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A Room with a Brew: A Comparative Look at Homebrewing Laws in Japan & the United States

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A Room with a Brew: A Comparative Look at Homebrewing Laws in Japan & the United States

CHRISTOPHER J. FRAGA*

Following the enactment of Prohibition, it took the United States almost four decades to legalize homebrewing. Subsequently, the nation experienced a booming interest in beer. And not just beer, but good beer. Drinkers found themselves invested in both quality and variety. This interest has matured into the craft beer industry. Even in holdover states, where state laws prohibited homebrewing far past 1979, the craft beer industry has experienced near exponential growth following the legalization of homebrewing. This has resulted in significant economic implications. Given these considerations, nations with restrictive homebrewing laws, like Japan, should consider easing them. When specifically applied to Japan’s declining beer industry, a similar approach could produce similar results.

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INTRODUCTION

When confronted with dwindling church attendance, Reverend Stuart Craddock, the rector of St. Wulfram’s Church in Grantham, England, found an age-old solution: beer.¹ In hosting the “Land of Hops and Glory” beer festival at the thousand-year-old church (and serving ales such as Black Mass—alcohol content: 6.66%), Reverend Craddock tapped into eight thousand years of human history.² And it seems to have worked. Over the course of three days, 2,000 people (in a town of only about 40,000)³ drank beneath Gothic arches of Lincolnshire limestone and the church’s 282-foot spire.⁴ Despite the strong association between beer and Middle Ages monasticism,⁵ throughout the majority of man’s history with the beverage, production was small and intimate, primarily taking place not

¹ See Rob Curran, *Come to Church! There’s Beer*, WALL ST. J. (Dec. 20, 2016, 10:58 AM), <http://www.wsj.com/articles/whenthesanglicanchurchbells-ringitsbeeroclock1482249501>.

² See *id.*

³ See *Grantham*, ENCYCLOPÆDIA BRITANNICA (Oct. 9, 2013), <https://www.britannica.com/place/Grantham>.

⁴ See Curran, *supra* note 1; *Architecture*, PARISH CHURCH OF ST. WULFRAM GRANTHAM, <http://www.stwulframs.org.uk/architecture> (last visited Dec. 21, 2016).

⁵ See Christopher Barnes, *The Brewing Monks: A Brief History of the Trappist Order and Monastic Brewing*, I THINK ABOUT BEER (May 9, 2013),

in the house of God, but the home of the profane.⁶ While the realities of industrialization and economies of scale may have moved the majority of beer production into factories, the “ancient homespun industry” of homebrewing has experienced a renaissance in the twenty-first century.⁷

Having thus begun in the United Kingdom, this Note seeks to compare the homebrewing laws of two other nations: the United States and Japan.⁸ Part I provides the necessary background for properly discussing a subject as serious as beer. Part II reviews homebrewing in the United States, using Florida as a case study for contemporary homebrewing laws. Part III explores the history of beer in Japan and current regulations. Part IV examines the potential benefits of having more lenient homebrewing laws. While these benefits are generally applicable, this Note’s focus is specifically on Japan. Finally, this Note concludes with a brief summation and some closing thoughts.

<https://ithinkaboutbeer.com/2013/05/09/the-brewing-monks-a-brief-history-of-the-trappist-order-and-monastic-brewing>.

⁶ See Eline Poelmans & Johan F. M. Swinnen, *A Brief Economic History of Beer*, in *THE ECONOMICS OF BEER* 3, 6 (Johan F. M. Swinnen ed. 2011).

⁷ Jonathan Wells, *How Britain Became Hooked on Homebrew*, TELEGRAPH (Aug. 20, 2015, 6:30 AM), <http://www.telegraph.co.uk/men/the-filter/11803139/How-Britain-became-hooked-on-homebrew.html>.

⁸ While this Note’s focus is on American homebrewing laws, these are representative of those found in most Western nations. See *Homemade Alcohol*, ALCOHOLREHAB.COM, <http://alcoholrehab.com/alcoholism/homemade-alcohol> (last visited Jan. 18, 2017) [hereinafter *Homemade Alcohol*]. In each, the brewing of beer and wine for personal use is allowed, while the sale is restricted, with some sort of limit on volume per household per year. *Id.* The exceptions are the U.K. and Poland, where homebrewers can legally produce an unlimited amount of beer. See *id.* (although British and Polish brewers remain at the mercy of other *significant* factors such as space, time, and money). In Canada (as in the U.S.), homebrewing is subject to local laws, but those of provinces in place of states. *Id.* In most of these Western countries, home distillation is illegal. *Id.* Again, two exceptions exist: home distillers in both New Zealand and the Czech Republic can legally produce a small amount of liquor for personal consumption. See *id.* (subject to the same additional considerations as British and Polish homebrewers). For an excellent Note advocating for the legalization of home distillation in the United States, see Mark Norris, Note, *From Craft Brews to Craft Booze: It’s Time for Home Distillation*, 64 CASE W. RES. L. REV. 1341, 1358 (2014).

I. BACKGROUND

This section begins with a brief description of what beer is. It then traces the history of the beverage from its origins as a happy accident in our distant past through the “invention” of modern beer, the commercialization of the brewing industry, and the first forms of government regulation. This section closes with a look at two contemporary methods of producing homebrew (one basic and one advanced).

A. *What Is Beer?*

Isaac Newton wrote that “[t]ruth is ever to be found in simplicity,”⁹ and beer is simple. At its most basic, beer is a combination of four essential ingredients: water, malted barley, hops, and yeast.¹⁰ By immersing the malted barley in water and regulating the temperature, the naturally occurring enzymes within the barley convert the grain’s starches into sugars.¹¹ In turn, microbial yeast (specifically *Saccharomyces cerevisiae* and *S. uvarum*) convert these sugars into carbon dioxide and alcohol through a process known as fermentation.¹² Hops, the green flower of the *humulus lupulus* plant, serves three purposes: it provides bitterness (balancing the malt’s sweetness); it stabilizes a beer’s foam “head”; and it acts as a preservative, inhibiting spoilage.¹³ The resulting combination is, in the words of someone other than Benjamin Franklin, “proof God loves us, and wants us to be happy.”¹⁴

⁹ FRANK E. MANUEL, *THE RELIGION OF ISAAC NEWTON* 120 (1974).

¹⁰ CHARLIE PAPAIZIAN, *THE COMPLETE JOY OF HOME BREWING* 12 (3d ed. 2003).

¹¹ *Id.*

¹² *See id.* at 13–14; CHARLES W. BAMFORTH, *BEER: TAP INTO THE ART AND SCIENCE OF BREWING* 141, 144 (2d ed. 2003).

¹³ *See* PAPAIZIAN, *supra* note 10, at 13; TOM ACITELLI, *THE AUDACITY OF HOPS: THE HISTORY OF AMERICA’S CRAFT BEER REVOLUTION* 36 (2013).

¹⁴ Dave Burkhart, *Say What? Says Who? Benjamin Franklin on Beer – or Not*, ANCHOR BREWING BLOG (Feb. 29, 2012, 8:02 PM), <https://www.anchorbrewing.com/blog/say-what-says-who-benjamin-franklin-on-beer-or-not> (explaining that while Franklin did enjoy beer, he was primarily a wine drinker, and this popularly-attributed quote likely arose from a mistranslation of a letter Franklin wrote to a friend in 1779, praising, of all things, wine).

B. *The Most Humble Origins*

While the saying goes that on the eighth day God created whiskey, beer could not have been far behind.¹⁵ Among the ancient Egyptians, where no meal (be it a farmer's or a pharaoh's) was complete without beer, the agricultural god Osiris was credited with its invention.¹⁶ Less divine explanations suggest that man's first consumption of fermented beverages was likely accidental.¹⁷ Several types of fermentable sugars (sucrose, glucose, fructose, and possibly lactose) were available to pre-Neolithic peoples from raw sources including rice, honey, fruits (such as the hawthorn fruit or grape), tree sap, and animal milk.¹⁸ Allowed to spoil, these would have naturally fermented as a result of ever present wild yeast and produced a variety of alcohols, including ethanol.¹⁹

As ancient peoples abandoned a nomadic lifestyle in favor of a more settled one, they began the process of cultivating and domesticating wild grasses to produce the wheat, barley, rye, oats, rice, and maize we know today.²⁰ In doing so, they gained access to a new fermentable sugar: maltose.²¹ The predominating theory suggests a likely connection between bread production and the initial fermentation of these grains.²² Resulting from a combination of rain and inadequate storage, stockpiles of grain may have gotten wet and germinated.²³ During germination, starches found within grain seeds enzymatically broke down into maltose.²⁴ Attempts to dry these

¹⁵ Assuming we ignore Martin Luther's famous exultation that "Beer is made by men, Wine by God." MARK PHILLIPS, *SWALLOW THIS: THE PROGRESSIVE APPROACH TO WINE* 299 (2d ed. 2016).

¹⁶ See BAMFORTH, *supra* note 12, at 25 (quoting Delwen Samuel, *Fermentation Technology 3,000 Years Ago—The Archaeology of Ancient Egyptian Beer*, *SOC'Y FOR GEN. MICROBIOLOGY Q.*, 3–5 (Feb. 1997)). *But see* Poelmans & Swinnen, *supra* note 6, at 6 (stating that the Egyptians associated brewing with female domesticity, and considered the goddess Hathor to be the "inventress of brewing").

¹⁷ See IAN S. HORNSEY, *A HISTORY OF BEER AND BREWING* 1 (2003).

¹⁸ See Patrick E. McGovern et al., *Fermented Beverages of Pre- and Proto-Historic China*, 101 *PNAS* 17593, 17593 (2004); HORNSEY, *supra* note 17, at 6.

¹⁹ HORNSEY, *supra* note 17, at 1, 4.

²⁰ See *id.* at 8–9.

²¹ See *id.* at 8.

²² See BAMFORTH, *supra* note 12, at 26.

²³ See *id.*

²⁴ See HORNSEY, *supra* note 17, at 13.

grains through the application of heat to stop the process of germination would have produced a version of the grain that not only tasted better than the raw form, but was also nutritionally advantageous.²⁵

While initially this “sprouted grain” would have been used exclusively to make dough for bread, it was later discovered that the same dough could be thinned with water and heated to produce a beverage.²⁶ One of the earliest recipes for this type of drink was found carved on Mesopotamian clay tablets dating back to 6,000 B.C.E.²⁷ This ancient brewing process had few requirements: “a supply of water; a supply of grain . . . ; a means of crushing the grain; a fire, with a supply of fuel; a vessel suitable for mixing crushed grain and hot water . . . ; and containers for collecting, and maybe storing the end product.”²⁸ This process was performed in the home.²⁹ The resulting beverage would have had an alcoholic content of only 0.5–2%.³⁰ By contrast, modern beer has an average strength of 5% alcohol by volume (ABV).³¹

The ancient Egyptian version of this process involved mixing one part flour to ten parts water, heating the mixture for twenty-four hours and then allowing it to ferment for another twenty-four hours.³² A variety of plants—such as dates, mandrake, safflower,

²⁵ See BAMFORTH, *supra* note 12, at 26–27; see also HORNSEY, *supra* note 17, at 11 (arguing that “the domestication of cereals was a result of the discovery that the processing of grain by germination and fermentation served to improve the human diet.” However, “[t]he ‘improvement’ . . . would almost certainly have been in respect of taste, since it is highly unlikely that the enhanced nutritional value of fermented cereals was a factor when decisions about fermentation were being made around 10,000 BC.”). See also McGovern et al., *supra* note 18, at 17593.

²⁶ BAMFORTH, *supra* note 12, at 27.

²⁷ See Poelmans & Swinnen, *supra* note 6, at 4.

²⁸ HORNSEY, *supra* note 17, at 16.

²⁹ See Poelmans & Swinnen, *supra* note 6, at 4.

³⁰ See HORNSEY, *supra* note 17, at 8.

³¹ See BAMFORTH, *supra* note 12, at 25; see also Bo McMillan, *Craft Beers Get Heavy . . . on the Alcohol*, CNBC (Aug. 8, 2015, 2:00 PM), <http://www.cnbc.com/2015/08/07/craft-beers-get-heavy-on-the-alcohol.html> (noting that Americans have begun to favor more alcoholic beers in recent years, with the average craft beer containing 5.9% ABV).

³² HORNSEY, *supra* note 17, at 8.

and additional spices—would have been used as flavoring agents.³³ The resulting drink would have been opaque, frothy, and (as a result of the simultaneous growth of yeasts and lactic acid bacteria) highly carbonated, containing minimal amounts of alcohol.³⁴ As such, it was unlikely to cause intoxication.³⁵ A similar process was likely used by other ancient peoples.³⁶

C. *From Monasticism to Mercantilism: Beer in the Middle Ages*

Throughout the Middle Ages, brewers experimented with a variety of flavoring agents, including bog myrtle, coriander, rosemary, and yarrow.³⁷ More exotic ingredients included caraway, pepper, pine, potato leaves, spruce, and tobacco.³⁸ Though hops had been cultivated since the second century C.E.,³⁹ Germans did not begin to use it as a flavoring agent until the eighth century.⁴⁰ From there, the idea caught on. By 1268, French brewers were using hops.⁴¹ Not long after, the first hopped-beer reached the British Isles by way of a consignment ordered by a group of Dutch merchants unable to accustom themselves to the overly sweet English ale.⁴²

Prior to the introduction of hops into Medieval brewing, brewers relied on a combination of high concentrations of alcohol and sugar to inhibit the growth of microorganisms.⁴³ Due to its strong antiseptic properties, hops allowed for a thinner and weaker beer.⁴⁴

³³ See *id.* at 65 (quoting EUGEN STROUHAL, *LIFE OF THE ANCIENT EGYPTIANS* 128 (1992)).

³⁴ *Id.* at 8.

³⁵ *Id.*

³⁶ See *id.* at 117–18 (“Among those ancient peoples known to be beer-drinkers were the Hittites, Cilicians, Hebrews, Philistines, Thracians, Illyrians, Armenians, Pannonians, Phrygians, Syrians, Urartians, and Scythians.”).

³⁷ See BAMFORTH, *supra* note 12, at 109.

³⁸ See *id.*

³⁹ See *id.*

⁴⁰ See HORNSEY, *supra* note 17, at 304.

⁴¹ See *id.* at 294 (quoting Louis IX, “Nothing shall enter into the composition of beer but good malt and hops.”).

⁴² *Id.* at 303–04.

⁴³ BAMFORTH, *supra* note 12, at 110.

⁴⁴ *Id.*

At the same time, brewing began moving from the home to the public sphere.⁴⁵ Under Charlemagne, a loose confederation of Germanic tribes living in the area of modern Belgium and France expanded throughout Italy, Germany, and Spain, building monasteries along the way.⁴⁶ Large monasteries were “nearly always” centers of brewing.⁴⁷ Consequently, “monastic brewing” spread throughout the British Isle, Germany, Scandinavia, and Switzerland.⁴⁸ As many as 500 monasteries were involved in brewing beer, though the process was especially popular among the Benedictines.⁴⁹ These monks brewed beer not only for their own consumption, but also to provide to pilgrims and the poor.⁵⁰ Even so, “[m]ost beer was undoubtedly still made at home.”⁵¹

The wide-scale fourteenth century disruption of the Black Death (1347–52 C.E.) gave way to the economic growth of the fifteenth century and a subsequent increase in demand for beer.⁵² A growing public awareness of the dangers associated with drinking polluted water contributed to a preference for beer.⁵³ As a result of this in-

⁴⁵ See RICHARD W. UNGER, *BEER IN THE MIDDLE AGES AND THE RENAISSANCE* 26 (2004).

⁴⁶ See Ian Cheney, *A Bright Spot in the Dark Ages: How Charlemagne Almost Saved Western Civilization*, CONSTRUCTION, <http://constructionlitmag.com/culture/bright-spot-dark-ages-how-charlemagne-almost-saved-western-civilization> (last visited July 1, 2017).

⁴⁷ UNGER, *supra* note 45, at 26.

⁴⁸ Poelmans & Swinnen, *supra* note 6, at 7.

⁴⁹ BAMFORTH, *supra* note 12, at 34.

⁵⁰ *Id.* See Barnes, *supra* note 5; UNGER, *supra* note 45, at 27–28 (describing St. Gall, a monastery featuring three separate breweries: “[o]ne brewery produced beer for the guests, a second for the brothers in the monastery, and the third for pilgrims and the poor. The guests, noblemen, and royal officials got a better beer, made from wheat and barley, while the others had to be satisfied with beer made from oats. The design of the three brewhouses was essentially the same, but there were differences in size. The brewery for the pilgrims and paupers was only a little more than half of the size of that for the brothers.”).

⁵¹ UNGER, *supra* note 45, at 27.

⁵² Poelmans & Swinnen, *supra* note 6, at 10.

⁵³ See Ignazio Cabras & David M. Higgins, *Beer, Brewing, and Business History*, 58 *BUS. HIST.* 609, 612–13 (2016).

creased demand, commercial breweries began to displace monasteries as the center of the brewing industry.⁵⁴ With this shift, it is perhaps not surprising that this period also saw a rise in widespread government regulation of the brewing industry.⁵⁵

D. “Legalizing” Beer

Some of the earliest beer laws sought to regulate the composition of the brew.⁵⁶ Bavaria’s beer law (which later evolved into Germany’s famous “Reinheitsgebot” or “purity law”) is one of the oldest-known food laws.⁵⁷ Under that decree, beer could contain only barley, hops, and water.⁵⁸ The law made no mention of yeast because at the time it had yet to be discovered.⁵⁹ In his piece on the Reinheitsgebot, economist Frank van Tongeren argues that in addition to regulating composition, this law served several other purposes:

- (1) Consumer protection: it kept beer free from additives and often unhealthy ingredients, such as rushes, roots, mushrooms, and animal products.
- (2) Price regulation: it set maximum prices depending on the season (a low price between 23 April and 29 September, and twice that price during the rest of the year).
- (3) Guild protection: it created an entry barrier into the sector by setting a potentially cost-increasing standard.
- (4) Agricultural policy: it had direct as well as indirect market effects on grain prices by diverting wheat into bread making, in combination with setting maximum prices in the downstream beer industry.

⁵⁴ See UNGER, *supra* note 45, at 36.

⁵⁵ See Poelmans & Swinnen, *supra* note 6, at 10–11.

⁵⁶ See *id.* at 10–11.

⁵⁷ See Jenny Gesley, *500 Year Anniversary of the Bavarian Beer Purity Law of 1516 (“Reinheitsgebot”)*, IN CUSTODIA LEGIS: L. LIBR. OF CONG. BLOG (Apr. 21, 2016), <https://blogs.loc.gov/law/2016/04/500-year-anniversary-of-the-bavarian-beer-purity-law-of-1516-reinheitsgebot>.

⁵⁸ Betsy Mason, *April 23, 1516: Bavaria Cracks Down on Beer Brewers*, WIRED (Apr. 23, 2010, 12:00 AM), <https://www.wired.com/2010/04/0423deutsche-reinheitsgebot-german-beer-purity-law>.

⁵⁹ See *id.*

This kept overall demand for the relatively expensive wheat lower and reduced wheat prices.⁶⁰

Other laws fixed the price of beer and levied a variety of taxes.⁶¹ Still, throughout the next several hundred years, homebrewers remained free to carry on their craft without government regulations.⁶² Among those Americans who chose to exercise this freedom were several men well known for their exercise of freedom: George Washington, Thomas Jefferson, and Benjamin Franklin.⁶³

E. Contemporary Homebrewing

The exact process of brewing can be as simple, or complex, as desired by the individual homebrewer.⁶⁴ As two illustrative examples, this section outlines one method of homebrewing appropriate for the beginner and another appropriate for homebrewers interested

⁶⁰ Frank van Tongeren, *Standards and International Trade Integration: A Historical Review of the German 'Reinheitsgebot,'* in *THE ECONOMICS OF BEER* 51, 52 (Johan F.M. Swinnen ed., 2011) (numeration added).

⁶¹ See Poelmans & Swinnen, *supra*, note 6, at 10–11.

⁶² See Jeff Flowers, *The History of Homebrewing: How Beer-Making Has Evolved Over the Years*, KEGERATOR.COM (Feb. 7, 2014), <https://learn.kegerator.com/history-of-homebrewing>.

⁶³ See Brad Jackson, *George Washington: Founding Father, Savior of Freedom, Home Brewer*, FEDERALIST (Sep. 23, 2016), <http://thefederalist.com/2016/09/23/george-washington-founding-father-savior-freedom-home-brewer/>. As a part of his article, Jackson includes a hand-written recipe for beer by Washington currently in the possession of the New York Public Library: "Take a large Siffer [Sifter] full of Bran Hops to your Taste. Boil these 3 hours then strain out 30 Gall[ons] into a cooler put in 3 Gall[ons] Molasses while the Beer is Scalding hot or rather draw the Melasses [*sic*] into the cooler & St[r]ain the Beer on it while boiling Hot. [L]et this stand till it is little more than Blood warm then put in a quart of Yea[s]t if the Weather is very Cold cover it over with a Blank[et] & let it Work in the Cooler 24 hours then put it into the Cask—leave the bung open till it is almost don[e] Working—Bottle it that day Week it was Brewed." *Id.* Jackson further notes that Franklin was particularly known for brewing spruce beer, and Jefferson first brewed at Monticello in 1812. *Id.* Washington's cousin, entrusted to manage Mount Vernon during the Revolutionary War, left notes on brewing a persimmon beer. Stanley Kaminski, *The Complete History of Homebrew*, HOME BREW SUPPLY, <https://www.homebrewsupply.com/learn/the-complete-history-of-homebrew.html> (last visited July 3, 2017).

⁶⁴ See generally PAPA ZIAN, *supra* note 10, at 11–292 (providing sets of instructions for the beginner, intermediate, and advanced homebrewer).

in exerting greater control over their finished product. Either can produce excellent beer.⁶⁵

1. EXTRACT BREWING

According to Charlie Papazian, a recognized authority on homebrewing, “[b]rewing your own beer is as easy as opening a can of ingredients and boiling water.”⁶⁶ At its most basic, contemporary homebrewing requires only a few pieces of equipment.⁶⁷ Likewise with ingredients. Brewing beer requires just four ingredients: (1) five to six pounds of hop-flavored malt extract; (2) water; (3) ale yeast; and (4) corn sugar.⁶⁸

The key ingredient is malt extract.⁶⁹ While more advanced brewing may involve malting barley and “mashing” grains at specific temperatures to allow for the conversion of starches to sugars, a beginner can avoid these steps through the use of malt extract.⁷⁰ Malt extract is “simply malted barley that has been processed into a sweet malt ‘soup’” before having “70 to 80 percent of the water . . . carefully evaporated, leaving for the homebrewer a concentrated syrup.”⁷¹ Many times, this syrup comes with the hops already added, as in the ingredients list above.⁷²

The actual brewing process is similarly straightforward.⁷³ All of the equipment that will come into contact with the beer is sanitized

⁶⁵ See *id.* at 15. Anyone interested in learning more about the process of homebrewing should not hesitate to read Papazian’s book. While some of the information presented is somewhat outdated, it is still considered by many to be the “Bible” of homebrewing and has likely introduced scores of homebrewers to the hobby.

⁶⁶ *Id.* at 11.

⁶⁷ See *id.* at 15–16 (Extract brewing requires (1) a three to four-gallon pot; (2) a fermentation chamber (with lid); (3) a plastic bucket (or even trash pail) used for bottling the beer; (4) plastic hose, with hose clamp; (5) a rubber stopper; (6) an airlock; (7) a thermometer; (8) a bottle capper; (9) sixty empty twelve-ounce beer bottles; and (10) bottle caps.).

⁶⁸ *Id.* at 17.

⁶⁹ See *id.* at 14–15.

⁷⁰ See *id.*

⁷¹ *Id.* at 15. A typical five-gallon recipe may call for between three and a half and twelve pounds of malt extract depending on the style and desired ABV. See *id.* at 154–65.

⁷² *Id.* at 15.

⁷³ See generally *id.* at 18–35.

in a weak solution of bleach and water.⁷⁴ Using a large pot, the malt extract is dissolved in a gallon and a half of water and boiled for forty-five minutes.⁷⁵ The mixture of malt extract and hot water is added to a fermentation chamber along with enough cold water to make five gallons of total volume.⁷⁶ This unfermented beer is known as “wort.”⁷⁷ The temperature is allowed to cool to below seventy-five degrees Fahrenheit before the yeast is added.⁷⁸ A rubber stopper and airlock are used to seal the fermentation chamber (to avoid contamination), and the beer is allowed to ferment for one to two weeks.⁷⁹ Once fermentation is complete, the plastic bucket, hose, bottles, and caps are sanitized.⁸⁰ The fermented beer, along with a small amount of “priming” sugar, is siphoned into the plastic bucket.⁸¹ This small addition of sugar allows the remaining yeast to carbonate the beer.⁸² The beer is then siphoned into the individual bottles before being capped and allowed to age for ten days.⁸³ And then you have beer.

2. ALL-GRAIN BREWING

The most important distinction between all-grain brewing and the simpler extract brewing described above is, as the name implies, the exclusive use of grains in place of malt extract.⁸⁴ The brewer relies on the naturally occurring enzymes found within the ingredi-

⁷⁴ *Id.* at 18–20 (a solution of one to two ounces of bleach for every five gallons of cold water is sufficient for this purpose).

⁷⁵ *Id.* at 18.

⁷⁶ *Id.* at 18, 20.

⁷⁷ *Id.* at 46.

⁷⁸ *Id.* at 18, 20.

⁷⁹ *Id.* at 18, 24–26.

⁸⁰ *Id.* at 18, 26.

⁸¹ *Id.* at 18, 26, 29.

⁸² *Id.* at 18, 26–28.

⁸³ *See id.* at 18, 29, 31, 33. It’s also possible to avoid bottling entirely by kegging the beer. *See An Introduction to Kegging Homebrew*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/how-to-brew/an-introduction-to-kegging-homebrew> (last visited July 1, 2017).

⁸⁴ *See PAPAZIAN, supra* note 10, at 242. A typical five-gallon recipe may call for between six and ten pounds of grains, depending on the style and desired ABV. *See id.* at 292–314.

ents to break down proteins into nutrients for the yeast, and the soluble starches into both fermentable and unfermentable sugars.⁸⁵ This process is known as “mashing.”⁸⁶

As might be expected, this additional process requires more equipment.⁸⁷ Regarding ingredients, all-grain brewing needs: (1) the malted barley which will make up much of the grain bill; (2) adjunct starches, such as barley, oats, rice, rye, or wheat (used to achieve “certain characteristics such as flavor, visual appearance and stability” in the finished beer);⁸⁸ (3) hops; (4) water; and (5) yeast.⁸⁹

Though multiple processes are available for mashing malted barley to produce wort,⁹⁰ the infusion mash, arguably the most straightforward, will be discussed. For every pound of grain in the recipe, one quart of water is heated to approximately 168 degrees.⁹¹ The barley and adjunct starches are added, causing the overall temperature to drop to between 150 and 158 degrees, the temperatures at which the enzymatic reactions occur.⁹² This temperature is maintained for thirty to sixty minutes, allowing the available starches to convert to fermentable and unfermentable sugars before the temperature is raised to 170 degrees in order to deactivate the enzymes.⁹³ A “lauter-tun” then functions as an oversized sieve, separating the spent grain from the wort.⁹⁴ The wort is then brought to a boil,⁹⁵ hops are added, and the mixture is boiled for an hour.⁹⁶ The wort is then chilled as quickly as possible (so as to avoid contamination) by

⁸⁵ *See id.* at 242.

⁸⁶ *See id.* at 243.

⁸⁷ *See generally id.* (All-grain brewing requires: (1) a larger pot to accommodate the larger volume of water associated with this form of brewing; (2) a container to hold the grain during mashing (known as a “mash-tun”); (3) a system for separating the spent grain from the sweet liquid (known as a “lauter-tun,” or sparging system); and (4) a “wort-chiller” to quickly cool the hot wort.).

⁸⁸ *Id.* at 251.

⁸⁹ *See id.* at 251–64.

⁹⁰ *See id.* at 280.

⁹¹ *See id.* at 282 (This ratio of water to grain accounts for volume lost due to grain absorption, evaporation, and sediment accumulation.).

⁹² *Id.* at 282–83.

⁹³ *Id.* at 282, 286.

⁹⁴ *See id.* at 286.

⁹⁵ *Id.* at 294.

⁹⁶ *Id.* at 294.

passing it through a portion of copper tubing (the wort-chiller) submerged in cold water on its way to the sanitized fermenter.⁹⁷ Yeast is then pitched and fermentation and bottling occurs as with extract brewing.⁹⁸

II. HOMEBREWING IN THE UNITED STATES

This section begins with an examination of the history of brewing in this nation, a history which (as discussed above) predates its founding.⁹⁹ From there, this Note traces the development of larger scale commercial breweries, and the disaster that was the “Noble Experiment” of Prohibition. It then goes on to discuss the legalization of homebrewing in the United States, with a look at the federal excise tax exemption for homebrew, and concludes using Florida as a case study for contemporary American homebrewing laws.

A. *The History of American Brewing*

The Incas had been fermenting a native beverage using malted corn long before Spanish settlers founded a brewery near Mexico City in the mid-sixteenth century.¹⁰⁰ The Dutch settlers of New Amsterdam were not far behind, with Adrian Block founding a brewery comprising of “little more than a log hut” in 1613.¹⁰¹ By 1632, Governor Peter Minuit of New Netherlands had opened the first public brewery.¹⁰²

When King Charles II seized New Amsterdam in 1664, renaming it New York, he promulgated a set of laws which came to be known as “the Duke of York’s Laws” (“the Duke’s Laws”).¹⁰³ These

⁹⁷ *Id.* at 278.

⁹⁸ *See id.* at 294.

⁹⁹ Despite this long history, homebrewing remains as popular as ever with more than 1.2 million Americans currently brewing their own beer. *American Homebrewers Association*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/membership/american-homebrewers-association> (last visited Jan. 18, 2017) (an organization, founded by Charlie Papazian in 1978, which counts 46,000 of those homebrewers as members).

¹⁰⁰ BAMFORTH, *supra* note 12, at 35.

¹⁰¹ *Id.*

¹⁰² KEITH KRAWCZYNSKI, *DAILY LIFE IN THE COLONIAL CITY* xvi (2013). It would be two more years until Samuel Cole opened the first tavern in British North America. *Id.*

¹⁰³ *See* BAMFORTH, *supra* note 12, at 35–36.

laws sought to regulate (in alphabetical order) many aspects of colonial life.¹⁰⁴ Perhaps not surprisingly, this included brewing.¹⁰⁵ Under the Duke's Laws, the production of beer for sale was limited to "only such as are known to have Sufficient Skill and knowledge in the art or Mystery [*sic*] of a Brewer."¹⁰⁶ The Duke's Laws further provided a civil cause of action for recovery against anyone selling inferior beer.¹⁰⁷

Despite increases in commercial brewing from the Middle Ages onward, and the accompanying regulation, during the American Revolution brewing still occurred primarily within the home.¹⁰⁸ Only the wealthiest colonists were able to afford heavily taxed beer imported from England.¹⁰⁹ Even with this limited market, beer became embroiled in revolutionary politics.¹¹⁰ As a result of growing colonial discontent over English taxation, boycotts of beer (as well as the growing popularity of other beverages including coffee, tea, rum, wine, and whiskey) led to reduced demand.¹¹¹ By 1810, yearly per capita consumption of commercially brewed beer was less than a gallon, with only 132 operational breweries in the newly formed United States.¹¹² This trend proved short-lived.¹¹³ The nineteenth century ushered in a huge growth for the American beer industry.¹¹⁴ By 1873, the number of breweries increased to a staggering 4,131.¹¹⁵

¹⁰⁴ See generally THE HIST. SOC'Y OF THE N.Y. CTS., THE DUKE OF YORK'S LAWS, 1665–75, <http://www.nycourts.gov/history/legal-history-new-york/documents/charters-duke-transcript.pdf> (last visited Dec. 21, 2016).

¹⁰⁵ See *id.*

¹⁰⁶ *Id.*

¹⁰⁷ See *id.*

¹⁰⁸ See Hannah Jeppsen, Comment, *Let My Brewers Go! A Look at Home Brewing in the U.S.*, 10 J. FOOD L. & POL'Y 137, 139 (2014) (citing STANLEY WADE BARON, BREWED IN AMERICA: A HISTORY OF BEER AND ALE IN THE UNITED STATES 31 (1962)).

¹⁰⁹ *Id.* (citing WADE BARON, *supra* note 108, at 31).

¹¹⁰ See *id.* at 139. (citing WADE BARON, *supra* note 108, at 90).

¹¹¹ *Id.* at 139 (citing WADE BARON, *supra* note 108, at 56–122).

¹¹² *Beer History: The American Beer Story*, CRAFTBEER.COM, <http://www.craftbeer.com/the-beverage/history-of-beer/the-american-story> (last visited Jan. 10, 2017) [hereinafter *Beer History*].

¹¹³ See *id.*

¹¹⁴ See *id.*

¹¹⁵ *Id.* As of December 31, 2016, there were 7,190 Alcohol and Tobacco Tax and Trade Bureau permitted breweries in the United States. *U.S. Beer Industry*,

The turn of the century saw a reduction in the number of small-town breweries, as a few industry revolutionaries took advantage of technological advances, such as the railroads, to focus on nationwide distribution.¹¹⁶ These extremely wealthy “beer barons” came to dominate the market.¹¹⁷ Their names remain familiar today: Anheuser, Busch, Miller, Coors, and Pabst.¹¹⁸ However wealthy, the beer barons were unable to contend with the social pressures of the Temperance Movement, and the resulting Eighteenth Amendment to the United States Constitution, by which the federal government sought to dismantle what was then the nation’s sixth largest industry.¹¹⁹

Under the Eighteenth Amendment, the “manufacture, sale, or transportation of intoxicating liquors” within the United States, as well as the importation and exportation of said beverages, became illegal.¹²⁰ The Amendment, as implemented through the Volstead Act, defined intoxicating liquors as those containing .5% ABV or

NAT’L BEER WHOLESALERS ASS’N, <https://www.nbwa.org/resources/industry-fast-facts> (last visited July 3, 2017) [hereinafter *U.S. Beer Industry*].

¹¹⁶ Jeppsen, *supra* note 108, at 140 (citing WADE BARON, *supra* note 108, at 257–58). Particularly, the invention of ice cars on trains helped shift the beer industry from the local to the national.

¹¹⁷ *Id.* (citing WADE BARON, *supra* note 108, at 287–88).

¹¹⁸ *Id.* (citing WADE BARON, *supra* note 108, at 287–88).

¹¹⁹ See AMY MITTELMAN, BREWING BATTLES: A HISTORY OF AMERICAN BEER 85–86 (2008); see also *Beer History*, *supra* note 112.

¹²⁰ U.S. CONST. amend. XVIII, repealed by U.S. CONST. amend. XXI, § 1.

more.¹²¹ In separate cases, both this definition and the constitutionality of the Eighteenth Amendment were challenged in court.¹²² In 1920, the Supreme Court upheld both.¹²³

Perhaps unsurprisingly, Prohibition had a positive effect on homebrewing.¹²⁴ Over the decade of the 1920s, beer consumption rose by 25%.¹²⁵ By 1929, the Prohibition Bureau estimated homebrewers were brewing almost 700 million gallons of beer a year, almost as much as had been produced legally in 1919.¹²⁶ The necessary ingredients for making beer remained readily available to homebrewers.¹²⁷ While prior to Prohibition only 500 to 600 stores sold malt extract (ostensibly a “baking” ingredient), eight years into the “Noble Experiment” that number had flourished to over 100,000.¹²⁸ Among these were recognizable names such as Atlantic and Pacific (A & P), Kroger, and Piggly-Wiggly grocery stores.¹²⁹

¹²¹ See National Prohibition (Volstead) Act, Pub. L. No. 66-66, tit. 1, § 1, 41 Stat. 305, 305 (1919), *repealed by* U.S. CONST. amend. XXI. “Brewers and beer drinkers alike bristled at the low limit, which, according to one frustrated observer, was ‘less than the alcohol content of sauerkraut.’” Carl Miller, *We Want Beer: Prohibition and the Will to Imbibe - Part 1*, http://www.beerhistory.com/library/holdings/prohibition_1.shtml (last visited July 1, 2017).

¹²² See *Ruppert v. Caffey*, 251 U.S. 264, 281 (1920) (involving a challenge to Congress’ power to regulate “intoxicating liquors” in cases where they contain so little alcohol so as to be “not in fact intoxicating”); *Nat’l Prohibition Cases*, 253 U.S. 350, 351 (1920) (representing a consolidation of “seven cases here given one name for convenient reference involv[ing] the validity of the Eighteenth Amendment and of certain general features of the National Prohibition Act designed for its enforcement”).

¹²³ See *Nat’l Prohibition Cases*, 253 U.S. at 386. The Court concluded that while “there are limits beyond which Congress cannot go in treating beverages as within its power of enforcement,” Prohibition, “as embodied in the Eighteenth Amendment, is within the power to amend reserved by Article V of the Constitution.” *Id.* at 386–87.

¹²⁴ See Amy Jabloner, *Homebrewing During Prohibition*, BREW YOUR OWN (Dec. 1997), <http://byo.com/malt/item/839-homebrewing-during-prohibition>.

¹²⁵ *Id.*

¹²⁶ See Miller, *supra* note 121.

¹²⁷ See Jabloner, *supra* note 124.

¹²⁸ *Id.* During this time, some former breweries turned to selling malt extract to stay in business. See *1920’s Prohibition*, 1920-30.COM, <http://www.1920-30.com/prohibition> (last visited July 3, 2017).

¹²⁹ Jabloner, *supra* note 124.

Of the 450 million pounds of malt extract produced in 1927¹³⁰, an estimated 90% went toward the production of over 800 million gallons of beer.¹³¹ A further 25,000 stores, including Woolworth's, sold homebrewing equipment.¹³²

On paper, the legal consequences for homebrewing were somewhat severe.¹³³ Under the Volstead Act, the penalty was a fine of up to \$1,000, up to one year in prison, or both.¹³⁴ Enforcement was another issue entirely.¹³⁵ Courts were unwilling to issue warrants for the search of private homes suspected of being used for homebrewing unless there was evidence that on-sight sales were also occurring.¹³⁶ As a result of these legal difficulties, and a policy of targeting large-scale beer producers and those engaged in the more dangerous practice of home distillation, Prohibition agents largely ignored the activities of homebrewers.¹³⁷

¹³⁰ Kaminski, *supra* note 64. This number was up from 438 million pounds the prior year. *Id.* Similarly, 13 million pounds of hops were sold for “home baking” during a single year of Prohibition. *Id.*

¹³¹ See Jabloner, *supra* note 124.

¹³² *Id.*

¹³³ See National Prohibition (Volstead) Act, Pub. L. No. 66-66, ch. 85, tit. 1, § 1, 41 Stat. 305, 306 (1919), *repealed by* U.S. CONST. amend. XXI.

¹³⁴ *Id.* (declaring that “[a]ny . . . place of any kind where intoxicating liquor is sold, manufactured, kept for sale, or bartered . . . is hereby declared to be a public and common nuisance, and any person who maintains or assists in maintaining such public and common nuisance shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$100 nor more than \$1,000, or be imprisoned for not less than thirty days or more than one year, or both.”). A \$1,000 fine at the time Prohibition went into effect has an equivalent purchasing power to roughly \$13,000 today. CPI Inflation Calculator, BUREAU OF LABOR STAT., U.S. DEP’T OF LABOR, https://www.bls.gov/data/inflation_calculator.htm (last visited May 1, 2018).

¹³⁵ See Jabloner, *supra* note 124.

¹³⁶ See *United States v. Berkeness*, 275 U.S. 149, 153–156 (1927); *Carroll v. United States*, 267 U.S. 132, 145–147 (1925); *Bartos v. United States Dist. Court*, 19 F.2d 722, 728 (8th Cir. 1927) (Kenyon, J., concurring) (emphasis added) (explaining that “under the National Prohibition Act warrants to search a private dwelling cannot be issued except by the filing of an affidavit that such residence is being used for the sale of intoxicating liquor. Therefore a party having intoxicating liquor in his home is protected under the National Prohibition Act from any search thereof unless there is evidence of sales.”).

¹³⁷ See Jeppsen, *supra* note 108, at 141.

For those caught in the act of homebrewing, the consequences were often relatively minor.¹³⁸ For example, Nebraska lawyer Frank Bartos was disbarred after he was caught with seven hundred quarts of beer he had produced in his basement, ostensibly for his family's consumption.¹³⁹ Bartos appealed his subsequent disbarment.¹⁴⁰ In his concurrence, Judge Kenyon wrote that "[i]t is a matter of general knowledge . . . that intoxicating liquors are made in *many* of the homes of the country for the use of the family and guests" and labeled homebrewing a mere "technical" violation of the law.¹⁴¹ He noted that "[t]he offense of Bartos was possibly the mildest that could be committed under the National Prohibition Act, were it not for the large quantity of beer[.]"¹⁴² He did, however, concede that "seven hundred quarts of beer would indicate considerable capacity on the part of [Bartos'] family" to drink beer.¹⁴³ The court ruled in favor of Bartos who was subsequently readmitted to the Nebraska bar.¹⁴⁴

Prohibition remained the law of the land for another thirteen years before finally being brought to an end by the Twenty-first Amendment.¹⁴⁵ Beer historian Amy Mittelman argues that these two amendments are unique in American history: "[t]he first outlawed a legal industry and deprived thousands of business people of their livelihood"; and the second is the only amendment to ever repeal another.¹⁴⁶ Though the Twenty-first Amendment legalized the commercial production of beer, it did not legalize homebrewing.¹⁴⁷ While homemade wine was legalized, "through a stenographer's omission, the words 'and/or beer' never made it into the *Federal Register*."¹⁴⁸

¹³⁸ See Jabloner, *supra* note 124.

¹³⁹ *Bartos*, 19 F.2d at 722–723.

¹⁴⁰ *See id.* at 723.

¹⁴¹ *Id.* at 728 (Kenyon, J., concurring) (emphasis added).

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 727.

¹⁴⁵ See U.S. CONST. amend. XXI, § 1.

¹⁴⁶ MITTELMAN, *supra* note 119, at 99.

¹⁴⁷ PAPAZIAN, *supra* note 10, at 2.

¹⁴⁸ *Id.*

Again unsurprisingly, the passage of the Twenty-first Amendment, and the repeal of Prohibition, proved to be bad for the homebrewing industry.¹⁴⁹ The number of commercial breweries quickly recovered, and within a year, more than 700 breweries were in operation.¹⁵⁰ This was, however, to be a limited trend, as larger breweries leveraged economies of scale and bargaining power to force their smaller rivals out of business.¹⁵¹ By 1950, the number of breweries had shrunk by roughly half, with only 230 remaining a decade later.¹⁵² Along with a reduction in the number of breweries came a reduction in the number of styles of beer produced.¹⁵³

The industry had shifted to account for the growing preference of the American consumer for a light, pale lager.¹⁵⁴ British beer historian Ian Hornsey quipped that “[a] beer drinker in the 1970s could have been forgiven for thinking that there were only about half a dozen styles of beer brewed in Great Britain”¹⁵⁵ In the U.S., there were even fewer.¹⁵⁶

Amidst this bleak landscape, a change in homebrewing laws was about to kick off a renaissance in the American beer industry.¹⁵⁷ In February 1979, President Jimmy Carter signed into law a bill repealing federal restrictions on homebrewing beer.¹⁵⁸ The passage of the Twenty-first Amendment left the regulation of the beverage industry largely to the states.¹⁵⁹ The new federal homebrewing regulation embodied the same principle through deference to local laws concerning the legal drinking age:¹⁶⁰

Any adult may produce beer, without payment of tax,
for personal or family use and not for sale. An adult

¹⁴⁹ See Jeppsen, *supra* note 108, at 142.

¹⁵⁰ *Beer History*, *supra* note 112.

¹⁵¹ See *id.*; see also Tammy Lam, *Brew Free or Die? A Comparative Analysis of U.S. and E.U. Craft Beer Regulations*, 23 *CARDOZO J. INT’L & COMP. L.* 197, 203 (2014).

¹⁵² *Beer History*, *supra* note 112.

¹⁵³ See *id.*

¹⁵⁴ See Lam, *supra* note 151, at 202–03.

¹⁵⁵ HORNSEY, *supra* note 17, at 485.

¹⁵⁶ See *Beer History*, *supra* note 112.

¹⁵⁷ See PAPAZIAN, *supra* note 10, at 2–3.

¹⁵⁸ See H.R. 1337, 95th Cong. § 2(e) (1978).

¹⁵⁹ See Jeppsen, *supra* note 108, at 144; see also Lam, *supra* note 151, at 205.

¹⁶⁰ See 27 C.F.R. § 25.205 (2016).

is any individual who is 18 years of age or older. If the locality in which the household is located requires a greater minimum age for the sale of beer to individuals, the adult shall be that age before commencing the production of beer. This exemption does not authorize the production of beer for use contrary to State or local law.¹⁶¹

Under the new federal regulations, households with two or more adults could produce up to 200 gallons of beer annually.¹⁶² Households with a single adult could produce only 100 gallons.¹⁶³

Beyond developing a taste for “good beer,” homebrewers soon discovered they had the unique opportunity “to brew any style of beer ever brewed in the world”¹⁶⁴ The commercial beer industry quickly expanded to meet this new demand, and the early 1980s saw the advent of the first microbreweries.¹⁶⁵ While many of these early microbreweries have since outgrown that particular classification, they continue to produce quality beer in a variety of styles.¹⁶⁶ By 2015, small and independent craft breweries had grown to a 21% share of the entire beer market, with a 13% rise in volume over the previous year.¹⁶⁷ Consequently, state and federal governments have benefited from the millions of dollars in annual tax revenues generated by the craft beer industry.¹⁶⁸ In this way, the repeal of the federal excise tax on homebrewing has had a significant effect on the national economy and has resulted in the birth of an entirely new

¹⁶¹ *Id.* § 25.205(a).

¹⁶² *Id.* § 25.205(b)(1).

¹⁶³ *Id.* § 25.205(b)(2). This is just under half the amount Frank Bartos was caught with. *See Bartos v. United States Dist. Court*, 19 F.2d 722, 728 (8th Cir. 1927) (Kenyon, J., concurring).

¹⁶⁴ PAPAZIAN, *supra* note 10, at 3–4.

¹⁶⁵ *See id.* at 3 (explaining that “[b]reweries that commercially brew beer in quantities of less than fifteen thousand barrels per year are defined as microbreweries”).

¹⁶⁶ *See id.* at 3–4.

¹⁶⁷ Press Release, Brewers Ass’n, Small & Independent Brewers Continue to Grow Double Digits (Mar. 22, 2016), <https://www.brewersassociation.org/press-releases/small-independent-brewers-continue-grow-double-digits>.

¹⁶⁸ *See Norris, supra* note 8, at 1358.

beer industry.¹⁶⁹ As one expert put it: “most craft breweries get their start in someone’s home.”¹⁷⁰

B. *Modern Homebrewing in the United States*

While 1979 marked the end of the federal ban on homebrewing beer, individual states remained free to regulate homebrewing within their borders.¹⁷¹ Today, every state has chosen to legalize the practice (although Alabama waited until May 9, 2013 to finally join the rest of the nation).¹⁷² Individual state laws, however, vary widely and employ a wide range of specificity and vagueness.¹⁷³ Some states choose to regulate homebrewing based on volume caps.¹⁷⁴

¹⁶⁹ See PAPAZIAN, *supra* note 10, at 3.

¹⁷⁰ Caleb Houseknecht, *How Jimmy Carter Sparked the Craft Beer Revolution*, KEGWORKS, <https://www.kegworks.com/blog/how-jimmy-carter-sparked-the-craft-beer-revolution> (last visited Jan. 18, 2017).

¹⁷¹ See Adrian Lee, *Small Beer . . . Big Business*, EXPRESS (Jul. 7, 2014), <http://www.express.co.uk/life-style/food/487200/Home-brewed-beer-ale-business>.

¹⁷² ALA. CODE § 28-4B-1 (2016); see also *Homebrewing Rights: Statutes*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/homebrewing-rights/statutes> (last visited Jan. 16, 2017) [hereinafter *Homebrewing Rights: Statutes*]. Alabama was only slightly behind its more progressive neighbor, Mississippi, who legalized homebrewing on March 19, 2013. *Homebrewing is Legal in Alabama!*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/news/homebrewing-is-legal-in-alabama> (last visit June 29, 2017). In fairness to the Heart of Dixie, while the Mississippi law was passed first, that law did not go into effect until July 1, 2013. See *id.* The Alabama law went into immediate effect, making Mississippi the last state to legalize homebrewing. See *id.*

¹⁷³ See *Homebrewing Rights: Statutes*, *supra* note 172.

¹⁷⁴ See, e.g., *Homebrewing Rights: Alabama*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/homebrewing-rights/statutes/Alabama> (last visited Jan. 16, 2017) (explaining that Alabama law “limits production to 15 gallons per calendar quarter and possession at any time to 15 gallons”) [hereinafter *Homebrewing Rights: Alabama*]; *Homebrewing Rights: California*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/homebrewing-rights/statutes/California> (last visited Jan. 16, 2017) (explaining that California law mirrors the federally allowed amounts); *Homebrewing Rights: Kentucky*, AMERICAN HOMEBREWERS ASS’N, <https://www.homebrewersassociation.org/homebrewing-rights/statutes/Kentucky> (last visited Jan. 16, 2017) (explaining that Kentucky law defaults to 27 C.F.R. § 25.205 (2016)) [hereinafter *Homebrewing Rights: Kentucky*].

Others regulate whether or not the beer can be transported or shared.¹⁷⁵

C. *Florida: A Case Study of American Homebrewing Laws*

As an illustrative example, this section provides a brief overview of Florida's homebrewing law, one of the most comprehensive in the nation.¹⁷⁶ Under Florida Statute section 562.165 (last amended in 1983), any person twenty-one years of age or older “may produce beer for personal or family use, and not for sale, in the amounts provided . . . without payment of taxes or fees or without a license. The aggregate amount of such beer permitted to be produced” mirrors the federally allowed amounts.¹⁷⁷ Further, section 562.165 states that homebrewed beer “may be removed from the premises where made for personal or family use, including use at organized affairs, exhibitions, or competitions, such as homemakers' contests, tastings, or judgments.”¹⁷⁸

Section 562.165 is permissive.¹⁷⁹ While states are free to set lower limits on the amount of homebrew that can be legally pro-

¹⁷⁵ See, e.g., *Homebrewing Rights: Alabama*, *supra* note 174 (explaining that Alabama law “allows for transport of homemade beer . . . in amounts of no more than 10 gallons and only for organized events of homebrew competitions and judgments licensed by the Alcoholic Beverage Control Board as a special events retail license”); *Homebrewing Rights: Kentucky*, *supra* note 174 (explaining that Kentucky law does not allow for homebrew to be shared or gifted to anyone outside of the family).

¹⁷⁶ See *Homebrewing Rights: Florida*, AMERICAN HOMEBREWERS ASS'N, <https://www.homebrewersassociation.org/homebrewing-rights/statutes/florida> (last visited Jan. 16, 2017).

¹⁷⁷ FLA. STAT. § 562.165(1) (2017); 27 C.F.R. § 25.205(a) (2016).

¹⁷⁸ *Id.* § 562.165(4).

¹⁷⁹ *Cf.* ARK. CODE § 3-5-202(3) (limiting homebrew to 5% by weight); HAW. REV. STAT. § 281-3 (limiting production to the head of the family, for family use only); MICH. COMP. LAWS § 436.1207(c) (limiting production to twenty gallons per year); MINN. STAT. § 340A.101(12)(a) (defining “Home Brewing Equipment” as “portable equipment designed for use in home manufacturing of malt liquor in quantities of ten gallons or less”); OKLA. STAT. tit. 37, § 37-520A (requiring a permit from the Oklahoma Alcoholic Beverage Law Enforcement Commission); 3 R.I. GEN. LAWS § 3-1-3 (limiting “manufacture . . . for domestic use”); UTAH CODE § 32B-11-202 (limiting transportation from the home to 72 ounces “for each individual who is 21 years of age or older residing in the household” or, in the case of organized events where “fermented alcoholic beverages are judged as to

duced, Florida has opted instead for the federally allowed maximum.¹⁸⁰ Likewise, while some states place additional restrictions on the gifting, transportation, and locations in which homebrew can be consumed, Florida does not.¹⁸¹

III. RISING SUN, SETTING SUDS: HOMEBREWING IN JAPAN

Heading 7,461 miles east, we next focus on Japan. This section begins with an examination of the history of brewing in Japan. It starts with a review of early attempts at brewing European-style beer and the heavy influence played by the German brewing tradition. It then discusses the growing dominance of a few Japanese megabrewers that produce a very limited range of beer styles. Finally, it concludes with a study of homebrewing laws in Japan, which are primarily tax laws, and the reality of life for Japanese homebrewers.

A. *The History of Japanese Brewing*

Though more traditionally associated with sake, a beverage enjoyed since at least the third century,¹⁸² the Japanese have come to enthusiastically embrace beer.¹⁸³ The Japanese would have likely first encountered beer from Dutch merchants in the early nineteenth century.¹⁸⁴ Japanese homebrewing followed shortly after.¹⁸⁵ In his

taste and quality," 72 ounces per category entered, with a limit of three categories).

¹⁸⁰ See § 562.165(1); 27 C.F.R. §§ 25.205(b)(1)–(2) (2016).

¹⁸¹ See § 562.165; *c.f.* UTAH CODE § 32B-11-202.

¹⁸² See JAPAN SAKE & SHOCHU MAKERS ASS'N, A COMPREHENSIVE GUIDE TO JAPANESE SAKE 47 (2011), <http://www.nrib.go.jp/English/sake/pdf/guidesse01.pdf> (explaining that the oldest written account of Japanese sake comes from a Chinese text dated to that time).

¹⁸³ See Bryan Harrell, *Beers all round!*, JAPAN TIMES (Jun. 30, 2002), <https://www.japantimes.co.jp/life/2002/06/30/food/beers-all-round>; see also Atsuko Fukase & Megumi Fujikawa, *Japan's Beer Industry – The Numbers*, WALL ST. J. (Aug. 31, 2016), <http://blogs.wsj.com/briefly/2016/08/31/japans-beer-industry-the-numbers> [hereinafter *Japan's Beer Industry*]. Japan was the world's seventh largest beer consumer in 2014. Perhaps unsurprisingly, China is the world's largest consumer, with the United States behind them. *Id.*

¹⁸⁴ See Jeffrey W. Alexander, BREWED IN JAPAN: THE EVOLUTION OF THE JAPANESE BEER INDUSTRY 8 (2013).

¹⁸⁵ See *id.* at 8–9.

comprehensive book about beer in Japan, historian Jeffery Alexander recounts the earliest Japanese attempt at brewing beer:

Dutch wine, and beer were shipped to Japanese consumers in the country's urban centres, and adventurous Japanese began to consume Dutch *bier* after meals, in order to aid digestion. Soon, a few pioneering Japanese attempted brewing beer for themselves. The first was a scholar of Dutch medicine living in Sanda, Hyōgo prefecture. Kawamoto Kōmin (1810–71) reportedly found a reference to the brewing process in a Dutch book on new Western science, which he translated into Japanese. Eager to attempt the process himself, Kawamoto is said to have built a kettle in his home for brewing beer.¹⁸⁶

While the history of Japanese homebrewing may have its roots in curiosity, the history of commercial beer in Japan has its roots in illegal immigration.¹⁸⁷ In 1865, Japan was still under the Shogun-era Sakoku Edicts, which forbade Japanese citizens from traveling abroad.¹⁸⁸ Nonetheless, a seventeen-year-old Japanese boy by the name of Seibei Nakagawa emigrated to Germany.¹⁸⁹ There, he studied at the Berliner Brauerai.¹⁹⁰ In 1876, one of Japan's first two breweries opened as a part of a government-directed plan for industrial development of the northernmost island of Hokkaido.¹⁹¹ Nakagawa was hired as brewmaster, and the following year the company sold its first batch of beer to the public.¹⁹²

¹⁸⁶ *Id.* at 8–9.

¹⁸⁷ See *The Making of the Legendary Bīru*, SAPPORO BEER, <https://sapporobeer.com/our-history> (last visited Oct. 27, 2017).

¹⁸⁸ See Michael Laver, *Skins in the Game: the Dutch East India Company, Deerskins, and the Japan Trade*, 28 *WORLD HIST. BULL.* 13, 14 (2012).

¹⁸⁹ See *The Making of the Legendary Bīru*, *supra* note 187.

¹⁹⁰ See FODOR'S JAPAN 649 (Josh McIlvain, Alexis Kelly & Deborah Kaufman eds., 18th ed. 2007).

¹⁹¹ See ALEXANDER, *supra* note 184, at 6.

¹⁹² See *The History of Sapporo Breweries*, SAPPORO HOLDINGS LTD., <http://www.sapporoholdings.jp/english/history> (last visited Oct. 27, 2017). Nakagawa's beer was called Sapporo. See Lisa Grimm, *A Brief History of Japanese Beer*, SERIOUS EATS <http://drinks.seriousseats.com/2011/08/a-brief-history-of-japanese-beer-sapporo-ichiban-craft-beer-in-japan.html> (last visited July 2, 2017).

Many of Japan's early brewers worked for companies such as Kirin and Asahi and received similar training under brewmasters in Germany before returning to Japan to ply their trade domestically.¹⁹³ As a result of this strong German influence, Japanese brewmasters rigidly adhered to German recipes and brewing processes with often questionable results.¹⁹⁴ While German lager became the definitive beer style, Japan's anemic agricultural base struggled to supply brewers with the quality ingredients they required.¹⁹⁵ Similarly, the underdeveloped infrastructure and lack of access to adequate supplies of ice made shipping the finished product across the nation's mountainous terrain difficult.¹⁹⁶ As such, European imports continued to dominate the East Asian beer market even after the advent of domestic alternatives.¹⁹⁷

The First World War changed this.¹⁹⁸ As European brewers pulled out of the market, local brewers filled the void.¹⁹⁹ A price war started throughout the 1920s and culminated in the early 1930s with the creation of a domestic beer cartel.²⁰⁰ It was not until the Second World War that Japanese breweries realized technical and material independence.²⁰¹ This was the result of a total industry reorganization undertaken by the Ministry of Finance to transform the Japanese beer industry into "a brandless, revenue-generating arm of Japan's wartime command economy."²⁰² The Ministry of Finance would remain involved in negotiating pricing and production regimes throughout the 1980s, with a market still largely dominated by just two breweries: Kirin and Asahi.²⁰³ While the Japanese government

¹⁹³ See ALEXANDER, *supra* note 184, at 7.

¹⁹⁴ *See id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *See id.* at 55. Interestingly, the East Asian beer market was divided into spheres of influence among the European powers. China and India were dominated by the English. Indonesia and Malaysia were dominated by the Dutch. South China, Shanghai, and Hong Kong were shared by the English and Germans. *See id.* at 58.

¹⁹⁸ *Id.* at 55.

¹⁹⁹ *See id.*

²⁰⁰ *See id.* at 56.

²⁰¹ *See id.* at 2.

²⁰² *Id.*

²⁰³ *Id.* at 3.

eased restrictions on small breweries in the 1990s, the overall limited availability of choices has affected the Japanese pallet, which continues to favor lagers.²⁰⁴ This style currently accounts for 95% of beer sales in Japan.²⁰⁵

B. *Homebrewing Laws in Japan*

Japan's earliest era of beer consumption saw the promulgation of laws making homebrewing illegal.²⁰⁶ The vestiges of these laws can be found in the contemporary statutes governing the home fermentation of alcoholic beverages.²⁰⁷ Under the Japanese Liquor Tax Law, liquor is defined as any beverage containing 1% or more ABV.²⁰⁸ Production of liquor requires a manufacturing license obtained from the director of the relevant tax office.²⁰⁹ Obtaining a manufacturing license requires, at a minimum, an annual production volume of just under 16,000 gallons (down from the previous requirement of about 528,000 gallons).²¹⁰

This license system purportedly serves two public policy considerations: "to secure liquor tax revenue and, at the same time, to guarantee the quality of liquor."²¹¹ In meeting the first, the system subjects manufacturers to about \$7.50 per gallon in taxes paid

²⁰⁴ See *id.*; see also Monami Yui, *Happy Hour: Japan Brewers Finally Get Serious on Craft Beer*, BLOOMBERG PURSUITS (May 6, 2015), <https://www.bloomberg.com/news/articles/2015-05-06/happy-hour-japan-s-brewers-finally-get-serious-about-craft-beer>.

²⁰⁵ Yui, *supra* note 204.

²⁰⁶ See Alec Jordan, *The Business of Craft Beer in Japan*, TOKYO WEEKENDER (Aug. 14, 2015), <http://www.tokyoweekender.com/2015/08/the-business-of-craft-beer-in-japan>.

²⁰⁷ See *id.*

²⁰⁸ Tax Bureau, Ministry of Fin., Gov't of Japan, Comprehensive Handbook of Japanese Taxes 190 (2010), http://www.mof.go.jp/english/tax_policy/publication/taxes2010e/taxes2010e.pdf [hereinafter Handbook of Japanese Taxes].

²⁰⁹ *Id.*

²¹⁰ See Bryan Harrell, *Craft Brewing in Japan*, 31 ALL ABOUT BEER MAG. (May 1, 2010), <http://allaboutbeer.com/article/craft-brewing-in-japan>. The actual statutory floor is 60,000 liters, down from the previous 2 million liters annual requirement. Conversion to U.S. customary units is done for the sake of comparison.

²¹¹ HANDBOOK OF JAPANESE TAXES, *supra* note 208, at 190.

monthly.²¹² In meeting the second, the system subjects manufacturers to “strict inspection and control . . . , including investigation.”²¹³

Consequently, homebrewers (who are exceedingly unlikely to invest in the industrial equipment necessary to produce the minimum volumes necessary for licensure)²¹⁴ can legally produce beer only by brewing a beverage not meeting the legal definition of liquor (i.e. with less than 1% ABV).²¹⁵ The penalties for creating a more alcoholic beer are harsh: a “fine not exceeding ¥1,000,000 (approximately \$8,700), penal servitude not exceeding ten years, or both.”²¹⁶

Given the near-impossibility of policing homebrewing, the government largely relies on voluntary compliance.²¹⁷ Homebrewing supply stores are required to include warnings within their catalogs and instruction manuals explaining the law.²¹⁸ However, given that fermentation is a biological process dependent on variables such as the coarseness of the barley grind, temperature (both of the water during brewing and the ambient air during fermentation), mineral content of the water, and yeast strain, it is entirely possible to accidentally exceed 1% ABV.²¹⁹

²¹² See *id.* at 193–94. The actual tax is assessed based on the amount of barley malt used during fermentation, with greater amounts of barley being more heavily taxed. For this Note, we will use the category corresponding to beverages containing between 50% and 100% barley. For this category, taxes are assessed at a rate of ¥220,000 per kiloliter. *Id.* at 193.

²¹³ *Id.* at 192.

²¹⁴ The smallest capacity commercial system, a one-barrel (31-gallon) system, can be purchased used for \$100,000, but is unlikely to be able to produce enough beer to meet the statutory minimum. See Steve Nicastro, *How to Start a Craft Brewery*, NERDWALLET (Mar. 11, 2016), <https://www.nerdwallet.com/blog/small-business/how-much-does-it-cost-to-start-a-craft-brewery/#costs>. A new 30-barrel (930-gallon) system can cost up to a million dollars. See *id.*

²¹⁵ See Joel Dames, *Homebrewing for Fun, Taste and Profit*, JAPAN TIMES (Nov. 11, 1999), <http://www.japantimes.co.jp/life/1999/11/11/life/homebrewing-for-fun-taste-and-profit>.

²¹⁶ HANDBOOK OF JAPANESE TAXES, *supra* note 208, at 190 (currency conversion added).

²¹⁷ See Dames, *supra* note 215.

²¹⁸ See *id.*

²¹⁹ See *id.*

Given the legal restrictions, Japanese homebrewers require creativity in sourcing their materials.²²⁰ As of mid-2009, only one major retail store (the Shinjuku branch of Tokyu Hands) sells homebrewing supplies, with two additional online domestic retailers.²²¹ Alternative sources for brew pots and sanitizer are available in the form of discount chain stores, such as Don Quijote, while copper fittings, water filters, and various containers are available from do-it-yourself stores, such as Super Viva Home.²²²

Japanese homebrewers also have the option of at least one “brew on premise” beer club.²²³ At this location, customers pay a flat rate, dependent upon the style of beer that they wish to brew, to rent the equipment, space, time, and assistance necessary to brew their own beer according to proven recipes.²²⁴ Within three weeks, the customer receives approximately twenty-five liters of personalized beer.²²⁵

IV. HOPPING ON THE BANDWAGON: CONSIDERING THE IMPACT OF OVERLY RESTRICTIVE HOMEBREWING LAWS

Overly restrictive homebrewing laws have a real economic impact on a national scale. Currently, the Japanese beer industry is in decline.²²⁶ The stringent limit only allowing for the production of homebrew containing less than 1% ABV has contributed to restricting “local people from gaining the experience and exposure to small-batch, craft-style beer, which has in turn slowed the progress of the industry by lessening the opportunity for people to hone their skills and practice their craft”²²⁷

²²⁰ See *Homebrewing in Japan*, BEER IN JAPAN (last updated Apr. 2017), <http://beerinjapan.com/bij/486/homebrewing-in-japan>.

²²¹ See *id.*

²²² See *id.*

²²³ Dames, *supra* note 215.

²²⁴ An average price amounts to approximately \$100 for five gallons of beer. See *id.*

²²⁵ See *id.*

²²⁶ See *Japan’s Beer Industry*, *supra* note 183.

²²⁷ See Jordan, *supra* note 206.

This has resulted in a population grown bored with its stale options.²²⁸ While in 2001 Japanese people were buying 1.3 billion gallons of beer a year, by 2015 that number had shrunk to just 718.5 million gallons annually.²²⁹ This equates to a decline of nearly 45% in just fifteen years. During the same period, the United States beer industry remained relatively stable.²³⁰ By easing their overly restrictive homebrewing laws, nations such as Japan would likely benefit from the industry-wide growth experienced in countries like the United States following the legalization of homebrewing and the growth of public interest in good beer, available in a wide variety of styles.²³¹

In the United States, the removal of the federal excise tax on homebrewing birthed the craft beer industry and its subsequent exponential growth.²³² When the federal excise tax was lifted, there were only eighty-nine breweries in the United States.²³³ By December 2016, that number had surpassed the 7,100 mark.²³⁴ By 2016, Florida, with its permissive homebrewing laws, had almost 200 craft breweries, accounting for a \$2 billion economic impact.²³⁵ Nevertheless, room for growth exists even at this level.²³⁶ Economists at

²²⁸ See *Japan's Beer Industry*, *supra* note 183.

²²⁹ *Id.* This is true even though the Asia-Pacific beer market had a compound annual growth rate (in value) of 5.6% between 2010–2014. MARKETLINE, MARKETLINE INDUSTRY PROFILE: BEER IN THE UNITED STATES 7 (2015). Further, beer consumption (in volume) was forecast to grow by 4.8% every year between 2011–2016. *Id.*

²³⁰ See Alcohol and Tobacco Tax and Trade Bureau, U.S. Dep't of the Treasury, Monthly Statistical Report – Beer (Aug. 25, 2003); Alcohol and Tobacco Tax and Trade Bureau, U.S. Dep't of the Treasury, TTB S 5130-12-2015, Statistical Report – Beer (Mar. 2, 2016).

²³¹ See *e.g.*, MARKETLINE, *supra* note 229, at 16.

²³² See Norris, *supra* note 8, at 1357.

²³³ *Id.*

²³⁴ *U.S. Beer Industry*, *supra* note 115.

²³⁵ *Florida Craft Beer Sales Statistics, 2016*, BREWERS ASS'N, <https://www.brewersassociation.org/statistics/by-state/?state=FL> (last visited July 3, 2017). These breweries produced approximately 2.5 gallons of craft beer per adult in the state over the age of 21. See *id.*

²³⁶ See Timothy G. Taylor et al., *Economic Contributions of the Florida Craft Brewing Industry to the Florida Economy* ii (2014).

the University of Florida estimate that Florida's population can support almost 550 craft breweries, employing more than 40,000 workers and contributing \$2.5 billion to the state's economy.²³⁷

While these numbers are significant, homebrewing has been legal in Florida for many years.²³⁸ A more apt comparison to potential gains in the Japanese industry requires looking at states which only recently legalized homebrewing. In 2012, Mississippi had a single craft brewery.²³⁹ The following year homebrewing was legalized.²⁴⁰ Today, Mississippi is home to at least fourteen craft breweries.²⁴¹ While this is hardly an impressive number, it is significant within the context of state history and represents significant industry growth.²⁴²

That same year Alabama also legalized homebrewing.²⁴³ The corresponding growth in the craft beer industry was both evident and staggering.²⁴⁴ Between June 2014 and June 2015, Birmingham's

²³⁷ *Id.* These estimates are based on capita-per-brewery data from states with a mature craft beer industry, such as California, Colorado, Oregon, and Washington.

²³⁸ See *Homebrewing Rights: Florida*, *supra* note 176.

²³⁹ See Ashlie Stevens, *Why Mississippi Wasn't a Craft Beer State, Until Now*, EATER (Aug. 12, 2015), <https://www.eater.com/drinks/2015/8/12/9136703/why-mississippi-wasnt-a-craft-beer-state-until-now>.

²⁴⁰ MISS. CODE § 67-3-11 (2017); Stevens, *supra* note 239.

²⁴¹ See Alyssa Schnugg, *Mississippi Breweries Thankful for Craft Beer Bill*, OXFORD EAGLE (Feb. 1, 2017), <http://www.oxfordeagle.com/2017/02/01/mississippi-breweries-thankful-for-craft-beer-bill>.

²⁴² Mississippi enacted state-level prohibition thirteen years prior to the passage of the Eighteenth Amendment. This hundred-year legacy lingers: to this day almost half of Mississippi's counties are dry. See Stevens, *supra* note 245. By comparison, Oregon, a state with a mature craft beer industry, currently supports three breweries within Portland International Airport, Hopworks, Deschutes Breweries, and Laurelwood Brewing. See Matthew Korfhage, *Two New Breweries Are Coming to PDX Airport . . . and One Is Leaving*, WILLAMETTE WEEK (Aug. 14, 2017), <http://www.wweek.com/bars/beer/2017/08/14/two-new-breweries-are-coming-to-pdx-airport-and-one-is-leaving>.

²⁴³ See ALA. CODE § 28-4B-1 (2016); *Homebrewing Rights: Alabama*, *supra* note 174.

²⁴⁴ See *Tapped In: Craft and Local Are Powerful Trends in the Beer Aisle*, NIELSEN (Jul. 14, 2015), <http://www.nielsen.com/us/en/insights/news/2015/tapped-in-craft-and-local-are-powerful-trends-in-the-beer-aisle.html> [hereinafter *Tapped In*].

craft beer sales grew at a rate faster than that of any other metropolitan area in the country.²⁴⁵ There, craft beer sales as a percentage of total beer volume grew 63.1%, outpacing the nationwide increase of 13.8%.²⁴⁶ This growth, when coupled with a desire for locally-sourced ingredients, results in economic growth across related industries.²⁴⁷ Similar results are possible in Japan, where craft beer currently makes up only 1% of total sales—the public just needs the freedom to develop their tastes and explore their choices.²⁴⁸

This position is supported by the homebrewing laws of other East Asian nations. Prior to 2000, homebrewing was illegal in Singapore.²⁴⁹ At that time, the law was amended to allow individuals eighteen and older to brew thirty liters of beer per household, per month.²⁵⁰ Since then, the city-state has become home to a dozen craft breweries, with four opening in 2015 alone.²⁵¹ Interest in craft beer has grown to the point where Singapore now supports a craft beer and cider festival, along with a “Craft Beer Week.”²⁵²

²⁴⁵ See *id.* (this corresponds to more than twice the growth rate experienced in the next highest metropolitan area).

²⁴⁶ *Id.*

²⁴⁷ See Paul Hollis, *State’s Burgeoning Craft Beer Industry Could Profit Crop Producers*, ALA. FARMER’S FED’N (Dec. 20, 2016), <http://alfafarmers.org/stories/news-detail/states-burgeoning-craft-beer-industry-could-profit-crop-producers#.WZ7xQSiGOUk>. According to one industry expert, feed barley currently sells for between \$3 and \$4 per bushel. A similar quantity of malted barley sells for up to \$15. *Id.* Likewise, though labor intensive to produce, hops sells for between \$15 and \$20 a pound. *Id.*

²⁴⁸ See Jordan, *supra* note 206.

²⁴⁹ See Christopher Dewolf & Brittany Hite, *Homebrewers Gets Hopping in Hong Kong*, WALL ST. J. (Mar. 5, 2013), <https://www.wsj.com/articles/SB10001424127887324178904578340583953340780>.

²⁵⁰ Customs (Home-Brewing of Fermented Liquors) (Exemption) Order, c. 70 § 13(1) (Sing. 2009).

²⁵¹ See Nyshka Chandran, *Could Singapore Have its Own Craft Beer Boom?*, CNBC (Mar. 3, 2016), <http://www.cnbc.com/2016/03/03/could-singapore-have-its-own-craft-beer-boom.html>.

²⁵² See *Craft Singapore 2016*, CRAFT SINGAPORE (Mar. 12, 2016), <http://www.surprisinghorizons.com/2016/03/12/craft-singapore-beer-festival-2016>; SINGAPORE CRAFT BEER WEEK, <http://www.singaporecraftbeerweek.com> (last visited Feb. 4, 2017).

For Singapore, the economic impact has been significant.²⁵³ Between 2002 and 2006, revenues grew at a compound annual growth rate (“CAGR”) of 3.6%.²⁵⁴ Notwithstanding a predicted slowdown in growth,²⁵⁵ between 2009 and 2013 revenues grew at an even higher CAGR of 4%.²⁵⁶ A driving force behind this growth was an increased demand for craft beer.²⁵⁷ While craft beer only occupied a 9.2% share of the 2006 market, by 2015 it had grown by over 23%, accounting for 11.4% of all national beer revenue.²⁵⁸

Conversely, while homebrewing remains illegal in Thailand, the minor penalties render the ban functionally meaningless.²⁵⁹ In a country where the average domestic beer purchased from a supermarket or convenience store costs between forty and fifty baht (approximately \$1.15 to \$1.45),²⁶⁰ the penalty for brewing your own beer amounts to less than the cost of a six pack.²⁶¹ While the Thai domestic beer market has traditionally been dominated by just two brewers, Singha and Chang, the introduction of Western-style homebrewing for private consumption has found fertile ground among the relatively lax laws.²⁶² The public has responded with a

²⁵³ See PROGRESSIVE DIGITAL MEDIA, BEER IN SINGAPORE (2006); FLANDERS, SPECIALTY BEER IN SINGAPORE 2, http://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/402150529084129/402150529084129_1.pdf (last visited Feb. 4, 2017).

²⁵⁴ PROGRESSIVE DIGITAL MEDIA, *supra* note 253.

²⁵⁵ *See id.*

²⁵⁶ FLANDERS, *supra* note 253, at 2.

²⁵⁷ See PROGRESSIVE DIGITAL MEDIA, *supra* note 253; PROGRESSIVE DIGITAL MEDIA, BEER IN SINGAPORE (2015) [hereinafter BEER IN SINGAPORE].

²⁵⁸ BEER IN SINGAPORE, *supra* note 257.

²⁵⁹ See Brian Spencer, *Thai Brewing: Rebel Microbreweries Thirst for Change in the Law*, CNN (Dec. 19, 2017), <http://www.cnn.com/travel/article/illegal-homebrewed-beers-thailand/index.html>. Under Thailand’s 1950 Liquor Act the penalty for homebrewing is a “nominal” fine of 200 baht (approximately \$5.70). Those caught selling their homebrew face harsher punishment: a fine of 5,000 baht (approximately \$140), and/or up to six-month jail time. *See id.*

²⁶⁰ *How Much is a Bottle of Domestic Beer in Thailand?*, TASTY THAILAND (Aug. 23, 2013), <http://tastythailand.com/how-much-is-a-bottle-of-domestic-beer-in-thailand>.

²⁶¹ *See* Spencer, *supra* note 259.

²⁶² *See id.*; *see also* HOME BREW THAILAND FORUM, HOMEBREW ASIA (last visited Feb. 4, 2017), <http://www.homebrewasia.com/forum> (an internet forum exclusively dedicated to homebrewing in Thailand with over 1300 members and

“growing demand for a wider range of beers,”²⁶³ and demand for craft beer is on the rise.²⁶⁴

Arguably, the general unenforceability of the current Japanese homebrewing laws also renders them functionally meaningless. However, voluntary compliance and a general unwillingness to flaunt the law likely remain high in a nation like Japan where the overall crime rate is extremely low.²⁶⁵ In his treatment of the subject of Japan’s low crime rate, Nobuo Komiya, a former Research Officer of the Ministry of Justice in Japan, concludes:

In Japan, a great number of rules must be meticulously observed. Even when one cannot find a concrete rule, one sticks to the personalistic rule that one must submit oneself to one’s seniors, and not deduce behaviour from universalistic principles. The Japanese tend to be nervous about whether or not their behaviour is in conformity with the rules.²⁶⁶

The liberalization of laws concerning homebrewing would also likely be in line with other sets of Japanese norms and values.²⁶⁷ According to one British transplant who runs a pub and brewery in Japan, the country has a “love affair with craftsmanship and [a] deep culture of perfectionism,” as well as a “real interest in hand-made, unique products. For nihonshu, or Japanese sake, the idea of having a very small-scale unique sake brewery is quite common.”²⁶⁸ The

almost 10,000 individual posts); THAI BREW SHOP, <https://www.thai-brewshop.com> (last visited Feb. 4, 2017) (one of several websites, many of them exclusively Thai, that openly sell homebrewing supplies to Thai consumers).

²⁶³ Tamara Hinson, *Craft Beer Movement Arrives in Thailand as Bars Pop Up All Over Bangkok*, INDEPENDENT (Apr. 14, 2015), <http://www.independent.co.uk/life-style/food-and-drink/news/craft-beer-movement-arrives-in-thailand-as-bars-pop-up-all-over-bangkok-10176506.html>.

²⁶⁴ *See id.*; Press Release, Brewers Ass’n, American Craft Beer Exports on the Rise (Mar. 21, 2014), <https://www.brewersassociation.org/press-releases/american-craft-beer-exports-on-the-rise>.

²⁶⁵ *See generally* Nobuo Komiya, *A Cultural Study of the Low Crime Rate in Japan*, 39 BRIT. J. CRIMINOL. 369, 369 (1999).

²⁶⁶ *Id.* at 380–81.

²⁶⁷ *See* Jordan, *supra* note 206.

²⁶⁸ *Id.* (quoting James Williams of Campion Ale, a British-style pub and brewery).

Japanese public rightly deserves the opportunity to apply this very same ethos to beer particularly on the smallest scale: in the home.

V. CONCLUSION

Following the legalization of homebrewing, the craft beer industry has experienced near exponential growth and significant economic implications. Though it is beyond the scope of this Note, the reasons why countries choose to regulate the household production of beer varies. For some, the consideration is primarily religious in nature.²⁶⁹ For others, the principal concern is taxation.²⁷⁰ Through analyzing the historical homebrewing jurisprudence of two disparate countries with different concerns and approaches, this Note has hopefully provided a look at two very different ways in which homebrewing is regulated.

Following Prohibition, the United States waited until the 1970s to again legalize the millennia old process.²⁷¹ This resulted in a widening national interest in beer, with beer drinkers becoming invested in both quality and variety.²⁷² Over the course of subsequent decades, this interest blossomed into consumer demand and led to the birth of the craft beer industry.²⁷³ In holdover states, where local law continued to prohibit homebrewing subsequent to the federal legalization, the craft beer industry has experienced significant growth following the legalization of homebrewing, resulting in significant economic implications.²⁷⁴ Given these considerations, other nations with restrictive homebrewing laws should consider easing them. To energize Japan's sagging beer industry, a similar approach could yield the opportunity for Japanese beer drinkers to expand their palates beyond relatively flavorless lager.

²⁶⁹ See *Homemade Alcohol*, *supra* note 8 (noting that homebrewing is illegal in both Malaysia and Iran).

²⁷⁰ See HANDBOOK OF JAPANESE TAXES, *supra* note 208, at 190.

²⁷¹ See U.S. CONST. amend. XXI, § 1.

²⁷² As Papazian puts it, "good beer." PAPAZIAN, *supra* note 10, at 3–4.

²⁷³ See *id.*

²⁷⁴ See *e.g.*, Stevens, *supra* note 239; *Tapped In*, *supra* note 244; Hollis, *supra* note 247.