The Craft Beer Revolution:

Got beer? Lone Star Craft Brewers Quench Consumers' Tastes

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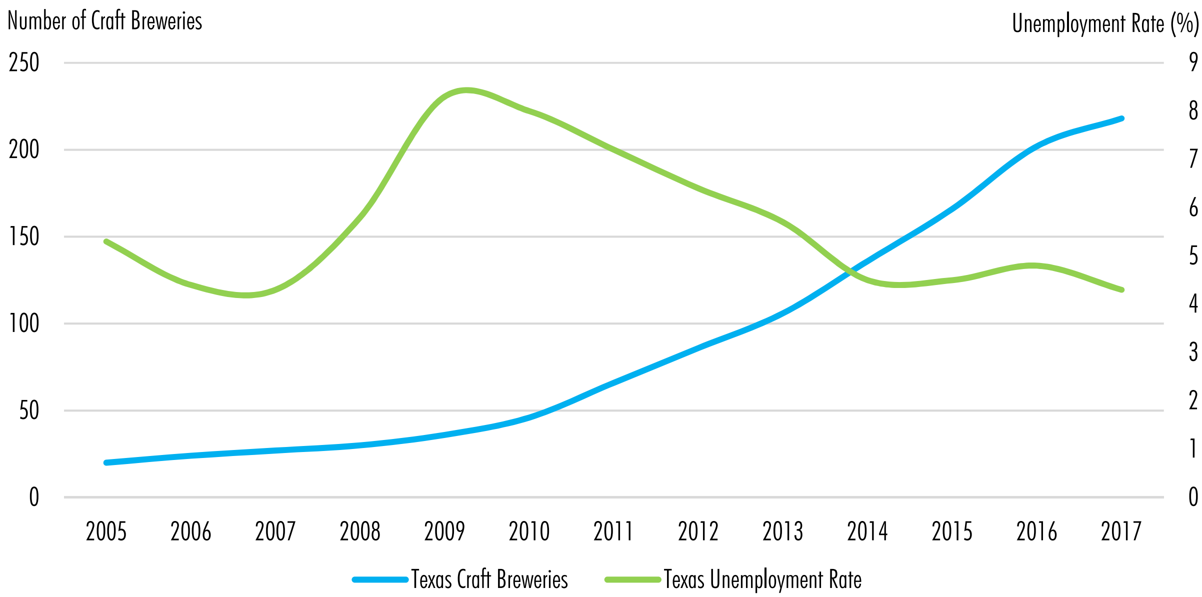
Leading up to the last economic downturn, the U.S. craft beer industry was isolated to a handful of breweries who dared to defy the conglomerate behemoths who had long dominated the beer market. When the financial crisis struck in late 2007, many industry experts anticipated the collapse of the struggling craft beer industry; with high unemployment, how could the population manage to patron craft brewery establishments that typically charge more per beer than domestic national brands? However, the opposite occurred. As the country, and Texas in particular, began to emerge from the financial collapse, craft breweries exploded in both overall numbers and sales. As unemployment began deflating and people regained access to disposable income once more, taste buds began demanding more flavor and options for beer. Thus, reclaimed financial strength coupled with a desire for quality beers sparked the craft beer revolution in the Lone Star State.

- As the economic downturn began to ebb, the millennial generation and "foodie" culture began seeking out ways to accumulate experiences versus material possessions. As unemployment fell, Texas saw a sharp uptick in craft breweries.
- Over the course of 12 years, the number of craft breweries in Texas has expanded from 20 breweries in 2005 to 218 breweries in 2017, an increase of 990%.
- With the explosion of suds throughout the state, the commercial real estate industry benefitted from the population wetting their tongues on craft brews, with the total square footage occupied by craft breweries expanding by 265% from 2005 to 4.8 million sq. ft. in 2017.

- Texas craft breweries were producing more than 1.06 million barrels of beer (roughly the equivalent of 149 million bottles) by the end of 2016. In 2014 the economic impact of craft breweries on Texas was approximately $3.8 billion through production, sales, and non-beer product sales.
- As craft breweries gained retail prominence throughout Texas, large-scale brewers acquired craft market share and furthered influenced the major metro scenes in Houston and Dallas-Ft. Worth (DFW).

REBOUNDING EMPLOYMENT CORRESPONDS WITH CRAFT BEER REVOLUTION

Figure 1: Craft Brewery Expansion Excels out of the Financial Crisis



Source: U.S. Bureau of Labor Statistics., Brewers Association.

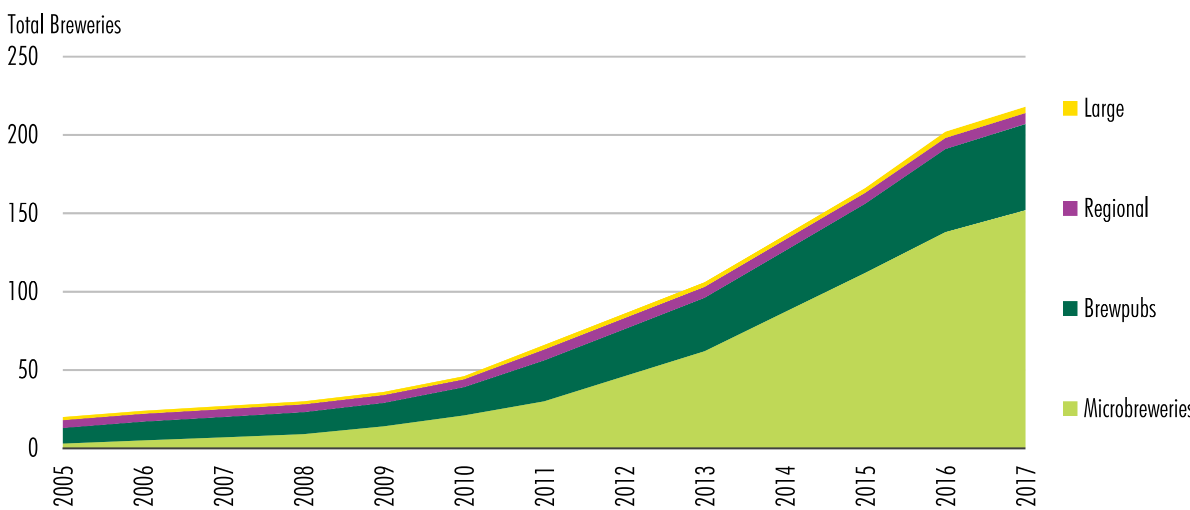
In the years leading up to the financial crisis, craft breweries in Texas remained constrained, with only 20 operating in 2005. They generally remained resilient during the recession and soon began to grow in number, up from 27 breweries in 2007 to 36 in 2009. Once state employment first started to rebound in 2009, a marked upturn followed in 2010, marking the beginning of the craft beer revolution. With better paychecks, mainly among millennials, demand from "foodies" for quality beers spurred homebrewers to expand out of their home kitchens into commercial operation.

Brewers played upon foodie culture by sourcing local ingredients and customizing brewing methods, allowing customers an opportunity to truly feel connected with the production process, a recipe that proved popular. For example, the number of Texas small craft breweries grew by 20% in 2009, then by 28% in 2010, and then an astounding 43% in 2011. From the modest number of 20 breweries throughout Texas in 2005, this level increased 990% for a total of 218 breweries by September 2017.

HOPS & WATER: SEGMENTING THE CRAFT BREW INDUSTRY

Four market segments primarily comprise the craft beer industry. The first, microbrewery, is defined by the Brewers Association as a brewery producing less than 15,000 barrels per year with 75% or more sold off-site. Microbreweries, a driving force behind the craft beer revolution in Texas, climbed from three microbreweries in 2005 to 152 in 2017, or a phenomenal growth rate of nearly 5,000%. A second one is the brewpub, a restaurant-brewery selling 25% or more of its beer on-site, often directly from the brewer's storage tanks. Brewpubs in Texas grew 450% from 2005 to 2017; currently there are 55 in operation. The third segment is regional brewers with an annual production of 15,000 – 6 million barrels per year. Regional breweries have been consistent in Texas, increasing from five in 2005 to seven in 2017*, an increase of 40%. Last, large breweries produce more than 6 million barrels annually with four large breweries currently located in Texas: Anheuser-Bush and Karbach Brewery in Houston, and MillerCoors and Revolver Brewery in DFW.

Figure 2: Market Segment Growth: 2005-2017



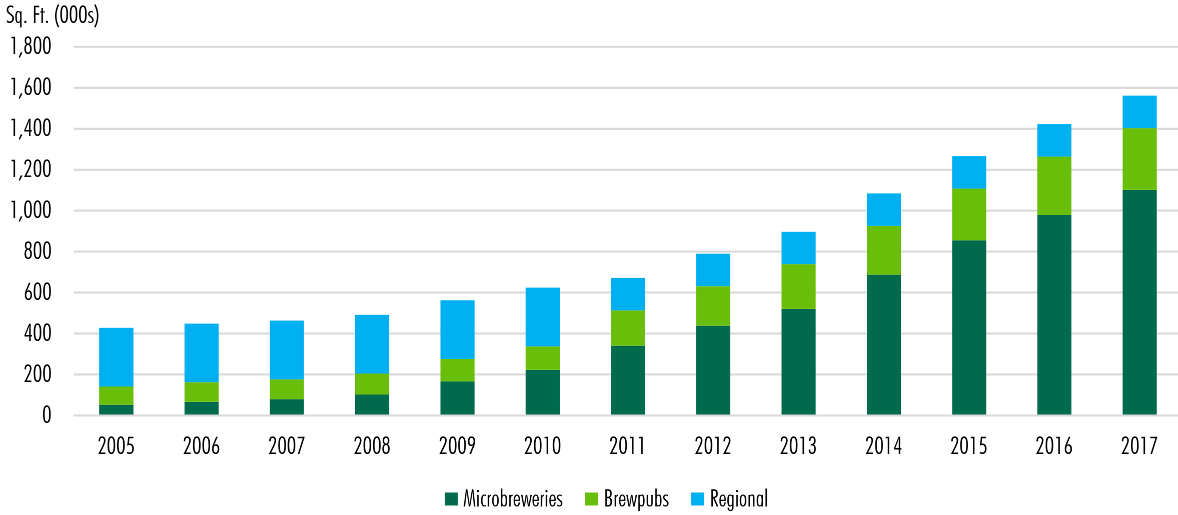
Source: CBRE Research, Brewers Association.

RETAIL, INDUSTRIAL SECTORS GAIN NEW OCCUPIERS

As homebrewers began expanding their operations from the confines of personal kitchens and garages, the commercial real estate industry benefitted from the search for adequate space to house storage tanks and brewing equipment. While each brewery has unique operational and space requirements, CBRE Research concluded from analysis that industrial and retail space accounted for the majority of Texas brewery operations. Breweries have also contributed to the adaptive reuse movement, rehabilitating dated or abandoned buildings into community gathering places for area residents to bond over a cold one.

*This number includes the purchase of Karbach Brewery in Houston by Anheuser-Busch InBev and Revolver Brewery in Dallas by MillerCoors

Figure 3: Square Footage Distribution Across Market Segments



Source: CBRE Research, CoStar, Xceligent, Google Earth.

Since 2005, the microbrewery market segment experienced the bulk of growth, expanding to approximately 1.1 million sq. ft. by 2017. While microbreweries can be found in both industrial and retail space, they tend to stick to low-cost warehouse buildings that allow for expansion and taproom buildout. Brewpubs have gravitated towards traditional retail and restaurant space in order to allow for sufficient buildout within brewing and kitchen operations. The regional and large scale breweries in Texas tend to stick with large-scale industrial complexes. As breweries made the leap from home-based operations to commercial space, industrial and retail brokers sourced adaptive solutions for these upstarts and continue to do so.

ENTREPRENEURIAL BEER CRAFTING BREWS POTENT REVENUE TOTALS

In 2016, the U.S. beer market witnessed $107.6 billion in sales, with the craft beer market accounting for $23.5 billion, roughly 22%, according to the Brewers Association. While the number of barrels sold saw generally flat year-over-year growth at approximately 197 million, the domestic craft beer segment grew 6.2% (24.1 million barrels), and the export craft beer segment grew 4.4% (45,617 barrels). In 2014, the craft brewing industry contributed $55.7 billion to the U.S. economy through production, sales, and non-beer products; Texas alone accounted for $3.7 billion of that economic impact.

The Brewers Association maintains a historical dataset detailing barrel production dating from 2008. Utilizing this data, CBRE Research separated the craft breweries currently in operation throughout Texas into submarkets in order to better analyze the growth of the industry. As one would expect, the urban areas of Austin (Central Texas), Houston, DFW and San Antonio have experienced the bulk of growth.

Figure 4: Barrel Production By Geographic Region

	2008	2009	2010	2011	2012	2013	2014	2015	2016
San Antonio	394,656	411,952	434,753	572,085	614,629	658,690	693,789	707,268	632,928
Central Texas	25,034	36,522	44,002	61,842	80,826	105,324	130,563	166,697	187,989
Dallas/Ft. Worth	9,633	11,925	11,490	17,139	24,052	41,891	74,438	112,400	119,877
Houston	23,484	27,167	35,091	46,727	67,877	95,141	125,075	155,597	110,282
West Texas	218	193	1,411	1,676	2,436	3,267	4,284	8,608	9,637
Coast/South	320	300	315	350	450	460	2,560	3,910	2,934
East Texas	0	0	0	45	82	131	1,447	2,505	2,835
Total	453,345	488,059	527,062	699,864	790,352	904,904	1,032,156	1,156,985	1,066,482

Source: CBRE Research, Brewers Association, Austin Business Journal, "The List: Austin-area craft breweries 2017", March 17, 2017.

One significant outlier to the Texas beer brewing data is the state's oldest independent brewery located in the tiny town of Shiner. Spoetzl Brewery, which produces Shiner Bock (a long-time Texas favorite and state cultural icon), distributes its beers to 48 states. Spoetzl has been operating since 1909 and singlehandedly accounts for the San Antonio region's significant production levels (Figure 4). To put some perspective on how massive the Spoetzl Brewery's operation is: without their production, the San Antonio region's 2016 barrel count plummets 2,103% to just 28,728 barrels in 2016.

While the DFW and Houston regions saw significant craft brewery growth, the nexus of the craft brew revolution occurred in Central Texas, blossoming out of the urban landscape of Austin. Long known for a city culture of "weirdness," coupled with a significant tech presence and highly educated labor force with disposable income attracting young talent with a taste for ale, Austin and the surrounding Hill Country is now home to 60 breweries, with dozens more in the planning process.

Figure 5: Total Craft Breweries By Geographic Region

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Central Texas	4	6	7	7	8	14	23	26	29	35	43	54	60
Dallas/Ft. Worth	4	5	6	6	7	7	12	17	23	34	40	48	50
Houston	2	2	2	4	5	6	9	17	19	26	34	40	40
San Antonio	7	7	7	7	9	10	11	13	17	19	21	26	29
West Texas	0	1	2	2	3	4	6	8	10	11	13	16	17
Coast/South	3	3	3	4	4	4	4	4	5	7	8	11	11
East Texas	0	0	0	0	0	1	1	1	3	4	7	7	11
Total	20	24	27	30	36	46	66	86	106	136	166	202	218

Source: CBRE Research, Brewers Association.

With more than 187,000 barrels of brewed last year (the equivalent of 26.3 million bottles), Central Texas was the prominent production hub of Texas craft beer. The DFW and Houston metro areas act as secondary hubs that have buoyed Texas to the 3rd highest economic output for craft breweries in the U.S., and are forecast to attract new brewers and investors looking to break into the scene. Still, there are dozens of breweries located outside of the main metro areas broadening the craft beer revolution, particularly in West Texas. While these breweries might not have the population draw and resources, these outlier operations are creating new recipes while tinkering with old favorites, further magnifying the boundaries of the state's craft beer movement.

"[Taprooms] are the quintessential brand builders for small and indie breweries."
-Bob Pease, President & CEO of the Brewers Association

BREWERY BUYOUTS AND THE FUTURE OF THE CRAFT BEER REVOLUTION

In 2016, two well-known Texas craft breweries inked deals to sell majority ownership to global brewing giants. Karbach Brewery in Houston was purchased by Anheuser-Busch InBev; Revolver Brewery, located south of Ft. Worth in Granbury, was purchased by MillerCoors. These buyouts caused serious ripples among the pool of craft breweries in the state. Barrel production was the most noticeable: since these global breweries now had majority ownership among the large brewery segment, the Brewers Association no longer classifies them as craft breweries. Subsequently, Houston's production levels dove from approximately 155,000 barrels in 2015 to 110,000 barrels in 2016 while DFW saw muted year-over-year growth of 7,000 barrels.

Craft brewers today face numerous difficulties. Large brewers have recognized consumers will continue to demand better quality products, likely sustaining their hunt to bring more craft operations into their fold.

While large brewers regenerate their 'craft beer' ad campaigns, there is the potential that the field of craft brewers has become overpopulated: too much supply and outpacing consumer demand. And there are fair market regulatory issues. During the 2017 Texas State Legislative session, the elected officials enacted a new law defining a craft brewery as one producing less than 225,000 barrels annually; this production cap mandates any brewery producing more (including those with majority ownership by bigger breweries) will be required to employ a three-tier system of distribution, where a brewery will have to pay a distribution company to generate sales within their own taprooms. While most Texas breweries are currently unaffected by this cap, there is a concern among brewers and owners that this law will dampen the still quite young craft beer market and limits a small brewery's potential growth.

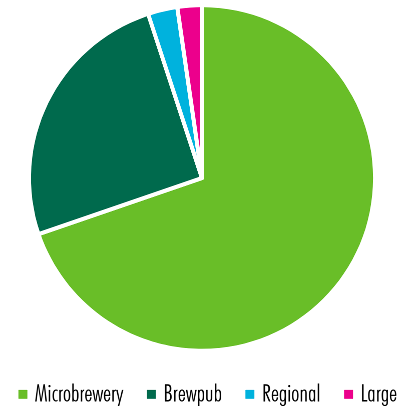
Still, Texans have come to crave their craft beer over the past 15-years as specialty brewing has clearly become a part of the Lone Star culinary scene. After all, summer in Texas isn't the same without a cold one.

CBRE RESEARCH METHOD

The cumulative list of active breweries operating today as well as historical barrel production was derived from Brewers Association data and web activity. While extensive, not all craft breweries in Texas report barrel production to the Brewers Association; historical barrel production is based upon reported information provided. For the purpose of this study, CBRE Research analyzed the historical data of breweries that are currently in operation, and did not consider breweries that have closed or declared bankruptcy from 2005-present.

Square footage data was derived utilizing several sources, including county appraisal districts, CoStar and Xceligent commercial real estate information servicers, historical media sources, and Google Earth. The prime source of information for this analysis came directly from the brewers themselves; CBRE Research communicated directly with multiple brewery representatives and owners, as well as utilized brewery web and social media presences to gather and interpret the data presented.

Figure 6: Market Share Of Craft Breweries by Classification



Source: CBRE Research, Brewers Association.

Figure 7: Top Producing Texas Breweries

Top Producing Texas Breweries	Barrels Prod., 2016
Spoetzl Brewery	604,200
Real Ale Brewing Co.	59,435
Saint Arnold Brewing Co	56,763
Deep Ellum Brewing Co	33,100
Rahr and Sons Brewing Co	19,500
Austin Beerworks	18,000
Independence Brewing	15,500
Live Oak Brewing Co.	15,000
Southern Star Brewing	12,800
(512) Brewing Co.	11,000
Thirsty Planet Brewing Co.	11,000
Lakewood Brewing Co	10,597
8th Wonder Brewery	10,000

Source: CBRE Research, Brewers Association reported production for 2016.

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