$53 million, and federal impacts are estimated at \$40 million in 2014, excluding excise taxes.⁴

TABLE 3: ECONOMIC IMPACTS, 2013

Impact Type	Employment	Labor Income (In Millions)	Value Added (In Millions)	Output (In Millions)
Direct Brewery Activity	5,269	\$136	\$213	\$583
Multiplier Effect	2,923	\$158	\$266	\$495
Total Effect	8,192	\$294	\$479	\$1,078

Note: Multiplier effect includes induced and indirect economic activity.

TABLE 4: ECONOMIC IMPACTS, 2014

Impact Type	Employment	Labor Income (In Millions)	Value Added (In Millions)	Output (In Millions)
Direct Brewery Activity	6,021	\$162	\$247	\$609
Multiplier Effect	3,132	\$173	\$291	\$544
Total Effect	9,153	\$335	\$538	\$1,153

Note: Multiplier effect includes induced and indirect economic activity.

State excise taxes are estimated at \$3.6 million in 2013 and \$4 million in 2014 for craft brewers. The Colorado excise tax rates are \$0.08 per gallon for 3.2% beer and malt liquor (beer). The federal excise tax on beer is \$7.00 per barrel, or approximately \$0.23 per gallon, for production of 60,000 or less barrels.⁵

⁴Includes such taxes and fees related to dividends, social insurance, sales, property, excise, motor vehicle licensing, severance, and others.

⁵The federal beer excise tax was originated in 1862 to help fund the Civil War and was never repealed.

Production in excess of 60,000 barrels is taxed at \$18 per barrel, or approximately \$0.58 per gallon.⁶ The tax per package is \$0.05 per 12 ounce can (\$0.02 per 12 ounce can for production under 60,000 barrels). Most craft brewers produce fewer than 60,000 barrels, resulting in a combined state and federal beer tax of \$0.31 per gallon, or \$0.038 per pint. For production in excess of 60,000 barrels, this is \$0.66 per gallon, or \$0.083 per pint.⁷

According to the Tax Foundation, Colorado’s \$0.08 beer excise tax was among the lowest in the nation in 2014. Colorado ranked 4th, behind Wyoming (\$0.02), Missouri (\$0.06), Wisconsin (\$0.06), and tied with Pennsylvania (\$0.08). High beer excise tax states include Tennessee (\$1.29), Alaska (\$1.07), Alabama (\$1.05), and Georgia (\$1.01)—the only four states in excess of \$1. The Colorado Department of Revenue reports alcoholic beverage excise taxes and license fees for 3.2% beer and “repeal” beer (i.e., full-strength beer). For fiscal year 2014, 3.2% beer taxes totaled \$366,473 and repeal beer totaled \$8.4 million for a combined total of nearly \$8.8 million. These taxes are generated from the entire beer industry, not just craft brewers. According to the Colorado Department of Revenue, Division of Taxation, the excise tax is applied to beer that is sold from a manufacturer to a licensed wholesaler or a consumer in the state.

TABLE 5: COLORADO BEER EXCISE TAX

Tax	3.2% Beer Tax	Full-Strength Beer Tax	Total
FY2007	\$582,595	\$8,146,423	\$8,729,018
FY2008	\$571,021	\$8,289,409	\$8,860,430
FY2009	\$438,158	\$8,711,253	\$9,149,411
FY2010	\$413,657	\$8,186,066	\$8,599,723
FY2011	\$478,445	\$8,514,422	\$8,992,867
FY2012	\$463,382	\$8,436,052	\$8,899,434
FY2013	\$374,155	\$8,466,726	\$8,840,881
FY2014	\$366,473	\$8,418,506	\$8,784,979

Source: Colorado Department of Revenue, Liquor Enforcement Division (LED).

Low beer excise taxes does not necessarily equate to more breweries. According to the Brewers Association, the lowest tax states ranked 39th (Wyoming), 18th (Missouri), and 13th (Wisconsin) in the number of breweries. The highest tax states ranked 27th (Tennessee), 35th (Alaska), 39th (Alabama), and 24th (Georgia) in the number of breweries. Colorado ranked 3rd.

⁶One barrel of beer equals 31 gallons.

⁷One gallon of beer equals 8 pints.

FACTORS IMPACTING GROWTH

Two policy-minded questions were included in the survey of companies. These asked about factors that influence growth and factors that inhibit growth. By ranking responses, the breweries implicitly expressed preferences for agents of growth. Many of these factors align with national sentiments of small businesses, while other high-ranking factors illustrate issues that relate specifically to this industry in Colorado.

The primary factor that brewers indicated would most encourage business expansion today included increased market access and lower taxes. In addition to business taxes imposed on all businesses in the state, brewers face a federal and state excise tax on beer production. The combined federal and state excise tax totals just over \$0.083 per pint of beer. The state income tax rate is 4.63% for individuals and business, though effective tax rates tend to be lower than 4.63%. The average county mill levy, including county, city, school district, and special district, was 78.574 mills in 2014.⁸ Colorado sales taxes are shared between the state, counties, cities, and special districts, and can reach rates in excess of 8%, depending on the location in Colorado. In Broomfield, the rate is 8.15%. For Denver, the rate is 7.65%, while it is 7.63% in Colorado Springs. Rates on food for home consumption differ by local area.

Other high-ranking factors that would encourage growth include increased access to distribution channels, increased access to financing, and decreased regulation.

Comparatively, a monthly survey of small businesses conducted by the National Federation of Independent Business (NFIB) finds that two factors tied second for the single-most important problem: (1) taxes and (2) government requirements and red tape. For Colorado brewers, regulation ranked third.

The cost of brewery equipment, cost of labor, cumbersome regulations, and high commodity prices all ranked high as business inhibitors. Comparatively, 5% of business owners in the NFIB survey cited cost of labor and 12% cited quality of labor as the single-most important business problem.

⁸\$78.574 per \$1,000 in assessed value.

TABLE 6: FACTORS INFLUENCING BREWERY GROWTH

Influencing Factors	Rank
Increased market access	1
Lower taxes	2
Increased access to distribution channels	3
Increased access to financing	4
Decreased regulation	5
State funding support for craft brewing industry	6
State marketing support for craft brewing tourism	7
Lower fuel costs	8
Tourism	9
Increased hop production in Colorado	10

TABLE 7: FACTORS INHIBITING GROWTH

Inhibiting Factors	Rank
Cost of brewery equipment	1
Cost of employees	2
Cumbersome regulations	3
High commodity prices (e.g., hops, barley, fuel, etc.)	4
Increased competition	5
Lack of market access	6
Complex distribution channels	7
Qualified workforce (i.e., skilled, trained)	8
State brewer excise tax	9
Federal brewer excise tax	10

ADDITIONAL COMMUNITY BENEFITS

Breweries in Colorado provide many benefits to the community outside of direct and indirect economic impacts. For breweries reporting dollar amounts, a total of slightly more than \$2 million was donated in 2014 to various charities and scholarship programs—\$600,000 more than reported in the previous survey. This total is likely much larger as several breweries report donating tasting-room profits and other proceeds to charities. One brewery even gives 22% of profits back to Colorado charities. Of those breweries that indicated community contributions, 90% reported donating to charity, 83% reported aiding in fundraising, and 13% reported volunteering. In many cases, the breweries involvement with a charity went far beyond donating, from organizing events for them to helping raise awareness.

Many breweries are located in small communities and have community rooms that provide a gathering place for discussion and connecting; one even holds political debates on behalf of the community. Involvement in the community comes in many forms. Some breweries show their support by partnering with veteran and service organizations, humane societies, cancer organizations, food banks, fire

departments, music and arts organizations, schools, and other community groups. Involvement in these groups, as well as festivals and events hosted by the breweries, provides powerful impacts and brings communities together. Fostering support is a cornerstone of Colorado breweries; indeed, one brewery allows business owners trying to expand their business to use its facilities free of charge.

Common examples of other ways Colorado breweries give back is by participating in silent auctions and community cleanups, sponsoring playgrounds, and donating product and money. Beneficiaries range from local schools to disability services. Many brewery employees also contribute their own time and money; 88% of breweries have employees who give to charity organizations and 88% participate in fundraisers. One brewery even founded its own nonprofit that raised more than \$1 million for flood victims in its first year. All told, breweries in Colorado donate thousands in time and money to various charities and nonprofit organizations.

CONCLUSION

Craft brewers are a source of economic benefits totaling \$1.15 billion in output in 2014 disbursed throughout Colorado's urban cities and rural communities. More than 53% of this is in direct brewer and brewpub economic activity. Direct industry employment totaled 5,269 in 2013 and 6,021 in 2014, and wages totaled an estimated \$136 million and \$162 million, respectively. While wages average less than the average for all industries in Colorado, the less than full-time nature of many of these jobs dilutes average wages. Nonetheless, many brewers offer employee benefits, ranging from the traditional (health, dental, etc.) to the creative benefits that speak to the culture of the state and industry (beer, ski passes, EcoPasses, etc.). Additionally, brewers continue to be growing and thriving contributors to the economy and to their respective communities through donations, volunteerism, and special events.

BIBLIOGRAPHY

- Beer Institute: Economic Impact (n.d.). <http://www.beerinstitute.org/br/economic-impact>, accessed July 13, 2015.
- Brewers Association. 2014, Total Economic Impact 2012, State by State Data, http://www.brewersassociation.org/attachments/0001/3790/State_by_State_Data.pdf, accessed July 15, 2015.
- Brewers Association. 2014, State Craft Beer Sales and Production Statistics, 2014, <https://www.brewersassociation.org/statistics/by-state/>, accessed July 13, 2015.
- Brewers Association. 2012, Statistics, Economic Impact, <https://www.brewersassociation.org/statistics/economic-impact-data/>.
- Brewers Association. Economic Impact, The Craft Brewing Industry Contributed \$33.9 Billion to the U.S. Economy in 2012, more than 360,000 Jobs (n.d.), <https://www.brewersassociation.org/statistics/economic-impact-data/>, accessed June 29, 2015.
- California Craft Brewing Association (2012). *California Craft Brewing Industry: An Economic Impact Study*. UC Berkeley Goldman School of Public Policy, <http://www.californiacraftbeer.com/ccba-announces-economic-impact-of-the-california-craft-brewing-industry/>.
- Colorado Department of Local Affairs, Division of Property Taxation. 2014 Annual Report, <http://www.colorado.gov/cs/Satellite?c=Page&childpagename=DOLA-Main%2FCBONLayout&cid=1251591547549&pagename=CBONWrapper>, accessed July 14, 2015.
- Colorado Department of Revenue, Enforcement Division, All State Liquor Licenses, <https://www.colorado.gov/pacific/enforcement/liquor-licenses>, accessed August 10, 2015.
- Colorado Department of Revenue, Colorado Liquor Excise Taxes, <https://www.colorado.gov/pacific/revenue/colorado-liquor-excise-taxes>, accessed July 14, 2015.
- Colorado Department of Revenue (July 1, 2010). Colorado Liquor Excise Tax Report, https://www.colorado.gov/pacific/sites/default/files/June%202010_0.pdf, accessed June 26, 2015.
- Colorado Department of Revenue (July 1, 2011). Colorado Liquor Excise Tax Report, https://www.colorado.gov/pacific/sites/default/files/June%202011_0.pdf, accessed June 26, 2015.
- Colorado Department of Revenue (July 1, 2012). Colorado Liquor Excise Tax Report, https://www.colorado.gov/pacific/sites/default/files/June%202012_2.pdf, accessed June 26, 2015.
- Colorado Department of Revenue (July 1, 2013). Colorado Liquor Excise Tax Report, https://www.colorado.gov/pacific/sites/default/files/June%202013_3.pdf, accessed June 26, 2015.
- Colorado Department of Revenue (July 1, 2014). Colorado Liquor Excise Tax Report, <https://www.colorado.gov/pacific/sites/default/files/June%202014.pdf>, accessed June 26, 2015.

- Colorado Department of Revenue (March 1, 2015). Colorado Liquor Excise Tax Report, <https://www.colorado.gov/pacific/sites/default/files/Liquor%20Excise%20Tax%200215.pdf>, accessed June 26, 2015.
- Combrink, Tom, Cheryl Cothran, and Jeff Peterson (January 2012). *Economic Contributions of the Craft Brewing Industry to the State of Arizona*. The W.A. Franke College of Business, Northern Arizona University.
- John Dunham & Associates (March 2013). *The Beer Institute Economic Contribution Study, Methodology and Documentation*.
<http://beer.guerrillaeconomics.net/assets/site/res/2012%20BSA%20Economic%20Impact%20Methodology.pdf>, accessed November 7, 2013.
- Latham, W. and K. Lewis (2013). *America's Beer Distributors: Fueling Jobs, Generating Economic Growth & Delivering Value to Local Communities*, <https://www.nbwa.org/resources/economic-impact>, accessed June 29, 2015.
- Marturana, Michael and Martin Shields (2011). *The Economic Impacts of Breweries on Larimer County*. Fort Collins: Regional Economics Institute, Colorado State University.
- Metzger, Scott (July 2012). *Economic Impact of the Texas Craft Brewing Industry 2012 Annual Update*.
http://www.texascraftbrewersguild.org/download/TX_Craft_Beer_Economic_Impact_2011_STU_DY.pdf, accessed November 8, 2013.
- National Beer Wholesalers Association (March 2011). "New Study Shows Beer Industry Contributes \$33.2 Billion Annually to California Economy," *PRNewswire*.
<http://www.prnewswire.com/news-releases/new-study-shows-beer-industry-contributes-332-billion-annually-to-california-economy-117604543.html>, accessed January 27, 2012.
- National Federation of Independent Business (June 2015). *National Small Business Economic Trends*.
<http://www.nfib.com/Portals/0/PDF/sbet/sbet201507.pdf>, accessed July 14, 2015.
- National University System Institute for Policy Research. 2013[?]. *The Economic Impact of Craft Breweries in San Diego*. La Jolla, California.
- Oregon Craft Beer. Economic Impact, <http://oregoncraftbeer.org/oregon-beer/economic-impact/>, accessed July 16, 2015.
- Palladini, J. and M. Armstrong (2013). *From Farm to Glass: The Value of Beer in Canada*,
<http://www.conferenceboard.ca/e-library/abstract.aspx?did=5847>, accessed June 29, 2015.
- Richey, David and Bart Watson (2013). *California Craft Brewing Industry Economic Impact Report*. California Craft Brewers Association, <http://www.californiacraftbeer.com/files/Economic-Impact-Study-FINAL.pdf>.
- Sorenson, C. (2014). *The Growing Economic Impact of Craft Brewing in Montana*,
<http://bber.umt.edu/pubs/econ/MtBrewers.pdf>, accessed June 29, 2015.
- Sorenson, Colin B., Todd A. Morgan, and Shannon Furniss (2012). "The Economic Impact of Craft Brewing in Montana," *Montana Business Quarterly*, Winter,
<http://www.bber.umt.edu/pubs/econ/craftbrewing.pdf>.

Tax Foundation. Beer Excise Tax Rates by State, 2014. <http://taxfoundation.org/blog/map-beer-excise-tax-rates-state-2014>, accessed July 13, 2015.

Tax Foundation. State Beer Excise Tax Rates, 2009–2013. <http://taxfoundation.org/article/state-beer-excise-tax-rates-2009-2013>, accessed July 13, 2015.

U.S. Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau. Taxes and Fee Rates. http://www.ttb.gov/tax_audit/atftaxes.shtml, accessed July 14, 2015.

Washington Beer Commission. *2012 Annual Report*, <http://washingtonbeer.com/about-wbc/>.