



Brewpubs and Microbreweries: A Midwestern Geography of Local Craft Beer Markets by Firm Type

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Abstract

Microbreweries and brewpubs are distinct components of a growing craft beer industry that includes four broad segments: brewpubs, microbreweries, regional brewers, and large producers which often have a partial ownership connection to macro-brewers, such as Heineken, Pabst, or AB InBev. This research aims to identify the factors that influence the locations of smaller production sites, specifically microbreweries and brewpubs, in a seven-state region—the American Midwest (Illinois, Indiana, Iowa, Michigan, Missouri, Ohio, and Wisconsin). Using map analysis and statistical analysis, this research differentiates between microbreweries and brewpubs to understand the specific nature of the target markets for each type of business. This research demonstrates that the sociodemographic characteristics at the county scale vary between firm types and that location co-varies with diversity, workforce participation rates, wealth, and urbanization. Additionally, the research underscores the importance of the Millennial cohort and the proportion of residents employed in advanced professions. The data also indicate that the markets for brewpubs versus microbreweries are unique insofar as higher proportions of brewpubs, particularly firms with three or more locations in the study area, tend to be located in less urban areas including suburbs and college towns. In contrast, microbreweries are located in larger urban centers, tend to be single locations, and are more localized compared to brewpubs.

Introduction

America's "craft beer revolution" has been signposted as a dramatic increase in microbreweries and brewpubs across the country. And this significant expansion has been well-documented relative to both production and consumption insofar as the beer is "crafted" by local, independent breweries and has transformed the sector, as well as emerged as a major competitor in the market place relative to beer "produced" by multinational beer conglomerates (Eddings 2017; Reid and Gatrell 2015, 2017; Gatrell et al. 2017; Hoalst-Pullen and Patterson 2017). The total number of U.S. breweries jumped nearly 80% between 2013 and 2016, with the number of microbreweries and brewpubs increasing 46% and 112%, respectively (Brewer's Association 2017a). The remarkable growth in the craft beer industry has even prompted some to predict that a crisis may be forthcoming, as increasing competition between a skyrocketing number of brewers creates an environment where too many firms are vying for too little market share (Bryson 2016). Even so, the number of closures of both microbreweries and brewpubs has remained consistent in recent years, even as the number of openings has increased (Brewer's Association 2017a). Even so, as we will explore in this article, within the larger craft brewing industry microbreweries and brewpubs have developed as unique firm types, with distinct markets and locational factors. In the craft brewing industry, being a visible, passionate part of the local community is often a key factor in firm longevity (Bryson 2016), and when it comes to brewpubs and microbreweries, geography and place matter (Fig. 13.1).

Brewing and Craft Beer in the Midwest

The Midwest states can be considered beer's culture hearth and the region is synonymous with the America's mass marketed staple, the American lager. Indeed, the geography

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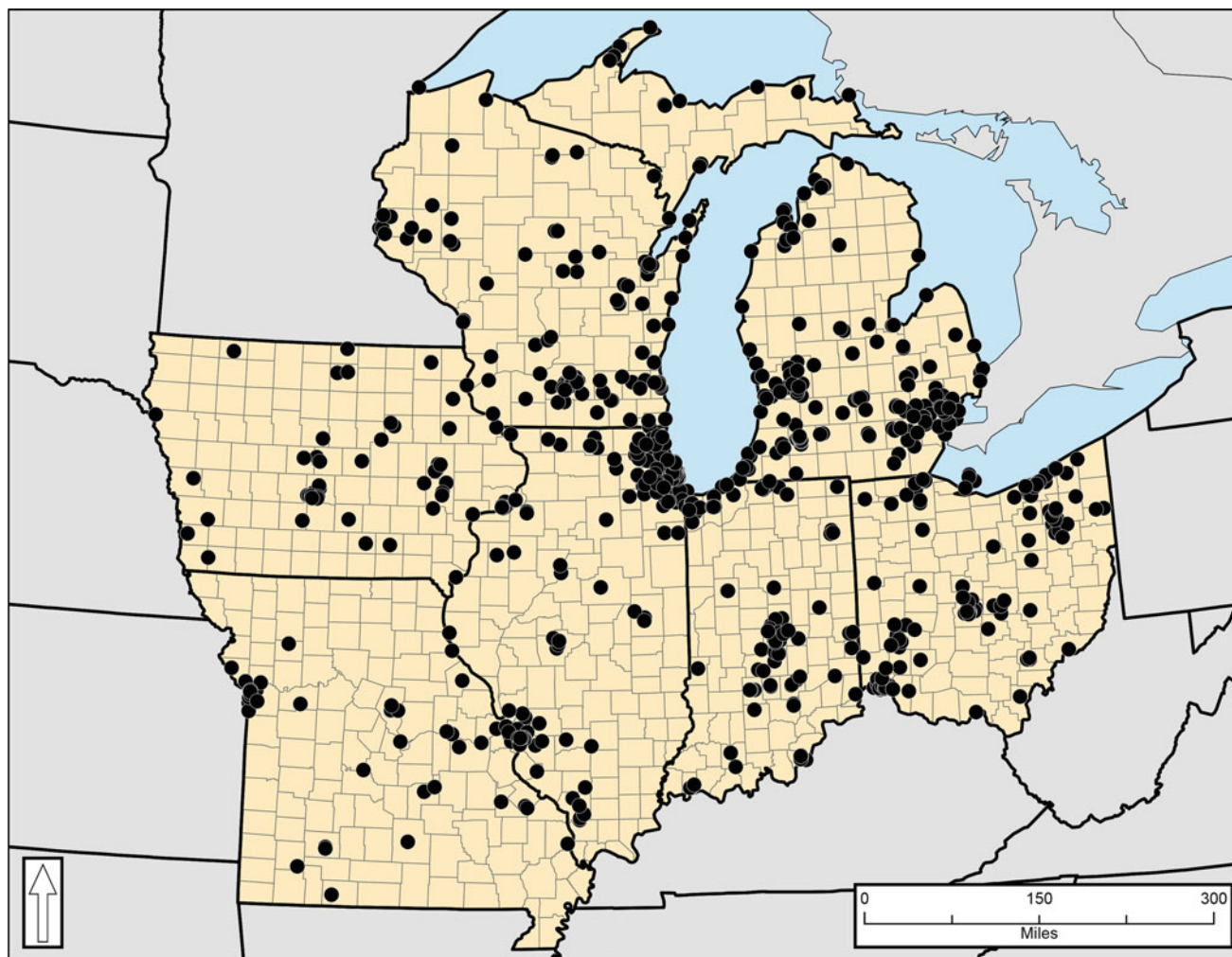


Fig. 13.1 Brewpub and Microbrewery locations in the Midwestern states

of American beer corresponds with the westward expansion of industry following the Civil War and was heavily influenced by immigration from northern European countries, most notably Germany and Czechoslovakia. The result was a concentration of immigrant-owned breweries in large Midwestern cities such as Chicago, Cincinnati, Milwaukee, St. Louis, and Detroit (Stack 2003). The geography of Midwest beer production was also influenced by the physical landscape. For example, the physical geography of the Mississippi and Ohio River Valleys, as it turns out, was well suited for the production of adjunct lagers. A plentiful supply of freshwater sources, regionally grown grains, and eager consumers (i.e., large immigrant populations) made lager beers such as Budweiser, Miller, Pabst, Stroh's, Falstaff, and Hamm's local favorites, and in the future some of these firms would emerge as global powerhouses (Gatrell et al. 2014). At the peak of the industry during the late 1800s and early 1900s, the Midwest was home to literally hundreds of

breweries in large cities and small burghs. However, many smaller firms did not survive the Prohibition Era, and the number of American breweries in 1934 (756), already less than half of what it was in 1910, continued to fall precipitously until the 1970s, when the number reached an anemic low of 89 in 1978 (Brewer's Association 2017a).

Prior to the craft beer movement, Midwestern beer culture was anchored by large brewers such as Anheuser-Busch, Miller, and Pabst, all Midwestern firms, and a few regional beers such as Stroh's, Sterling, Olympia, and others. However, the regional brewers began to disappear in the late 1980s through the 1990s as the larger brewers began to undertake large-scale industry consolidation by purchasing regional firms. By the early 2000s, the American beer industry came to be dominated by three major families of U. S. brands—Anheuser-Busch (AB), MillerCoors (MC), and Pabst—with AB and MC emerging as the dominant firms. InBev acquired AB in 2008 to become the largest brewing

company, commanding the largest global portfolio of beers from its headquarters in Belgium. Likewise, MillerCoors, now part of the complex known as MolsonCoors, is brewing and/or distributing global brands such as Grolsch, Peroni, and Milwaukee's Best.

During the same period of consolidation though, the industry was changing at the margins, and the change was an extension of home-brewing movement that was legalized in late 1970s. Indeed, homebrew experimentation, the groundbreaking efforts of Jim Koch's Boston Beer Company, and to a lesser extent the entrance of import beers to the American market, signaled a change in the American palate and movement away from the classic American lager toward new diverse styles. And these changes were taking root across the Midwest—the very region that gave rise to the macro-brewed homogenous American Lager (Blessing 2014, Agnew 2014). Today, the Midwest is the scene of a thriving beer culture and home to a large number of brewpubs and microbreweries. In 2016, the Midwestern states produced 4,187,080 barrels of craft beer, or beer that is brewed at relatively small scales by independent brewers, and each of the seven states included in this research was in the upper half of states for economic impact (Brewer's Association 2017b). The Midwest was represented by ten of the "The 50 Best Craft Breweries in America" by TheDailyMeal.com in their 2017 rankings, including two of the top three entries, Bell's Brewery of Kalamazoo, Michigan and Founder's Brewery of Grand Rapids, Michigan, which were ranked at #3 and #1, respectively (Darnall 2017).

Microbreweries and Brewpubs

According to the Brewer's Association (2017c), there are four segments of the craft beer industry: microbreweries, brewpubs, contract brewing companies, and regional craft breweries. As the two smaller segments of the industry in terms of beer production, brewpubs, and microbreweries are indeed similar in some respects, as both firm types allow brewers to reach consumers in the local craft beer market at a relatively small scale, at least initially. The primary distinction between a brewpub and a microbrewery lies in the amount of beer that is sold at the location that where the beer is produced: a microbrewery sells at least 75% of the beer it produces off-site, whereas a brewpub sells at least 25% on-site through the operation of a restaurant. (Brewer's Association 2017c). Another important difference between the two is in product distribution. Since a brewpub, by definition, generally sells a greater percentage of beer on site, the process of distributing beer is necessarily less complex than it is for the microbrewery, allowing brewpubs to control beer quality from the tank to the tap to the tongue,

as opposed to relinquishing control of the product to a beer distributor, and then to a bar or restaurant (Hieronymus 1999). As one might expect, microbreweries that put great effort into creating high-quality brews would be reasonable to fret at the thought of kegs of their product being handled or served at the wrong CO₂ pressure, temperature, through dirty lines, or in less-than-clean glasses.

Legal differences from state to state also affect the ways that microbreweries and brewpubs can produce and sell their products (Gohmann 2016; Tamayo 2009). Certain states, such as Georgia, Mississippi, and Utah, are known for their complex and often confusing sets of laws determining what, where, and how much a brewer may produce, whereas other states, notably Oregon, Washington, and Vermont have established brewer-friendly regulatory environments that encourage brewers to thrive. Depending on location and state law, brewers may be limited in the amount of alcohol (by volume) that their beer may contain, where their beer may be sold, when their beer may be sold, and how much, if any, of a discount may be offered to consumers who purchase the beer (Berning and McCullough 2017; Sauer 2017). Brewpubs and microbreweries are often treated as completely different firm types even in the same place, with different regulations affecting microbreweries one way and brewpubs another (Nurin 2017). Not surprisingly, states where the legal environment has become less burdensome on both brewpubs and microbreweries in recent years, particularly the Midwest, have seen much of the growth across the industry (St. John 2017).

Finally, it is also worth noting that the qualitative aspects of brewpubs and microbreweries vary. That is, food programs are often an integral component of many brewpubs, particularly chain firms such as Granite, Rock Bottom, Gordon Biersch, and Ram. These brewpubs are often located in suburban strip malls and power retail center complexes across the region. In contrast, microbreweries tend to focus on tap room concepts with limited food and/or a reliance on guest vendors and transient food trucks. While the sociodemographic characteristics of urban versus suburban communities vary (i.e., the "urban hipster" subculture versus family centered suburban experience),¹ the geography of food programs may also be impacted by the legal environment as the local alcohol laws may require food service.

¹It is worth noting that the notion of "urban hipster" culture represents an echo of earlier era, specifically the late-1980s and early-1990s. Indeed, the notion of DINKs (dual income no kids) was used by social scientists and geographers to explain the emergence of urban entertainment districts, gentrified neighborhoods, and more recently even brew pubs (see Badcock 1995; Matthew and Picton 2014).

The Craft Beer Scene as Midwestern Culture

Craft beers, by their very nature, can be considered local products, at least when viewed in the context of the “global” brewers that dominate advertising and grocery store shelf space around the world. In the Midwest, brewing and drinking beer has been part of the culture for well over a century, as discussed previously, and America’s craft beer revolution has triggered a revitalization of the culture, where the agricultural production of hops is increasing, the number of brewers is growing yearly, and the definition of “Midwestern Beer” is evolving (Farrington 2017). Indeed, when pressed to define what exactly makes a beer “Midwestern”, Collin Castore, one of the owners of Seventh Son Brewing based in Columbus, Ohio, replied that “In a very Midwestern fashion, the beer always comes from a friendly place without pretense. We take the beer seriously, but not necessarily ourselves. Our beers are reflections of our people.” (Farrington 2017). This friendliness, well established as a cultural attribute of the Midwest, extends beyond everyday Midwesterners and into the ranks of brewers, whose differentiated product lines and appreciation of the local beer community are often displayed through cooperation and camaraderie, as opposed to cutthroat competition in the brewing districts that have developed in Chicago and Minneapolis (Nilsson et al. 2017).

Midwestern craft brews, often created using local ingredients and marketed with local imagery, history, and folklore, are cultural representations of Midwestern places and people—expressions of the “neolocal” Midwest (Flack 1997; Schnell and Reese 2014). “Neolocalism” is the process of appealing to, or even creating, the feeling of community among a group of people that is specifically attached to place or places, and craft brewers have been active in harnessing neolocalism for purposes of branding, marketing, and establishing customer loyalty through community involvement (Holtkamp et al. 2016), and craft brewers who are willing to instill an element of “the local” into their product from development to production to marketing are likely to be successful (Wesson and Nieva de Figueiredo 2001). However, appealing to neolocal Midwestern culture through marketing alone or through more superficial means, such as using place names, could fail to adequately embed a local firm into the community; a more holistic place-based product identity strategy involves the creation of a “spatial brand”, where brewers, such as Great Lakes Brewing Company (Cleveland, Ohio) use elements of place, local practices, and regional history and identity to create a greater level of authenticity in their beer’s connection to the local environment and people (Gatrell et al. 2017).

What do the locations of microbreweries and brewpubs tell us about the beer landscape of the American Midwest? If connection to place is strong among these types of firms, we would expect this association to be evident from sociodemographic variables such as age, ethnicity, and income. This research is the focus of this chapter. To further develop our understanding of the factors that influence locational characteristics of microbreweries and brewpubs, an analysis of Midwestern brewery and sociodemographic data was completed. This process will be described in the next section.

Data and Methods

To understand the locational differences between microbreweries (MB) and brewpubs (BP), addresses of firms were gathered from 2017 Brewer’s Association member database. A subset of the national database was created based on the Midwestern states of Illinois, Indiana, Iowa, Michigan, Missouri, Ohio, and Wisconsin, and a summary count of the number of brewpubs and microbreweries was created at the county level for these states. Each firm’s address was geocoded based on street address and ZIP code, and separate shapefiles were created for microbrewery and brewpub locations, and maps were made for analysis.

Additionally, to determine the sociodemographic and economic characteristics of the places where these firms were located, data were accessed and downloaded from the American Fact Finder. To determine the factors that influence location for specific firm type, the data were analyzed using Spearman’s Rho test for Correlation. The Spearman’s Rho test for Correlation is a method for determining the relationships between variables that are not continuous (interval or ordinal) and nonparametric, resulting in a correlation coefficient between -1 and 1 , where values close to 1 show strong positive correlation and values close to -1 show strong negative correlation.

Results

The results show that brewpubs and microbreweries are not evenly distributed across the Midwestern states, as they tend to cluster in and near the population centers of the region (Fig. 13.2). Between the Midwestern states, Michigan is home to more brewpubs and microbreweries, both in total and per capita (Table 13.1). Michigan also has the highest number of BP, both in total and per capita, and the highest total number of MB, whereas Iowa has the highest number of MB per capita. It is worth noting that Iowa has, by far, the

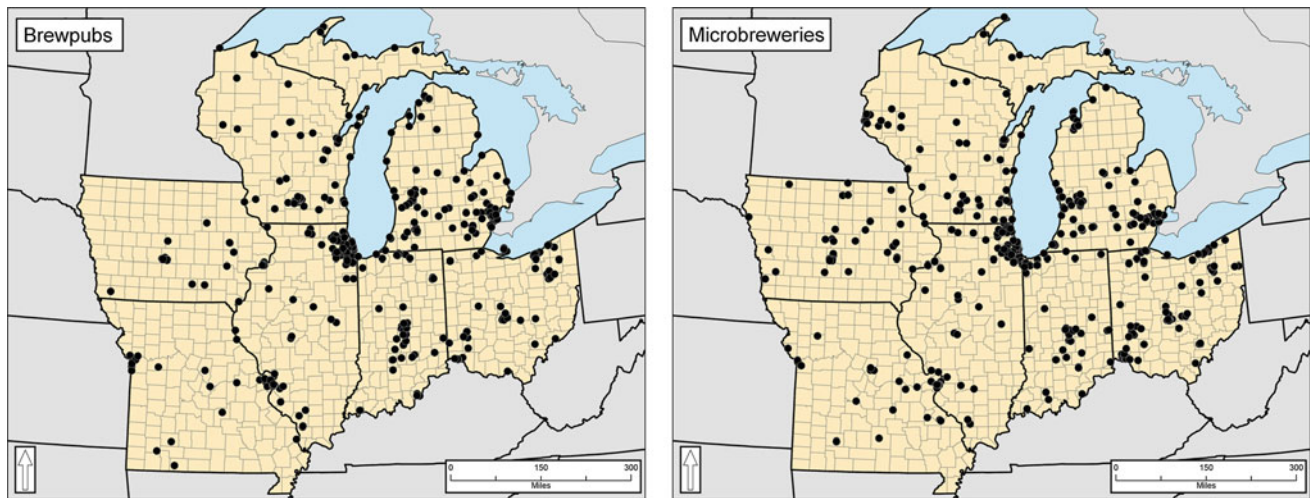


Fig. 13.2 Brewpubs and Microbrewery locations

Table 13.1 Per capita firms by state

State	Total	BP	MB	Population	Per capita		
					Total	BP	MB
Michigan	192	105	87	9,962,311	0.00001939	0.00001061	0.00000879
Wisconsin	107	51	56	5,795,483	0.00001863	0.00000888	0.00000975
Iowa	55	18	37	3,145,711	0.00001778	0.00000582	0.00001196
Indiana	104	58	46	6,666,818	0.00001583	0.00000883	0.00000700
Illinois	147	70	77	12,802,023	0.00001142	0.00000544	0.00000598
Ohio	131	56	75	11,658,609	0.00001132	0.00000484	0.00000648
Missouri	59	30	29	6,113,532	0.00000976	0.00000496	0.00000480
Sum	795	388	407	56,144,487			

smallest population of the Midwestern states, so the high per capita value is more a reflection of low population than of a dearth of microbreweries in the state.

Additionally, it was relatively common to find brewpubs with multiple locations, whereas microbreweries were predominantly single-site operations (Table 13.2). In fact, of the 337 brewpub firms in the Midwest, 17 firms had more than 1 location (5.044%), as opposed to only 5 (1.243%) of the 402 microbrewery firms had more than one location. Further, 8 of the 17 brewpub firms with more than 1 location had at least 3e locations, with 2 firms (CraftWorks Brewery and Restaurant Group and Granite City Food and Brewery) operating at least 13 locations. Of the 5 microbreweries identified in the regional database with more than 1 location, no firm operated more than 2 locations.

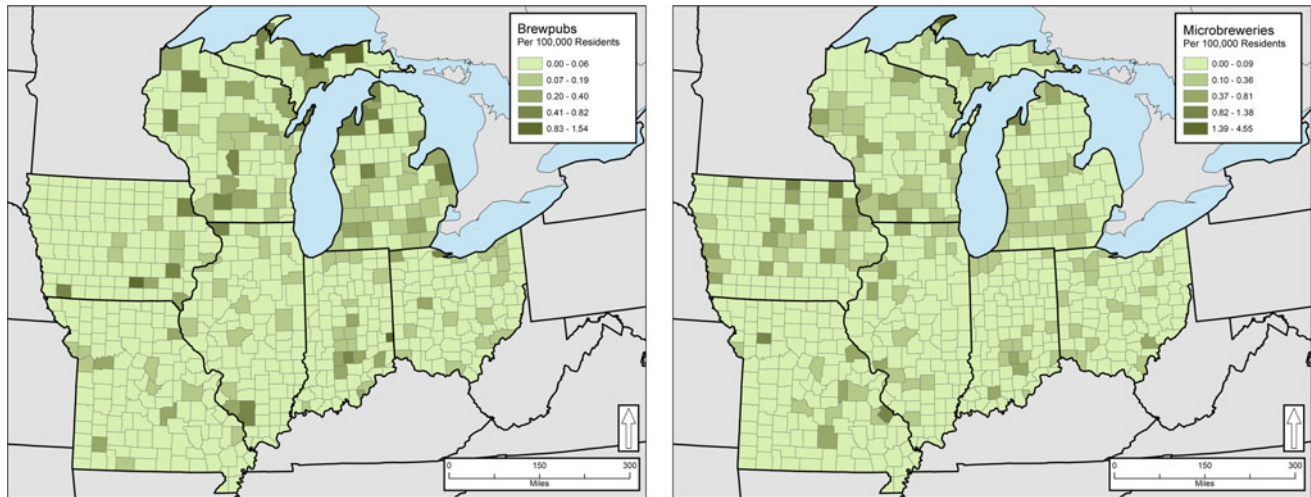
Table 13.2 Total facilities by firm and type of firm

	Total firms	More than one location	More than two locations
BP	337	17 (5.044%)	8 (2.373%)
MB	402	5 (1.243%)	0 (0.000%)

Population is an important factor in where businesses tend to be located, and brewpubs and microbreweries are no exception across the Midwest (Table 13.3). The per capita value of total establishments varied widely across the region at the county level, as did the per capita value of brewpubs and microbreweries (Fig. 13.3). Across the 651 counties in the region, the mean population was 85,714, of which 132 had populations above 85,000 and 519 had populations below 85,000. The vast majority of firms (76.729%) were found in the more populous counties. However, even though there were significantly more total establishments located in the more populous counties, there were only minor differences in the percentages of firm type based on county population. Brewpubs made up 49.5% of total establishments in more populous counties as opposed to 46.485% of total

Table 13.3 Firm type by county population

	Total counties	Total BP and MB	BP	MB
Counties with a population greater than 85,000	132	610	302	308
Counties with a population less than 85,000	519	185	86	99

**Fig. 13.3** BP and MB firms per capita 100,000 residents by County

establishments in less populous counties, whereas microbreweries made up 53.513% of total establishments in less populous counties as opposed to 50.492% of total establishments in more populous counties.

Not surprisingly, locations where brewpubs and microbreweries were found shared many demographic and socioeconomic characteristics in common. Using multiple data from the US Census Bureau's American Fact Finder, Spearman's Rho test of Correlation was conducted. Table 13.4 shows that several variables are strongly or moderately correlated, either positively or negatively, with the number of brewpubs and microbreweries across the counties of the Midwest. The Spearman's Rho correlation coefficient (r_s) can be interpreted much like the Pearson's correlation coefficient (r), where values that are close to -1 are strongly and negatively related to each other, whereas values that are close to $+1$ are strongly and positively related to each other. Values that are close to zero have a weak or no relationship with one another. Variables that did not display at least a moderate relationship with the number of brewpubs and microbreweries are not included in Table 13.4.

Locational characteristics such as value of owner-occupied homes, family income, gross rent, the percentage of the population reporting as Asian, and jobs in professional, science, and management were all positively related to the number of both brewpubs and microbreweries per county. Locational characteristics that were negatively related to the number of both brewpubs and microbreweries

per county included the percent of the population that was White or designated as one race, the percentage of the population over the age of 65, and the jobs in agriculture, forestry, and mining jobs. These relationships paint a clear picture of the types of places that brewpubs and microbreweries tend to be located in the Midwest. These areas are places where residents are well off, and have expendable, or sizable discretionary income. They are largely urban and suburban places, where the population is diverse and well-educated. In the Midwest, these locational attributes are often found in a number of places, including college towns and revitalized (or revitalizing) urban areas.

Between brewpubs and microbreweries, however, there are notable differences among some variables that are related more to one firm type than the other, indicating that the places where one firm is most likely to be found might be the same types of places where the other firm type is most likely to be found. In particular, even though the correlation is only moderate, the locational characteristics that vary between firm types are important in defining the places firms tend to set up shop. For example, residents in counties with microbreweries were more likely to use public transportation for their commute than residents of counties with brewpubs. Counties with microbreweries were more likely to have a larger percent of older buildings (built prior to 1939), whereas counties with brewpubs are more likely to have higher percentages of buildings built in every decade since 1960. Even though the percentage of the population over the

Table 13.4 Spearman's Rho correlation for selected sociodemographic variables

	Brewpubs	Microbreweries
Value of owner-occupied homes	0.6684	0.6557
Income and Benefits (2015)	0.6579	0.6540
Percent Asian	0.5911	0.6022
Median rent	0.5755	0.5817
Percent in professional, scientific, management, administrative, and waste management services	0.5527	0.5645
Percent using public transportation for commute	0.4114	0.4617
Percent 65 years and older	-0.4181	-0.5120
Percent of homes built pre-1939	-0.3490	-0.2003
Percent one race	-0.4592	-0.3775
Percent white	-0.5342	-0.4749
Percent in agriculture, forestry, fishing and hunting, and mining	-0.6128	-0.5493

age of 65 is negatively related to counties with both brewpubs and microbreweries, indicating a large population of Millennials in both locations, the variable is more negatively related to counties with microbreweries than to those with brewpubs.

These differences in relationships among common locational variables between counties where brewpubs and microbreweries are located tell an important story about the places these firms can be found. In particular, microbreweries are more often located in densely populated urban areas, in places where a diverse, young, and well-educated population with expendable income make for a ready-made target market for craft beer brewers. Additionally, these urban centers may have a more plentiful supply of industrially zoned spaces, which would be a requirement for beer production at a scale larger than that of the home brewer, although many cities are moving toward requiring specific

zoning for microbreweries (Barajas, Boeing, and Wartell 2017) or designating specific areas as "brewery districts" (Nilsson et al. 2017). These results confirm the idea of the up-and-coming, hip, historic, urban area as the common site for microbreweries, in the Midwest as well as the rest of the country (Zuk 2015; Horne 2013) (Fig. 13.4).

In contrast, brewpubs in the Midwest are often found in areas that are more suburban. Like microbreweries, they tend to be located in areas with a diverse population that is well-educated and fairly well-off financially. They rely on a young population, although the suburban populations are older than the cities. From a locational perspective, brewpubs have more flexibility than that of their microbrewing counterparts. Brewpubs, although certainly more focused on beer production than most in the restaurant industry, fit better in the retail setting where restaurants are often found in suburban environments (Fig. 13.5). In addition to

Fig. 13.4 The Argus Brewing Company in the Pullman neighborhood of Chicago, IL. Source Brewery (2015) www.argusbrewery.com





Fig. 13.5 The Hairless Hare Brewery, is located in a suburban strip mall near Dayton, OH. *Source* Babbit (2016) www.drinkupcolumbus.com

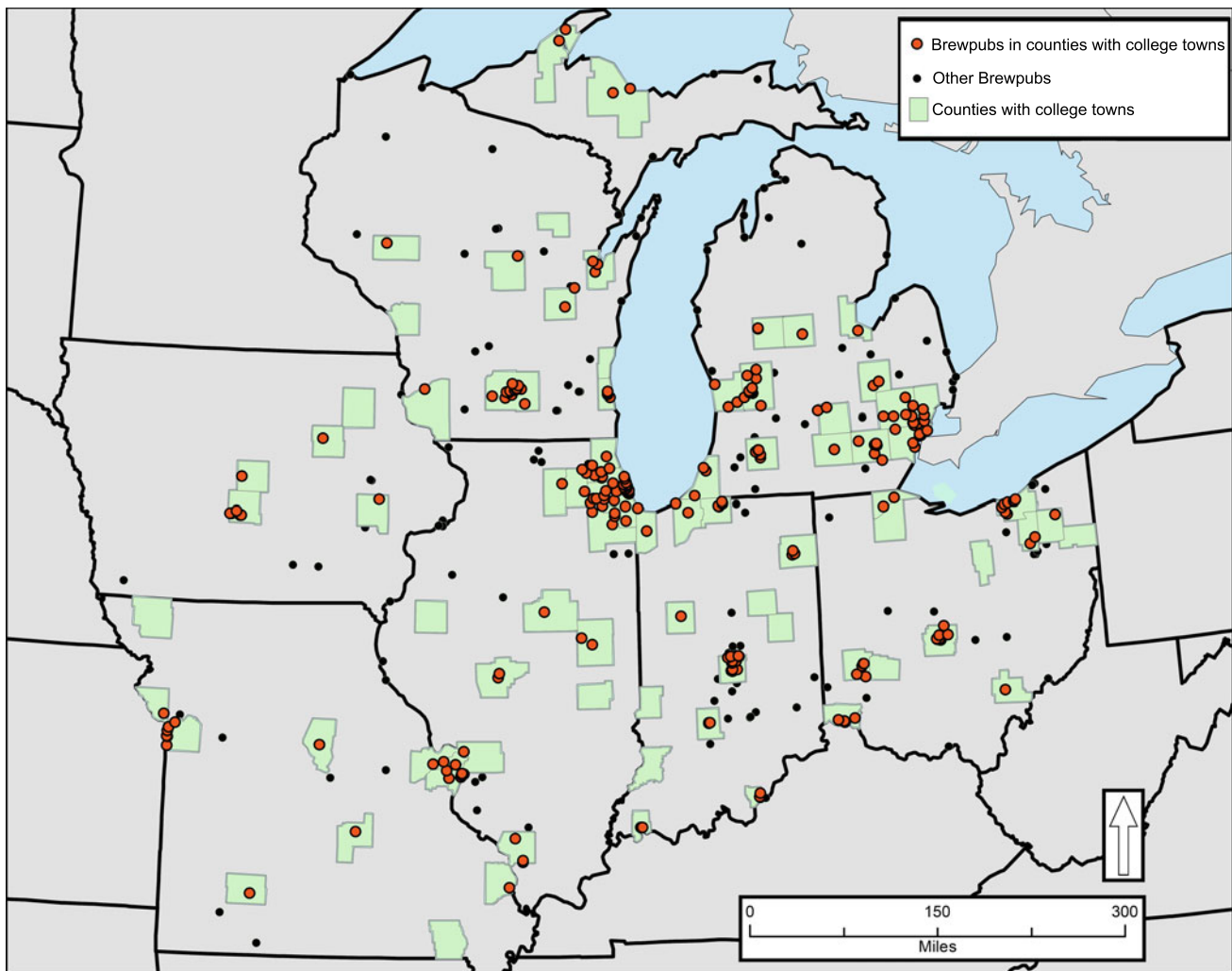


Fig. 13.6 The geography of midwest college towns and brew pubs

focusing on unique brews that are uniquely local, brewpubs often serve a creative and locally inspired menu, and are often located in college towns, which in the Midwest, are many times medium-sized population centers with a

decidedly less urban aesthetic than the places where microbreweries are more often found.

Brewpubs are more commonly found in counties with “college towns” than microbreweries (Fig. 13.6). Of the 388

brewpubs located in the Midwestern states, 71.39% of those establishments can be found in or within two miles from counties that are also home to a large college or university.² On the other hand, only 62.12% of microbreweries are found in or within two miles of those same counties that are home to “college towns”. While college towns in the Midwest are often located in counties with sizable urban populations themselves (Saint Louis University, University of Illinois—Chicago, University of Wisconsin—Milwaukee, Ohio State University, University of Cincinnati, etc.), many are located in smaller counties with medium-sized urban areas which, even though they are located away from the large urban centers of the region, take on many of the same urban characteristics of suburban counties on the edges of large cities. These counties, which are home to more “traditional” college towns and schools such as Eastern Illinois University, Saginaw Valley State University, Notre Dame, and Ohio University, are different than those where the large regional population centers are found. The ability to parse out counties with large cities in addition to large colleges and universities, which sociodemographically tend to make a better home for microbreweries, from counties that are more suburban and are home to more “traditional” college towns, could possibly see a clearer geographic split in the locational differences between microbreweries and brewpubs.

Conclusion

The results demonstrate that the factors that influence the locations of craft beer firm types co-vary based on age, wealth, diversity, and “urban” geography. In broad strokes, both microbreweries and brewpubs tend to be located in more diverse urbanized regions with well-educated and populations with expendable income. Yet, the geography of firm type suggests that microbreweries are distinct from brewpubs. Specifically, the Millennial cohort, diversity indicators, and wealth are more strongly associated with counties with microbreweries than brewpubs. Conversely, brewpubs tend to be located in areas that tend to be less diverse in the Midwestern states, such as college towns and suburban communities on the urban fringe. Indeed, the observed proportion of sales from food and associated permitting rules tend to favor suburban locations for brewpubs, as the business model, menu, and customer base is similar to many other restaurants that are increasingly common across the American suburban landscape (Relph 2015). Similarly, the demographics of suburban areas facilitate a multigenerational customer base

and appeals to families. Further, the legal environments of states also influence the market characteristics of firm type locations. Further research could focus on the extent to which legal environments in different places serve to nurture or hinder the development of strong, local beer cultures, and on innovation among firms in places with less-than-friendly beer regulations. Future research might also involve interviewing brewers to gain their insight on sociodemographic variables like the ones analyzed in this research, and how those factors influence the decisions they make regarding locations of facilities. It would also be worthwhile to conduct similar research in a different region, such as the West Coast or East Coast, to compare the spatial characteristics of microbreweries and brewpubs.

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²“College Towns” were identified based on the presence of a public land-grant or regional comprehensive University. “College Towns” with private institutions enrolling more than 7,500 students were also included.

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