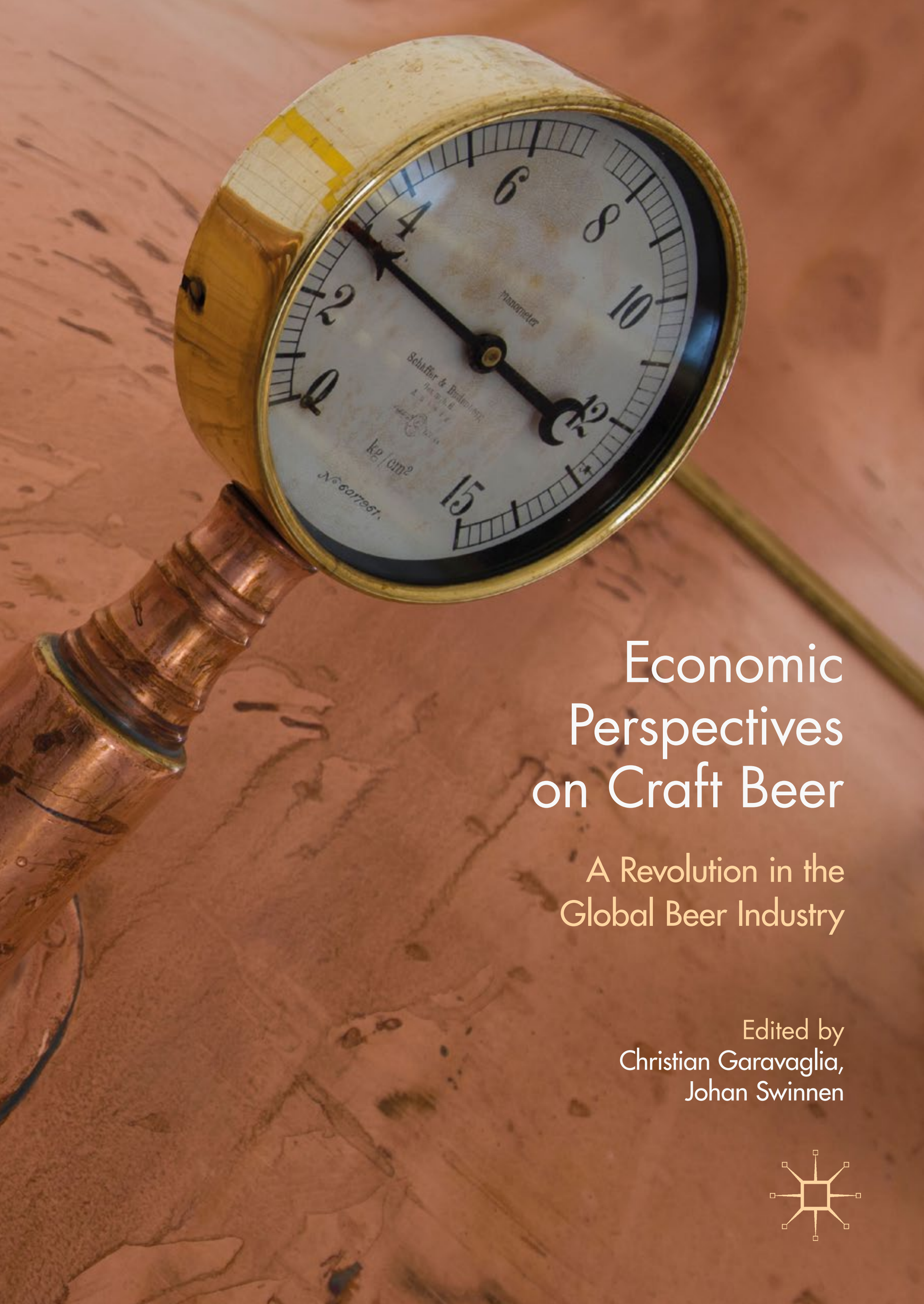

Economic Perspectives on Craft Beer

A Revolution in the Global Beer Industry

Edited by
Christian Garavaglia,
Johan Swinnen

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Christian Garavaglia · Johan Swinnen
Editors

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To all craft beer enthusiasts in the world

Preface

This book analyzes the emergence and growth of craft breweries and craft beers, which revolutionized the brewing industry, from a comparative international perspective.

Craft brewers and their success have transformed global beer markets over the past two decades. They ended a century of consolidation of breweries, resulting in the domination of a few global multinationals and the homogenization of beer. A wave of small breweries entered the market offering a large variety of beers. Today, a few large multinational firms co-exist with a significant number of small craft beer producers.

This transformation of an entire industry is not only important for people and researchers interested in beer and brewing, but also for those interested in what determines industry structure and in economic history. The emergence of many craft breweries, the consequent dynamics in the beer industry, and the changes in consumption provide an interesting natural experiment in industrial change and economic development, offering fertile material for studying these issues. The various chapters in this book contribute a rich set of insights and information for the fields of entrepreneurship, management, economics, industrial dynamics, and economic history.

Our book is global in perspective, covering 16 countries from almost all continents. One of the fascinating issues is how there are both differences and common elements in the evolution of craft brewing across countries. The chapters not only document global developments, but also show the existence of global links which connect craft breweries around the world. Craft pioneers in various countries have been "inspired" by other, previous experiences in other countries.

The book starts with an overview chapter, which draws on the rest of the chapters and presents a synthesis of the issues and findings related to the definition, emergence, growth, and diffusion of craft beers, and the response of governments and major brewing companies.

The first set of country studies are from North and South America (USA, Canada, and Colombia). The USA has the world's largest and arguably most dynamic craft beer scene, which has impacted the rest of the globe. While the first US producers were influenced by the traditional European styles, more recently the craft beer scene in the USA is influencing craft beer producers in Europe and in the rest of the world.

The largest group of country studies is from Europe. Some cases focus on traditional beer-drinking countries from Western Europe (the UK, Germany, Belgium, the Netherlands, and Denmark). The craft beer movement in the UK has been a source of global inspiration because of the traditional ales and because of the role of the craft consumer organization CAMRA. The Netherlands (Heineken) and Denmark (Carlsberg) are both host to a large international macrobrewer that has recently started taking over craft brewers. The Belgian case is interesting because of the country's long tradition in producing a wide variety of beer styles. The German case is unique because of the country's longstanding protection of its beer sector, its low degree of industry concentration, and the survival of many small and medium-sized breweries, affecting the dynamics of the craft beer market.

The Southern European countries (Italy and Spain) have seen a switch from wine to beer consumption since the 1970s and recently the emergence of a vivid craft beer scene. Three Eastern European countries (Poland, Slovakia, and Hungary) provide interesting cases of countries with a longstanding beer tradition, but where the brewery industry was state controlled between 1950 and 1990, and where multinational brewery investments played a major role in the restructuring of the beer industry in the 1990s.

The final set of countries are from Asia (Japan and China) and Australia. They provide very different cases of craft beer development, with a well-developed craft beer scene in Australia and a beer market which is highly influenced and constrained by government regulations in Japan. While China is the world's largest beer market, craft brewing is only recently emerging.

The ideas and development of this book have been stimulated by the vibrant new field of "beeronomics," reflected in the bi-annual Beeronomics Conferences and regular workshops. We are grateful for ideas, discussions, and encouragement from many colleagues from around the world. In particular, we would like to thank Julian Alston, Ignazio Cabras, Vittoria Cerasi, Koen Deconinck, Boris de Mesones, Jill McCluskey, Gianfranco Oradini, Klaus Salhofer, Alex Schmid, and Steve Ziliak for their insights, collaborations, ideas, and helpful discussions and encouragement—over beer, coffee (or Skype). We would also like to thank all the entrepreneurs and brewers we met who dedicated their time to explain their idea behind the birth and evolution of craft breweries.

Dorien Emmers provided excellent research support. This project was supported by the Department of Economics, Management and Statistics (DEMS) of the University of Milano-Bicocca, the KU Leuven Research Fund (Methusalem), and the LICOS Centre for Institutions and Economic Performance.

Milan, Italy — Christian Garavaglia
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Units of Measurements

100 liters	1 hectoliter (hl)
1 hectoliter (hl)	1.173 barrel

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Part I

Overview

1

Economics of the Craft Beer Revolution: A Comparative International Perspective

Christian Garavaglia and Johan Swinnen

1.1 Introduction

Craft brewers and their customers have transformed global beer markets over the past two decades. They ended a century of consolidation of breweries, resulting in the domination of a few global multinationals and the homogenization of beer. They started small and isolated, but ultimately transformed a global industry. Their counter-revolution against the domination of the macrobrewers and their uniform beer styles has totally transformed the global beer scene. Elzinga et al. (Chap. 2) write that "the dramatic consolidation that took place in the macro sector of the industry … and the equally dramatic increase in the

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number of craft brewers … combined illustrate one of the most radical structural transformations to take place in any American industry."

This book documents and explains this transformation. In this first chapter we summarize key insights that derive from a comparative analysis of craft beer developments and beer industry transformation in the various countries. The chapter starts with a discussion of the definition of craft beer (and microbreweries). We then first document and explain the consolidation in the traditional brewing industry which preceded the craft revolution, and afterwards document and compare when the craft beer movements started in the various countries, and how they have evolved. In the next chapters we discuss the role of changes in demand, the role of pioneers in craft brewing, what factors determined the re-emergence of small brewers in a market dominated by large companies, and how they grew from small to larger. Some of the factors we discuss refer to the role of information, networks, capital, and technology markets. The last part of the chapter concentrates on the role of governments, which have influenced the craft beer market through regulations, and on the reaction of the macrobrewers to the growth of the craft beer market.

1.2 Defining Craft Breweries and Craft Beer

Craft: an activity involving skill in making things by hand.
(Oxford Dictionary)

The terms "craft brewery," "artisanal brewery," "microbrewery," "independent brewery," "specialty brewery," and "local brewery" are sometimes used to identify breweries which "recently" started on a "small" scale to brew "different" types of beer, which distinguishes them from the mass-produced beer from larger breweries that often have been in business for more than a century and have survived the consolidation process of the twentieth century. In this book, most authors either use the term "craft beer" (emphasizing the type of beer and nature of the brewing process) or "microbrewery" (emphasizing the scale of the brewery). Given the diversities among countries and their different historical traditions in beer brewing, there is not a generally accepted definition for the term "craft brewery" or "microbrewery."

Attempts at defining craft brewing have used criteria referring to ownership, production process, scale, age, and tradition. The American Brewers Association (ABA) defines a craft brewery as being "small," "independent," and "traditional." Small refers to size (annual production of fewer than 6 million barrels). Independent refers to ownership (less than 25% owned or controlled by an alcohol industry member that is not itself a craft brewer). Traditional refers to the beer it produces (more than 50% of its beer derives its flavor from "traditional" or "innovative" brewing ingredients and their fermentation). Many brewery associations have similar definitions. In some countries the government has defined what craft beer is. For example, the Italian parliament has defined *birra artigianale* by the size of the brewery (less than 200,000 hl), the production process ("does not undergo pasteurization and micro-filtration"),[1] its ownership (independent of any other brewery), and its operating practice (not brewing under license) (Garavaglia in Chap. 9).

These differences in definition reflect differences in perspectives and local circumstances, and also difficulties in defining "craft beer." In a way, it is easy to recognize a craft brewery when you see one, but it is more difficult to agree on whether some beers are "craft" or not, and thus how to define what a "craft brewery" or a "craft beer" is. In fact, any definition has its problems. One problem is that the craft beer market is changing rapidly and another the heterogeneity across countries.

For example, the concept of "tradition" and "innovation" is highly context specific. Many of the mass-produced beers, such as Budweiser or Stella Artois, have a centuries-old history (tradition) and are much

[1]Pasteurization is a heat treatment during the packaging phase, which kills pathogens such that the beer is sterile. Micro-filtration is the phase in which the yeast particles in the fermenting mixture are removed. The purpose of these treatments is to increase the beer's shelf life and to guarantee product consistency. On the other hand, these processes are responsible for flattening some organoleptic characteristics of "fragrance," with a reduction in the beer's flavor and aroma, thus contributing to the loss of a distinctive taste. Therefore, differently from craft beers, industrial beers tend to have a more homogeneous and less distinguishable taste (Eén 2010; Madsen et al. 2011).

older than many of the craft beers. What is "innovative" in some environments can be a standard ("traditional") beer in other places. For example, the production of stout beer may have been innovative in a small Californian brewery in the 1990s, but probably not in Ireland, where Guinness dominates the beer market.

Also, the definitions of the scale of a "craft" or "micro"-brewery are related to the size of the country (beer market) in which they operate. For example, according to the definitions above, in Italy the maximum size is 200,000 hl (170,502 barrels), while in the USA it is 6 million barrels (7,038,000 hl). It is interesting to note that if the US size limit is considered, in many countries most mass brewers would satisfy this criterion.

A related issue has to do with the growth in craft brewing. Growth has come from an increase in the number of craft breweries, from the growth of individual craft breweries, and from the takeover of craft breweries by larger brewers. There are several examples that make classification difficult. For example, in the USA and Belgium (two countries where craft beers have boomed), there are several cases of breweries and beers that (a) started small with "traditional" or "innovative" beers (and thus satisfied all craft criteria); (b) then grew in size "beyond small" as demand grew with success; and (c) later were taken over by multinational mass brewers. Lagunitas is an example of a Californian craft beer which started out small and locally, then grew in market size, and was recently taken over by Heineken. Others, such as the Sierra Nevada brewery and the Boston Brewing Company, have started small, now become large breweries, but remained independent.

In Belgium there are many traditional beers that were produced by small local breweries until quite recently, but have since become globally distributed. One of the best-known examples is the white Hoegaarden beer, which was saved from extinction by a local beer lover in the 1970s, who struggled for years to keep his small village brewery in business. In the 1980s demand for his beer spread across the country and, following a takeover by the Stella Artois brewery and its integration into global leader AB InBev, the same Hoegaarden beer is now served across the world. There are several examples like this, most recently Tripel Karmeliet. Other specialty beers have grown in market size, and also internationally, but remain independently owned (Poelmans and Swinnen in Chap. 5).

This immediately raises the question: Where does "craft" end? Let us try to come up with some classification in the perspective of the dynamic craft market. Using three criteria—tradition/innovation (TI), size, and ownership—one can classify most beers into one of a few categories. Let us define "TI beers" as the type of beer brewed by craft breweries (another concept could be "non-lager beers" or "specialty beers"), taking into account the various problems with defining "tradition" or "innovation."

One can then define *real craft* beers as TI beers, brewed by a small and independently owned brewery.[2] Many of those beers have since grown in market size and with that the breweries themselves have grown. This growth can occur as the brewery grows but stays independent. One could refer to this as *big craft*—although that is possibly a contradiction in terms. In quite a number of cases these breweries have then been taken over by mass brewers. One could refer to this as *ex-craft*. Unavoidably, to some extent this will remain a subjective issue and open for interpretation. However, what is clear is that "some craft beers/breweries are more craft than other craft beers/breweries."

1.2.1 "Gypsy Brewers": Are Contract Breweries Real Craft?

Contract brewing has played a role in the emergence of craft beers in many countries. Contract brewing occurs when brewers do not own their own equipment and premises for producing beer: they contract other breweries to brew for them. These brewers have been referred to in sometimes exotic ways, including "gypsy brewers," "phantom breweries," and "cuckoo breweries" (Weiner 2014; Dann 2015). The names given to contract brewers reflect that in many countries contract

[2] The vast majority of TI beers started out being brewed by a "real craft" brewery, but not all. For example, in the USA, Blue Moon was developed at a small scale by Coors. In Belgium, some surviving smaller lager brewers reinvented themselves in the 1990s and 2000s as craft brewers by launching new beers.

brewing has been a controversial issue among craft brewers, with some arguing that contract brewers are not "real craft" brewers.[3]

Contact brewing has been used by starting brewers to overcome entry costs and financial constraints. Some of the early contract brewers have become very successful, like the Boston Beer Company and Pete's Brewing Company in the USA (Carroll and Swaminathan 2000). At some point these brewers have moved to installing their own brewing facilities. Moreover, some recent contract brewers have been widely acknowledged because of their successful beers (e.g., Mikkeller, Evil Twin, Omnipollo).

Contract brewing provides opportunities for both sides of the market. On the demand side, entrepreneurs who want to produce new beers but do not have access to brewing facilities or sufficient access to capital to invest, or who are risk averse and do not want to sink substantial investments into a developing market, can access existing brewing equipment in a flexible way. On the supply side, existing brewers often have excess capacity and may find an opportunity to cover their costs by renting the equipment to contract brewers. The disadvantage for contract brewers is that they are dependent on space in the brewing facilities to brew batches of beer. That is why most starting brewers invest in their own brewing facilities when their beer becomes successful.

The spread of contract breweries has been criticized by other craft beer producers and some consumers. The former criticize because of the competition from brewers that avoid the costs related to a physical brewery (Acitelli 2013). The latter complain because of the lack of authenticity and identity of the contract brewers. Because of these reasons, Carroll and Swaminathan (2000) find evidence for the US market that the exit rates of contract brewers are higher when the most visible of authentic-looking craft production—that is, the brewpub form—is more diffused.

Notwithstanding the criticisms, contract brewing has played an important role in the development of craft beers and continues to be

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[3]In Italy, for example, there has been a discussion of whether contract brewers are craft brewers (i.e., *birrificio artigianale*) or not. The discussion reached the political arena, and according to a recent definition by the Italian Parliament, contract brewers are not considered "artisanal" (Garavaglia in Chap. 9).

important component of the craft sector, because it offers important opportunities to overcome technological and capital constraints for starting brewers. With the development of technology and capital markets targeted to the craft brewing industry, these constraints are falling in most countries and the need for contract brewing may be as well. Still, for risk-averse investors and entrepreneurs, it may remain attractive as an institution in the craft sector.

1.3 Concentration and Homogenization in the Global Beer Industry 1900–1980

The craft beer revolution was preceded by a long period of consolidation and homogenization in the global beer industry, which started in the late nineteenth or early twentieth century and lasted for most of the following hundred years (see Table 1.1 and Fig. 1.1). Breweries merged, were acquired, went bankrupt, or just stopped producing. In Belgium, the number of breweries declined from more than 3000 in 1900 to around 1500 in 1930, continuing to fall to 143 in 1980. The consolidation was even more extreme in the USA, where the number of macrobreweries fell from 421 in 1947 to only 10 by 2014. In Italy, the number of breweries declined from 95 in 1900 to 31 in 1950 and to 21 in 1990, with a consequent increase in the C4 concentration index from 61.6% in 1950 to 1984. Seven percent in 1990, and the main brands were all lager, very similar in organoleptic profile (Garavaglia in Chap. 9). The evolution of the English market displays similar dynamics. The share of the top five firms increased from 18% in 1954 to 55% in 1979, and a few beer styles (both lager and some mass-produced English ales) dominated an increasingly homogenized market (Cabras in Chap. 14; Gourvish and Wilson 1994).

The reasons for this consolidation are well known by now (Clemons et al. 2006; Swinnen 2011; Tremblay and Tremblay 2005).[4] The first

[4]Elzinga et al. (2015) and Tremblay and Tremblay (2005) discuss reasons for the decline in numbers and the increase in plant size of the surviving macrobrewers. See also Gokhale and Tremblay (2012).

Table 1.1 Number of breweries, 1950–2015

Country	1950	1960	1970	1980	1990	2000	2005	2010	2015
Australia	19	13	10	9	39	47	97	176	363
Belgium	663	414	232	143	126	113	115	123	199
Canada				40	62			312	640
China[b]								592	515[a]
Colombia	39	32	10	1	1	5	8	40	119
Denmark		31	27	25	19	16	48	120	
Germany		2216	1778	1366	1232	1289	1276	1342	1388
Hungary	1			6		120	97	57	73
Italy	31	29	37	31	22	77	148	325	684
Japan	3	5	5	5	5	307	261	213	227
Netherlands	70	25	18	13	25	62	89	125	390
Slovakia						12	9	19	50
Spain			54		32			65	427
UK	567	358	220	142	279	500	570	828	1424
USA	358	173	65	43	270	1491	1601	1766	3500

Notes [a]indicates that the number of breweries in 2014 was used
[b]indicates that only the number of macrobreweries was used

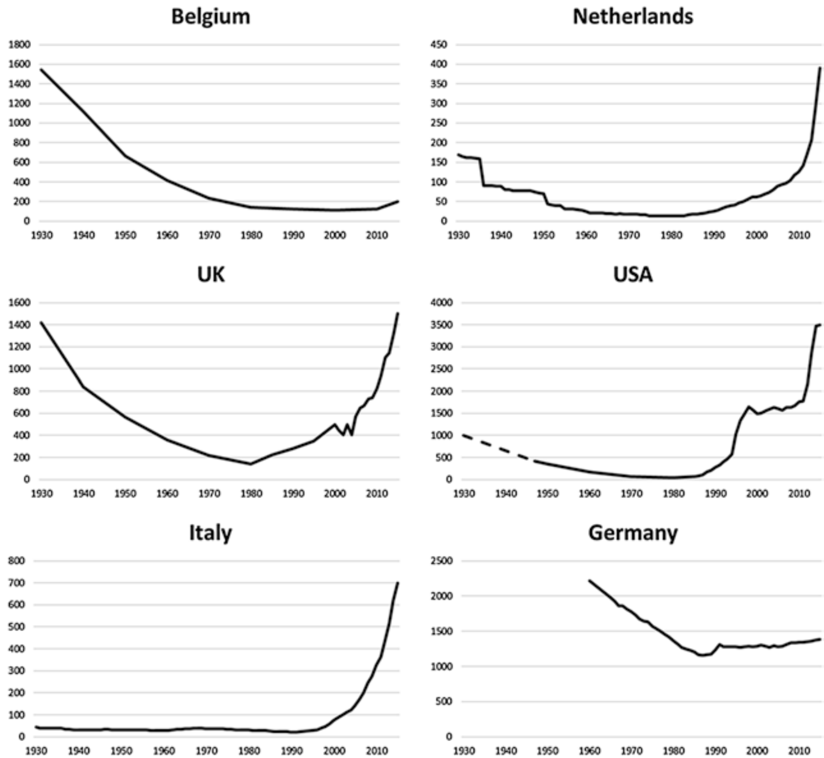

Fig. 1.1 Number of breweries, 1930–2015

is technological progress, such as automation of the beer production process; the acceleration of packaging; a more automated brewing, fermenting, and conditioning process; and a better distribution through improved road networks, which led to greater economies of scale (Adams 2006; Gourvish 1994). Second, the introduction of bottom-fermented beers (lagers) in the first part of the twentieth century led to higher fixed costs than for top-fermented beers (ales), as artificial cooling was needed during the fermentation and throughout the longer maturation time. This caused smaller breweries to exit the market. In several countries that were involved in World Wars I or II, this process was reinforced by equipment confiscation during the wars and shortage of capital, which induced many breweries either to quit or to merge with larger breweries, because of the investments that were necessary for re-equipment and modernization (Poelmans and Swinnen 2011).

A last contributing factor was the spread of large-scale advertising since World War II, which led to an escalation of sunk advertising costs, which could only be paid by larger breweries (Sutton 1991; George 2009). After World War II, the effectiveness of mass advertising was enhanced by network television. In 1950, only 9% of US households had a television set, a number that rose to 88% in 1960 and 96% in 1970. The growing popularity of television gave a marketing advantage to large brewers, which had a scale of operation (in terms of output and geographic availability) that enabled their beer to be advertised on commercial television (George 2011). This process started more recently in Europe, which was dominated by public TV channels until the 1980s, with the spread of advertising on commercial TV channels.

In Eastern Europe the concentration was reinforced by the takeover of the local breweries by multinational brewers such as AB Inbev,[5] Heineken, and Carlsberg in the 1990s during the privatization of previously state-owned breweries (Van Herck et al. 2012). Fertő et al. (Chap. 8), Chlebicka et al. (Chap. 11), and Pokrivčák et al. (Chap. 12) discuss the rapid increase in the degree of concentration after the collapse of the communist regime in 1989.

Globally, mergers and acquisitions contributed to a dramatic consolidation of the beer industry in the 1990s and 2000s, leading to the emergence of global multinationals which dominate the market: AB InBev, SABMiller, Heineken, and Carlsberg. As a consequence, globally beers became more standardized and homogeneous.

1.4 When Did the Craft Beer Revolution Start?

In some countries it is relatively easy to identify the start of the craft revolution. Elzinga et al. (Chap. 2) identify the start of the craft beer movement in the USA as when Fritz Maytag bought the Anchor Brewing

[5]Most of the takeovers were by Belgian company Interbrew, which later merged with Ambev and Anheuscher-Busch to form AB InBev.

Company of San Francisco in 1965. Nevertheless, it was a slow start. In 1965, the Anchor Brewing Company had a capacity of 50,000 barrels, but sold barely 1000 barrels of beer. It took a decade for sales to reach 7500 barrels and the venture to become profitable. Similarly, van Dijk et al. (Chap. 10) identify the start of the craft beer revolution in the Netherlands as when the first new brewery since World War II was launched in 1981 (De Arcense Stoombierbrouwerij). Garavaglia (Chap. 9) reports that the first brewpub in Italy started in 1988. In Australia, craft brewing began around 1980. Sammartino (Chap. 15) documents how the start was slow in the first half of the 1980s, but clearly picked up with several new craft brewers entering the market in the second half of the 1980s. Garavaglia and Castro (Chap. 13) discuss the start in 1989 of the pioneer craft beer producer in Spain.

It is more difficult to identify this in countries with a long tradition in “specialty beers,” such as Belgium and the UK. In the UK, the origin of the craft beer movement is typically associated with the emergence of the Campaign for Real Ale association (CAMRA) during the 1970s. In Belgium, the origin of the current movement can also be traced back to the 1970s, although Belgium has to some extent always been a “craft beer nation” (Swinnen and Briski 2017). In Germany it is even more difficult to classify the beginning of craft beer given the historical presence of small and local producers, as pointed out by Depenbusch et al. in Chap. 7. However, also in these countries there is a clear time period when new, mostly smaller breweries started to produce new, specialty beers.

A good indication of the take-off of the craft beer sector is the number of breweries. In all countries, the number of breweries declined during much of the twentieth century. It is only when new craft breweries start that the number of breweries increases again.

Tables 1.1 and 1.2 summarize the number of breweries and microbreweries in various countries since 1950 for the number of total breweries and since 1985 for microbreweries. Not all countries have data on craft brewers or microbreweries (the source of the data is the chapters in this book; see the Appendix 1 to this chapter for the full dataset). Figure 1.1 illustrates the evolution of the number of breweries for

Table 1.2 Number of microbreweries, 1985–2015

Country	1985	1990	1995	2000	2005	2010	2015
Australia	3	34	26	43	93	172	358
Canada	4[a]	33				277	610
Colombia			5	4	7	39	118
Germany[b]	894	867	1005	1024	1062	1112	1148
Germany[c]	632	639	759	844	894	987	1058
Hungary				110	90	50	64
Italy		1	7	60	132	311	670
Japan			17	302	256	208	222
Netherlands	7	15	30	51	78	115	380
Slovakia						14	45
Spain		1	2			46	409
USA	37	249	998	1469	1591	1756	3490

Notes[a]indicates that the number of microbreweries in 1984 was used Germany[b] and Germany[c] are the number of microbreweries if micros are defined, respectively, as "breweries that produce less than half of average production" and "breweries with yearly production <10.000 hl" which data were available (USA, UK, Germany, Belgium, Italy, and the Netherlands) over a longer period; that is, from 1930 to 2015.

The tables and figure clearly document the continued decline in the number of breweries for most of the twentieth century (due to consolidation and bankruptcies in the mainstream beer industry) and a growth in the number of breweries in more recent years (due to the growth in craft brewers).

However, the data and Fig. 1.1 also show that there are significant differences among countries in the emergence and the growth of craft and microbreweries. In countries where post–World War II consolidation was stronger and where craft brewers emerged earlier, the turnaround in the number of breweries occurred earlier. That was the case in, for example, the USA, the UK, and the Netherlands, where the total number of breweries was at its lowest point around 1980. In those countries the decline in macrobreweries was more than compensated for by the growth in craft breweries from the 1980s onwards. For example, in the USA the number of craft brewers (37) exceeded the number of macrobrewers (34) for the first time in 1985. Since then the total number of breweries has grown to more than 3500, the vast majority of which are craft-type breweries.

While all six countries in Fig. 1.1 have had a (recent) increase in the number of breweries following an (earlier) decline in the number of breweries, and thus something like a U-shape function in the evolution of brewery numbers over almost a century (the 1930–2015 period),[6] the U shape is most clear for the UK. In the Netherlands, the USA, and especially Italy, the decline prior to the 1980s was less steep than the growth afterwards (making it more like a J curve), while in Germany and Belgium, the growth in the number of breweries in recent years is much lower than the decline in the pre-1980 period (making it more like an L curve). The low point of the curve (i.e., when the number of breweries was at its lowest) was also significantly later in Germany and Belgium, and the growth in the number of breweries since has been much less dramatic than in for example the USA, the UK, or the

[6]The dotted line on the US graph in Fig. 1.1 is an extrapolation of the number of breweries just before (1912) and after prohibition, since brewing was banned during prohibition.

Table 1.3 Number of breweries per million inhabitants

Country	1980	1990	2000	2010	2015
Australia	0.6	2.3	2.5	8.0	15.2
Belgium	14.5	12.6	11.0	11.3	17.6
Canada	1.6	2.2	na	9.1	17.8
Colombia	0.03	0.03	0.1	0.8	2.4
Denmark	4.8	3.7	3.0	21.6	na
Germany	17.4	15.5	15.7	16.4	17.0
Italy	0.5	0.4	1.3	5.5	11.2
Japan	0.04	0.04	2.4	1.6	1.7
Netherlands	0.9	1.6	3.8	7.3	23.0
UK	2.5	4.9	8.5	13.1	23.0
USA	0.2	1.1	5.3	5.7	10.9

Notes na = not available

Netherlands. Interestingly, Belgium and Germany are also countries with a relatively low level of concentration in the beer industry in the late twentieth century. Table 1.3 illustrates that they had (by far) the highest number of breweries per capita in the 1980s, 17.4 (Germany) and 14.5 (Belgium) per million people compared to less than 1 in for example Australia, Italy, the USA, and the Netherlands. These observations are consistent with the argument that the emergence and growth of the craft breweries are strongly linked to consolidation in the traditional brewing industry.

Germany provides an interesting case, since the increase of concentration was less sharp than in other countries, for a variety of reasons (Adams 2011; van Tongeren 2011). Interestingly, Depenbusch et al. (Chap. 7) provide further evidence of the correlation between industry concentration and the rise of craft breweries by studying different regions in Germany. Using regional data, they find that there is a positive correlation between the emergence of new "craft" breweries and the overall beer industry concentration at the regional level. In Belgium, the survival of smaller breweries is probably due to different reasons than in Germany (there was no protection against competition due to standards such as the Reinheitsgebot in Germany). Their survival is probably associated with the wide diversity of traditional beers which provided niche markets for many small breweries (Poelmans and Swinnen in Chap. 5; Swinnen 2017).

Evidence from some countries where data are available on entry and exit shows much dynamism in the craft sector, in the sense that many craft beers entered the market, but a substantive number of them also quit after a while. The chapters on Australia, Belgium, Denmark, and Hungary document extensive entry and exit within the craft sector (see Chaps. 5, 6, 8, and 15). In the USA there was a substantive shakeout in the craft sector between 1998 and 2010. Before 1998 there was rapid growth in the number of craft brewers, but during the 1998–2010 period, the number of craft brewers remained constant, as there were as many craft brewers leaving the sectors as there were entering. After 2010, there was a resurgence in net entry.

These dynamics have meant that today, the number of breweries per capita is vastly different from in the 1980s. As we already discussed, and illustrated by Fig. 1.1, the growth in numbers has been most spectacular in the USA. Table 1.4 presents the average annual growth numbers since 2005. Between 2005 and 2015, the number of breweries in the USA increased on average by 190 every year. The growth doubled in more recent years: between 2010 and 2015 there were 347 more breweries on average every year, equivalent to roughly 1 every day. This compares to an annual average of only 11 and an average of 9 overall for Germany over the same period. Although one obviously has to account for differences in size, this has resulted in a very different situation of

Table 1.4 Average annual growth in the number of breweries

	2005–2015	2010–2015
Australia	26.6	37.4
Belgium	8.4	15.2
Canada	na	65.6
Colombia	11.1	15.8
Germany	11.2	9.2
Hungary	−2.4	3.2
Italy	53.6	71.8
Japan	−3.4	2.8
Netherlands	30.2	53.8
Slovakia	4.1	6.2
Spain	na	72.4
UK	85.4	119.2
USA	189.9	346.8

Notes na = not available

the number of breweries per capita in 2015 compared to the situation in the 1980s and 1990s (see Table 1.3).

For most countries there are no data on the market share of craft beer. In Italy, available data indicate that the market share of craft beer is 3.3% (Garavaglia in Chap. 9). Data from Belgium and the USA show that "craft beer" (depending on the definition) has a more substantive share of the market in those countries. Elzinga et al. (Chap. 2) show that in 2014 the US craft beer share exceeded 10% for the first time. Poelmans and Swinnen (Chap. 5) present data indicating that in Belgium the market share of lager beer ("pils") had fallen to around 70% in 2000, with various forms of craft and specialty beers (including "ex-craft" distributed by large brewing companies) capturing close to 30% of the market by 2000. Recent consumer surveys suggest that the share of lager has now fallen below 50%, with craft and specialty beers capturing the rest of the market.

The birth and growth of the craft beer market are caused by several factors which we will discuss in the next sections, including demand-side factors, supply-side factors, and the role played by pioneers, consumer organizations, the spread of information and knowledge through networks, and the emerging capital and technology market.

1.5 A Growing Demand for "Different" Beers

The demand side of the beer market changed significantly from the 1980s onward. Several factors played a role, but three have been particularly important: (a) an increasing demand for more variety in beer styles; (b) the increasing incomes of beer consumers; and (c) the organization of consumers in associations focused on experiencing and disseminating information about different beers.[7]

[7]Many studies in the economic and marketing literature investigate how firms rely on consumers to develop new products and innovations. Prahalad and Ramaswamy (2004) claim that the role of the consumer in the economy has changed: consumers are connected, more informed, and active, rather than isolated and passive like years ago. The conventional process of value creation, where companies and consumers have distinct roles of production and consumption, has changed toward a co-creation interaction. Ahonen and Moore (2005) believe that consumers and their connected community activity "is the biggest change in business in 100 years." Studies point to the role of experimental users and lead consumers in the development of new products. Lead consumers act as opinion leaders (Schreier et al. 2007).

1.5.1 Demand for Variety: A Reaction to Homogenization in Beer Markets

The start of the craft beer revolution came at the end of a dramatic transformation of the beer industry. Macrobrewers chose product characteristics that appealed to as many consumers as possible. The result was a more homogeneous and milder lager beer.[8] In the USA and Canada, consumer preferences shifted toward low-calorie diets after World War II, prompting major manufacturers to produce lighter and lower-calorie beer (or light beer), such as Miller Lite, Coors Light, and Bud Light.

Consumers in general value not only the price and the quality of certain products but also variety. As consolidation took place in the macrobrewery sector, craft brewers began to enter the market by filling up product niches left unfilled because of the homogenization of macro beer.

A related factor is the increased interest of consumers (and society as a whole) in local products, environmental and sustainability considerations, and a rising sentiment against globalization (and products from giant and multinational firms). People's changing attitude (also captured sometimes by the term "neo-localism") shaped their consumption of food.[9] The diffusion of organic foods, the spread of geographic indications, the success of farmers' markets, and the Slow Food movement are a few examples of these trends. This change in

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[8]Elzinga et al. (Chap. 2) explain that this was accomplished by using fewer hops and by replacing malt with adjuncts. In 2000, a barrel of beer in the USA was produced with 62% fewer hops and 21% less malt than in 1950. Craft brewers started using greater quantities of hops and barley malt.

[9]Through the consumption of goods, consumers satisfy their wants and needs, but they also express themselves. Maslow's famous hierarchy of needs pyramid describes how consumers are motivated by the satisfaction of needs in purchasing decisions (Maslow 1954). The largest and lowest levels of needs are related to physiological requirements for human survival (physiological and safety needs). With their physical needs satisfied, consumers move to the satisfaction of higher-order needs (love and belonging, esteem), toward the need for self-actualization. Through consumption of food, as well as other consumer goods, individuals aim at satisfying their needs: individuals use products to express who they are and the consumer–product relationship reflects crucial life themes and identity concerns (Fournier 1998). In this sense, consumers' needs and values are "deflected" into consumption activities (Nicosia and Mayer 1976).

consumers' attitudes is acknowledged in many chapters in this book, for example in Chap. 9 by Garavaglia for the Italian case. Starting from the 1980s–1990s, consumers developed more sophisticated preferences in food consumption, which turned out to be relevant also in influencing changes in the consumption of beer. In Chap. 11, Chlebicka et al. claim that in Poland over the past two decades, consumer demand for niche products, like organic and locally grown foods, has also significantly increased, identifying as the main motivations of this dynamic the increase in consumers' knowledge about other styles of beer and the increase in consumers' income as a natural factor promoting demand for more variety. Li et al. (Chap. 17) also identify the search for variety in food with rapid income growth in Chinese cities as key factors in the recent success of craft beer in China.

The change in consumers' preferences and lifestyles typically leads to a market for new products, which often start as a niche in the market but may grow later. New products (or more variety) can either come from domestic producers or from imports (or both).[10] In some countries imports played an important role in stimulating consumer demand for variety in beer. Swaminathan (1998) finds that the entry of new craft breweries in the USA was correlated with the growth in demand for imported beers, which helped to stimulate the appreciation of new beer tastes among US consumers. In Chap. 2, Elzinga et al. also emphasize the relationship between beer imports and the growth of the domestic craft beer market. Imports were the first to penetrate the US macro beer market. The growth in demand for imported beer during the 1970s may have served as a signal that domestic craft brewing could be profitable. Imported brands have two important craft-like qualities. Like domestic craft beer, most imports were either dark ales, such as Guinness Stout, or all-malt lagers, such as Heineken and Beck's.

[10]The growth of the California wine industry has similar characteristics. Delacroix and Solt (1988) claim that entrants to the wine industry in California were driven by a niche formation process. Swaminathan (1995) shows that in the American wine industry between 1941 and 1990, a gradual shift in consumer demand was initially satisfied by increasing imports of differentiated wine from continental European countries, and by the entry of microwineries, which started to produce specialized products.

In addition, imports were able to sustain growth in spite of the fact that imported brands were approximately 40% more expensive than premium-priced domestic lagers. Also in the Netherlands, the demand for new local craft beers was inspired by imported specialty beers from neighboring Belgium (Van Dijk et al. in Chap. 10).

However, not surprisingly, the relationship between craft and imports is nuanced. In the USA, the growth of craft beer has displaced some of the demand for the darker lagers and ales brewed in the UK, Ireland, and Germany, while craft beer appears to have been less competitive with lighter imported lagers: in 2014, nine of the top ten imports were light lager beers, seven of which are sourced in Mexico and Canada. These lighter imports have taste profiles similar to domestic macro beer and have been more insulated from competition from the craft brewers.

The growth of the craft beer market is inherently associated with the growth of variety in beer styles. Thank to these dynamics, nowadays it is common to buy an IPA, a Belgian-style white beer, a Koelsch, an Oatmeal Stout, a Vienna, or other traditional beer styles in many countries. Moreover, the advent of the craft breweries stimulated the experimentation of new directions in beer brewing and the production of beer varieties that previously did not exist. It is common nowadays to find beers matured in wooden barrels that were previously used for wine production; or beers with the addition of new types of fruits, as well as with herbs and spices that had been forgotten.

1.5.2 Increasing Income

Craft beer is typically more expensive than standard lager beer. Not surprisingly, studies show that high-income consumers are more likely to buy craft beer (Elzinga et al. 2015; Gómez-Corona et al. 2016; Murray and O'Neill 2012). Craft beer generally commands a price premium over the imported, super-premium, and premium categories of beer, making it less affordable for low-income or high-consumption beer drinkers.

It is therefore also not surprising that the craft beer market expanded in recent decades, as incomes increased substantially in industrialized countries in the decades after World War II. Higher incomes not only stimulate an increase in demand for more expensive products, but also stimulate demand for more variety.[11] With higher incomes, consumer demand becomes more sophisticated, more refined, searching for a greater variety, through which the consumer may also communicate meanings that go beyond the realm of mere physical consumption.

Several authors in this book find that increased incomes played an important role in stimulating the craft beer market in various countries. Among others, in Chap. 6, Bentzen and Smith claim that increases in income contribute to explaining the expansion of the craft beer segment in Denmark. In Chap. 12, Pokrivčák et al. find evidence on the relationship between income and craft beer consumption in Slovakia. In their empirical analysis, regional income turns out to be the most significant factor influencing the demand for craft beer. In Chap. 17, Li et al. also report the increase in per capita disposable incomes as one of the relevant factors that motivated changes in consumers' attitude in food and beverage consumption.

1.5.3 Peer Effects in Beer Consumption and Consumer Associations

Consumers' purchasing decisions are often influenced by their environment, social pressures, and their peers (Nicosia and Mayer 1976; Nelson and Consoli 2010). Food and beer consumption is no exception. Deconinck and Swinnen (2015), for example, show how peer pressure played an important role in the dramatic growth of beer consumption in Russia in the 1990s.

In several countries, consumer associations were created in order to mobilize craft beer enthusiasts. The role of consumer associations and communities has been relevant for contributing to the development of

[11] For example, Chai and Moneta (2012) and Chai (2011) empirically investigate these effects and show that as household income rises, total household expenditure is distributed across different goods in an increasingly even manner, and over time there has been an acceleration in the rate at which household expenditure patterns become diversified as household income rises.

craft beer for at least two reasons. On the one hand, these associations stimulated the activity of the first entrants in the craft beer segment, sustaining a demand for specialized products against mass-produced beer. On the other hand, consumer associations often promoted home-brewing activities, which played an important role in the experience of the first entrepreneurs.

The best-known example of a consumer association is probably CAMRA, the Campaign for Real Ale, in the UK. Cabras in Chap. 14 discusses how, given the increase in industry concentration and in the homogenization of the product, during the 1970s many consumers expressed dissatisfaction with the decrease in the variety of beers. This sentiment fostered the creation of CAMRA in 1971. CAMRA is a movement of beer enthusiasts who supported the revival of "real ale"; that is, beers brewed with traditional procedures, non-pasteurized and non-filtered, and served hand pumped. CAMRA's actions amplified consumers' knowledge of traditional ales, and gradually enriched the activity of the associated, from demand for more beer varieties to preservation of traditions and historical values. CAMRA soon passed from being perceived as a "reactionary" organization fighting for the preservation of real ale to a sort of "lobby" organization promoting the appreciation of British beer. The contribution of CAMRA to the renaissance of traditional real ale beer in the UK is widely acknowledged. Gourvish and Wilson (1994) claim that CAMRA contributed to preserving a niche for traditional beer in the beer industry, notwithstanding the comparative difficulties of transportation and service of this kind of beer. CAMRA's creation was associated with a period of growth of small breweries in the 1970s.

The success of CAMRA in the UK inspired similar organizations in other countries. In the Netherlands, a small group of Dutch beer enthusiasts who regularly visited the UK contacted all the Dutch members of CAMRA to set up a Dutch craft beer consumer organization, which became the association PINT, whose goal was "to make beer culture important again in the Netherlands" by supporting the production and consumption of traditional beers. PINT's activities contributed to the emergence of a community of enthusiastic consumers of craft beer and also encouraged hobby brewers. In Belgium, in 1984 De Objectieve

Bierproevers (today better known as Zythos), a beer consumer organization, was founded and started to spread information and organize craft beer tasting events. In the Catalonia region of Spain, two craft beer associations emerged in the middle of the 1990s: Humulus Lupulus and the Catalunya Home Brewers. Both associations were inspired by travels and organizations abroad and by dissatisfaction with the available homogeneous mass beer. The associations played a crucial role in spreading knowledge among producers and a culture of craft beer among Spanish consumers, and fostered the diffusion of craft beer brewing in Catalonia.

1.6 Pioneers and Entrepreneurs in Craft Brewing

The chapters in this book document how the first craft breweries were started by pioneer entrepreneurs. Often, the first entrepreneurs were somehow associated with existing breweries where they developed knowledge and skills in brewing. Another factor was that the old breweries provided the new entrepreneurs with an establishment in which to start brewing.

In the USA, pioneer Fritz Maytag purchased the almost defunct Anchor Brewing Company of San Francisco in 1965 in order to start brewing the traditional beer styles of continental Europe (Mittelman 2008; Elzinga et al. in Chap. 2). In Chap. 15 about Australia, Sammartino reports how the first influential craft beer was the Sail and Anchor brewpub, which opened in 1984 in Western Australia. Phil Sexton, one of the founders, had worked as a brewer in the Swan macrobrewery and afterwards he studied in Britain and traveled around Europe, where he was exposed to the growing brewpub scene and to traditional European beer styles.

In the Netherlands, the first craft brewery (De Arcense Stoombierbrouwerij) was founded by former employees of the British brewery Allied Breweries (AB) after AB closed down one of its Dutch production plants. This inspired them to start a new brewery at the same location. Also other new craft breweries which opened in the following years were often founded by people with ties to incumbent breweries (Van Dijk et al. in Chap. 10). Also in the UK, the first micro producers in the late 1970s and mid-1980s were entrepreneurs with previous experience in the beer industry who aimed to exploit the increasing demand for real ales (Mason and McNeill 1997; Cabras in Chap. 14). In Italy, several new craft breweries had links to older breweries (Garavaglia in Chap. 9): for example, Orabrau was opened with the involvement of the German König Ludwig brewery, and IBS was started by a former brewer at the macrobrewery Ichnusa.

In Japan, the process was a little different. In Chap. 16, Ninomiya and Omura explain that many new micro producers were established and subsidized by local government to sustain regional development. However, these also relied on technical guidance from the big brewers like Asahi and Kirin. Microbreweries established by independent entrepreneurs were only late entrants because they initially suffered from a lack of knowledge and equipment for brewing. They often first traveled to the USA or Germany to learn and take courses about brewing, and they imported brewing equipment and often also brew masters.

In many countries, the pioneers' inspiration to start craft breweries also came from experiences in foreign countries or contact with other beers when they traveled in a foreign country with a tradition in brewing.

Inspiration was not only important for the pioneers, but also for the next waves of craft brewers. They often directly visited the pioneer breweries and were infected by the fervent enthusiasm of the first entrepreneurs. These thus inspired the establishment of the second generation of craft brewers, as we discuss later in this chapter.

1.7 The Re-emergence of Small Firms in a Concentrated Market: Generalists and Specialists

After the strong consolidation of traditional breweries and homogenization of beers during most of the twentieth century, an interesting question on the growth of craft breweries and the development of new beers is why it required a new type of brewery to produce them. The literature argues that large incumbent firms are typically not very good at reacting to these emerging niche markets. New small firms often build on existing technical competencies and apply them to new and emerging market segments (Swaminathan 1995). Large incumbent firms often display greater structural inertia (Hannan and Freeman 1984), thus giving new small entrants the opportunity to produce goods to satisfy the new requirements.[12] The emergence and growth of craft beers clearly fit this pattern.

The re-emergence of small breweries despite large economies of scale is also explained by the "resource partitioning" model of Carroll (1985), which explains industry evolution by focusing on economies of scale and the "resource space." For industries based on consumer products, the resource space is interpreted as consumer demand. The dimensions of this space can be interpreted as different dimensions of taste preferences. The market has a large center with mainstream tastes. Big firms tend to occupy the center of the market (mainstream tastes), where economies of scale in production, marketing, and distribution provide a competitive advantage and lead to a concentrated industry. Only a few big producers survive and they produce mass products. These big firms are named "generalists."

As generalists occupy the center of the market, producing a standardized good, they leave some customers dissatisfied. This creates opportunities at the periphery of the market for new firms to provide "special" (i.e., non-mainstream) products. Because resources tend to be "thin" in these regions of the resource space, "specialist firms" located there also tend to be small. When these resources are sufficient to sustain a specialist segment, the market is "partitioned." At this point, generalists and specialists do not compete with each other; they depend on different

[12] The evolution of industries through stages from a fragmented to a concentrated structure has been analyzed by different approaches in the economic literature. Among others, the "industry life cycle" explanations (Utterback and Suarez 1993; Klepper 1996, 1997; Horvath et al. 2001) refer to the emergence of a dominant design, the occurrence of technological innovations, and the exploitation of increasing returns in R&D as the main determinants in predicting a non-monotonic time path of the number of firms in an industry, thus explaining the dynamics of industry structures that from infancy mature and concentrate.

parts of the resource space. Hence, this model explains how, when the evolution of industries leads to a stage of strong concentration with a few big firms producing standardized products, new firms can find it profitable to enter the market producing specialized and differentiated products. The implication is that the founding rate of small specialist firms is positively related to the increase in the concentration ratio in the industry. Several papers (Carroll and Swaminathan 1992, 2000; Swaminathan 1998) have used this model to explain the changes in the brewing industry (applied to the USA).[13]

An extension of the resource partitioning model implies that when consumer demand becomes more diversified and sophisticated (and includes various aspects such as taste or preference for local products), the resource space becomes increasingly less favorable for generalists, creating room for specialist producers (Garavaglia 2016; Péli and Nooteboom 1999). This helps to explain why craft beers have continued to grow after they started on a small scale.

The co-existence of small and large firms in a market has also been examined by the "strategic groups" approach.[14] Agarwal and Audretsch (2001) argue that both technology and the stage of the industry life cycle influence the survival of small firms. In mature stages of industry evolution, small firms may enter and remain profitable by occupying strategic niches which are not covered by large firms.

By producing a large variety of different styles of beer on a small scale, craft brewers incur higher costs compared to macrobrewers. In order to overcome these cost disadvantage, craft brewers produce

[13]This "resource partitioning" explanation has found empirical support in many other industries, like the newspaper industry in the USA (Carroll 1985), the evolution of the US wine industry (Swaminathan 1995), the early American feature film industry from 1912 to 1929 (Mezias and Mezias, 2000), and the evolution of auditing firms in the Netherlands (Boone et al. 2000).

[14]The best-known definition is from Porter (1979): "a strategic group is a group of firms in an industry following a similar or identical strategy regarding relevant dimensions." Firms of the same strategic group are similar in terms of cost structure, organizational structure, marketing strategies, degree of product diversification, and the perceptions and preferences of individuals (McGee and Thomas 1986). McGee and Thomas report that the emergence of strategic groups may be related to some market-specific features, among which is the stage of the product life cycle.

specialty beers to sell to consumers with different quality preferences and a higher willingness to pay.

In addition, craft brewers also rely on different marketing strategies than traditional brewers. Small producers do not rely on the traditional distribution and advertising channels. They sell locally, often only in the brewpub, and avoid mass-market advertising on television and radio, focusing instead on low-cost marketing techniques ("guerrilla marketing"), which include the use of social media and the internet, as well as local festivals, street exposure, sponsoring local community events and charities, and benefiting from the "buy local" movement.

1.8 Legitimization, Information, and Networks

After the experience of the pioneer firms, a new market segment needs to be sustained by more subsequent entrants in order to grow and expand. Several related factors play a key role in such an expansion phase, such as legitimization, information, and networks.

The process of "legitimization" refers to the development of a taken-for-granted perspective on a type of firm and production (Carroll 1997; Hannan and Freeman 1984). New types of firms or products lack "legitimization:" there might be hostile behavior from customers and suppliers, unprepared institutional regulations, lack of specific technology, or skilled workers. Customers need to be persuaded. Capital resources are often limited because of the risks and the reluctance of financing firms associated with something new. As the new type of firm diffuses, its legitimacy rises, thus easing entry for similar firms.

Information and knowledge obviously play a role too in determining entry into an industry (Horvath et al. 2001).[15] Potential entrants face

[15]The economic literature about the role of capabilities, knowledge, and prior experience of the founders of a new firm is vast. Helfat and Lieberman (2002) discuss the importance of pre-entry experience and knowledge in determining the mode and timing of entry, as well as the likelihood of survival of firms. Important sources of knowledge of new firms may come from the relation with incumbent firms, which often translates into a spin-off entry. Also, the founders of new firms have histories (Freeman 1986; Aldrich 1989) and the pre-entry experience of the founders determines the degree of similarity between the pre-entry firm's resources and the required resource in the industry, thus influencing the success of entry (Helfat and Lieberman 2002).

uncertainty about future profitability at the moment of undertaking the entry decision. By observing the success and failure of pioneer firms, potential entrants have less uncertainty about future profitability. As more firms enter the market more information gets released, speeding up the resolution of uncertainty and triggering additional entry. Thus, a mechanism of "information cascade" stimulates growth in entry.

Networks can play an important role as a source of information and knowledge for producers, but also as a source of information, exchange of ideas, and creation of demand on the consumer side (Hills et al. 1997; Tappi 2005). In several countries, consumer associations were created in order to mobilize beer enthusiasts (see earlier discussion). The role of consumer associations and communities has been important for the development of craft beer for several reasons. Consumer associations stimulated the activity of the first entrants in the craft beer segment, sustaining a demand for specialized products against mass-produced beer.

Consumer and producer associations often promoted homebrewing activities, which played an important role for the first generations of craft brewers. Many founders of craft breweries had taken up homebrewing before starting a larger brewery. Homebrewing contributed to developing and spreading the basic knowledge and capability of making beer, as reported in many chapters (e.g., Chaps. 9, 10, 15).

In several countries, although not everywhere, craft brewers' and craft consumers' associations have developed. We have already discussed the important role of CAMRA in the UK and of other smaller associations. In the USA the Brewers Association has grown into a large and strong association. These associations have been helped by the spread of the internet and the related new communication technologies like social networks, which have facilitated and boosted the possibilities of interaction among consumers and small-scale brewers (Muñiz and O'Guinn, 2001).

1.9 Developing Technology and Capital Markets for Small Brewers

The growth of the craft sector and the entry of increasing numbers of small brewers was enhanced by the growing availability of technical equipment, which allows batches to be produced on a small scale.

Facilitating the entry and expansion of craft brewing everywhere is the maturation of the market for capital equipment used in the brewing process. Elzinga et al. write in Chap. 2:

> When craft brewing was in its infancy in the USA, one barrier faced by aspiring entrants was securing brewing and packaging equipment suitable for small-scale operations. A modern packaging machine has a line speed of over 1000 bottles or cans per minute (CPM). That is too much for any craft brewer. The early craft brewers regularly used capital equipment designed for other industries (such as the dairy industry) and adapted it to brewing and packaging; they often exchanged ideas about how to gather the necessary capital equipment to produce and bottle malt beverages in small lot sizes. All this has changed. Today a craft brewer can purchase canning equipment that runs from 50–250 CPM. There are vendors in both the USA and Europe that offer capital equipment scaled for craft brewing. An aspiring new entrant today can easily order a turnkey plant to produce craft beer.

Access to capital is a similar story. In the infancy of craft beer, entrepreneurs faced major difficulties in financing the brewery. This stimulated the use of contract brewing as an institutional mechanism to overcome capital and technology constraints.

In later stages of the craft market's development and as craft brewing revealed itself to be a profitable business, new sources of financing developed and supported the start-up of new craft breweries. Banks became more and more familiar with the concept of craft brewing and therefore started to provide start-up capital. Crowdfunding has reduced the entry barriers for starting up a microbrewery. For example, several Dutch breweries have used crowdfunding to finance construction or expansion.

Also, due to the increasing popularity of local beers, craft breweries are regarded as an interesting investment by private and public financial institutions. For example, in the USA venture capital funds have discovered craft brewing as an interesting investment opportunity and in Europe some regional authorities have begun to provide public funds and incentives to start craft brewing if connected to the development of the related agricultural activities; that is, the supply of barley and hops. An illustration is the diffusion of the so-called agricultural breweries in Italy.

1.10 The Geography of Craft Beer

As we have already mentioned, craft beer pioneers often got inspiration from contacts in countries with a strong beer tradition or where the craft beer scene had already developed. In almost all cases discussed in this book, the authors report the inspiration and "contagion" that craft brewing pioneers experienced when they traveled to a country with a strong tradition in beer brewing. For example, in Spain the first two craft breweries were strongly related to some foreign experiences: Naturbier started in 1989 thank to Jaime Tejada, a businessman who was passionate about German beer culture and wanted to recreate the atmosphere of a German tavern in Madrid. The Barcelona Brewing Company opened in 1993 thanks to Steve Huxley, an Englishman who moved to Spain for work. Dutch craft brewers were inspired by craft-style beers from the UK and from Belgium. Similarly, many of the US craft pioneers took inspiration from brewers in Europe. Jack McAuliffe, the founder of the New Albion Brewing Company in Sonoma, California, started in 1977, had been inspired by the ales and stouts he enjoyed in Scotland while serving in the US Navy (Johnson 1993). Elzinga et al. (Chap. 2) refer to William Bostwick's *The Brewer's Tale: A History of the World According to Beer* (2014) and its discussion of many cases of European beers now being produced in the USA, and how they were inspired. The rapid growth of Indian Pale Ale (IPA) was inspired by English brewers and several other beers by German brewers. Elzinga et al. emphasize a strong Belgian influence on the craft segment in the USA. For example, New Belgium, which as the name suggests brews Belgian-style beer and ale, is the third largest US craft brewer.

Interestingly, while the initial inspiration flow in the craft market went "from East to West" across the Atlantic Ocean, currently inspiration flows both ways. For example, while the Belgian influence on the craft segment in the USA has been huge, recently Belgian brewers have started copying some US craft beers, especially with the use of more hops and the production of IPAs (Alworth 2015). Van Dijk et al. (Chap. 10) report a similar development in the Netherlands. The first Dutch craft breweries were mainly focused on the production of Belgian-style ales, while later entrants have been increasingly inspired by the American-style ales. Also in Italy, craft brewers have been influenced by US craft breweries and many are now producing American-style ales. American hops (like Cascade, Amarillo, and Columbus) attracted a lot of interest in the Italian recipes of craft breweries.

In summary, the adoption of European brewing practices, personal experience with new brews through travel, and expertise gained from books by European authors influenced American craft brewers in the past few decades. More recently, European brewers are being influenced by craft brewers in the USA.

The "contagious" effect of craft brewing is not limited to Europe and the USA. Thanks to the rapid flow of information on the internet and to the increasing movement of people around the world, many other countries have been stimulated by the traditional European beer styles and by the US craft beer scene. Toro-Gonzalez (Chap. 4) refers to the strong impact that the craft brewery movement in the USA had on Colombian consumers due to the high flow of Colombians visiting the USA. Ninomiya and Omura (Chap. 16) describe how some of the first Japanese producers attended brewing courses in the USA and Germany to acquire knowledge of beer making. Sammartino (Chap. 15) mentions the story of Phil Sexton, the founder of one of the first and most influential craft breweries in Australia, the Sail and Anchor brewpub: Sexton studied in England and traveled around Europe, where he gained knowledge of the vivid English brewpub phenomenon and of the traditional European beer styles. He then imported a small-scale brew system from Burton-on-Trent, starting to successfully sell unfamiliar brew styles such as strong ales, pilsners, steam ales, stouts, porters, and chilli beers. Li et al. (Chap. 17) report the influence of European brewing methods and of the US craft beer movement in China too.

1.11 Regulations

Beer in general has been the subject of many government regulations (Swinnen 2017). Regulations have been introduced to serve several objectives: to enhance government revenues through beer taxes; to protect consumer health; to protect society from alcohol abuse; to reduce the price of bread grains; and to constrain market power.

Many of these regulations affect craft beers and brewing. There has been a two-way interaction between regulations and the growth of craft brewing. On the one hand, regulations have stimulated or constrained craft brewing compared to macro brewing. On the other hand, the growth of craft brewing has induced changes in regulations. Almost all chapters in this book point to regulations as an important element in the development of craft beers.

Beer regulations have also resulted from social pressures to fight alcohol abuse (and more recently obesity). The most extreme example is the prohibition of beer (and other alcoholic products) in the USA and Canada in the first half of the twentieth century (see Chaps. 2, 3). In many countries, differential taxation rates for different types of beer still reflect these concerns, as beers with higher alcohol content (including most craft beers) have sometimes been restricted or have been taxed at higher rates than lager beers.

Concerns about alcohol abuse and about tax evasion are also reflected in regulations that prohibit(ed) homebrewing in several countries. Legalization of homebrewing represented a key factor in facilitating the entry of craft brewers. For example, federal legalization of homebrewing occurred in the USA in 1979, and in the Netherlands in the early 1990s. The homebrewing activity encouraged hobby brewing, increased expertise in beer making, and ultimately facilitated knowledge sharing, thus stimulating support for the emergence of craft brewing.

Many chapters in this book (e.g., Chaps. 4, 9, 13, 17) report that the birth of craft brewing has been hampered by restrictive regulations which were tailored to and designed for mass producers. These regulations represented sometimes major entry barriers for the first pioneers and lowered the initial growth of craft breweries.

Japan presents a peculiar case in terms of regulation in beer brewing. Up to 1994 there was a restriction on the minimum required amount of annual beer production per brewery. This restriction was deregulated from 20,000 hl to 600 hl (and to 60 hl in the case of a low-malt beer, *happoshu*). The deregulation soon led to the entry of many small beer producers (Nimomiya and Omura in Chap. 16).

For much of history, beer taxes were a major source of government revenue and governments had to devise innovative ways to try to prevent tax avoidance by brewers (Deconinck et al. 2016; Nye 2007). The taxation system has always been an important factor, in particular for small firms. In many industries small producers have asked for lower tax rates. Many countries have a reduced excise tax for smaller brewers, such as Denmark, Slovakia, the UK, and the USA, where there is a lower tax rate below a threshold of production, respectively 200,000 hl in Denmark and Slovakia, 5000 hl in the UK, and 2 million barrels in the USA. However, craft beer producers sometimes consider these thresholds too high, such that many macro producers also match this criterion.[16]

Again, Japan presents a clear story about how regulation may directly influence the dynamics of markets. The Japanese liquor tax law defined beer according to the percentage of malt by weight: beer has a proportion of malt above 67%, while beverages with less than 67% were called *happoshu*. *Happoshu* was taxed at a lower rate. In 1996, the government changed the proportion from 67% to 50% of malt content, thus meaning a de facto tax increase for *happoshu*. The large brewers started to introduce a series of beer-like beverages, called *daisan no biiru* (the third beer), which contained no malt, but instead used protein-decomposed products made from soya, pea, or corn, with added yeast produced by alcoholic fermentation, with beer-flavored compounds and colored with caramel. Producers also introduced the *daiyon no biiru* (the fourth beer),

[16]Moreover, craft brewers complain in some countries (e.g., Italy, Slovakia) that wine producers benefit from an excise duty equal to 0, which represents discrimination against beer production.

which was *happoshu* fortified with spirits made from barley that tasted remarkably like beer. These products were collectively called "new genre beer" and were considered as substitutes by Japanese consumers. Also thank to the lower tax rate, the prices of these new products were typically around two-thirds to half of the price of beer. These beverages had a rapid diffusion and finally dominated the beer market in volume, with 32.8% of market share in 2010 (Jozo Sangyo Shimbunsha 2015 as cited by Nimomiya and Omura in Chap. 16). Therefore, the new genre beers comprised a significant proportion of the beer market. These dynamics had a negative effect on the diffusion of microbreweries.

Beer production has also been regulated to prevent the use of unhealthy ingredients or to prevent the use of grains which were needed to feed war horses or people when food was scarce. One example is the German Reinheitsgebot ("Purity Law"), which restricted beer ingredients to hops, barley, and water (later yeast was added to the list; van Tongeren 2011; Swinnen 2017). In Germany the Reinheitsgebot restrictions protected the German beer market from import competition and led to a much less concentrated beer market than in other countries—and also created less demand for craft beers in the late twentieth century, as evidenced by Depenbusch et al. in Chap. 7. At the same time, the regulations prevented experimentation with various types of ingredients which were not allowed. Both contributed to the relatively slow development of "new craft" brewing in Germany. Another example was the restriction on the use of certain bread grains during World Wars I and II and in the Dust Bowl in the USA (Poelmans and Swinnen 2011). Such regulations affected beers in several ways. In the USA, the regulations contributed to the "lightness" of beers, as rice was used as a substitute for wheat and barley in brewing, and later gave rise to the demand for more barley- and wheat-based craft beers.

Finally, with consolidation in brewing increasing, governments have regulated both horizontal and vertical coordination in the beer industry. Mergers have been scrutinized to prevent too much concentration in brewing, while restrictions on vertical linkages between breweries and pubs have tried to prevent excessive control of large brewers on the retail market. For example, in Australia during the 2000s some states loosened liquor licensing laws, thus weakening the dominant control of the macrobrewers. As a consequence, smaller bars and restaurants started to differentiate by offering craft beers and specialized distributors began to push craft product into retail stores, bars, restaurants, and pubs (Sammartino in Chap. 15).

Vertical relationships between brewers, retailers, and pubs have been a strategic (and controversial) issue in the brewing industry. In many countries tied houses have emerged where pubs are controlled by brewers through ownership or contracts. These systems have allowed brewers to control the retail outlets for their beer (and to exclude competing beers), and at the same time they provided capital-constrained pubs with equipment and sometimes financial support (Deconinck and Swinnen 2016). Depenbusch et al. in Chap. 7 argue that thanks to a strong tied-house system, local and regional beer producers were able to reinforce their market position and build up brand loyalty, thus contributing to preserving the fragmented structure of the German beer industry. Deconinck and Swinnen (2016) also find that in Belgium and the Netherlands especially, smaller incumbent brewers use this system to protect their market share. This system gives a clear advantage to incumbent producers and represents a barrier to entry for new firms.

The control of breweries over pubs has been criticized strongly, and has led to government regulations. One of the most drastic government decisions was introduced in 1989 in the UK, when the English Parliament changed the regulations (known as the Beer Orders) to loosen the tie between breweries and pub retailing. The Beer Orders restricted the possibility of large breweries owning tied pubs, thus forcing them to free most of their pubs from the tie. This period overlapped with the second wave of entrants of small producers. However, soon "pubcos" emerged to replace the breweries. These are companies which purchased most of the pubs when they were divested by the breweries, a situation which thus failed to increase market opportunities for the micro producers (Mason and MacNally 1997; Cabras in Chap. 14). However, the financial crisis of 2008 hit the large pub companies severely, leading to the sale of many pubs, thus creating a new opportunity for small craft producers to gain access to retail outlets, as demonstrated by the increased number of purchases and leases made by

Society of Independent Brewers (SIBA) members since 2014 (Cabras in Chap. 14).

1.12 The Macrobrewers' Responses to Craft Brewing

Initially, macrobreweries did not strategically react as long as the craft breweries were considered too small to represent a real threat.[17] However, the beer produced by craft breweries started to gain a larger market share, while overall beer consumption either stabilized or fell in traditional beer markets. In the USA, total beer consumption continued to increase until recently, but in many traditional beer markets such as the UK, Germany, and Belgium, total beer consumption has been declining for decades, and significantly so. Hence, with their traditional markets shrinking, macrobrewers responded to the growth in craft beers in several ways.[18]

1.12.1 Craft-Style Beer Production by Macrobrewers

One strategy in response to the growing success of craft beer is for macrobrewers to produce a craft(-style) beer themselves. This has been tried by incumbent large brewers in many countries.

[17]One could argue that the craft brewers followed the so-called Judo economics strategy (Gelman and Salop 1983). Capacity limitation and small-scale entry signal friendly behavior to incumbent firms, which therefore may accommodate entry. Later, when the craft sector grew, the craft brewers had established themselves as a strong force within the market.

[18]Probably the most famous case of conflict among craft and macro producers is related to the AB InBev advertising during the Super Bowl in the USA in 2015, when AB InBev used its marketing dollars to promote Budweiser at the expense of craft beer. The ad asserted that Budweiser is proud to be a macro beer that is brewed "the hard way" and compared Budweiser drinkers, played by young, attractive male and female actors, to craft beer drinkers, represented negatively as bearded snobs who sniff and sip "pumpkin peach ale," rather than real beer (Elzinga et al. in Chap. 2). This ad caused a great deal of internet buzz. AB InBev's strategy of intensifying rivalry was unusual, both because negative advertising goes against an industry tradition which refrained from negative advertisements on other companies' beer, and because it criticized craft beer, at a time when the company had acquired several craft brewers and established a substantial portfolio in its "craft and specialty beer network."

Among the very first responses was the reaction of the “Big Six” (Bass, Allied, Watneys/Grand Metropolitan, Scottish and Newcastle, Courage, and Whitbread) in the UK. Worried by the boost of “real ale” beers among middle-class consumers during the 1970s, the big producers reconsidered their strategy of promoting nationwide beers and started to reintroduce local brand names of cask-conditioned beer (Gourvish and Wilson 1994).

In Chap. 16 on Japan, Nimomiya and Omuna discuss how the large producers tried to pre-empt the diffusion of craft brewers by setting up smaller brewing factories, called “beer parks.” In 1994, Kirin opened a 170-seat restaurant in Kyoto where special beers, such as stout or ale, were released locally for a limited time, and Hiroshima Beer Park was opened in 1998. In 2001, Asahi also set up a subsidiary brewing company called Sumidagawa Brewing in Tokyo, which included several restaurants. These projects suffered competition from the low-priced beer-like beverages and some of them closed after few years.

In the USA, one response of macrobrewers was to produce their own versions of craft-style beer, as reported by Elzinga et al. in Chap. 2. In the mid-1990s, the major producers introduced new brands (sometimes referred to as “phantom” or “faux” craft beers). The brands explicitly did not display the name of the large company behind them in order to keep a distance from the macro connection. Probably the most successful of these brands has been Blue Moon by Coors. However, craft beer enthusiasts consider Blue Moon to be “crafty,” not craft.

In Italy the market leader, Heineken Italia, owns, among others, two traditional national brands, Ichnusa and Moretti. In 1999 Ichnusa produced Spirtu, a flavored beer with myrtle, and in 2006 Jennas, a non-pasteurized lager (Garavaglia 2010). In 2015, Moretti launched four new flavored beers, called “regionals.” The third largest producer in Italy, Carlsberg Italia, has gradually retuned its positioning in the market. Carlsberg Italia owns the historical national brand Poretti. In the last few years Poretti has been advertised and named with a more “craft” image than it had before.

In Denmark, the market leader Carlsberg heavily entered the segment of specialties with the opening of a production plant in 2005, the Jacobsen brewhouse. The declared goal is the development and marketing of uncompromising specialty beers, giving people new taste experiences. Some unexplored styles in Carlsberg's production activity have been introduced to the market, like Pale Ale, Wit, Barley Wine, and some other experimental brews.

> Interestingly, Chlebicka et al. in Chap. 11 on Poland note that twenty years ago small [breweries] tried to become similar to large [breweries], and nowadays we have a paradox that large [breweries] tell [us] that they are like the small ones.

1.12.2 Takeover of Craft Brewers

Another strategic reaction of the macrobrewers has been direct entry into the craft beer segment through acquisitions. While most initial acquisitions of craft breweries were domestic, increasingly they have become international.

In Chap. 2, Elzinga et al. report the main acquisitions in the USA, starting from 1988 when Miller acquired the Leinenkugel Brewing Company (Chippewa Falls, WI). In addition, in 1995 Miller acquired a partial interest in the Celis and Shipyard producers, while Anheuser-Busch acquired an interest in the Redhook Brewing Company in 1994 and Widmer Brothers Brewing in 1997.

In recent years, AB InBev, for example, acquired six craft breweries, among which was Goose Island. These were added to several other craft beers that AB InBev acquired in other countries, creating a substantial portfolio of specialty beers in its "craft and specialty beer network." Interbrew/Inbev (the Belgian roots of AB InBev) had already acquired Hoegaarden and Leffe (both Belgian craft breweries at the time) in the 1980s and Hertog Jan, one of the first craft breweries in the Netherlands, in 1995. In 2015, AB InBev also purchased one of the first craft producers in Brazil, Cervejaria Colorado, and the biggest craft brewery in Colombia, the Bogotá Beer Company. In 2016 it acquired one of the best-known craft producers in Italy, Birra del Borgo, and the Belgian Bosteels brewery, a seven-generations-old small family brewery and producer of award-winning Tripel Karmeliet.

Similarly, SABMiller actively participated in this craft takeover strategy: one of its takeovers has been the Londoner Meantime Brewery in 2015. MillerCoors, the joint venture between SABMiller and the Molson Coors Brewing Company, created a craft and import division (Tenth and Blake Beer Company) in the USA. In late 2015, MillerCoors purchased one of the fastest-growing breweries in California, the Saint Archer Brewing Co.

In 2015, Dutch company Heineken has taken a 50% stake in Lagunitas Brewing Co. and declared a plan to expand this brand into the world's first global craft brand. Earlier Heineken had acquired Belgian craft brewery Affligem and turned it into a major specialty beer brand in other European markets, such as France and Italy. The Spanish macro producer Mahou San Miguel bought 30% of the capital of American brand Founders Brewing in 2014 and installed a pilot plant in Spain (in Alovera) to start the production of Founders in order to enter other European markets. Even Indian breweries joined the global takeover of craft brewers: United Breweries Group, the main Indian brewing company, purchased the Mendocino Brewing Company in the USA.

Not surprisingly, these acquisitions have been criticized quite heavily by the remaining "true craft" brewers and consumers. They often consider such acquisitions as a departure of the beer from its craft origins—turning it into "ex-craft." As an illustration, Sam Calagione, the founder of US craft brewery Dogfish Head, emphasizes the issue of independence, claiming that "true craft brewers are brewers first, business people second," while big companies are "run by nothing but business people." Calagione argues:

> the world's largest breweries are disingenuous in their intentions moving into the craft beer world. They'll buy a once-independent brewery and suddenly its IPA's kegs are on the street for half as much as a true indie craft beer. It really shows they're using these once-craft brands as pawns in their game to knock the true indie breweries off the board. (Allyn 2015)

The backlash among consumers may be one of the largest threats of the takeover spree. However, there are obvious advantages as well. Through acquisitions the macro producers gain immediate access to the growing craft beer segment with established brands in the craft market. It also provides the (ex-)craft beers access to the much greater distribution network of the macro company.

1.12.3 Infrastructure Investment, Free Riding, and Consumer Access

Most craft breweries start off small and serve a small group of local customers. However, when they grow they need to find access to customers through retailers and/or bars.

In Belgium this has been difficult for some time, as macrobrewers often have ties with bars and wholesalers and may use these to prevent craft beer sales at the bars they control. They oppose craft beer sales (a) because they create competition for their own beers; and (b) because they accuse the crafts of "free riding" on their infrastructure investments in the bars. In response, the macrobrewers have used their control over bars and retailers to push their own portfolio of beers, including a growing list of own (ex-)craft beers.

The practise of tied contracts between macrobrewers and pubs/bars or retailers has been diffused in many countries (e.g. see Germany in Chap. 7, UK in Chap. 14, Australia in Chap. 15).

Most beer wholesaling in the USA is done by distributors which concentrate either on brands in the AB InBev portfolio or in the MillerCoors portfolio. Of those wholesalers authorized to distribute either AB InBev or MillerCoors products, most also distribute craft beer. Recently AB InBev announced a plan that would incentivize some of its distributors to focus on the sale of AB InBev brands (primarily Budweiser products). The program offers financial reimbursements to those distributors whose sales are at least 98% AB InBev products.[19]

Craft brewers have expressed opposition to this plan, fearing it will crowd their products off the delivery trucks of AB InBev distributors and make it more difficult for craft beer entrants to gain distribution by way of the AB InBev wholesaler network. For this reason, some craft

[19]See Wall Street Journal (2015) at http://www.wsj.com/articles/craft-brewers-take-issue-with-ab-inbev-distribution-plan-1449227668.

brewers want assurance that their distribution channels will be protected from AB InBev's new incentive practices.

AB InBev, on the other hand, is concerned about declining sales of its Budweiser brand and wants its distributors to focus their marketing efforts on its products. AB InBev also is endeavoring to solve a free rider problem: to the extent that the brand portfolio of Budweiser products covers the primary costs of the distributor, the craft beers essentially get on the delivery truck at marginal cost.

Another remarkable strategic move that has raised the opposition of craft brewers is the announcement of AB InBev to stop selling its South African hops to third parties outside of South Africa. Officially the macrobrewer stopped the sales because of low yield. However, craft brewers believe that this move represents a reaction against the increasing diffusion of craft beers using these hops.[20]

1.13 Conclusion

Craft brewers and their customers have transformed global beer markets over the past two decades. They ended a century of consolidation of breweries, resulting in the domination of a few large breweries and the homogenization of beer. In many countries, craft brewers started small and isolated but ultimately transformed a global industry. In this chapter we have summarized key insights and lessons from a comparative international analysis based on the various country studies which are the other chapters in this book.

An important issue which runs through all the chapters is how to define craft beer and craft breweries. While it was relatively easy to identify a craft brewery or beer at the start of the craft beer movement, it

[20]See: http://www.cbc.ca/news/business/beer-craftbeer-bigbeer-brewery-hops-barley-labatt-molson-1.4202758 and http://www.beeradvocate.com/articles/16054/south-african-hop-importer-greg-crum-owner-of-ta-hops-on-ab-inbevs-monopoly/

is less easy to draw the boundaries today. Many of the small start-ups have grown into larger breweries, often selling and brewing their beers beyond the original locations; and several of the most successful ones have been acquired by large, often international, brewing companies and now sell globally. In this chapter we suggest that one could try to use terms such as "real craft" or "ex-craft" to classify some of the beers and breweries, but in a dynamic industry and with vastly different sizes of markets, these definitions and classifications remain subjective to some extent.

In this chapter we documented with numbers how consolidation of the traditional breweries preceded the emergence and growth of craft breweries in all countries, but the extent of consolidation, as well as the size of the recent craft growth, differs quite strongly among countries.

We discuss both demand and supply factors which have driven the emergence and growth of craft, which include a growing demand for variety in beers since the 1980s, with a homogenization of traditional beers and increased consumer incomes. In all countries, initial craft breweries were started by pioneering entrepreneurs who were inspired by different beer varieties in other countries, and often experimented first with homebrewing. So the emergence of craft brewing came from new companies ("specialists") who sold to niche beer consumer markets which the large brewers ("generalists") were ignoring. Associations of craft consumers, craft brewers, and homebrewers helped expand the market by spreading information and experiences, and being a vehicle for new forms of marketing (often via the internet, social media, and special events). Later on, the development of specialized brewing technology markets and new forms of finance was important to stimulate the growth of the craft beer sector.

Government regulations in various forms affected the growth of craft beer. These included health and product safety regulations, differential taxes for different beers, restrictions on homebrewing, regulations on the ingredients of beer, rules on advertising, and regulations on vertical linkages in the beer industry. In many countries regulations were adjusted in past decades in response to the growing craft sector.

In recent years, macrobreweries have responded strongly to the growth of craft beers by acquiring craft breweries and/or beers and

Table 1.5 Number of Breweries, 2000–2015 (annual data)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Australia	47	52	63	69	77	97	115	128	148	162	176	197	224	256	316	363
Belgium	113	117	118	115	115	115	137	134	124	124	123	123	150	160	168	199
Canada								268	286	294	312	330	371	430	520	640
Colombia	5	5	7	7	8	8	8	12	18	28	40	48	60	72	86	119
Denmark	16	19	20	24	31	48	85	98	119	120	120					
Germany	1289	1305	1290	1275	1291	1276	1285	1309	1333	1334	1342	1343	1352	1360	1380	1388
Hungary	120	115	108	99	100	97	86	76	59	63	57	55	54	54	62	73
Italy	77	87	102	115	126	148	171	202	247	277	325	364	426	506	610	684
Japan	307	295	288	269	266	261	244	232	220	213	213	213	213	212	223	227
Netherlands	62	64	69	73	81	89	94	97	104	116	125	141	170	207	288	390
Slovakia	12	12	12	10	10	9	9	11	13	15	19	25	30	38	44	50
Spain									41	47	65	88	132	221	332	427
UK	500	448	403	493	405	570	642	667	725	745	828	948	1113	1147	1285	1424
USA	1491	1498	1558	1588	1635	1601	1567	1635	1635	1676	1766	1772	2166	2860	3474	3500

integrating them in their global beer and brewing portfolio. Not surprisingly, this has resulted in a negative response from "real craft" brewers and from "real craft" beer consumers. However, this has not prevented a rapidly growing international market for (ex-)craft or craft-style beers sold by large brewing companies. These developments have coincided with a rapid growth in international trade in craft(-style) beer, some of it from smaller breweries selling their beer internationally, some of it through the multinational distribution systems of large companies.

In conclusion, this book documents a revolution in the global beer industry and one which has not ended yet. The beer market and global industry remain a highly dynamic sector, with much to come and for us to learn about economic history, entrepreneurship, industrial evolution, and development.

Appendix 1

See Table 1.5

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Part II

Country Studies

2

Craft Beer in the USA: Strategic Connections to Macro- and European Brewers

Kenneth G. Elzinga, Carol Horton Tremblay and Victor J. Tremblay

2.1 Evolution of US Craft Brewing

The craft beer movement began in the USA when Fritz Maytag bought the Anchor Brewing Company of San Francisco in 1965. Anchor had begun in 1896 but had fallen on hard times. Maytag revitalized the company by reverting to the traditional brewing practices found in Europe, where all-malt beers and ales were produced. This was a time when almost all other domestic brewers, such as Anheuser-Busch,

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Schlitz, Pabst, and Falstaff (the four leading producers in 1965), brewed light-bodied lager beers.[1] They could be described this way:

> … pale lager beers vaguely of the pilsener style but lighter in body, notably lacking hop character, and generally bland in palate. They do not all taste exactly the same but the differences between them are often of minor consequence. (Alworth 2015)

The characteristic pale color and mild flavor of traditional domestic lagers were created by replacing between 35 and 75% of the barley malt content typical of European beers with adjuncts such as corn or rice (Goldammer 1999). Anheuser-Busch, Schlitz, Pabst, and Falstaff all brewed their beer in large breweries whose annual production capacities measured in the hundreds of thousands if not millions of barrels of beer.

In 1965, the Anchor Brewing Company had a capacity of 50,000 barrels but sold barely 1000 barrels of beer. It took a decade for sales to reach 7500 barrels and the venture to become profitable. It was this eventual success and Maytag's willingness to share his experience that inspired other entrepreneurs to start their own craft breweries in Northern California, beginning in 1977 with the New Albion Brewing Company. Anchor Brewing Company's resurrection from the almost dead along with the entry from scratch by New Albion marked the start of the craft beer revolution in the USA.[2]

Defining a start point for craft beer in Europe is difficult to do. What one might consider to be craft beer in the USA has been brewed in Europe for hundreds of years, though there is also a post-Maytag craft movement on the continent. We return to this later in this chapter.

[1]The term "light" as used here does not refer to low-calorie beer but rather beer that is lighter (or milder) in flavor and transparency. We discuss low-calorie (also known as "light" or "lite") beer later in this paper.

[2]For a recent book length history of the craft beer segment in the USA, see Acitelli (2013). For an abbreviated version, see Elzinga et al. (2015).

Changes in both state and federal government regulations helped pave the way for new microbreweries in the USA. In 1977, federal excise tax reductions for smaller brewers went into effect.[3] Federal legalization of homebrewing in 1979 and state legalization of brewpubs beginning in 1982 also facilitated entry. The expertise gained from homebrewing, and the resulting taste for craft beer that homebrewing caused, led many entrepreneurs to establish microbreweries that sold output off-premise and brewpubs that sold output on-premise.

At the same time, the craft beer segment in the USA was being birthed, the macro sector of the industry[4] also was going through a transformation, which ultimately aided the rise of craft brewing. Figure 2.1 compares the number of craft brewers with the number of macrobrewers from 1947 to 2014 and illustrates the changes taking place in both the craft and macro sectors. One trend line reveals the dramatic consolidation that took place in the macro sector of the industry. The number of macrobrewers declined from 421 in 1947 to 10 by 2014. The second trend line reveals the equally dramatic increase in the number of craft brewers: from 1 in 1965 to 3464 in 2014. The two lines combined illustrate one of the most radical structural transformations to take place in any American industry.

Elzinga (2015) and Tremblay and Tremblay (2005) discuss reasons for the decline in numbers and the increase in plant size of the surviving macrobrewers. Technology changed during the 1950s through the 1980s, causing the output necessary to exploit scale economies in the production and marketing of beer to increase dramatically.[5] Many of

[3]For brewers that produced less than 2 million barrels annually, the excise tax rate was reduced from $9.00 to $7.00 per barrel on the first 60,000 barrels produced. When the federal tax rate on larger brewers rose to $18.00 per barrel in 1991, the tax rate on brewers that produced less than 2 million barrels annually remained at $7.00 per barrel on the first 60,000 barrels produced.

[4]"Macrobrewer" means any of the large brewers in the USA that produce only (or mainly) lager beer, either as a full calorie or low-calorie ("light beer") product. Given their combined market share, for the past three decades, the macro brewers have been those producing product within the brand portfolio of Anheuser-Busch, Miller, and Coors. Another term sometimes used for macro brewers is "big beer" or "the major brewers."

[5]See also Tremblay and Tremblay (2005) and Gokhale and Tremblay (2012).

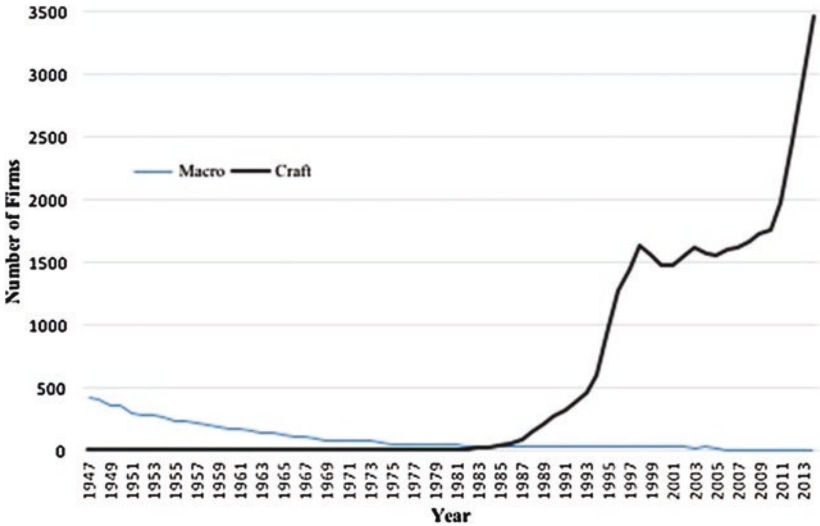

Fig. 2.1 Number of U.S. macro and craft brewers, 1947–2014

the macrobrewers who exited operated breweries with output ranging between 250,000 barrels to 1.5 million barrels per year. Even with capacity of this size, these firms shouldered higher costs than breweries operated by firms like Anheuser-Busch, Miller, and Coors (the leaders in the 1980s), whose plant capacity exceeded 4 million barrels. In a battle for growth among the macrobrewers, high-cost capacity was wrung out of the industry. Figure 2.1 illustrates how the market disciplined high-cost brewers.

US macrobrewers chose product characteristics that appealed to as many consumers as possible. The result was a more homogeneous and milder lager beer which was accomplished by using less hops and by replacing malt with adjuncts. In 2000, a barrel of beer in the USA was produced with 62% fewer hops and 21% less malt than in 1950.[6] Beginning in the 1950s, consumer preferences shifted toward

[6]In contrast, the craft segment has generated greater aggregate hop usage. According to the US Department of Agriculture, growing demand for craft beer led to an 11% increase in hop production in 2015 (CNBC 2015).

low-calorie diets, prompting major manufacturers to produce lighter and lower calorie foods and beverages. Brewing was not immune to this shift in tastes.[7] The height of this trend was reached with the development of low-calorie beer (or light beer), first marketed to a mass audience as Miller Lite and soon followed by Coors Light and Bud Light.[8]

As consolidation took place in the macro sector, craft brewers began to enter the market by filling up product niches left unfilled because of the homogenization of macro beer. The typical craft brewer produced darker lagers and ales similar to those being brewed in many European countries. In a sense, the craft beer segment in the USA represents the introduction of malt beverages that had been brewed outside the USA for many years—but were now being produced by brewers *inside* the USA. However, the entrepreneurs in the craft segment are largely homegrown and not born in Europe, as were many of the original German macrobrewers.

In 1985, the number of craft brewers in the USA (37) exceeded the number of macrobrewers (34) for the first time. Entry was robust until the shakeout of the late 1990s. The number of craft brewers peaked at 1625 in 1998 and fell to 1469 by 2000. Distributional bottlenecks and the production of poor quality beer by some enthusiastic but ill-trained entrants are two reasons for the shakeout (Tremblay and Tremblay 2005, 2011). Since then, the number of craft brewers in the USA grew slightly through 2010 when it reached 1756. After 2010, however, there was a resurgence in entry, with the number of craft brewers reaching 3464 in 2014.

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[7]In fact, as early as August 1948, *Consumer Reports* reported that "Today's beers have evolved from pronounced, distinctive flavors toward a blander uniformity" after testing 29 brands of beer (*Consumer Reports* 2016).

[8]In a survey of major brands, light beer had an average of 26% fewer calories and 16% less alcohol than traditional American lager (*Consumer Reports* 1996). The transformation of brewing in the USA caused by the success of the light beer category is frequently overlooked because of the rapid growth of the craft beer category and the disproportionate amount of press devoted to craft beer. Light beer's share was 0.3% in 1974 but grew to 22% in 1985 and 43% in 2000 (Tremblay and Tremblay 2005). To put the light beer category into perspective, in 2014 sales of the leading brand of light beer, Bud Light, exceeded 36 million barrels, while total craft beer sales was less than 22 million barrels. Nevertheless, in the last decade, Bud Light's share has declined as craft's share has risen dramatically.

Table 2.1 Output of leading craft brewers

Brewer	2010	2011	2012	2013	2014
Boston	2010	2096	2150	2325	2550
Sierra Nevada	786	858	960	984	1067
New Belgium	661	713	765	792	945
Craft Brew Alliance[a]	585	623	675	726	792
Spoetzl	431	487	524	568	600
Lagunitas	102	161	235	400	599
Deschutes	203	223	253	286	335
Bell's	154	189	216	248	319
Stone	115	149	177	213	287
Dogfish Head	121	144	172	202	228

Output is measured in 1000 barrels. *Source* Beer Industry Update (2015).
[a]Includes sales of the Widmer, Redhook, and Kona brands

Recent production figures of the leading 10 craft brewers are listed in Table 2.1. As the table indicates, the craft segment is relatively unconcentrated. The three leading producers are Boston Brewing, Sierra Nevada, and New Belgium who currently brew over 24% of all craft beer. All of the top craft brewers have experienced substantial growth in sales from 2010 to 2014. The Craft Brew Alliance was established in 2008 with the merger of the Widmer, Redhook, and Kona brewing companies. Spoetzl is a pre-Maytag era brewer from Texas that now specializes in craft. When the craft segment began, Spoetzl would not have counted as a legitimate craft brewer.[9] We include it in the table, however, because Spoetzl produces craft beer today.

Imports were the first to penetrate the US macro beer market by exploiting the homogenization of American beer (see Fig. 2.2). But when the craft beer segment began, imports were very small. In 1970, the import share of US beer consumption was less than 0.7%, while the macrobrewers held a market share of over 99%. In the same year, the lone craft brewer, Anchor Brewing, contributed only 1000 barrels to a market with total production of 125 million barrels. Along with Anchor's resurrection, the growth in demand for imported beer during the 1970s may have served as a signal that domestic craft brewing could

[9]For further discussion of this issue, see Tremblay and Tremblay (2005, Chap. 5).

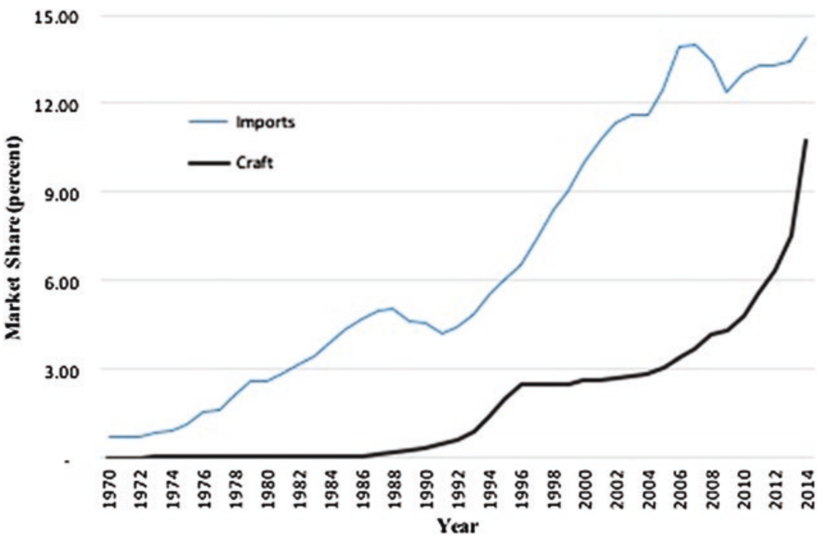

Fig. 2.2 U.S. Import and craft market shares, 1970–2014

be profitable. Imported brands have two important craft-like qualities. Like domestic craft beer, most imports were either dark ales, such as Guinness Stout, or all-malt lagers, such as Heineken and Beck's. In addition, imports were able to sustain growth in spite of the fact that imported brands command prices that are over 40% higher than premium-priced domestic lagers.[10]

By 1986, the import share grew to 5%, while the craft share was a statistical blip: just 0.1%. Thereafter, craft gained on imports until the shakeout in the late 1990s. It was not until 2005 that the craft sector began to regain ground on imports. Since then, import growth has stalled in the face of rising demand for craft beer. By 2014, the three sectors of US brewing were divided: 75% for the macro sector, 14.3% for imports, and 10.7% for the craft. The year 2014 was a breakthrough for craft beer: The segment's market share exceeded 10% for the first time.

[10]These features generated an image of quality and status that later led Jim Koch, president of Boston Beer, to call for a new "better beer" category for imports and domestic craft beer (*American Brewer* 2003).

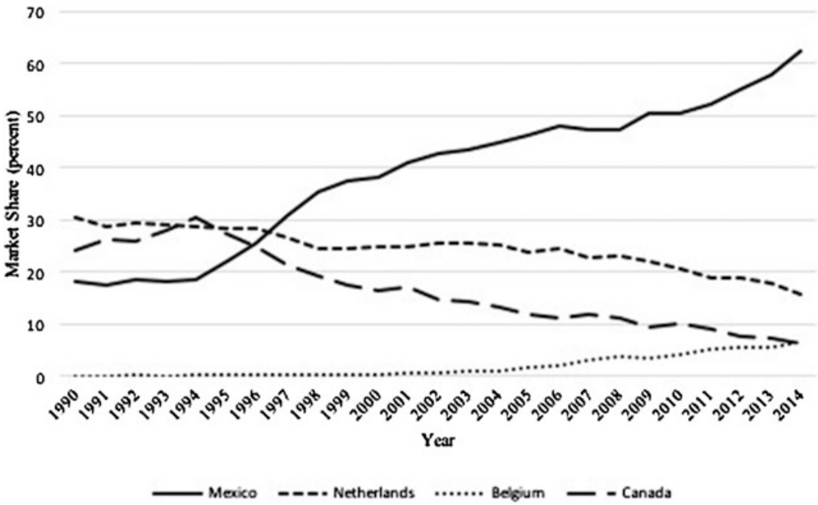

Fig. 2.3 U.S. Imports from four leading countries, 1990–2014

Figure 2.3 displays the trends in US beer imports from the four leading export countries, 1990 through 2014. In descending order for 2014, the largest beer exporters to the US are Mexico, the Netherlands, Belgium, and Canada. In the last 5 years, Belgian imports have gained ground on beer brewed in Ireland (ranked 5th in 2014) and Germany (ranked 6th in 2014). The success of Stella Artois has helped drive Belgium's growth in share (see Table 2.2). The decline in Germany's share is partially due to the fact that the Beck's brand is no longer defined as a true import. Since 2012, Anheuser-Busch InBev (AB InBev) has been brewing Beck's beer in St. Louis (Gershman 2015).[11] Many American beer consumers want their import beer to have been imported. This is not something new. Years earlier, Miller acquired the Lowenbrau brand, then a prominent German import. When Miller began brewing Lowenbrau domestically, the brand lost its import cachet and demand decreased.

[11]In order to be legally defined as an import beer, it must be brewed outside the USA.

Table 2.2 Import share (%) of the top 10 brands of beer imported into the U.S

Brand (beer style, country of origin)	2000	2005	2010	2014
1. Corona (pale lager, Mexico)	27.8	30.7	26.4	26.6
2. Modelo Especial (pale lager, Mexico)	1.9	4.3	8.4	15.3
3. Heineken (pale lager, Netherlands)	19.6	18.7	15.5	13.5
4. Dos Equis (pale lager, Mexico)	1.6	1.8	3.6	6.1
5. Stella Artois (pale lager, Belgium)	0.1	1.2	3.5	5.9
6. Corona Light (pale lager, Mexico)	1.5	2.8	3.5	3.5
7. Tecate (pale lager, Mexico)	4.1	4.6	4.7	3.4
8. Guinness (stout, Ireland)	3.7	3.6	3.5	3.4
9. Labatt Blue (pale lager, Canada)	5.2	3.8	2.8	2.1
10. Labatt Blue Light (pale lager, Canada)	1.2	1.7	1.9	1.6
Total	66.7	73.2	73.8	81.4

Brands are ordered by the 2014 rank in import share. *Sources* Beer style information obtained from Campbell and Goldstein (2010). Market share information is obtained from *Beer Industry Update*, various issues

The rapid growth in US craft beer has displaced some of the demand for the darker lagers and ales brewed in the United Kingdom, Ireland, and Germany. Craft beer appears to have been less competitive with lighter imported lagers, however. The prominence of the imported brands of today's light lagers is indicated in Table 2.2. In 2014, nine of the top ten imports were light lager beers, seven of which are sourced in Mexico and Canada.[12] These lighter imports have taste profiles similar to domestic macro beer and have been more insulated from competition from the craft brewers. Notable examples include Corona, Stella Artois, and Labatt Blue.

As seen in Table 2.3, craft beer generally commands a price premium over the import, super-premium, and premium categories of beer, making it less affordable for low income or high consumption beer drinkers. A consumer survey by Mediamark Research (as reported in *Beer Marketer's Insights* 2010) confirms that high-income consumers are more likely to buy craft beer. Consistent with this, using regression

[12]Another reason for their success is their location, which gives beer that derives from Canada and Mexico a transportation cost advantage over imports from Europe. Beer is mostly water and expensive to ship. In addition, quality can be compromised through increased exposure to light and heat when beer is shipped long distances.

Table 2.3 Avearge supermarket price per case by beer category

Beer category	2006	2007	2008	2009	2010	2011	2012	2013	2014
Import	25.68	26.75	27.02	27.26	26.96	27.27	27.37	27.66	27.97
Craft	27.20	28.11	29.64	30.63	31.21	31.96	33.08	33.97	34.95
Super-premium	20.51	21.62	23.09	23.90	24.06	24.46	25.01	26.32	26.62
Premium	16.71	16.91	17.35	17.91	17.99	18.28	18.44	18.63	19.78

Source Beer Industry Update (various issues). Values are in nominal dollars per case of 24 (12 oz) containers. Categories do not include light beer

analysis and state-level data to explain the entry patterns of craft brewers, Elzinga et al. (2015) found entry was greatest in states with higher average incomes. The authors also found that craft entry was more likely in states with more favorable tax rates for small brewers, more lenient brewpub laws, and larger populations. This suggests that craft brewing will continue to thrive with growing economic prosperity and a favorable legal environment.[13]

Over the short history of the craft beer segment in the USA, entry numbers have far exceeded exit numbers. Figures 2.4, 2.5 reveal how entry reduced overall concentration of craft beer production at the national level, as measured by the four-firm concentration ratio and the Herfindahl-Hirschman Index (HHI). Since the late 1980s, the four-firm concentration ratio has fluctuated at around 40%, and the HHI has been less than 1000. To the extent relevant geographic markets are regional rather than national, these concentration figures may be understated in some regions of the country.

We now return to the origins of craft brewing in the USA. In the next section, we focus on the contributions of key figures to the emergence of the craft sector.

[13]For example, Elzinga et al. (2015) document that craft brewing is less prevalent in Southern states, where local laws have been least favorable to brewpubs and homebrewing. See this paper for a more complete discussion of the reasons for craft segment growth.

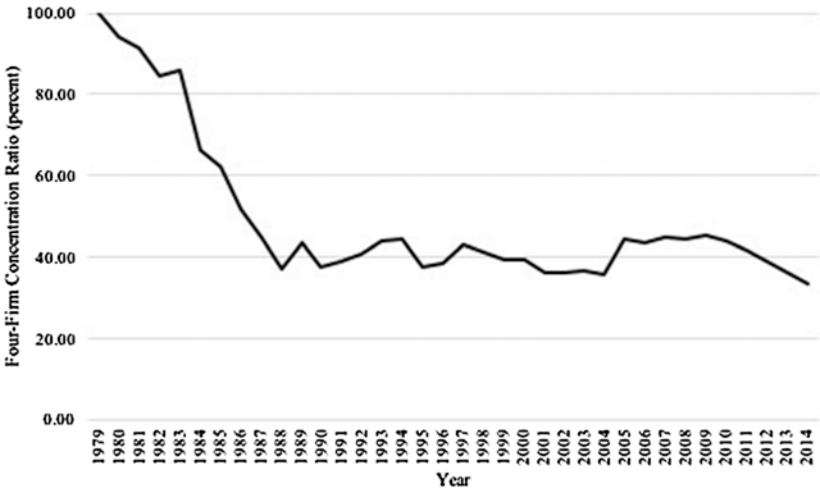

Fig. 2.4 Four-firm concentration ratio, 1979–2014

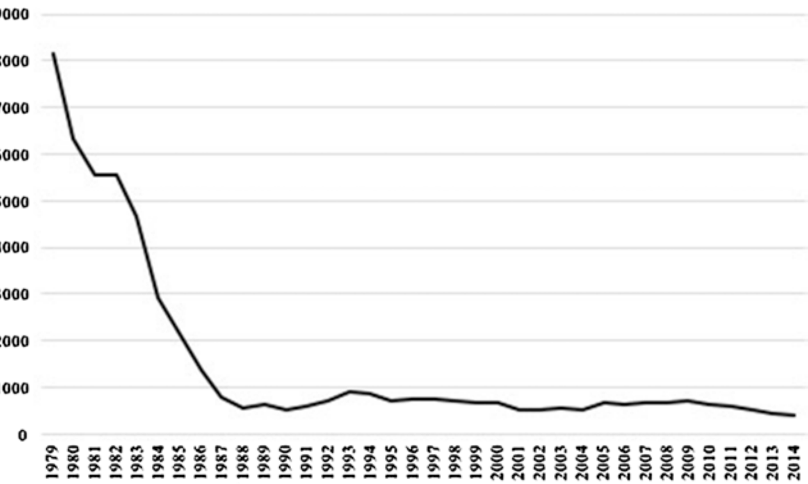

Fig. 2.5 Herfindahl-Hirschman index, 1979–2014

2.2 The Early Brewers, Promoters, and Brewmeisters[14]

While Fritz Maytag represents the Schumpeterian innovator of craft beer, three other brewers and three promoters of craft beer merit particular mention. In addition, two chemists played important roles in the development of craft beer.

Maytag had been a consumer of Anchor Steam Beer when he heard the firm was going to go dark. The closure would mean the demise of the last brewery in the USA producing what would now be called craft beer. Maytag bought the assets of the Anchor Brewing Company in 1965. According to Acitelli (2013), the firm had one employee at the time, when Maytag began to learn the art and science of brewing in order to resurrect the firm and undertake the task of marketing the brand to on-premise accounts in the San Francisco Bay Area.[15]

While other craft brewers who followed Maytag made important contributions to the development of the segment, Maytag deserves encomia for more than being the first to establish a craft beer brewery.[16] In addition to reviving steam beer, Maytag brewed the first American India Pale Ale (IPA), "brought back traditional porter, revived the custom of a spiced holiday beer, created the first American barley wine, and brewed the first American wheat beer since Prohibition" (Fritz Bows Out 2010). Maytag also recognized at the outset that his small operation could never match the cost efficiencies of modern, large-scale brewing facilities. To cover high per-unit production and packaging costs, he knew that his beer would have to sell at retail prices matching those of expensive imported brands. The task was to brew beer that would

[14]This section is extracted directly from Elzinga et al. (2015). We thank the American Association of Wine Economists for permission to reprint this section.

[15]Anchor Steam Beer technically is a lager, but the recipe made it taste different than a lager. Acitelli describes it as having a "citrusy finish" and a "heavier ale-like mouthfeel" (2013).

[16]Some argue that Anchor Brewing was not the first microbrewery because it was a revitalized brewery rather than a new establishment. We think that this unduly undervalues Maytag's contribution. For example, by 1983, the success of Anchor Brewing caused over 100 individuals to contact Maytag for advice about opening a new microbrewery. For further discussion, see Elzinga (2011) and Tremblay and Tremblay (2005).

be worth the candle. In the process, Maytag inspired others to line up behind him. Eight important "others" are cited below in groupings of three, three, and two.

2.2.1 The Early Brewers

If Jack McAuliffe had not been such an excellent welder, the craft beer segment might be different today. McAuliffe took beer-making skills that he had developed as a home brewer and combined them with his talent for welding, his training as an engineer, and his experience as an electrician to form New Albion Brewing Company in 1976, a little more than a decade after the start of Anchor Steam Beer. Stimulating McAuliffe's transition from homebrewing to small-scale commercial production was a visit to Maytag's operation.

Having settled in Sonoma, California, McAuliffe was one of the first to recognize the demand for craft beer as a drink to be paired with food, which was the business model of the wine industry that was all around him. He also demonstrated that small-scale production could produce a product whose taste signature stimulated the demand for craft beer. In doing so, McAuliffe influenced other craft brewers. What economists call first-mover advantages did not work for McAuliffe. New Albion exited the market in 1982. Several of those who learned from McAuliffe enjoyed a second-mover advantage. Acitelli (2013) suggests that New Albion failed because it was too small to be profitable.

As a high school student, Ken Grossman encountered a book by Fred Eckhardt, *A Treatise on Lager Beers*, and began homebrewing. A few years later, he was teaching homebrewing in Colorado. At this time, he visited the brewing facilities of McAuliffe and Maytag and left with both inspiration and information. Gifted with the same mechanical skills as McAuliffe, Grossman originally partnered with Paul Camusi to found the Sierra Nevada Brewing Company in Chico, California, which opened its doors in 1981. In 2014, the Sierra Nevada Company opened a brewery far from the Sierra Nevada mountains: a 350,000 barrel facility near Asheville, North Carolina. In 2013, the Sierra Nevada firm was the second-largest craft brewer, with sales of almost 1 million barrels.

Jim Koch was born into a family with a brewing history but began his career at the Boston Consulting Group, where his clients were anything but craft brewers. His family urged him not to consider brewing as a livelihood—advice that he took for a while and then rejected. Unlike McAuliffe and Grossman, Koch lacked skills in cobbling together pipes and kettles, but he had management expertise and experience when he founded the Boston Beer Company. Rather than build a craft brewery from scratch, Koch adopted the business model of using the facilities of an incumbent brewer (Pittsburgh Brewing Company) to produce craft beer to his specifications. He essentially bought capacity at marginal cost. The irony that Koch's brand, Samuel Adams, was being brewed at a facility accustomed to turn out the Iron City brand was not lost on some purists in the craft beer movement.[17]

Eventually, the Boston Beer Company integrated vertically into brewing, but this was after the Samuel Adams brand portfolio had become the best-selling craft beer in the USA. The Boston Brewing Company's output of almost 2.3 million barrels in 2013 handily exceeded the cap for the tax exemption designed to aid the craft beer segment, allowing Koch to join the Bloomberg Billionaires Index the following year.

2.2.2 The Early Promoters

If Fritz Maytag was the John the Baptist of craft beer—a voice crying in the wilderness—three individuals brought the message of craft beer to a much broader audience. They did so not by starting craft breweries, as had been done by Maytag, McAuliffe, Grossman, and Koch. Instead, they stimulated the demand for craft beer. The three who merit mention are Fred Eckhardt, Charles Papazian, and Michael Jackson.

The stimulation of demand for craft brewing was achieved through the dissemination of information about (1) homebrewing, which

[17]The Boston Beer Company is not alone in the craft segment to use contract brewing. Schlafly cleverly markets itself as the "largest American-owned Brewery in Missouri"—following Anheuser-Busch's acquisition by InBev. But while Schlafly in bottles is produced in Saint Louis, Schlafly in cans is brewed and packaged under contract with the Stevens Point Brewing Company in Wisconsin.

weaned many beer consumers away from the lager products of Big Beer; (2) craft beer production; and (3) beer as a serious consumption good to be paired with food, rather than as a liquid that quenched thirst on a hot day or offered an inexpensive buzz.

Homebrewing remains such an important introduction to the purchase of commercially produced craft beer that the Brewers Association (the trade association for craft brewers) promotes the American Homebrewers Association. One can hardly imagine Nike promoting the art and craft of making sports shoes at home.

After a visit to Maytag's brewery, Fred Eckhardt began to brew craft beer at home that was designed to mimic the quality of Anchor Steam. In addition to homebrewing for his own consumption, Eckhardt taught homebrewing to others and out of this came his book, *A Treatise on Lager Beers*, published in 1970 (which influenced Ken Grossman). Thousands of copies of this book were sold; the widespread practice of homebrewing led in turn to the reversal of many state laws (rarely enforced) that banned homebrewing. We are unaware of any US industry in which home production led to more commercial start-ups than took place in craft beer. Those who engaged in homebrewing changed their beer preferences; they became more likely to select brands of craft beer when consuming on-premise. Homebrewing acquainted many consumers with the flavors and organoleptic qualities of different kinds of beer. It also led pioneers like McAuliffe and Grossman to begin their own commercial ventures.

Like Eckhardt, Charles Papazian was not a producer of craft beer but, rather, a promoter of the product that others were commercially producing. He founded the American Homebrewers Association and also wrote about homebrewing. While Eckhardt's book was called a treatise, Papazian's book was titled *The Complete Joy of Homebrewing*. Papazian also began *Zymurgy*, a magazine that was both a how-to and a paean to homebrewing.[18] Those who joined the American Homebrewers Association or became subscribers to *Zymurgy* developed tastes for beers that made them customers of the craft beer segment. It also made them

[18]Zymurgy is the process of yeast fermentation. *Zymurgy* was not the first periodical devoted to home production of beer. Eckhardt's *Amateur Brewer* preceded *Zymurgy*.

apostles of craft beer to their friends; those who did not home brew became customers of those who brewed commercially.

The first issue of *Zymurgy* was published in 1978, the same year in which Congress decriminalized the brewing of beer at home. Prior to 1978, home brewers and promoters of homebrewing had no reason to fear raids on their houses by federal authorities. But the demise of this legislation left over from Prohibition was a social signal that the home production and consumption of beer had no taint of illegality.

Papazian's organization of the Great American Beer Festival, first held in 1982 in Boulder, was a harbinger of craft beer promotion. People came to sample beer and paid to do so. The beer festival was an eye opener for city officials because social events centered on craft beer did not turn into drunken brawls or occasions for municipal property damage. This was consistent with what Papazian observed when he was a University of Virginia college student experimenting with homebrewed beer: Students who drank craft beer "got happy, not stupid" (Acitelli 2013).

The Great American Beer Festival and its progeny were not like college spring breaks at beachside cities. Beer festivals brought people from out of town with discretionary income to be spent not only on craft beer but also restaurants and lodging. Today, no city would turn down an application for a beer festival. Indeed, a small industry has sprung up to organize and promote these festivals.

The writer Michael Jackson became to beer what Robert Parker Jr. was to wine. Jackson's book, *The World Guide to Beer*, was the first to reach a broad audience about the tastes of different beers. Commenting on the phenomenal sales of Jackson's book, Acitelli describes Jackson this way: "Beer in the twentieth century had its piper" (2013). Although Jackson's book was not about the still-nascent craft beer industry in the USA (the book was published at about the same time that McAuliffe was starting the New Albion Brewing Company), Jackson did give favorable mention to Maytag's Anchor Steam Beer company.[19] Jackson's writings acquainted millions of readers with what

[19]"No beers in the United States are more idiosyncratic than those produced by the Anchor Steam Brewing Company of San Francisco… The smallest brewery in the United States has added a whole new dimension to American brewing" (quoted in Acitelli 2013)

he called the "beer style"—beers from Asia, Europe, and the Caribbean were discussed and explained. At the time that American readers were coming to understand beer other than Big Beer, the craft segment was starting to ramp up in order to provide this beer. Jackson, whose reputation was worldwide, occasionally contributed to *Zymurgy* and wrote a preface to *The Complete Joy of Homebrewing.*

The craft beer segment in the USA would not be what it is without Jackson's influence as an informant about the vast multiplicity of beers that were being brewed and, starting with Fritz Maytag, came to be brewed in the USA to satisfy curious or intrepid consumers.[20]

2.2.3 The Brewmeister

In addition to the three brewers and three promoters just described, two other individuals played an important role in the craft beer segment, though they were not entrepreneurs and never operated a craft brewery. One was a professor, Michael Lewis, and the other was a brewer-consultant, Joseph Owades. Both were technically trained and scientifically versed in the application of chemistry to brewing. Both profoundly affected the impetus toward craft brewing in the USA.

In 1970, Lewis was hired as a Professor of brewing science at the University of California Davis (Acitelli 2013). He was technically trained in microbiology and biochemistry. Lewis knew brewing was an art, but he also knew it was a science. The timing and location of his academic appointment was fortuitous. Five years earlier, Maytag had purchased Anchor Steam Brewing, not far away, in San Francisco. Lewis offered McAuliffe technical advice on how to start a craft brewing operation. Later, Lewis left UC-Davis to teach the science and production of craft beer on site at the New Albion Brewing Company.

Joseph Owades is a brewmeister of high repute in both big beer and craft beer. Associated with the Center for Brewing Studies, Owades was

[20]Jackson has been described as "the most famous and influential beer writer ever—perhaps the most influential food writer on any subject of the twentieth century" (Acitelli 2013).

influential in the chemistry that produces light (or reduced-calorie) beer. Miller Lite, Bud Light, and Coors Light became the heavyweight brands at MillCoorWeiser. This alone would put Owades in a beer industry hall of fame. But on the craft side of the street, Owades also had an important role. First, he was a consultant to Maytag. Second, he is credited with the idea of a virtual brewery to serve the craft sector (Acitelli 2013). Owades counseled Matthew Reich (at the Old New York Brewing Company) to engage in contract brewing with a large, regional brewer that had excess capacity. The beer would be brewed in accordance with the Reich/Owades recipe. But Reich would not have to come up with the economic resources to finance the capital equipment. Under this business model, a craft brewer could sell his beer at marginal cost.

As mentioned earlier, the contract beer business model turned out to be a bonanza for Jim Koch and the Boston Beer Company, which became the largest craft brewer before ever owning a piece of capital equipment. Owades also was influential in designing the brewing recipe for the Samuel Adams brand, for which he became an equity owner in the Boston Brewing Company. After Maytag, all things considered, Owades is the most influential person in craft beer.

The expertise and strategies brought to the table by these players spurred the craft beer movement in the USA. Continued success in the presence of large, national producers has turned, in part, on the different marketing strategies of macros and crafts. In the next section, we discuss marketing and other strategic interactions between macrobrewers and craft brewers.

2.3 Marketing and Strategic Interactions Between US Craft and Macrobrewers

2.3.1 Marketing Differences Between Craft Brewers and Macrobrewers

The Johnson and Myatt (2006) model best explains why US macro- and craft brewers have chosen sharply contrasting marketing strategies. In their model, firms within the same industry make different strategic choices when they have different cost structures and their product design and marketing actions rotate demand. When this occurs, the low-cost producer chooses product characteristics and marketing campaigns that appeal to mass markets (characterized by a relatively flat demand), while the high-cost producer chooses product characteristics and marketing campaigns that appeal to niche markets (characterized by a relatively steep demand).

As discussed in the previous section, macrobrewer survival requires a consumer base large enough to exploit significant scale economies. In order to reach minimum efficient scale, the macrobrewers produced a light homogeneous product that appealed to the average American consumer. Another tactic for growth was to develop advertising campaigns that had broad mass appeal.

After World War II, the effectiveness of mass advertising was enhanced by network television. In 1950, only 9% of US households had a television set, a number that rose to 88% in 1960 and 96% in 1970. The growing popularity of television gave a marketing advantage to large national producers who had a scale of operation (in terms of output and geographic availability) that enabled their beer to be advertised on network television.[21] This was an era when television advertising helped create such memorable brands as Heinz ketchup, Oreo cookies, and McDonald's fast-food restaurants. In brewing, successful Clydesdale ads and award winning Super Bowl ads touted Budweiser as the "King of Beers," the number one selling brand in the USA. In 2014, the Budweiser brand portfolio (e.g., Budweiser, Bud Light, and Bud Ice) commanded a 28% share of the US beer market.[22]

[21]In general, a firm that wanted to advertise on television during the 1950s and 1960s had to advertise nationally or not at all. The advent of spot advertising that allowed firms to use local television ads did not completely eliminate the national producers marketing advantage, however. For example, in 1982, the cost of reaching 1000 viewers between the ages of 17 and 50 on prime time television was $14.14 for national ads and $23.49 for spot ads (Greer 1998).

[22]This marketing advantage began to erode in the 1990s with the development of cable television and cable programing. For further discussion of these marketing issues as they relate to brewing, see George (2009, 2011), Iwasaki et al. (2008), and Tremblay and Tremblay (2005).

Craft brewers pursued very different marketing strategies. The typical craft brewer is small, sells primarily within its home state or potentially states contiguous to it (but not nationally), and chooses product characteristics and a marketing approach to exploit market niches not served by the macrobrewers. By producing a variety of different styles of beer in relatively small batches, the typical craft brewer has substantially higher costs than macrobrewers.[23] Craft brewers are able to cover these higher costs by producing beer that appeals to a small group of consumers who have idiosyncratic (i.e., not average or mainstream) tastes and are willing to pay higher prices for the taste profile and product differentiation of craft beer (see Table 2.3).

Several early craft brewers attempted to avoid the high cost of small-scale production by engaging in contract brewing (see Carroll and Swaminathan 2000; Tremblay and Tremblay 2005). This occurs when a craft brewer outsources production to an existing macrobrewer with excess capacity, essentially allowing the craft brewer to procure capacity at marginal cost. Jim Koch effectively used this strategy to build the Boston Beer Company into the largest craft brewer in the USA.[24] As successful contract craft brewers grew in size, however, they began to produce beer in their own facilities, and the importance of contract brewing has diminished. Contract brewing accounted for 18% of craft beer production in 2002 but less than 1% in 2015.[25]

[23]Cost data for craft brewers are limited. However, in 2014, the average craft brewer produced 6300 barrels, far below estimates of minimum efficient scale of between 20 and 25 million barrels. In that year, AB InBev, the largest macrobrewer, produced 96 million barrels, and the Boston Beer Company, the largest craft brewer, produced 2.55 million barrels. For 2004, Tremblay and Tremblay (2007) estimate that the average cost of a barrel of beer at Anheuser-Busch (before its merger with InBev) was 15% lower than the average cost at Boston Beer.

[24]During the 1980s and 1990s, Boston's beer was produced under contract with the Blitz Weinhard Brewing Company in Portland, Oregon, High Falls (Genesee) Brewing Company in Rochester, New York, Hudepohl-Schoenling Brewing Company in Cincinnati, Ohio, and Pittsburgh Brewing Company in Pittsburgh, Pennsylvania.

[25]This information is obtained from the Brewers Association Web page at www.brewersassociation.org. The Brew Hub Corporation of Florida has extended the concept of contract brewing. Brew Hub calls itself a brewing partner that contracts with craft brewers to not only brew beer but to package and distribute it as well. It currently has facilities in Florida and plans to build additional facilities in the Northeast, Midwest, Texas, and the Southwest. This information is available at the company's Web page at http://brewhub.com.

Table 2.4 Advertising per barrel of the leading domestic and imported brands, 2000–2014

Beer category brand	2000	2005	2010	2014
Domestic Premium				
Budweiser	4.57	4.66	5.61	7.43
Coors	23.25	2.82	10.47	19.51
Miller GD	4.70	9.69	7.75	–
Domestic Light				
Bud Light	3.42	3.87	4.87	7.61
Coors Light	7.21	9.06	6.34	7.66
Miller Lite	5.61	8.53	7.45	9.35
Domestic Super Premium				
Michelob	7.96	1.81	9.03	10.08
Craft				
Boston	11.90	20.46	14.07	15.87
Import				
Corona (Modelo)	6.57	4.91	4.92	13.97
Guinness (Diageo)	5.87	12.14	–	–
Heineken	12.48	14.02	8.34	23.34
Industry average	4.54	5.69	4.79	6.67

Advertsing is measured in $1000s. *Source* TNS Media Intelligence/CMR as reported in *Beer Industry Update* (various issues)

Craft brewers not only distinguished themselves from the macro-brewers by offering brews with unique taste profiles, they also avoid mass market advertising on television and radio and devote little money to traditional print media. Instead, they use something that is called "guerrilla marketing," which exploits low-cost marketing techniques to maximize product publicity (Levinson 2007). In general, this involves the Internet, viral, and street exposure, with craft brewers vying for consumer attention by sponsoring local community events and charities, using social media to promote their brands, and riding on the "buy local" movement.[26]

[26]See Hindy (2014) for further discussion of the marketing tactics used by craft brewers. See Tropp (2014) for a discussion of the "buy local" movement for food, which is motivated by the belief of some consumers that locally produced foods are of higher quality, that doing so supports local business, and that production involves less use of fossil fuels. A buy local movement has benefited microbreweries in Italy as well (Garavaglia 2015).

The notable exception is the Boston Beer Company. Unlike the typical craft brewer, Boston has invested heavily in broadcast advertising. As Table 2.4 reveals, Boston's per barrel spending on advertising has exceeded that of most macro brands and is on par with most imported brands. Boston can be characterized as a hybrid brewer that produces all-malt beers and ales like a craft brewer but markets its beer like a macrobrewer—and produces on a scale today that never was anticipated by craft brewers in the beginning of the craft segment.

2.3.2 Macrobrewer Responses and Other Strategic Issues

The success of the US craft beer sector has not gone unnoticed by macrobrewers. One response has been for macrobrewers to produce their own versions of craft style beer. In the mid-1990s, Anheuser-Busch introduced the Elk Mountain brand, Miller introduced Ice House, and Coors introduced Blue Moon. In order to distance these brands from their macro connections, their packaging did not brandish the name of the controlling company. Consequently, these macro brands are sometimes called "phantom" or "faux" brands of craft style beer. The most successful of these has been Blue Moon. Aficionados of craft beer consider Blue Moon to be "crafty," not craft. If Blue Moon was an independent beer company or was classified as a craft brewer, in 2014, it would have ranked second in sales behind Boston Beer.[27]

Another tactical response to the craft beer segment has been for macrobrewers to purchase an interest in existing craft brewers. This began in 1988 when Miller acquired the Leinenkugel Brewing Company (Chippewa Falls, WI). Miller also purchased a partial interest in the Celis (Austin, TX) and Shipyard (Portland, ME) beer companies in 1995. Anheuser-Busch acquired an interest in the Redhook Brewing Company (Seattle) in 1994 and the Widmer Brothers Brewing (Portland, OR) in 1997. Acquisition interest waned after the shakeout

[27]In 2014, Blue Moon sold 2.1 million barrels. In the same year, Boston Beer, the largest craft brewer, sold 2.55 million and Sierra Nevada, the second-largest craft brewer, sold 1.067 million (*Beer Industry Update*, 2015).

in the craft segment in the late 1990s. But the recent growth in the craft sector has led to a flurry of acquisitions and formal affiliations between macro- and craft brewers. In the last several years, AB InBev has purchased six craft brewers: Goose Island (Chicago), Blue Point (Patchogue, NY), 10 Barrel (Bend, OR), Elysian (Seattle), Golden Road (Los Angeles), and Devils Backbone Brewing Company (Roseland, VA). Goose Island's most famous brand is "312 Goose Island" (the area code for Chicago is 312). "312 Goose Island" is now brewed in AB InBev's four million barrel capacity brewery in Baldwinsville, New York (where the area code is 315). In late 2015, MillerCoors reached an agreement to purchase Saint Archer Brewing (San Diego), the Dutch brewer Heineken purchased a 50% stake in Lagunitas Brewing (Petaluma, CA), and the alcoholic beverage conglomerate Constellation Brands Inc. purchased Ballast Point Brewing (San Diego) for $1 billion.[28]

These formal relationships generate costs as well as benefits to the craft and macrobrewer. The craft brewer benefits by gaining access to the distribution network of the national macrobrewer. The macrobrewer gains immediate entry into the growing craft sector. However, many in the craft community restrain their enthusiasm for such relationships. Among craft brewers, independence is so highly valued that a brewer can be considered a craft brewer (by the Brewers Association) only if less than 25% of the brewery is owned by a macrobrewer (or other non-craft alcoholic beverage company). Thus, a close connection to a macrobrewer can tarnish a craft brewer's goodwill among consumers and ostracize it from fellow craft brewers as well.

Rivalry between AB InBev and craft brewers intensified in early 2015 when AB InBev used its marketing dollars during the Super Bowl to promote Budweiser at the expense of craft beer. The ad, called "Brewed the Hard Way," showed young, attractive male and female actors drinking Budweiser. The ad proclaims that Budweiser is proud to be a macro beer that is brewed "the hard way." At the same time, the ad depicts

[28]For further discussion of these mergers, see Dulaney and Mickle (2015), Leonard (2015), Mickle (2015a, b), Pierson (2015), and the SABMiller Web page at www.sabmiller.com/media-releases/saint-archer-brewing-company.

craft beer drinkers in a negative light, as bearded snobs who sniff and sip "pumpkin peach ale," rather than real beer.

In response, a video company in the Northwest countered with an ad that promotes craft over macro beer, claiming that only craft beer is brewed with full flavor the "actual hard way," by hand.[29] Superficially, these ads are accurate in that Budweiser drinkers tend to be blue-collar and craft beer drinkers tend to be white-collar workers with above average incomes. The Budweiser ad suggests that the continued slide in its market share required a desperate measure and is indicative of a "Hail Mary" strategy in marketing (Aron and Lazear 1990).[30] This is in reference to a trailing football team that throws a desperation pass at the end of a game with the hope that it will lead to a miracle touchdown that wins the game. In business, such behavior is observed in struggling firms that pursue high-risk strategies in an attempt to avoid almost certain failure. Nevertheless, the Budweiser ad is unusual for two reasons. First, the ad criticized craft beer at the same time parent company AB InBev was making a major effort to enter the craft beer sector through a series of mergers.[31] Second, negative advertising goes against an industry tradition. Stung by prohibition, macrobrewers in the USA have eschewed denigrating anyone else's beer.[32] In any case, it is unclear

[29]One can view the Budweiser ad at http://superbowlcommercials.tv/35218.html and the craft ad at http://hopstories.conm/videos/craft-beer-super-bowl. As of November 27, 2015, the Budweiser ad had over 3 million viewers on YouTube and the craft beer ad had over 207 thousand viewers on YouTube. The production of craft beer would not always stop Diogenes in his search for truth. The marketing of Samuel Adams beer in a facility located in Pittsburgh that produced the Iron City brand hardly squares with the New England imagery of the brand. St. Louis craft brewer Schlafly markets itself as the "largest American brewer in Saint Louis" (after the acquisition of Anheuser-Busch by InBev). But its canned product is contract brewed in Wisconsin. The new Sierra Nevada brewing facility near Asheville, North Carolina (capacity circa 350,000 barrels), is so capital intensive that its production function is hardly the "handcrafted ale" as described on the label.

[30]For example, the market share of Bud and Bud Light fell from 32.5 to 24.7% from 2000 to 2014 (*Beer Industry Update* 2002 and 2015).

[31]See Leonard (2015) for a discussion of the problems this ad created within AB InBev in the USA.

[32]For example, at the Craft Brewers Conference on April 25, 1995, Henry King, president of the macrobrewers' US Brewers Association, stated that "You can say you have the best beer in the world—I am sure all of you have great beer—but it hurts our industry when in speeches, in writing, or in any way we denigrate anyone's beer" (as reported by Hindy 2014, p. 30).

whether these ads had any economic impact—in spite of their causing a great deal of Internet buzz.

A current issue of strategic importance to craft brewers is AB InBev's offer (made in November 2015) to acquire SABMiller, an international brewing conglomerate that owns MillerCoors. This combination of assets, expected to be completed in the latter half of 2016, will result in a global beer enterprise responsible for about 30% of the world beer market. This mega-merger, on the face of it, would have eliminated head-to-head competition between the Budweiser and MillerCoors brands, which comprise about 70% of the US beer market. To satisfy the US antitrust authorities, AB InBev has proposed spinning off SABMiller's interest in MillerCoors to Molson. Such a reorganization of acquired assets would be similar to what transpired in 2013 when AB InBev sought to acquire Mexico's Grupo Modelo and the antitrust authorities in the USA permitted the transaction contingent upon US sales of the Corona and Victoria brands being sold to Constellation Brands.[33] The acquisition of SABMiller by AB InBev remains of concern to some craft brewers, as illustrated by the response of the Brewers Association, the craft brewers' trade association in the USA. Bob Pease (2015), chief executive officer of the Brewers Association, contends that the AB InBev-SABMiller merger could reduce competition and foreclose distribution outlets to many small craft brewers.[34] Even if the Antitrust Division required the combined company to divest all MillerCoors operations in the USA, Pease argued that the increased global footprint of the combined company would give it greater influence over beer industry inputs, which could adversely affect small brewers and consumers.

[33]To satisfy international antitrust authorities, AB InBev has proposed the sale of SABMiller's interest in CR Snow (the top selling beer in China) to the government-owned China Resources Beer Holdings Company. AB InBev also would divest three major sellers in its brand portfolio (Peroni, Grolsch, and Meantime) to Japanese brewer Asahi. This reorganization reflects AB InBev's shift from the stagnant US and European beer markets to the growing South African and South American beer markets (where SAB Miller is firmly established). One reason for the stagnant sales of AB InBev and MillerCoors brands in the USA has been the growth of the craft segment, which is not as prominent in South Africa and South America.

[34]Similar concerns are raised by Moss (2015) of the American Antitrust Institute.

Most beer wholesaling in the USA is done by distributors who concentrate either on brands in the AB InBev portfolio or in the MillerCoors portfolio. Of those wholesalers authorized to distribute either AB InBev or MillerCoors products, most also distribute craft beer. Recently, AB InBev announced a plan that would incentivize some of its distributors to focus on the sale of AB InBev brands (primarily Budweiser products). The program offers financial reimbursements to those distributors whose sales are at least 98% AB InBev products.[35]

Craft brewers have expressed opposition to this plan, fearing it will crowd their products off the delivery trucks of AB InBev distributors and make it more difficult for craft beer entrants to gain distribution by way of the AB InBev wholesaler network. For this reason, some craft brewers want assurance that their distribution channels will be protected from AB InBev's new incentive practices and also have access going forward to the distributors whose primary focus will be on the newly constituted Molson-Miller-Coors.

AB InBev, on the other hand, is concerned about declining sales of its Budweiser brand and wants its distributors to focus their marketing efforts on its products. AB InBev also is endeavoring to solve a free rider problem: To the extent the brand portfolio of Budweiser products covers the primary costs of the distributor, the craft beers essentially get on the delivery truck at marginal cost.

2.4 The European Connection and Back

As mentioned earlier, the history of the craft beer segment in the USA begins in 1965 with Fritz Maytag and Anchor Brewing Company, followed by the establishment of the New Albion Brewing Company in 1977. The founder of New Albion, Jack McAuliffe, had been inspired by the ales and stouts he enjoyed in Scotland while serving in the US Navy (Johnson 1993).

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[35]See Wall Street Journal (2015) at http://www.wsj.com/articles/craft-brewers-take-issue-with-ab-inbev-distribution-plan-1449227668.

Whether the leaders of the craft beer movement were influenced directly or indirectly, the craft beer segment begins in Europe—because much of the beer being produced by the US craft segment has European origins. William Bostwick's *The Brewer's Tale: A History of the World According to Beer* (2014) recounts the influence of European beers now being produced in the USA. For example, Sam Calagione, the founder of Dogfish Head brewery in Delaware, has travelled the world to track down brewing recipes, including Egypt (Bostwick 2014). Dogfish Head's flagship product is "60 min IPA" (India Pale Ale), a malt beverage developed in the Middlesex-Essex area of England (and gained favor as an export to India).

Craft brewers as geographically diverse as Brian Hunt (Moonlight Brewing Company in California) and Will Meyers (Cambridge Brewing Company in Massachusetts) also take their brewing cues from European brewing traditions, particularly in their use of herbs and other plants to supplement the traditional ingredients of malt and hops (Bostwick 2014). These brewers, and others, learned their "craft" from books such as Stephen Buhner's *Sacred and Herbal Healing Beers* and Odd Nordland's *Brewing and Beer Traditions in Norway.* Hunt is so devoted to learning from European brewing traditions that he scours old texts about brewing written in German, even though he must read them with a dictionary (Bostwick 2014)!

Oregon's Rogue Brewing also illustrates the debt that US craft brewers have to Europe. Rogue introduced German-style doppelbock ale—different from Scottish and English ale—to the USA. We are unaware of any brewer whoever brewed a doppelbock ale in the USA. Maine's Allagash Brewery now brews Lambic beer (which ferments spontaneously). The roots of Lambic trace back to the Pajottenland region of Belgium (Bostwick 2014).

Belgian beers have become mainstays of the craft beer industry in the USA. For example, New Belgium, which as the name suggests brews Belgian style beer and ale, is the third-largest US craft brewer. While the Belgian influence upon the craft segment in the USA has been huge, in Belgium itself, once home to over 3000 breweries, the US craft beer movement has had an influence, especially with new entrants brewing beer with more hop content and imitating the recipes of American craft brewers (Alworth 2015).

To the extent that influence is a two-way street, it also is the case that other European brewers are now influenced by the craft brewers in the USA. Alworth (2015) argues that the craft beer revolution began almost simultaneously in Britain and the USA. While conceding that the craft beer segment is small compared to what he calls "industrial-scale brewing," he argues that craft beer is having a renaissance throughout the Western world. Consistent with a two-way street hypothesis, Alworth writes:

> Belgians are making hoppy beers, and American are making Belgian ales. The French are making cask ale, and the British are discovering craft lager. These trends get fed back into the cultural mill, shifting and mutating until they've created something yet again different and new. (Alworth 2015)

Some craft brewers in England have revitalized estate brewing. For example, Thornbridge Hall in Derbyshire has reconstructed the estate's brew house and began brewing an IPA with hops from the USA—which met with such success that a new brewery facility was constructed nearby in order to meet demand. The new brewery looks like many of the hundreds of craft brewers recently constructed in the USA (Alworth 2015). Griffin Brewery in West London is another example of an ancient brewing firm that has repositioned itself as a modern craft brewer—installing state-of-the-art capital equipment enabling the company to brew beer with a variety of recipes and packages (Alworth 2015). Bostwick identifies Camden Town as a brewer that epitomizes "the UK's new-school brewing scene" (Bostwick 2014). Asked what inspires this firm's production decisions, US brands such as Lagunitas and Bear Republic are identified as role models. Camden Town also has new brewing and packaging machinery, similar to the capital equipment found in hundreds of US craft breweries.

Facilitating the entry and expansion of craft brewing on both sides of the pond is the maturation of the market for capital equipment used in the brewing process. When craft brewing was in its infancy in the USA, one barrier faced by aspiring entrants was securing brewing and packaging equipment suitable for small-scale operations. A modern packaging machine has a line speed of over 1000 bottles or cans per minute (CPM). That's too much for any craft brewer.

The early craft brewers regularly used capital equipment designed for other industries (such as the dairy industry) and adapted it to brewing and packaging; they often exchanged ideas about how to gather the necessary capital equipment to produce and bottle malt beverages in small lot sizes. All this has changed. Today, a craft brewer can purchase canning equipment that runs from 50 to 250 CPM.[36] There are vendors in both the USA and Europe that offer capital equipment scaled for craft brewing. An aspiring new entrant today can order a turn-key plant to produce craft beer.

The annual "Business Edition" of *The New Brewer* illustrates the market for capital equipment and other inputs now readily available to aspiring and incumbent craft brewers. It is no longer important for a new entrant to have skills as a welder, plumber, and electrician to be a craft brewer or, absent these skills, find a large brewer with excess capacity. The trade show sponsored by the Brewers Association now has over 400 exhibitors; in 2014, there were over 9000 attendees (15% were international) (Beer Marketer's Insights, April 15, 2014).

In summary, the adoption of European brewing practices, personal experience with new brews through travel, and expertise gained from books by European authors are conduits by which Europe influenced American craft brewers. Today, European brewers are taking cues from craft brewers in the USA: Brewhouses are modeled after US craft breweries and brews fashioned after US brands. On the input side, hops produced in the USA are used to produce British craft beer, and capital equipment tailored to craft brewing aids both US and European brewers. Economists are fond of pointing to the gains from trade. In the case of craft beer, gains are being exploited and enjoyed even in the absence of the actual movement of malt beverage products across national boundaries.

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[36]JV Northwest merits citation as a supplier that developed scaled-down capital equipment for the craft segment but no firm has a monopoly over any input, be it land, labor, or capital.

2.5 Conclusion

While macrobrewers continue to produce the majority of beer sold in the USA, the craft segment is the growth sector in the industry, in terms of the number of firms having entered (now over 4000) and the share of the market (now over 10%). In the past, consumers who became acquainted with beer that differed from the light lagers of macrobrewers did so by drinking beer from Germany, the Netherlands, Belgium, or Britain. Except in San Francisco, the only alternative in the 1970s was an imported brand. Even by 1985, craft beer was available in only 10 states and had a share of the market that was less than 0.05%, a year when imports commanded over 4% of the market.

Now, this demand is fostered and met by domestic craft brewers. The popularity of craft beer in the USA has caused imports of beer from Europe to stall.

The entrepreneurial taproot of the craft beer segment in the USA is Fritz Maytag. He resurrected the Anchor Brewing Company and became a role model for many craft brewers who followed him. But the taproot of the craft beer segment itself lies in the variety of beers that have been produced in Europe (some for centuries). The craft beer segment has an enormous debt to Europe. But in a historical irony, as the craft beer segment matures in the USA, brewers in Europe have taken notice and responded by resurrecting and modernizing breweries that had been in existence for years. In addition, there has been the entry of new brewing establishments, whose owners and brewmasters reflect the spirit of Fritz Maytag.

Meanwhile, in the USA, craft brewers typically pursued production and marketing strategies quite distinct from the macrobrewers, focusing on niche markets as opposed to mass markets. These strategies contributed to their success. Today, the lines between crafts and macros are becoming blurred. As late as 2009, the Brewers Association defined a craft brewer as one with an annual output of less than 2 million barrels. In 2010, this definitional cap was raised to 6 million barrels. Some craft brewers have expanded into facilities so large and capital intensive that their product hardly can be described as "hand crafted." At the same time, US macrobrewers now have their own subsidiaries that develop and produce brands that imitate craft beer, and they have become active acquirers of craft beer firms.

The US craft beer segment cannot be viewed in isolation. The success of craft beer relies on strategic interplay with the macro sector as well as the influence of the style and taste profiles of beer emanating from Europe. The future will likely hold continuing interactions among US craft brewers and European brewers to the betterment of craft beer.

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3

The Canadian Craft Beer Sector

Alfons Weersink, Kevin Probyn-Smith and Mike Von Massow

3.1 Introduction

Beer was the unit of measurement for the Canadian duo of Bob and Doug McKenzie, who were popular members of the Second City comedy troupe during the 1980s. The number of 341 ml brown stubby bottles of either Molson Canadian or Labatts Blue beer consumed was the yardstick used to assess qualities ranging from the length of time to the value of a good. Beer was a relatively homogeneous product, making it possible for one stubby bottle to serve as the unit of measure. However, if the beer-guzzling hosers were to revive their skits today, Bob and Doug would have to clarify what they mean by a "beer."

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As in other countries, the beer market has changed considerably, with the decline of mass-marketed, light-bodied lager beer such as Canadian and Blue and the rise of craft beers differentiated by a number of attributes, from taste to location.

At the peak of the popularity of the McKenzie Brothers in 1985, there were only ten breweries in Canada and three companies owned these ten breweries. There has been a 50-fold increase in the number of breweries since 1985, with much of the increase happening in the past decade. Craft breweries represent the clear majority of the new establishments. While total beer consumption continues to decline in Canada, the craft beer market is expected to more than triple over the next few years (Chittley 2014).

The purpose of this chapter is to provide a rationale for the rise of craft brewers in Canada and for why the growth, albeit dramatic, is not larger. We begin with a description of the changes in beer consumption and in the suppliers of that beer, followed by a historical review of government policy regarding the production and distribution of beer in the country. The next section of the chapter examines the three major drivers of the growth in craft breweries: regulations, demographics, and demand for locally anchored food experiences. Regulations, while contributing to the rise of the number of outlets, also place significant constraints on these breweries' growth. The fourth section of the chapter discusses how this regulatory regime, along with production costs related to supply chain issues and geography, has limited the horizontal boundaries of new breweries. The net result of the regulatory regime and changing tastes and costs is the growth of many, but small, craft breweries in Canada.

3.2 Structure of the Canadian Beer Sector

3.2.1 Consumption

Beer is the number one alcoholic beverage in terms of both consumption and value in Canada. An estimated 10 million Canadians drink beer regularly, out of the population of roughly 35 million

(AAFC 2016). Beer sales of 22.7 million hectoliters represented 84% of total alcohol sales in 2015, with wine at 8%, spirits at 6%, and coolers at 2% (see Fig. 3.1). However, the absolute level of beer consumption and its share of total alcohol consumption in the country have fallen steadily over the last forty years, apart from a recent leveling in the trend. Per capita consumption of beer has fallen from around 118 liters in 1974 to about 78 liters in 2014 (see Fig. 3.1). This amount puts Canada in 25th place globally, but its level is approximately half of that for the Czech Republic, Germany, and Austria, which are the countries with the highest global per capita beer consumption (Beer Canada 2016).

Approximately 85% of the beer consumed in Canada is produced domestically, with approximately one-fifth of the imports coming from the USA. Beer in Canada is mostly sold in cans (55%) or in bottles (35%), with draught beer making up 10% of sales (Petrillo 2015). Almost three-quarters of the beer sold is lager, with this market split

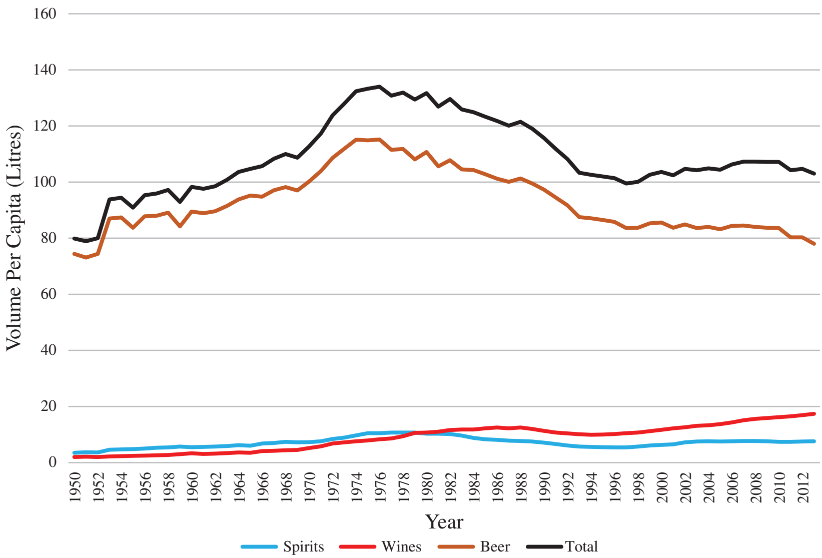

Fig. 3.1 Canadian households' per capita alcohol consumption by volume, 1950–2013

approximately equally between specialty lagers and standard lagers (MarketLine 2015). The two major brands of beer in 1985 were still some of the most popular in 2014, but the percentage of the volume fell from 9.1% in 2005 to 7.1% in 2015 for Molson Canadian and 13.2% in 2005 to 9.4% in 2015 for Labatts Blue. Two American beers (produced within Canada and so consider domestically produced) are now the most popular of the mass-produced beers, with Budweiser at 12.1% and Coors Light at 10.9%.

While total beer consumption has dropped, per capita beer consumption of craft beer has grown from 3.3 liters in 2010 to 5.24 liters in 2015 (Beer Canada 2016). Craft beer now accounts for 6% of the Canadian market and it is projected to more than triple over the next few years (Chittley 2014). For example, craft beer revenue for the government-owned liquor stores in Ontario, Canada's largest and most populous province, increased from under C$10 million to over C$80 million, with most of this growth happening in the last 5 years (see Fig. 3.2). These sales of craft beer in Ontario do not include the sales

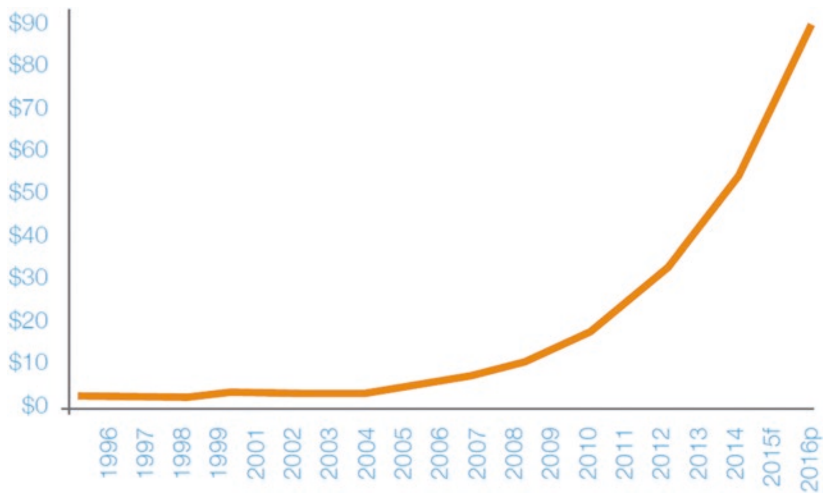

Fig. 3.2 Revenue from craft beer sales at the Liquor Control Board of Ontario (LCBO), 1996–2016. *Source* http://www.doingbusinesswithlcbo.com/tro/Forms-Documents/Media/Downloads/TradePresentations/Trade%20Day%202015%20Introduction.pdf

from breweries themselves or The Beer Store, which is the major retailer of beer in the province. As Elzinga et al. noted in Chap. 2 on craft beer in the USA, the typical craft brewery in Canada produces darker lagers and ales with more hops and malt, as opposed to the homogeneous, mild lager beers produced by the macrobreweries.

3.2.2 Production

There were 120 breweries in 1910, but by 1985, 60 years after the end of prohibition, there were only 10 breweries in Canada. The consolidation within the sector was the result of government regulations, discussed further below, along with the significant economies of size in production and marketing for beer, as described for the USA by Elzinga (2015). Of the 10 breweries in 1985, Molson, Labatt, and Carling O'Keefe owned approximately 96% of the Canadian market (The Canadian Encyclopedia 2015).

The trend toward homogenization and consolidation in beer production was reversed in the 1980s with the beginning of the global "Real Beer" movement. The first recorded modern craft brewery within Canada, although technically a brewpub, started in British Columbia. It arose when John Mitchell, who was the owner of the Troller Pub, was having a difficult time getting beer due to a breweries strike in 1979 (Amato 2009). At the time, regulation dictated that he could not have a brewery and a pub. He applied for a license and the province decided that he would be allowed to have both, as long as there was a commercial road between the two buildings to ensure the brewery and pub could not be physically connected (Amato 2009). This project was licensed in 1981 and opened in 1982 (Heron 2003). Other craft breweries began to open soon afterward across the country. The Granville Island Brewery in Vancouver, British Columbia (BC), opened in 1984 and was the first modern microbrewery in Canada (Heron 2003). Later that same year, Brick Brewery in Ontario opened (The Canadian Encyclopedia 2015).

The number of craft breweries in Canada has grown steadily since the establishment of the initial ones in BC and Ontario, with a large

Table 3.1 Number of breweries in Canada by annual output, 2007–2015

	Annual Output of Brewery (Hectoliters)						
Year	<2000	2001–5000	5001–15,000	15,001–50,000	50,001–75,000	>75,000	Total
2007	196	15	20	9	5	23	268
2008	210	26	13	7	7	23	286
2009	209	33	15	8	4	25	294
2010	217	31	19	10	4	31	312
2011	240	28	24	10	5	23	330
2012	264	42	25	13	2	25	371
2013	320	40	30	10	0	30	430
2014	380	50	40	20	0	30	520
2015	490	50	40	30	0	30	640

jump in the last decade. The current production of approximately 20 million hectoliters of beer in Canada is close to 1985 levels, but over 640 breweries, rather than the 10 that were in production three decades ago, are now brewing it. The trend toward more breweries has escalated recently, with the numbers nearly doubling over the last five years (Table 3.1).

The increase in the number of breweries is primarily associated with those firms producing fewer than 50,000 hectoliters, which now represent over 95% of all breweries in Canada (see Table 3.1). The pursuit of establishing a craft brewery has become popularized through the advertising of individual firms, such as Ottawa's Broadhead Brewing Company ("Brew beer, sell some, drink some, grow large beards, quit our day jobs"), and even by a bank through a television commercial offering support for new businesses, with a brewhouse highlighted as the entrepreneur's option (Hutchins 2016).

The breakdown of the number of brewers by size over time in Table 3.1 reveals another trend aside from the dramatic increase in the number of craft breweries in Canada: the hollowing out of the mid-sized category. There are no longer any breweries producing between 50,000 and 75,000 hectoliters annually in Canada. There has been some growth in the large breweries (>75,000 hectolitres) along with a dramatic rise in the very smallest operations producing fewer than 2000 hectoliters. The evolution of Canadian beer production into the two extremes of size distribution differs from other countries. For example, craft beer consumption has also grown in the USA (11% of overall beer market versus 6% in Canada), but the three largest craft brewers account for approximately one-quarter of all craft beer produced in the USA (Elzinga et al. in Chap. 2). While the Canadian craft beer sector may grow to become like the USA, we hypothesize that regulations regarding distribution and sale, along with other factors such as geography, have fostered the growth in the number of craft breweries in Canada, but at the same time confined their size.

3.2.3 History of Canadian Alcohol Regulations

An assessment of the changes in the structure of the Canadian beer sector, and in particular the growth of the craft beer component, first requires a review of past regulations affecting the production and distribution of alcohol in the country (Mayer 2011). Soon after Canada became a country in 1867, the federal government passed the Temperance Act that gave provinces the power to ban the production and consumption of alcohol. Provinces first started using the powers of the Temperance Act to make alcohol illegal in 1910 and soon afterward Prohibition spread across the country (Sheehan 1984). Prohibition in Canada did not last long (from less than 2 years in Quebec to 13 years in Nova Scotia), but the end came with the provincial governments playing a significant role in the production and distribution of alcohol (Heron 2003).[1] The strong temperance sentiment was reflected by Moderation Leagues that advocated for the strict regulation of liquor sales rather than an outright ban. The Moderation League developed branches across the country and by 1930 all provinces, except Prince Edward Island (PEI), had government-owned liquor stores that became the primary outlet for the sale of alcohol (Heron 2003).

The province of Ontario, as an example, issued a sole charter for the distribution of beer. This distribution monopoly, known as the Brewers' Warehousing Company, initially operated as a co-op with

[1] The exception to the general timeline for the ending of Prohibition was Prince Edward Island, which did not re-legalize alcohol for 63 years.

brewers purchasing shares. Several breweries entered the Ontario market, but the growth ended in 1928 with a restriction on any new entry (Lenardon and Wykes 2014). The ban on market access along with the monopoly control over distribution resulted in a significant consolidation of the sector, with Labatts and Molson dominating (Lenardon and Wykes 2014). The control of the Ontario beer market by the Brewers' Warehousing Company was further increased in 1940 with the integration of production and sales into the Brewer's Retail, now called The Beer Store, which remains Ontario's only major private beer retail chain.

Alcohol laws in the USA also had an unintended impact on Canadian breweries. Prohibition was enacted through an amendment to the US Constitution and took place between 1920 and 1933 (Sajatovic 2012). Since Canadian Prohibition was significantly shorter than in the USA, alcohol could be produced legally in Canada and then smuggled easily, albeit illegally, across the border. American Prohibition aided Canadian breweries that were struggling with domestic restrictions, such as only being able to sell within the province in which the liquor was made. For example, in 1924, 11 struggling Canadian breweries formed the Bermuda Export Company explicitly to sell alcohol south of the border (Heron 2003). Other companies such as the Brewing Corporation of Ontario, which eventually became Canadian Breweries and is more commonly known for its brand Carling O'Keefe, acquired small breweries to capture economies of size associated with the American market (Heron 2003).

The end of prohibition in the USA imposed financial pressures on Canadian brewers that had expanded significantly to meet the bootleg market. The loss of the large market south of the border, combined with the restrictions on domestic sale options, stimulated a major consolidation of production within Canada. Molson, Labbatts, and the Canadian Breweries Company bought many of their competitors between the end of Prohibition and the 1970s (Heron 2003). The merger process continued until 1976, when there were forty-three breweries owned by six brewing companies, with 96% of the market being controlled by the major three players (The Canadian

Encyclopedia 2015). The concentration of brewing into these three major companies, along with these firms' international expansion, contributed to the global standardization of beer (Heron 2003). The homogeneous product that evolved from these historical regulations provided the future opportunity for craft brewers.

3.2.4 Drivers of the Rise in Craft Brewing in Canada

The regulatory framework that led to the consolidation of the brewing sector and the standardization of production has recently changed to provide some incentives for the creation of microbreweries. The growth is primarily fostered by demographics that also coincide with the growing demand for culinary tourism and local food, of which craft beer can be an integral component. These factors are discussed further below.

3.2.5 Regulations

3.2.5.1 Regulations on Production

The only national production regulation for beer in Canada is associated with a vague definition from section B.02.130 of the Canadian Food and Drug Regulations. Beer is defined as "the product of alcoholic fermentation by yeast and an infusion of barley of wheat malt and hops or hop extract in potable water," and it must be brewed in such a way that the result is recognized as beer in smell, taste, and character (Government of Canada 2016). It may also contain ingredients from a set list ranging from cereal grain to Irish moss seaweed. Other than this list of ingredients outlined in the Canadian Food and Drug Regulations, there are few production regulations, and those that there are involve ambiguous statements such as that beer must be recognizable as beer. The result of the lack of regulations on production is that it is easy for a brewery to develop a highly differentiated beer product.

3.2.5.2 Tax Incentives and Subsidies

The fostering of value added in the agricultural supply chain, rather than exporting the raw agricultural commodity, is a major focus of federal and provincial governments in Canada. The craft brewery sector is an example of a value-added activity receiving support in the form of reduced tax rates or direct subsidies.

The federal excise duty on beer varies with alcohol content, but also with the size of the brewery. The federal tax of $0.03 per liter for breweries producing fewer than 2000 hectoliters annually is one-tenth of the rate paid by the large macrobreweries (Table 3.2). The highest incremental increase is noted for breweries going beyond the 15,000 hectoliter production level. The provincial rates also vary by size. For example, in Ontario, the tax rate of $0.2666 per liter of draft beer paid by microbrewers, defined as breweries with annual production of fewer than 50,000 hectoliters, is less than one-third the tax rate charged to the province's largest breweries (Table 3.2). A further tax break is provided to beer made and sold at brewpubs in Ontario.

Additional financial support is provided to craft breweries by provincial governments. Ontario, for example, provided C$1.6 million in 2016 to craft brewers for business activities ranging from capital investments to marketing strategy development (Government of Ontario 2016). The funds are from a federal-provincial program to increase the competitiveness of the agri-food sector, which is deemed

Table 3.2 Federal and Ontario tax rates on beer

Annual production (hl)	Federal excise tax[a] (C$/l)	Ontario beer tax rate (C$/l)[b] Draft	Non-draft
<2000	0.03122	0.2666	0.2964
2001–5000	0.06244	0.2666	0.2964
5001–15,000	0.12488	0.2666	0.2964
15,001–50,000	0.21854	0.2666	0.2964
50,001–75,000	0.26537	0.6315	0.7963
>75,000	0.31220	0.6315	0.7963

Notes [a]Canada Revenue Agency, 2015 (Beer Canada 2016); [b]Government of Ontario, 2015 to include the brewing of beer. Similarly, British Columbia provided C$10 million to craft breweries in compensation for an increase in tax rates, and Alberta has injected C$20 million into the sector as means of diversifying its economy away from a reliance on oil. These subsidies, along with preferential tax treatment, provide an advantage to craft breweries over larger operations.

3.2.6 Demographics

Changing age and ethnicity distributions can alter the demand for products ranging from condominiums to cosmetics and for services ranging from schools to sports fields (Foot and Stoffman 2000). The demographic variable with the most influence on the shifting beer consumption patterns in Canada is age distribution, and the role of the baby boomers in particular.

Although Australia, New Zealand, and the USA also had a boom in their populations after World War II, Canada's was the loudest. Soldiers returning home from the war were looking to make up for lost time and ready to start families immediately. The postwar economies in these countries were also booming, and the optimism resulted in an increase in the fertility rate or family size. The economic opportunities attracted many immigrants from war-torn Europe and these new residents tended to be of childbearing age. The result of more people in their high fertility years and higher income was a significant increase in the population, especially compared to the small change during the previous years of the Depression and World War II (Foot and Stoffman 2000). The boom ended in the mid-1960s with the advent of the birth control pill and growing rights for women. Female workforce participation and educational attainment both increased, resulting in a decline in the fertility rate.

The bulge in the population pyramids in Fig. 3.3 illustrates the result of the large numbers born in Canada between 1947 and 1966. In 1980 (top pyramid in Fig. 3.3), this cohort was between 14 and 33 years old. The bulge in the pyramid shifts upward over time as people get older and, by 2010, the baby boomers were between 44 and 63 years of age.

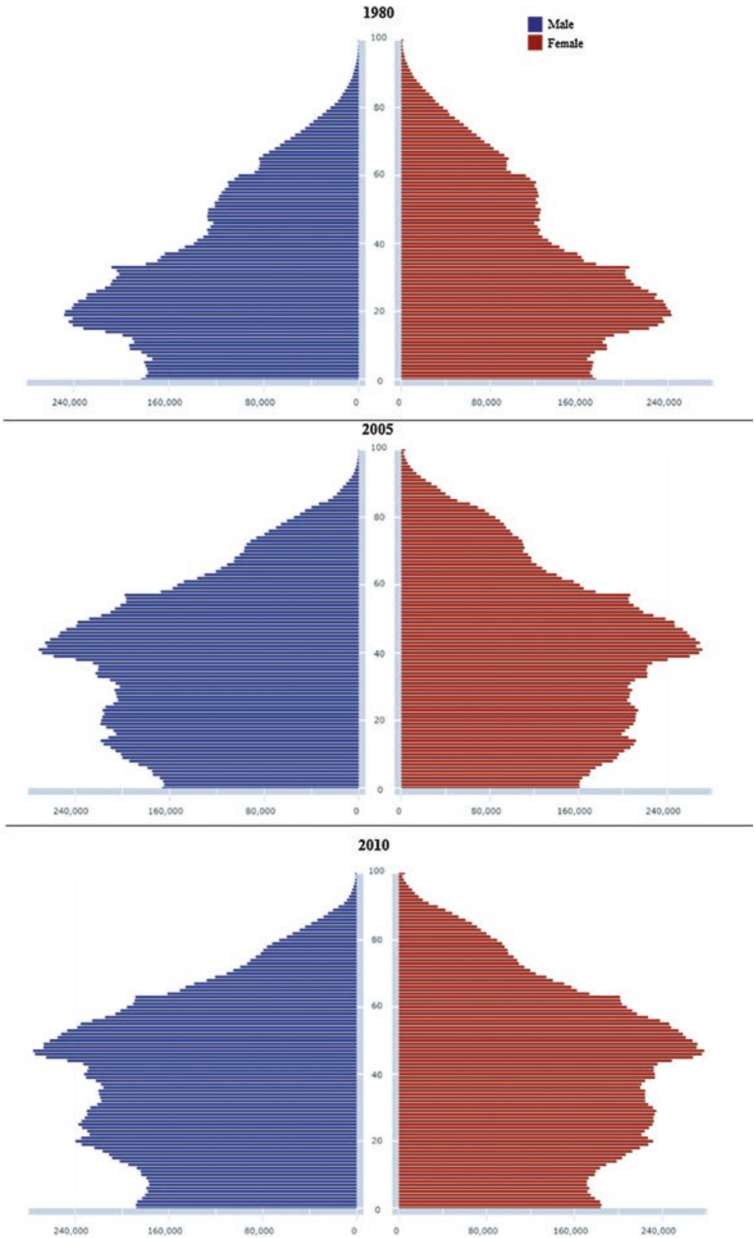

Fig. 3.3 Population pyramids for Canada 1980, 2005 and 2010

The shape of the population pyramid contrasts sharply with that in developing countries, which tend to have a triangular distribution of mostly young people, and other developed countries, which tend to have a more uniform age distribution. Approximately one-third of the Canadian population is part of the baby boom generation and its sheer size has had an impact on government policies and market demand over time (Foot and Stoffman 2000).

Predicting market-driven shifts due to demographics requires an understanding of the number of people in each age cohort, along with the participation rate in each activity. Participation rates tend to be constant over time. For example, the likelihood of renting housing tends to be highest for people in their 20s, of buying houses highest in their 30s, of renovating houses highest in their 40s, of buying recreational housing highest in their 50s, and of downsizing housing highest in their 60s. Combining the participation rate by age with the number of people in the age group results in the number of people undertaking an activity such as renting or renovating a house.

Participation rates for alcohol consumption vary with age, but are relatively constant for a given age group over time. An individual's consumption of alcohol tends to be highest between the minimum legal age for drinking alcohol, which is between 18 and 19 years of age in Canada (Canadian Centre on Substance Abuse 2014), and 30 years old. It declines thereafter. Age cohort effects and peer pressure effects in beer consumption have been shown by Deconinck and Swinnen (2015). The share of alcohol consumed by age bracket is illustrated in Fig. 3.4. Males between 19 and 30 years old consume 20% of all beer in Canada (Petrillo 2015) and together with females of this age they consume approximately one-third of the alcohol. In contrast, the group between 50 and 70 years of age, which is the age of the baby boomers now, consumes approximately one-quarter of the alcohol.

Combining the participation rates with the age distribution explains the change in per capita alcohol consumption over time in Canada, as illustrated in Fig. 3.1. Peak consumption occurred in the mid-1970s when most of the baby boomers were in their 20s. As this population cohort aged, they drank less and the result was a decline in consumption over time. The small increase noted recently in consumption is due

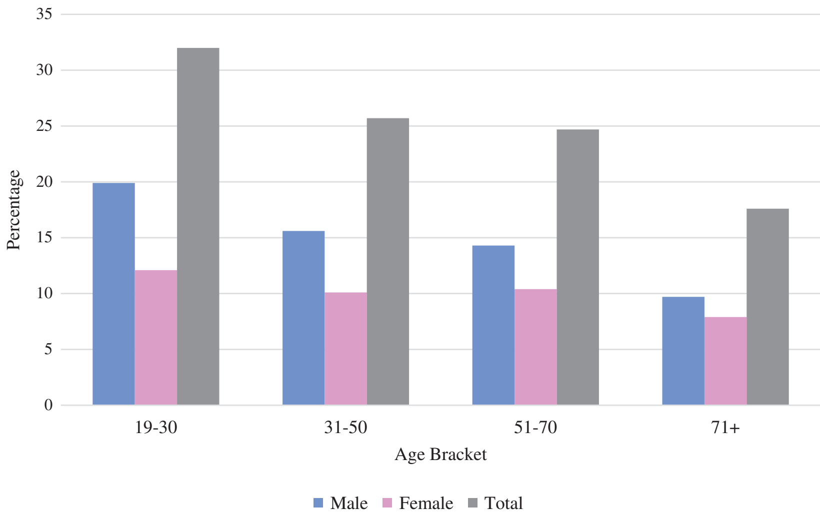

Fig. 3.4 Canadian alcohol consumption breakdown by gender and age. *Data Source* Petrillo 2015

to changes in the type of alcohol consumed, as discussed earlier, and the influence of the "echo" generation, or the children of the boomers who are now in their 20s.

The decline in overall alcohol consumption hides differences in the types of products consumed, which are also illustrated in Fig. 3.1. As people age, they consume less but consume higher-quality food and drink (Foot and Stoffman 2000). Per capita consumption declines as people become more aware of their mortality and consequently more concerned about the health effects of over-consumption. However, income levels tend to increase with age, allowing people to spend more on higher-quality versions of the products they do consume. Across countries, Colen and Swinnen (2016) found that beer consumption initially increases with rising income, but then drops at higher income levels. The increase in Canadian per capita consumption of spirits, and particularly wine, shown in Fig. 3.1 can be explained partially by the aging of the baby boom generation.

The decline in the consumption of mass-marketed beer and the significant increase in craft beer consumption are partially reflective of demographic shifts. Peak beer consumption in Canada occurred in the 1970s, when the bulk of the baby boomers were in their 20s. This age group is not only more likely to consume beer than any other type of alcohol, and more beer than they will at any other point in their lives, but they also prefer volume to quality. The American Association of Wine Economists conducted a blind taste test on some major brands of beer and found that people could not tell the difference between different mass-produced beer with any degree of accuracy when they could not see the label (Almenberg, Dreber and Goldstein 2014). When the baby boomers could not afford high-quality products or did not have the same health concerns as now, mass-produced beer would suffice. However, preference for quality increases with age. Thus, while total beer consumption continues to decline, the consumption of specialty beer has risen significantly (see Fig. 3.2), and its growth coincides with the baby boom generation entering their 50s. Thus, a factor for the growth in the craft brewing sector in Canada is the unique influence of the baby boom generation, which is now of an age to demand such a product.

3.2.7 Culinary Tourism/Demand for Local

The emergence of the craft beer industry is also due to consumers rediscovering the value of unique and differentiated experiences and producers, and of products with their own identities (Lamertz et al. 2016). Food and drink are increasingly important motivators for tourism (Henderson 2009) and craft breweries have benefited from the growth in this activity. Since there is not a well-established and easily defined "Canadian cuisine," Hashimoto and Telfer (2006) argue that Canadian regions striving to attract visitors for a culinary experience should focus on the diversity of experiences available, including those from beer and wine. This focus can provide an impetus for growth in local, craft brewing. In North America generally and Canada specifically, beer has been relatively late to the "taste of place" discussion. Tellingly, Trubek (2008) highlights the interest in locally anchored food experiences, such as wine, cheese, and maple syrup, without a single mention of beer. This has changed more recently with the significant growth in craft breweries.

There is evidence that breweries have also contributed to the tourism interest, which further fosters craft brewery growth (Kraftchick et al. 2014; Caffyn 2010; Pechlauer et al. 2009). Murray and Kline (2015) find that connection to a community and a unique customer experience are important drivers of interest in and visits to craft breweries in rural North Carolina. An “ale trail” in Ontario which connected several breweries in a region for a beer tour was found to attract tourists to the region and increase visits to the breweries (Plummer et al. 2005). While there is limited research on how breweries can successfully integrate into a region and benefit from tourism, Dunn and Kregor (2014) cite the need to cooperate with other breweries and local tourism organizations to leverage the opportunity fully. One of the challenges of craft breweries is to break through the clutter and the dominance of the big breweries. Dunn and Kregor highlight the need to drive brewery visits, conduct beer events which bring several breweries together, and an active social media presence as important to leveraging both the direct benefits (beer sales) and the broader tourism benefits of craft beer. This integration is an important driver of and continues to be an opportunity for the development of craft breweries in Canada. The re-emergence of craft beer within a sector dominated by large generic brewers only a few decades ago highlights an increased focus on unique identities that can create product value in the Ontario market (Lamertz et al. 2016).

3.3 Constraints on Growth of the Craft Breweries

The growth in the number of microbreweries coincides with the development of the sector in other countries, as noted in other chapters of this book. A unique aspect of the structural change in the Canadian brewing sector is the limits to the size of these breweries. The constraints center around the inability to expand sales due to regulations on distribution and to higher production costs associated with supply chain issues. Each is discussed below.

3.3.1 Regulations

While the vague rules on beer production and recent government incentives favoring microbreweries have resulted in a dramatic increase in the number of breweries in Canada, the size of these production facilities is limited largely by regulations on sale. Since the end of Prohibition, the sale of beer remains determined by provincial laws and these laws vary significantly across the country. One federal restriction that has not changed since the end of Prohibition is the restriction on trade of alcohol across provincial borders (Mayer 2011). Although the Agreement on Internal Trade is attempting to reduce inter-provincial trade barriers, permission is still required from the provincial liquor control board to move any liquor from one province to another. As a result, the increased demand for domestic craft beers has to be met by production within the province, and this subsequently reduces the size of the brewery.

The government is the largest wholesale retailer of alcohol in all provinces except Alberta, where alcohol sales are completely privatized (MarketLine 2015). The tightest restrictions are in the most populous Canadian province, Ontario. There, the Alcohol and Gaming Commission of Ontario sets the rules for the only two retailers of alcohol: the Liquor Control Board of Ontario (LCBO) and a private corporation named Brewers Retail, which is commonly known as The Beer Store (TBS). Craft breweries and brewpubs are banned from selling beer away from their own location in Ontario unless it goes through the LCBO or TBS. Otherwise, a microbrewery can only sell its product to bars and restaurants, while a brewpub is only allowed to sell over the bar at its location (Hughey 2014).

The LCBO sells all wine, spirits, coolers, cider, and beer for the province other than the beer, cider, and closely related beverages sold by TBS (LCBO 2016a). It is the sole legal importer of beer, meaning all beer must pass through the LCBO warehouse (Hughey 2014). The

LCBO uses a formula for retail mark-up that is less for a microbrewery than for a larger brewery (LCBO 2016a). However, despite the growth in revenues for the LCBO from domestic craft beers, as illustrated in Fig. 3.2, it has limited shelf space that it must allocate to other beers as well as domestic and imported wine, spirits, and coolers. In addition, it can only sell singles and six-packs of beer (Mysicka and McKendry 2013). Thus, the ability for craft beers to grow from this sales outlet is limited.

The other major means of selling craft beer in Ontario is through TBS. Over 78% of all beer sold in Ontario is sold by TBS through its 447 retail outlets (Mysicka and McKendry 2013). As discussed earlier, TBS evolved from a brewers' distribution co-operative into a government-protected monopoly that has the exclusive right to sell 12- and 24-packs of beer. Although it is government protected, the government does not own it; instead, TBS is owned by the remains of the major domestic brewers, which are now all foreign-owned brewing companies: Anheuser-Busch InBev (AB InBev), Molson Coors, and SABMiller (Mysicka and McKendry 2013). The three companies owning TBS supply nine out of the ten leading brands sold in TBS, with the tenth being the imported brand Heineken.

Microbreweries face a significant sales disadvantage relative to the large brewers that have a controlling interest in the operation of the only private beer retail chain. A brewery must pay a C$23,870 listing fee to have its product placed in TBS (Hughey 2014). The large brewers must also pay this amount, but are effectively only paying themselves. In addition, the craft brewers selling through TBS are providing their competitors with sales data that could be used against them (Lenardon and Wykes 2014). Craft brewers complain about the irony of having to sell their product through a company owned by their competition and paying TBS for the ability to do so (Morrow 2015).

A major change for the beer sector in Ontario is the granting of approximately 300 licenses allowing for the sale of beer to grocery stores by May 2017 (LCBO 2016b). These sales would still take place through the LCBO and thus the beer sold through the stores would be subject to the same mark-ups and service costs as beer sold in the LCBO itself, including restricting the sale to six-packs of beer (Government of Ontario 2016). An additional restriction is that no less than 20% of displayed beer be produced by "small brewers" (Government of Ontario 2016). Thus, grocery stores represent a significant new retail opportunity for craft brewers in Ontario if the grocery stores decide to focus their beer selection on local producers.

3.3.2 Production Costs

The size of craft breweries creates both challenges and opportunities from a distribution perspective. Small breweries have higher revenues per unit of beer, as noted by Reid et al. (2014), but there are higher costs associated with being smaller. A large portion of this higher cost relates to issues in advertising, distribution, and supply chains.

The first issue relates to market power and access to mainstream distribution. Nutta (2016) finds that power is a significant issue relative to market access for craft breweries in the USA and suggests brew hubs as a way of generating increasing volume to improve access to larger distribution and economies for distribution. The distributional issue is an even bigger concern for craft breweries located in Canada, due to regulation and geography. In Ontario, for example, both the LCBO and TBS require large volumes and often significant listing fees that preclude many craft breweries. Regulation has lowered some of the cost barriers, but volume requirements remain an obstacle, particularly given the tax incentives limiting growth. It is worth noting that the LCBO is offering regional listings in its stores that reduce both the cost and volume requirements for small local craft brewers. This makes sense given that many breweries are tied to local identities, so their market potential is greatest within the region in which they are produced.

Distribution and supply chain costs remain a challenge for small craft brewers. Producing smaller volumes means purchasing smaller volumes of ingredients. This is compounded by the fact that they are often buying higher-quality ingredients. It may also be offset to a degree by the fact that they can (and usually prefer to) buy sufficient quantities of ingredients locally, so that higher costs may be offset, at least to a degree, by lower transportation costs.

Smaller volumes also increase the per unit costs associated with delivering product. Large breweries will have several offerings and often be listed in a larger number of bars and restaurants. Craft brews create value by being lower volume and more distinctive and rare. There may be one or two products from a specific craft brewer on tap in a bar which has a much larger number of commercial beers (often with an exclusive agreement), raising the costs of delivery. This is exacerbated by the fact that craft beers create value for bars by offering something different—a unique experience. That value is decreased if every bar and restaurant in a neighborhood carries it. This also increases the per unit cost of bringing products to customers for craft brewers. The irony in this is that the uniqueness of craft brews has often been a significant part of the impetus for large commercial breweries to acquire small craft breweries. The ability to offer unique products makes it easier to achieve an exclusive position in a bar.

The supply chain involves more than distribution costs. Breweries require not only delivery staff, but also marketing and sales support. The narrative associated with a higher-value craft beer often requires specialized training of servers and bartenders (Murray and O'Neill 2012). Craft brewers need to support the training to deliver that narrative effectively to create value in the bar or restaurant.

The higher distribution costs for craft breweries are compounded in Canada by geography. As discussed in the previous section, there is a strategic impetus for remaining relatively small: part of the value of a craft beer is that it is unique and distinct and often not available everywhere. The distance between population centers in Canada means the size of the local market is limited, consequently limiting the size of a specific craft brewer in the region.

3.4 Conclusion

At the peak of the popularity of the two Canadian beer-guzzling hosers Bob and Doug McKenzie in 1985, there were only ten breweries in the country owned by three companies. The consolidation was the culmination of a sixty-year trend driven by government regulations and economies of scale associated with improvements in brewing and transportation technology (Lamertz et al. 2016). However, the beer sector has changed dramatically over the last generation. Per capita beer consumption has fallen by approximately one-third over the last 30 years, with a share of the market switching from light-bodied lager beer to craft beers differentiated by several taste and process attributes. The sales of craft beer have risen ten-fold in the last decade and it now accounts for 6% of the market. The total number of breweries is now over 640, with the clear majority considered microbreweries.

The dramatic growth in the number of craft brewers has been spurred by government incentives and consumer demand for locally anchored food experiences. The latter is also related to demographic shifts that are somewhat unique to Canada. Baby boomers, who were born between 1947 and 1966, make up approximately one-third of Canada's total population. Although other countries also had a baby boom, the relative share of the population in this age cohort is the largest for Canada. Since young people are most likely to drink more and to drink lower-quality beer, beer consumption was highest in Canada in the 1970s when the baby boomers were in their 20s. As people age, they consume less beer but of a higher quality. The increase in the consumption of specialty, higher-quality beer coincides with the baby boom generation entering their 50s. It is unlikely that a craft beer market would have been successful in the 1970s, since the bulk of the Canadian market was more interested in consuming mass-produced beer and not willing to pay for higher quality. The market is now willing to do so and the projections are that it will continue to grow, due partially to age demographics. The emergence of the craft beer industry suggests that consumers are rediscovering the value of unique and differentiated experiences, and of producers and products with their own identities.

The growing demand for craft beer in Canada is not unique, as documented in other chapters of this book (see Chap. 1). What is unique is the structural change to the brewing sector that has resulted in the rapid growth in the number of microbreweries and the decline in the mid-size breweries. Regulations on the sale of alcohol stemming from the temperance movement at the beginning of the twentieth century limit the opportunities for microbreweries to sell outside their own location other than through local bars and restaurants. Tax policy that imposes lower rates on smaller breweries provides a further disincentive for growth beyond a certain size in most Canadian jurisdictions. Production costs associated with distribution and supply issues, complicated by the distance between population centers in Canada, have also constrained the size of new breweries. The net result is that the growing demand for unique and distinct beer products in Canada is being met by a resurgence in microbreweries, which will likely continue to grow in number to meet the demand, but which are limited in size.

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4

The Craft Brewing Industry in Latin America: The Case of Colombia

Daniel Toro-Gonzalez

4.1 Introduction

The beer industry in Latin America is a vibrant market. It is the battleground for big breweries and the nursery for craft breweries. The beer market in the region is especially dynamic: on average between 2008 and 2013 this sector grew twice as fast as the world beer market sector, 2.8% versus 1.4%, respectively (Euromonitor 2015). In the region of Latin America, Colombia is the fourth largest producer of beer, and it is also an interesting country case where the consolidation of the industry has reached a monopolistic level.

Currently, after the brewing industry attained its maturity, craft breweries are blooming almost everywhere, revealing some evidence of a possible structural change in worldwide market conditions. In Colombia, during the past ten years, the number of new firms has

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grown from only 11 in 2006 to more than 164 in 2016 (Plano-Danais 2016a).

This chapter focuses on the development of the brewing industry in Latin America,[1] with special attention to the craft brewing segment in Colombia, describing the recent emergence and proliferation of craft breweries. It is divided into three parts after this introduction. It starts with a description of the beer industry in Latin America, both mass and craft; the second part presents a description of the brewing industry in Colombia; and the last offers a discussion of the main elements that can be catalogued as drivers of and barriers to the craft brewing industry in the country.

As the main sources of information, market shares by country are calculated from Euromonitor International between 2008 and 2013; the Economic Complexity Observatory was used to track the international trade in the industry (Simoes and Hidalgo 2011); and the careful reconstruction of Ricardo Plano-Danais of the history of beer and breweries in Colombia, available online (Plano-Danais 2016a), was also used. Plano reports information on historical and contemporary breweries, listing variables such as brewery name, founders, year of founding, year of closure, merger or fusion if applicable, number of brands and types of beer, and production capacity, especially detailed for the contemporary micro and craft breweries. This information was complemented with some interviews of key players in the industry.

4.2 The Beer Industry in Latin America

Latin America is a heterogeneous region, and preferences for liquor consumption reflect this diversity. Although no country in the region is widely recognized for its brewing traditions, according to World Health Organization (WHO) figures during the five-year

[1] In this chapter the name Latin America refers in general to the geographic region of Latin America and the Caribbean.

period between 2008 and 2013, beer takes an important part, approximately 50% of the total production in the alcoholic beverages market.

Most of the beer in the region is mass-produced US lager, which is the preferred alcoholic drink in almost half of the countries in the region, 11 countries out of 23 (48%), followed by spirits consumption (39%), especially preferred in markets located in Central America, where the population is more traditionally inclined to the consumption and production of spirits such as tequila, aguardiente, and particularly, rum. For some countries such as Chile, Uruguay, and Argentina (13%), wine is the most popular alcoholic drink on the market (WHO 2014). See Table 4.1 for details of each country's market share.

According to Webb and Beaumont (Webb and Beaumont 2013), Latin American beer may be described by three basic criteria: it is clear and flavorless, it is served cold, and it is produced by a big mass brewery, often a multinational company. Yet these authors also recognize that these characteristics may have generated an opportunity for market development, in which the increase in the number of micro and craft breweries is a phenomenon that follows the same structural market pattern witnessed in the North American (and European) brewing industry (Webb and Beaumont 2013). Due to the consolidation of the mass breweries in the region, the Latin American market has reached maturity, and the appearance of small craft breweries is indicating a trend toward a more diversified market.

Worldwide in the last decade, the beer industry has witnessed an intense change in terms of its market structure. At the end of the twentieth century, half of global beer sales were produced by ten firms; however, by 2012 the same share was divided among only four firms (Howard 2013). Currently, an increase in concentration has been observed due to the merger between AB InBev and SABMiller,

Table 4.1 Market shares based on levels of alcohol consumption, 2010 (15 + years of age)

Country	% Beer	% Wine	% Spirits
Spirit			
Cuba	38.8	2.2	58.9
Dominica	13.7	7.1	77.9
El Salvador	41.7	1.7	56.6
Grenada	29.3	4.3	66.2
Guatemala	41.9	1.6	56.3
Guyana	23.0	0.3	76.6
Honduras	40.1	1.1	58.7
Nicaragua	38.8	0.5	60.6
Peru	46.8	6.1	47.1
Wine			
Argentina	40.7	48.0	5.5
Chile	29.9	40.7	29.4
Uruguay	30.6	59.9	9.5
Beer			
Plurin. State of Bolivia	76.8	3.8	19.3
Brazil	59.6	4.0	36.3
Colombia	66.1	1.1	32.5
Costa Rica	59.3	4.7	35.5
Dominican Republic	54.5	2.7	42.7
Ecuador	67.3	1.2	31.5
Mexico	75.7	1.5	22.2
Panama	69.2	4.6	26.0
Paraguay	51.1	18.2	28.8
Puerto Rico	66.6	6.7	26.4
Bol. Republic of Venezuela	75.6	0.8	23.4

Source WHO (2014)

announced in November 2015 (AB InBev 2016). This strategic merger has generated a global conglomerate in control of approximately one-third of the global market. The trend toward worldwide concentration has been mainly driven by economies of scale and horizontal integration. The world average Herfindahl–Hirschman Index (HHI) for beer sales between 2008 and 2013 was 841.9.[2] In the case of Latin America, concentration levels are substantially higher. For the same period the

[2](Euromonitor 2015) Calculations by the author.

index for the region had an estimated value of 2044, which is more than double the world index, and the market is considered to be a "Moderately Concentrated."[3]

In 2013, in terms of geographic distribution, more than 80% of the Latin American beer market by volume (83%), was produced by four countries: Brazil (42%), Mexico (22%), Venezuela (11%), and Colombia (8%). With the arrival of multinational companies to the region during the last two decades, the war to conquer Latin American consumers has intensified. Most of the countries consist of duopolistic markets dominated by big world players such as AB InBev, SABMiller, and Heineken.

In terms of the trend toward market concentration, in 2010 Heineken purchased the brewery division of FEMSA, a firm with operations in several Central American countries such as Mexico, Guatemala, and Costa Rica. Also in Mexico, in 2013 Grupo Modelo was purchased by AB InBev. In 2011 the Schincariol brewery was sold to the Kirin Brewery Company, a Japanese firm in Brazil. In a sense, the arrival of the world Goliaths on the Latin American market has consolidated the market of homogeneous, mass-produced American lager beer in the regional market.

As the trend in concentration is consolidating worldwide, and in the region, according to authors such as Swinnen (Swinnen 2011) and Howard (Howard 2013), the world beer market may be characterized by a substantial decline of per capita beer consumption in traditional markets, and a shift to new products. Latin America has not escaped this trend.

In relation to the shift to new products, in spite of the seemingly strong trend toward concentration and market product homogeneity represented at the extreme by the tyranny of lager beers, for Howard, "cultural barriers to global brands in emerging markets, and the rising consumer interest in varieties produced by smaller specialty brewers in mature markets" (Howard 2013) may increase the opportunities for small players with differentiated products. In fact, Latin America is not

[3]According to the Federal Trade Commission merger guidelines.

an exception, and cultural barriers and heterogeneity in consumer tastes may also become barriers to the consolidation of a worldwide duopoly.

Following the trend of other regions and countries, the "desert" of American lager beer in the Latin American market is observing a phenomenal renewal, where in spite of the consolidated role of traditional mass-produced beer, a new craft segment is rising rapidly.

According to the findings of different authors, such as Swinnen (2011), Garavaglia and Swinnen in Chap. 1, Carroll and Swaminathan (2000), and Tremblay et al. (2011), the phenomenon of industry renewal may be consolidating globally, though at different paces. This industry renewal is referred to by Van Dijk et al. in Chap. 10 as "a process through which a mature industry that is characterized by a decreasing number of producers and increase in scale experiences a period of rapid entry of new entrants."[4]

According to Euromonitor International data, between 2008 and 2013 there was an important evolution of small craft breweries in some countries in Latin America in terms of market shares, compared to mass-produced beer. Argentina, Bolivia, Brazil, Chile, and Costa Rica are examples of where small craft breweries responded on average to attain more than 2% of the total market share (Euromonitor 2015).

On average, the market share of small breweries in Latin America and the Caribbean (LAC) between 2008 and 2013 was 1.3%. Meanwhile, the rest of the world market share for small breweries was considerably higher, 4.8% on average (see Fig. 4.1).

Albeit the craft beer segment in the region has a low market share, the growth rate has been substantial, 6.6% a year on average between 2008 and 2013. This figure is more than twice the growth observed in the regional mass-produced beer segment for the same period (2.8%) and almost double the World Bank's regional GDP growth figure (Euromonitor 2015).

[4]For a detailed explanation of the process of industry renewal (resource partitioning and social movements), see (Carroll and Swaminathan 2000).

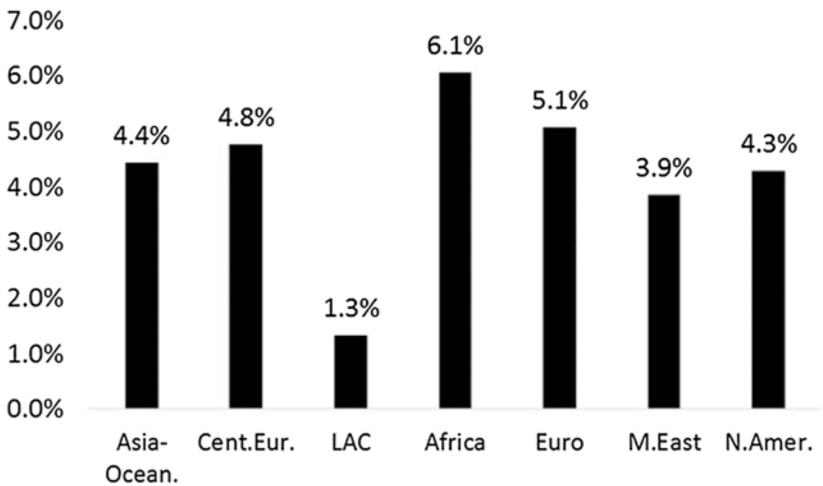

Fig. 4.1 Average small breweries shares by regions, 2008–2013. *Source* (Euromonitor 2015) LAC: Latin America and the Caribbean

The interest in the production and consumption of craft beer in Latin America is recent, and is growing fast as a niche market, as has happened in other markets around the world; see the case of product differentiation between craft, mass, and imported beer in the US market in Toro-Gonzalez et al. (2014). An appealing indicator of the increasing popularity of craft beer is the number of searches reported by Google Trends for the term "craft beer" in both Spanish and Portuguese.[5] The average growth in searches is 3% monthly from January 2010 to November 2016. For the last four years, the interest in the term has grown 317% for the entire period (2012–2016). According to this source, the most interested Latin American countries in the craft beer market are, in order: Brazil, Chile, Argentina, and Mexico. In this sense, using this indicator as a stated preference predictor for the future consumer preferences, the interest in the craft beer market in Latin America is expected to maintain the trend in the consolidation of a thriving craft sector industry.

[5]In order to consider Brazil within the market.

4.3 The Brewing Industry in Colombia

Compared to North American and many European markets, per capita beer consumption in Colombia is low, 44 liters a year; however, preferences for alcoholic beverages in the Colombian market reveal the preponderance of beer over spirits and wine. That is, in the context of the Latin American market, Colombia is in the club of "beer-drinking nations." The share of beer in terms of total alcohol consumption for the 2015 Colombian market is 66%, followed by the consumption of spirits, 32%, and finally wine with just 1% (WHO 2014).

However, from a historical perspective, the interest in beer in the Colombian market can be traced back to the dawn of the nineteenth century. According to Plano-Danais, in 1825 craft beer was brewed by an important number of small establishments in the main cities in Colombia (Plano-Danais 2015). The data provided by the author shows evidences of almost 50 breweries around the country operating simultaneously in 1931 (out of more than 100 identified during the period 1830–1930), with most of them disappearing during the twentieth century. The effects of the Great Depression and economies of scale in a newly industrialized brewing industry led to high concentration in a few firms decades later.

During the golden age of the Colombian brewing industry in the first half of the twentieth century, the industry encouraged the government to engage in a war against other traditional alcoholic beverages, such as *chicha* and *guarapo* (Plano-Danais 2016a), leaving these ancient beverages out of the market. Mainly the argument used was related to health risks due to their traditional and artisan methods of production, allowing the further consolidation of mass-produced beer and spirits as the most important alcoholic beverages in the country.

An approximate representation of the evolution of the Colombian brewing industry in terms of the number of firms during the last two centuries is presented in Fig. 4.2,[6] in which at least four different stages

[6]It is important to add that in personal communication with Ricardo Plano, he pointed out the need to recognize that the graph may not be exactly accurate. The actual closing date for many breweries is unknown, a fact that is revealed in the uniformity in the decrease of breweries between 1957 and 1977, which is arbitrary. We use this assumption based on the fact that in 1975 Bavaria was a well-established monopoly. Another important element that Ricardo pointed out is that there are three different types of firms aggregated in the same graph line: traditional small breweries, mass-production industrial breweries, and contemporaneous craft breweries.

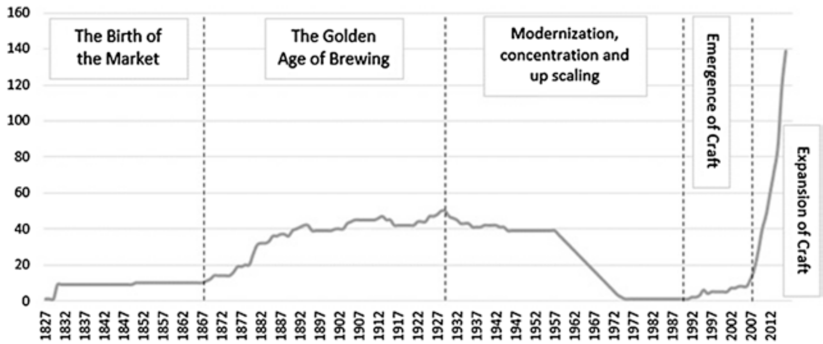

Fig. 4.2 Total number of breweries in Colombia, 1825–2016. *Source* (Plano-Danais 2016a)

of the brewing market may be recognized. Between 1826 and 1867, there was the birth of the market with the founding breweries: the pioneers of brewing in Colombia. Among them were Cervecería Meyer in Bogotá, and the first ever recorded brewery out of the capital in Ibague (Tolima) at Saint Simon Abbey in 1850.

Between 1867 and 1929 was the golden age of brewing and the beginning of industrialization, with some representative breweries such as Fabrica de Cervezas Cuervo (1868), Cervecería Otalora (1878), and Cervecería Restrepo y Villa (1882). The Cervecería La Esperanza (1887) deserves special mention, identified by Plano-Danais as the first modern Colombian industrialized brewery.

During the period 1929–1992 came modernization, and an increase in concentration and the scale of production, with two key players in terms of production volume: Bavaria in Bogotá and Cervecería Continental located in Medellín. Since 1992 can be seen the foundations of renewal and the emergence of microbreweries. This last period may be divided into two sub-periods: the emergence of micro and craft breweries between 1994 and 2009 and the rapid expansion of micro and craft breweries from 2009 to 2016.

With respect to the emergence of new micro or craft breweries, in 1992 Cerveza de la Casa was founded by Enrique González Terffry in Guarne (Antioquia), which is currently in business offering different flavors of ale beer such as coffee and ginger (Plano-Danais 2016a).

In 1995 Juan Alejandro Correa opened Cerveceria Otraparte Colombiana in Medellín, offering different types of ale beers such as Kolsh, Porter-Stout, and Irish Red. This brewery was closed in 2011 due to liquidity and credit access restrictions for small businesses, although it is expected to reopen in 2017.[7] Later, Cervecería Colón was founded in Cali (Valle del Cauca), and is still in production with a wide variety of ales and lagers. Colón was founded by Berny Siberwasser, who subsequently in 2002 initiated the biggest craft brewery in the country, Bogotá Beer Company.

In general, the different stages represented in Fig. 4.2 for the brewing industry in colombia reflect similar patterns to US and European behavior in terms of the number of craft breweries.

As predicted by the traditional life cycle model, tougher competition and expansionist practices at industrial brewers led to a substantial shakeout of local and family-owned breweries (Carroll and Swaminathan 2000). This description corresponds accurately to the Colombian brewing industry during most of the twentieth century, for which the local market experienced an unprecedented degree of concentration, especially after the 1930s.

With the purchase of the last independent brewery, Andina, Bavaria has consolidated its monopolistic position since 1975 (Plano-Danais 2016b). Bavaria is a conglomerate of breweries under the control of Grupo Bavaria. In terms of the monopolistic behavior of this firm, prices of beer in the country may not reflect all its monopolistic power. Hence there is a chance that the limit pricing monopoly model (Milgrom and Roberts 1982) may apply, for example in a historical analysis of prices across countries to show that in spite of monopoly consolidation, prices in Colombia remained relatively competitive with respect to other countries; however, this hypothesis must be evaluated and supported empirically.

In an interesting episode, the monopoly status of Bavaria was challenged during the period 1994–2004. In 1994, Cervecería Leona was created by the country's leading soft drinks economic conglomerate

[7] Personal interview.

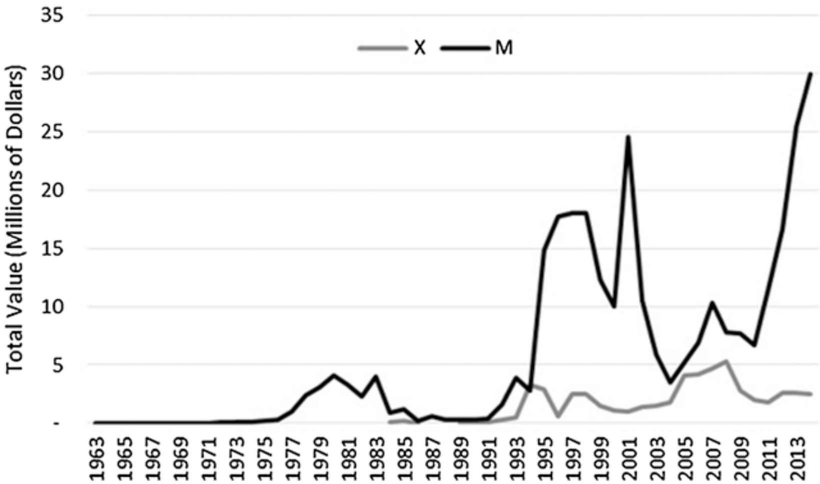

Fig. 4.3 Total value of beer exports (X) and imports (M), 1963–2014. *Source* The Economic Complexity Observatory (Simeos and Hidalgo 2011)

(Postobón) to compete for a share of Bavaria's national beer market. However, the duopoly period finished abruptly in 2004 with Bavaria's purchase of Cervecería Leona. In 2005, SABMiller took over the Colombian brewery. By 2013, SABMiller, represented in the country by Bavaria, controlled 98.6% of the national market with an HHI of 9723 (Euromonitor 2015).

Another source of competition that has challenged the hegemony of Bavaria, especially since the 1990s, was the entrance to the market of the foreign brand Polar, a powerful Venezuelan competitor. The increase in imports between 1995 and 2001 observed in Fig. 4.3 is mainly explained by the brief appearance of Cervecería Polar de Colombia, funded by Venezuelan capital investment. The company is still participating in the Colombian food market, but is no longer taking part in the brewing industry.

The second peak of Colombian imports of beer started in 2005 with the acquisition of Bavaria by the multinational corporation SABMiller, and the increase in imports from SABMiller, importing international brands from its portfolio, such as Grolsch, Peroni, and Stella Artois, among others (see Fig. 4.3). This activity may be related to an important change in Colombian consumer preferences identified by SABMiller. As highlighted by Carroll and Swaminathan (2000) and Elzinga et al. in Chap. 2 imports of beer, as in the case of the USA, may have acted as a signal to the market for craft brewers. This increase in imports may also be used by multinationals as an entry deterrence strategy.

According to Economic Complexity Observatory data (Simoes and Hidalgo 2011), Colombian international trade in beer represents only a small part of total industry production, 3% at most. The trade balance has always been negative in the Colombian beer sector. It was 2014 when total trade reached its highest value of US$32 million, mainly due to US$30 million of imports (92%).

Regardless of the incipient consumer interest in new flavors and a wider variety of products, Colombia is currently the beer market in Latin America with the highest concentration levels, with an HHI equal to 9851 on average for the period 2008–2013. Although concentration has been reduced, from 9900 in 2008 to 9723 in 2013, due to the appearance of new small craft breweries, it is by far a monopolistic market.

As in 1994 when Cervecería Leona entered the market, Bavaria's monopoly is currently being challenged with recent news about the alliance between Postobón and the giant brewery CCU (Compañía de las Cervecerías Unidas) from Chile. Hence, an interesting rivalry is expected, finishing several decades of beer hegemony in the Colombian market. The new alliance under the name of Central Cervecera de Colombia was established in 2014 and is expected to begin in 2017.

Besides the imminent entrance of Central Cervecera de Colombia, another source of competition comes from the Colombian craft brewing movement, which seems to be consolidating rapidly. The most important craft brewery in Colombia is the Bogotá Beer Company (BBC), with a production capacity of over 80,000 hectoliters a year.[8] The second largest craft brewery is the Artesana Beer Company (Cerveza 3 Cordilleras), with an installed capacity of 8250 hectoliters a year. Finally, the third largest craft brewery in the country is Industrial

[8] BBC was purchased in 2015 by AB InBev.

de Cervezas y Bebidas S. A. Induserv., producers of Apostol, with an installed capacity of 7200 hectoliters a year.

The number of new craft and small breweries in the market has been growing exponentially since 2007 (see Fig. 4.2). According to the records of Ricardo Plano-Danais, between 1992 and 2007, on average one new craft brewery was created in the country each year. However, after 2007, the yearly average number of new firms grew exponentially, up to an average of 15 new firms per year. The peak was reached in 2015, when 33 new craft breweries were registered, and the partial data for 2016 is around 20. Mainly, these new breweries consist of brewpubs that sell their production on-premise.

According to Plano-Danais, from 1994 to 2016 up to 164 new craft breweries were created, 28 have closed, and 136 remain active in the market. In terms of capacity and production, installed capacity for the craft brewery sector is approximately 124,000 hectoliters per year, with only 47% being actively used in production (Plano-Danais 2016a), which is still a very small fraction of Bavaria's production capacity of 23.5 million hectoliters.[9]

With a few exceptions, such as BBC, 3 Cordilleras and Apostol, the craft market is a fragmented, regional market. Some of the new craft breweries have now been purchased by multinational breweries. In December 2015 the national newspaper *El Tiempo* confirmed that new firm Central Cervecera de Colombia had purchased Artesana Beer Company and Logística de Bebidas, the producer of 3 Cordilleras (El Tiempo 2015).

This purchasing strategy of industrial breweries as a mechanism to counterbalance the new phenomenon of craft breweries was also observed in other markets in North America and Europe. According to Elzinga et al. in Chap. 2, purchasing an interest in an existing craft brewery has been a tactical response of macrobrewers to the craft beer segment. For those authors, these formal relationships generate costs as well as benefits to the craft and macrobrewer. Specifically, craft beers gain access to the distribution network, which is one of the main

[9]http://staging.bavaria.co/9-63/plantas_sdp/.

weaknesses of craft breweries, and macros gain access to the craft market (Elzinga et al. in Chap. 2).

Even though there is an important increasing trend in the number of micro and craft breweries, the Colombian craft market is highly concentrated around the larger urban conglomerates and those with higher income levels, as in the case of the USA (Elzinga et al. in Chap. 2). Out of the total of 161 new breweries registered, Bogotá represented 36% for the period 1992–2016. Medellín, the second largest city in the country, represented 16% of the total of new breweries, and the remaining 48% is spread homogeneously across other cities.

This renascence of microbreweries in Colombia has changed for good the landscape of beers according to their type. After what can be only described as a "pond" of American lager beer, in analogy to the "Pilsener desert" witnessed in Holland, now craft breweries in Colombia offer a variety of IPAs, Belgium ales, ales, dark lagers, and wheat beer, among others.

Even though the craft brewing industry is just in its initial stages in Colombia, it already has surpassed the number of breweries historically created, even in the golden age of the breweries in the country, revealing the great interest and potential of this niche market in the country and the region.

The fact that similar patterns in the evolution of microbreweries are arising in Europe and North and Latin America suggests that both country-specific and wider societal factors that operate across borders are important drivers of renewal in the brewing sector (Van Dijk et al. in Chap. 10).

4.4 Drivers of and Barriers to Craft Brewing in Colombia

It is clear that the same patterns followed for other markets around the world are being replicated with some delay in the Latin American market for beer. New small and craft breweries are taking the lead in diversifying variety and "training" consumers, enhancing their knowledge of the beer world. Specifically for Colombia, there is a growing interest in craft brewing and it is reflected in the industry renewal.

As represented previously in Chap. 1, in general sources of craft industry growth may be described from the demand and supply standpoint. From the demand side are consumer resistance and change in consumer preferences for food; and from the supply side, the existence and consolidation of brewing associations, network ties, access to information, and new forms of financing.

From the demand perspective in the Colombian case, consumer resistance may have triggered the appearance of new craft beer pioneers such as Juan Alejandro Correa with Cervecería Otra Parte, and the very successful case of Berny Silberwasser with Palos de Moguer and Bogotá Beer Company, in the proliferation of new craft breweries in the 1990s.[10]

At the time, the craft brewery movement in the USA had an important impact on Colombian consumers due to the high flow of people visiting the USS. This interest of Colombian consumers in North American craft beers played an important role when they became craft brewers in the country, in the same sense that in Europe for Garavaglia "during the 1980s–1990s, the internationalization of people and communication contributed towards increasing consumers' knowledge about the existence of a great variety of food products which had previously been unknown or less known" (Garavaglia 2015). In this context, consumers remind us of the very well-known models of monopolistic competition used in international trade, such as Krugman and Dixit-Stiglitz.

On the other hand, awareness of variety may have triggered an important change in preferences through the imitation effect, with an important role in the local market. The blooming North American craft market in the 1990s was a vivid example of the possibilities of the industry in terms of variety witnessed by Colombian consumers.

[10]In contrast to the pioneers of the industry in the country, who almost two centuries before were also producing craft beers.

The change in preferences due to peer influence or consumers' "imitation effect" from the Colombian market toward the North American market was also impelled by the wide availability of information. Colombian consumers are highly susceptible to be influenced by US consumption patterns. According to McCluskey and Shreay, "the consumer develops a taste for beer, so that availability and peer influence will affect consumption and preferences" (McCluskey and Shreay 2011).

As in a backward induction game-solving strategy, the change in preferences, detected by SABMiller (Bavaria), explains the new strategy of increasing variety via imports of different brands of the multinational to the Colombian market.

The increase in variety strategy may have also been implemented by SABMiller as an entry deterrence to other firms. Since its purchase of Bavaria, the brewery has also expanded the variety of beers brewed and commercialized. Sitting next to the traditional (North) American lagers on the shelf now there are more than a dozen nationally distributed brands in its portfolio, including seasonal beers (Oktoberfest Märzen type), and recently it has announced a new Club Colombia wheat beer.

The pressure to engage in new market strategies at the same time as the craft brewing movement is arising may be increased by the fact that Bavaria, with a long tradition in the country, is no longer a Colombian-owned firm. This new scenario may have similar implications in terms of brand loyalty and reduction in consumption, replicating the pattern followed by Budweiser sales in the USA in recent years.

The imitation or emulation effect may also be detected on the production side. In the case of Italy, for Garavaglia (2015) there exists a legitimization or emulation effect in the rise of microbrewing. After the pioneers show the way in establishing a new, viable path, maybe following producers in other countries, "it is by observing the post-entry results of other firms that potential entrants disentangle their uncertainty about future profitability, thus, a mechanism of informational cascade can explain further entry" (Garavaglia 2015), generating confidence in the new market and attracting fresh capital to the industry.

Also from the producers' perspective, the recent appearance of an association promoting craft brewing is expected to have a positive impact on the industry by strengthening network ties among small producers and connoisseurs, and increasing access to information about production, availability of inputs, and forms of financing.

According to the social movement theory (see Carroll and Swaminathan 2000), the presence of a consumers' or producers' movement that helps to spread knowledge about varieties and new flavors provides impulse to industry growth. In August 2016, and decades after the Netherlands, the UK, and the USA, the First National Fair of Craft Brewery was held in Bogotá. In a similar role to PINT in the Netherlands, CAMRA in the UK, and the Brewers Association in the USA, the meeting was organized by the Chemical Engineering and Affiliate Professions Colombian Association (ACIQ). More than 26 different brewers gathered to compete for prizes and financial support to their brands. The event also provided the opportunity to exchange knowledge among producers by offering practical brewing courses during the event, with more than 300 participants (ACIQ 2016). In terms of a social movement, ACIQ may play an important role in the near future.

A specific element that may have an important effect in the development of the industry is the change in regulation, for example with tax exemptions for small breweries in the USA (Tremblay and Tremblay 2005). In Colombia, there has not been a change in regulation specifically related to the initiation of the craft industry. However, the problems and complexity of Colombian legislation and regulation, as well as corruption, may impose important barriers to craft industry growth. According to the World Bank Doing Business database, the country has significant problems related specifically to two elements computed into the index: Enforcing Contracts (the country ranked 177 out of 189 in 2016) and Paying Taxes (133 in 2016), specifically with respect to the "time (in hours per year) it takes to prepare, file and pay." In the Colombian case, then, these regulatory elements are regressive for small firms, for which any time devoted to non-productive activities may have higher opportunity costs than for bigger firms.

Additional to the changes previously described, most of them shared with the changes witnessed in the craft industry in other latitudes, there are some specific elements in the local market development, such as unavailability of inputs, funding, and sanitary regulations.

Even though Colombia was once a producer of barley, different interviews reveal an important entry barrier for small producers related to the availability of inputs. Currently there is no production of barley, hops, or yeast in the country, hence the main inputs for craft beer are all imported, which of course is a major entry barrier.

In general, a market where incumbent craft brewers can find the type of capital and inputs needed for the production of craft beer has not yet been developed properly in Colombia. However, in spite of the existence of some small stores mainly concentrated in Bogotá, for a small-scale producer it is difficult to acquire inputs and properly sized equipment suitable for small-scale operations.

Another major barrier is related to funding, which is an entry barrier common to any small or medium-sized firm (SME) in Colombia. According to Vera-Colina and others, "SMEs obtain finance mainly through their own funds, to a lesser extent through short-term liabilities, and in a low proportion of cases through long-term liabilities" (Vera-Colina et al. 2014).

Finally, there are some necessary sanitary permits according to the current regulations that may act as significant barriers to small-scale producers. These specific permits are controlled by the INVIMA, the institution dealing with sanitary permits to "protect and promote the health of the population through risk management associated with the consumption and use of food, drugs, medical devices and other products subject to sanitary surveillance."[11] However, according to Juan Alejandro Correa,[12] these regulations may be biased to favor mass-production breweries, imposing an important barrier to the growth of the craft sector.

[11] https://www.invima.gov.co.

[12] Pioneer of the brewing industry in Colombia with Cerveceria Otra Parte Colombiana (personal interview).

Many of the barriers mentioned may be averted, or at least addressed in an organized way, with the help of a well-established brewers' association, which may help to enhance network economies among craft brewers. The current situation of the sector in the country is promising a very interesting future for craft beer enthusiasts.

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5

Belgium: Craft Beer Nation?

Eline Poelmans and Johan Swinnen

5.1 Introduction

As Elzinga et al. (Chap. 2) and Garavaglia and Swinnen (Chap. 1) clearly explain, it is easy to identify the start of craft brewing in the USA, but much more difficult in Western Europe. This is especially the case for Belgium. In a way, as Swinnen and Briski (2017) argue, Belgium has to some extent always been a "craft beer nation." The evolution of Belgium's beer industry and its craft brewers has both similarities to other countries and also several distinctive elements.

Some developments of Belgium's beer industry have been very similar to other traditional "beer-drinking nations" (see Colen and Swinnen 2015). As in many other countries, the industrial revolution and World War I caused the growth of the lager beer industry. This lager beer industry came

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to dominate the Belgian beer market in the twentieth century (in particular from 1900 to 1980) and caused a dramatic consolidation. In Belgium, the number of breweries declined from more than 3000 in 1900 to around 150 in 1980. Also the growth of craft beer production and consumption since 1980 and the growth in the number of small craft breweries, as well as the emergence of homebrewing, are similar to other countries.

However, in other ways Belgium has been quite different than other countries (Swinnen 2017). The first main difference is that a variety of different types of beer survived to a greater extent in Belgium than in other traditional beer-drinking countries. This is arguably best documented not in the writings of Belgian beer experts, but in those of an American visitor to the Belgian (and the world's) beer scene, Michael Jackson, who wrote:

> The great beers of Belgium are not its lagers. Its native brews are in other styles, and they offer an extraordinary variety, some so different from more conventional brews that at the initial encounter they are scarcely recognisable as beers. Yet they represent some of the oldest traditions of brewing in the Western world.[1]

The survival of more varieties is to some extent related to the survival of smaller breweries, but not completely. For example, many small breweries survived the "twentieth-century brewery shake-out" to a much greater extent in Germany than in Belgium, but the variety of beer types in the second half of the twentieth century was much greater in Belgium than in Germany. It is especially the large variety of beer styles that persisted in Belgium in the late twentieth century, often produced by small independent breweries, which made that country and its brewers become a source of inspiration for the world's craft brewers, as is documented in many chapters in this volume.

Another specific characteristic is the dramatic export growth of Belgian craft beers, especially since 2000. Swinnen (2017) argues that this spectacular export growth is the result of the combination of several factors, including the symbiotic interaction between large multinational brewing companies and small-scale crafts. We will explain this further in this chapter.

[1]Jackson (1999), *Beer Hunter*.

Our chapter is organized as follows. We first document the consolidation of the Belgian brewing industry in the twentieth century and the consequent growth of craft beers in both consumption and production. Then we look at the growth in the market share of craft beers and the types of craft beers in Belgium. Afterwards, the rapid growth of craft exports is investigated. We conclude with an overview of the drivers and champions of the Belgian craft beer market.

5.2 Consolidation of the Belgian Beer Industry in the Twentieth Century

While there are many interesting developments in Belgian beer markets prior to 1900, the history which is most relevant for our analysis is the start of the consolidation of the Belgian beer industry, which, as in many other countries, was at the beginning of the twentieth century.[2]

While the two world wars disrupted beer consumption and production, there is a general trend of consolidation over the 1900–1990 period. Breweries merged, were acquired, went bankrupt, or just stopped producing. Figure 5.1 illustrates the evolution of the number of breweries in Belgium, which declined from 3223 in 1900 to 1546 in 1930, 414 in 1960, 143 in 1980, and to its lowest number—113—in 2000.

The reasons for this consolidation are well known now (Clemons et al. 2006; Swinnen 2011; Tremblay and Tremblay 2005). First, technological progress—such as automation of the beer production process; the acceleration of packaging; a more automated brewing, fermenting, and conditioning process; and a better distribution through improved road networks—led to greater economies of scale (Adams 2006; Gourvish 1994). Second, the introduction of bottom-fermented beers in the first part of the twentieth century led to higher fixed costs than

[2] For analyses of the earlier period, we refer to Hornsey (2003); Poelmans and Swinnen (2011); Unger (2001, 2004); Van Dijck et al. (Chap. 10) and Van Uytven (2007). Since Belgium and the Netherlands were both part of the Low Countries in much of this period, the developments are very similar. Persyn et al. (2011) document the more recent history.

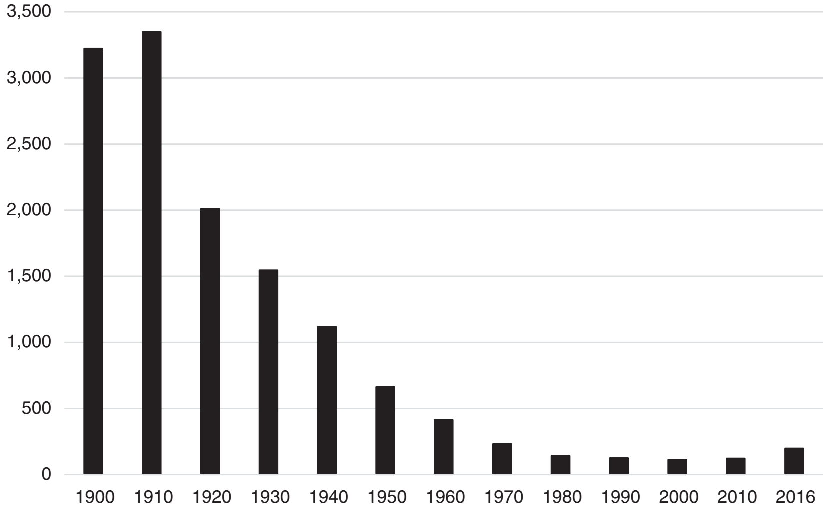

Fig. 5.1 Number of breweries in Belgium, 1900–2016. *Source* Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111, p. 6; Belgische Brouwers (2009) Jaarverslag, p. 25; (2012) Jaarverslag, p. 2 and (2016) Jaarverslag, p. 30

for top-fermented beers, as artificial cooling was needed during the fermentation and throughout the longer maturation time. This caused smaller breweries to exit the market (Persyn et al. 2011). This process was reinforced by equipment confiscation during both world wars and a shortage of capital, which induced many breweries to either quit or merge with larger breweries because of the investments that were necessary for re-equipment and modernization of the breweries (Poelmans and Swinnen 2011). A last contributing factor was the spread of large-scale advertising since World War II, which led to an escalation of sunk advertising costs, which could only be paid by larger breweries (Sutton 1991; George 2009).

The consolidation of the beer industry coincided with the growth of lager beer ("pils" as it is typically referred to in Belgium) as the dominant beer produced and consumed. By the mid-1980s "pils beer" represented 77 percent of the market. Around 6 percent of beer was low-alcoholic beer (so-called table beers) and the remaining 17 percent was various other types of beers, which we will refer to as "craft beers" in this chapter.

5.3 Defining Belgian Craft Beer

The concept of "craft beers" is not perfectly defined in the literature. In Chap. 1, Garavaglia and Swinnen discuss the different ways of defining craft beers. The definition of what they refer to as "real craft" refers to the combination of small brewer, independent ownership (meaning not owned by another large macrobrewery), and using a traditional or innovative brewing recipe. Some of the Belgian beers obviously fit these criteria. Several new breweries have been recently started up brewing "new beers" using old (or "traditional") recipes. There are also (very) old breweries which fit these criteria. Probably best known is the famous case of the Trappist monks of Westvleteren, who brew their Westvleteren Trappist themselves. Despite the fact that their Trappist was named "Best Beer in the World" four years in a row (from 2011 to 2014), they brew the beer themselves and restrict the supply of Westvleteren to the amount they need to finance their day-to-day "worldly needs" (Van den Steen 2011).

However, many other Belgian beers which are clearly different from pils beer do not easily fit within these three criteria. Many beers that may have started out as craft have now become so popular that they have grown in size and several of them have been taken over by larger brewers. These large brewing companies have used their marketing and distribution power to upscale the craft beer production and distribution. These would fit better under the "ex-craft" beers classification suggested by Garavaglia and Swinnen (Chap. 1).

A well-known example is the white Hoegaarden beer, which was initially brewed since 1966 in a small village brewery, following a fifteenth-century recipe. However, since 1985 it has been taken over by AB InBev and is now sold all over the world. More recently, in 1996, the seven-generations-old, but still small, Bosteels Brewery started brewing Tripel Karmeliet beer, following a recipe from 1679 from an old Carmelite monastery. Since then it has gone on to win global Best Beer Awards and its success triggered a rapid growth in production volume, and recently a takeover by AB InBev.

Also several other Belgian Trappist and abbey beers no longer fit the restrictive "real craft" criteria. Many of these breweries have significantly increased their output and several are no longer brewed by the monks, but by larger commercial brewers. In some cases brewing takes place under contract with the monasteries; in other cases the link with the monastery is mostly in the name of the beer. An example is the award-winning Tongerlo beer,[3] brewed since 1954 but outside the actual abbey of Tongerlo, and since 1990 owned and brewed by Brouwerij Haacht, a major pils brewery. Other examples are the Grimbergen and Affligem beers, which were initially brewed by abbeys in the villages of Grimbergen and Affligem, both close to Brussels. For several decades their brewing has taken place in commercial breweries, and the beers are now brewed and sold by Heineken and Carlsberg. Other traditional beers that barely survived the concentration shake-out of the twentieth century, but have since witnessed a real revival and are currently growing in market share and exports, are several gueuze and cherry beers, based on old recipes, such as Boon Geuze & Kriek and Liefmans Kriek.

Within the statistics it is not possible to distinguish between these different versions of "craft" beer. For this reason, in our analysis of the Belgian beer and craft market in this chapter, we use a broad definition of craft. We define it as the beers which are in the statistics of Belgian brewers captured under the headings of "Trappist beers," "Abbey beers," "Gueuze beers," and "Specialty beers." Box 5.1 illustrates some of the beers in these different categories.

All the beers that we refer to as "craft beers" started out as "real craft" beers, but by now several of them have either grown in size and/or have been taken over by larger brewers—which would qualify them as "ex-craft beers" in the classification suggested by Garavaglia and Swinnen (Chap. 1). The vast majority of the Belgian "craft beers" (including most "Trappist," "abbey," and "other specialty beers") are brewed under top fermentation and contain a relatively high alcohol percentage; that is, higher than 6 percent. The "gueuze" and "other sour" beers are mostly brewed under mixed or spontaneous fermentation and have an alcohol percentage of around 3–6 percent.

[3] Tongerlo Blond won gold at the World Beer Awards 2014 in the category Pale Beer and was World's Best Beer in 2014.

Box 5.1 Examples of different categories of Belgian craft beers

Trappist beer	Abbey beer	Gueuze beer	Specialty beer
			
Name Westvleteren Blond *Alcohol* 5.8% *Brewery* Brewery of the Sint-Sixtus Abbey	*Name* Tongerlo Prior *Alcohol* 9% *Brewery* Brewery Haacht	*Name* Oude Geuze Boon *Alcohol* 6.5% *Brewery* Brewery Boon	*Name* Lupulus Triple *Alcohol* 8.5% *Brewery* Brewery les 3 Fourquets

Source Deweer, H. (2015) All Belgian beers—Alle Belgische bieren—Toutes les bières belges

5.4 Changes in Belgian Beer Consumption

The growth of craft beers occurred in a period when the Belgian beer market as a whole was shrinking—at least in volume terms (there is no good data on value). The early 1970s were important years in Belgian beer markets for several reasons: during those years (a) Belgian beer consumption (in terms of volume) was at its highest; (b) the market share of pils beer was at its highest; and (c) the market share of craft beer was at its lowest.

Since the mid-1970s beer consumption per capita has been declining in Belgium. With limited population growth this translated in a shrinking beer market—and substantially so. In the early 1970s, per capita beer consumption in Belgium was around 132 liter, while by 2015 it had fallen to 71 liter—a decline of almost 50 percent (see Fig. 5.2). This fall has dramatically reduced domestic beer demand.

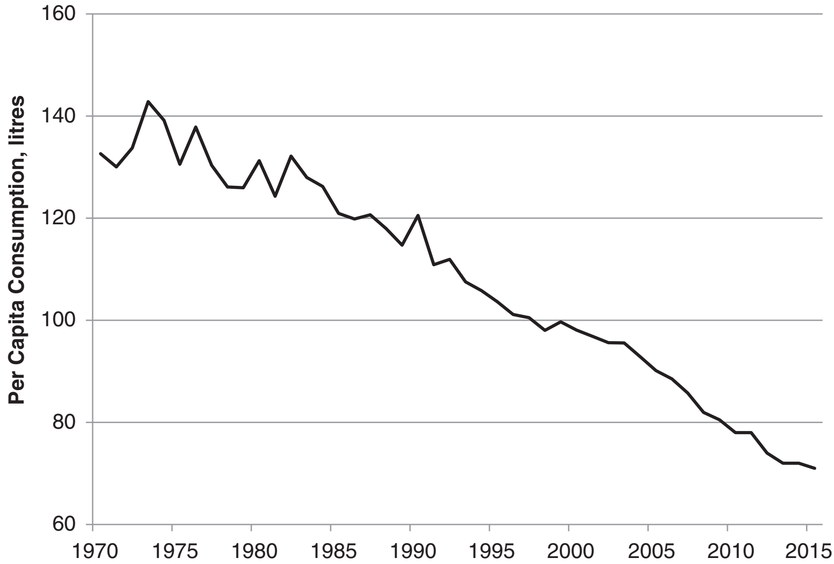

Fig. 5.2 Per capita beer consumption, 1970–2015. *Source* Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111, p. 12; Belgische Brouwers (2009) Jaarverslag, p. 25; (2012) Jaarverslag, p. 2 and (2015) Jaarverslag, p. 5

Studies have indicated several reasons for the decline in beer consumption in traditional beer markets, such as a lower tolerance for alcohol (ab)use; a shift in consumer preferences to soft drinks and bottled water since the 1980s; and a shift from "economization" (a large volume of low-priced products) to "premiumization" (less, but better and more expensive beers; Persyn et al. 2011; Colen and Swinnen 2015 and Piron and Poelmans 2016).

Disaggregated data on beer consumption or production per type of beer is remarkably limited. Table 5.1 summarizes the available consumption data. Lager beers ("pils") made up 55 percent of the market in 1947, leaving 45 percent for low-alcohol beer (so-called table beer) and craft beers. By 1975, 28 years later, lager beer made up 80 percent of consumption and low-alcohol beer another 10 percent, leaving only 10 percent for craft beers. In terms of market share this appears to have been the low point for craft beers.

Table 5.1 Beer consumption by type in Belgium, 1947–2000 (% of total)

<table>
<tr><th rowspan="2"></th><th rowspan="2">Lager beer ("Pils")</th><th rowspan="2">Low/Non-alcohol beers</th><th colspan="5">Craft beers</th></tr>
<tr><th>Craft total</th><th>Trappist</th><th>Abbey</th><th>Gueuze/ Sour</th><th>Other specialty</th></tr>
<tr><td>1947</td><td>55</td><td colspan="6">45</td></tr>
<tr><td>1975</td><td>80</td><td>10</td><td colspan="5">10</td></tr>
<tr><td>1980</td><td>76</td><td>7</td><td>17</td><td colspan="2">7</td><td colspan="2">10</td></tr>
<tr><td>1990</td><td>74</td><td>5</td><td>21</td><td>5</td><td>4</td><td colspan="2">12</td></tr>
<tr><td>2000</td><td>71</td><td>3</td><td>26</td><td>8</td><td>3</td><td colspan="2">15</td></tr>
</table>

Source Kredietbank (1987) België, bierparadijs. *Weekberichten van de kredietbank*, 11 December 1987, 42nd year, no. 45, pp. 1–3; Belgische Brouwers (1993) 100 jaar Het kleine Brouwersblad, December 1993, vol. 101, pp. 8–10 and Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111, p. 12

Table 5.2 Share of different beer types in total production

	Lager beer ("Pils")	Low/Non-alcohol beers	Craft beers				
			Craft total	Trappist	Abbey	Gueuze/ Sour	Other specialty
1985	77.2	5.9	16.9	1.8	1.3	4.1	9.7
1990	73.7	5.7	20.6	2.1	2.7	3.5	12.3
1992	71.1	5.0	23.9	2.2	3.5	3.0	15.2

Source Belgische Brouwers (1993) 100 jaar Het kleine Brouwersblad, December 1993, vol. 101, p. 8

5.5 The Growth of Craft

The share of craft beers in Belgian consumption increased from 10 percent in 1975 to 17 percent by 1980, and it keeps growing, to 21 percent in 1990 and 26 percent in 2000. In particular the Trappist and abbey beers, and the other highly fermented beers, became more popular, while gueuze and other sour beers saw their market share further decline. The share of pils fell to 71 percent by 2000 (Table 5.1).

Production data is even more limited than consumption data. Since export was quite limited until the 1990s (see below), the production and consumption data are largely consistent (see Table 5.2).

The data in Table 5.2 indicates that by 1985, pils beer made up 77 percent of beer production in Belgium and low-alcohol beer around

Table 5.3 Evolution of beer consumption by most favorite beer type in Belgium (% of total)

	Lager beer ("Pils")	Trappist	Abbey	Regional beer	Strong blond beer	Other beer types
2005	52	5	9	6	7	21
2011	38.4	12.9	14.7	8.8	13.5	11.7
2016	30.8	12.4	13.9	15	14.2	13.7

Note Under "other beer types" different types are counted, such as gueuze beers and other sour beers, and fruit beers. However, the largest share of these "other beer types" is the Witbier
Source Belgische Brouwers (2016) Bierbarometer, edition 2013 and Belgische Brouwers (2016) Bierbarometer, edition 2016

6 percent. Craft beers as a whole accounted for around 17 percent of Belgian beer production in 1985 (in volume terms), with specialty beers occupying almost 10 percent of the market, gueuze beers around 4 percent, and Trappist and (other) abbey beers between 1 percent and 2 percent. By 1992 the share of crafts in total volume had increased again, to 24 percent—a growth in market share of roughly 1 percent per year. The growth was mostly concentrated in the specialty beers and abbey beers categories. At the same time, the share of pils beers was the mirror image: it declined from 77 percent in 1985 to 71 percent in 1992—a substantial decline in market share equivalent to roughly 1 percent per year. The decline in percentage terms hides an even stronger decline in volume, as the total volume of beer was declining at the same time.

Other data sources document the growth in popularity of craft beers for more recent years. Since 2005, the Belgian Brewers Association has undertaken a yearly survey on Belgian alcohol consumption habits. Table 5.3 summarizes the survey results. They are consistent with the other data in that they confirm the declining share of pils, which has fallen from 52 percent in 2005 to 31 percent in 2016. This is a dramatic fall: around a 2 percent annual decline in market share, which is double the annual decline in (production) market share between 1985 and 1991, as indicated in Table 5.2. Hence the fall of lager has not slowed down, but increased instead.

The survey data also suggests that the growth in domestic consumption of abbey beers and Trappist beers was a very important driver for the overall growth in craft beers until 2011: the share of abbey beers went from 9 percent in 2005 to 14.7 percent in 2011, and the share of Trappist beers went from 5 percent in 2005 to 12.9 percent in 2011. However, their growth in market share seems to have stopped in recent years: abbey beers decreased from 14.7 percent in 2011 to 13.9 percent in 2016 and Trappist beers decreased from 12.9 percent in 2011 to 12.4 percent in 2016.

Interestingly, the growth in craft beers in recent years is mostly due to the growth in regional beers: from 8.8 percent in 2011 to 15 percent in 2016. These are mostly newly produced craft beers. Trappist and abbey beers are mostly "old" craft beers (although many of these have been upgraded and modernized).

Figure 5.3 shows Belgian beer consumption figures since 1975. Although based on different sources and not completely comparable—real consumption data from 1975 to 2000 and survey data on Belgian

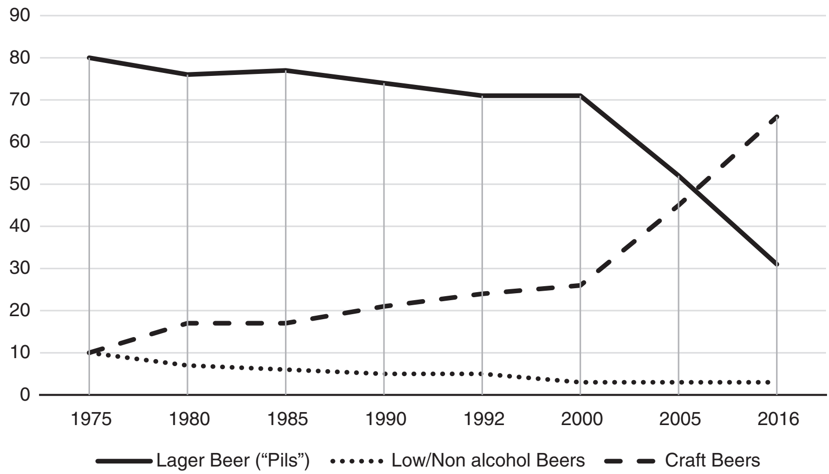

Fig. 5.3 Estimation of Belgian beer consumption by percentage, 1975–2016. *Note* This figure is based on real consumption data from 1975 to 2000 and survey data on Belgian alcohol consumption habits after the year 2000. *Source* Kredietbank (1987) België, bierparadijs. *Weekberichten van de kredietbank*, 11 December 1987, 42nd year, no. 45, pp. 1–3; Belgische Brouwers (1993) 100 jaar Het kleine Brouwersblad, December 1993, vol. 101, pp. 8–10; Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111, p. 12; Belgische Brouwers (2016) Bierbarometer, edition 2013 and Belgische Brouwers (2016) Bierbarometer, edition 2016

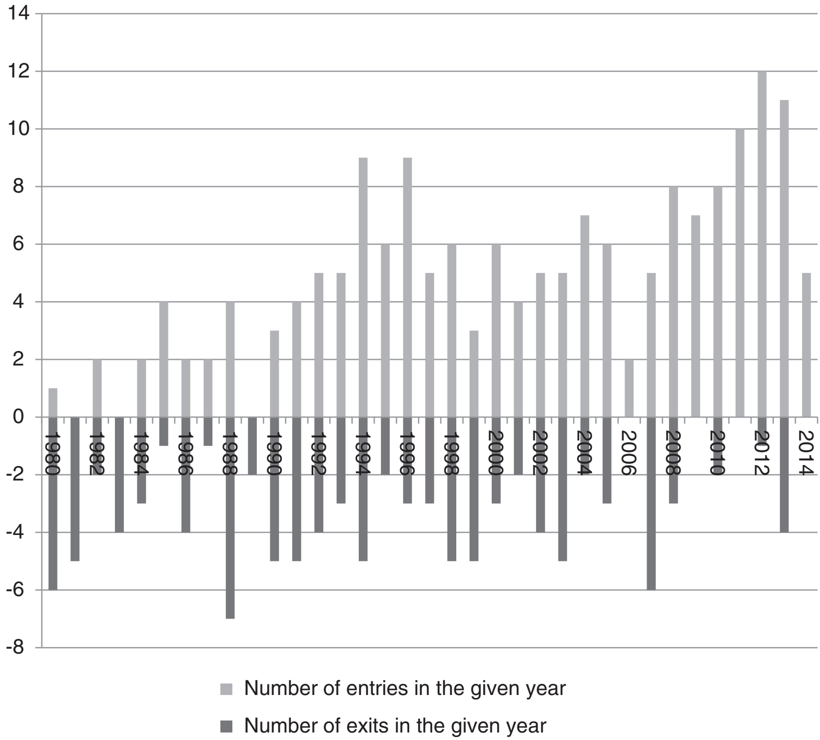

Fig. 5.4 Number of entries and exits in the Belgian brewing industry since 1980. *Source* Persyn et al. (2011) Belgian beers: Where history meets globalization, p. 140 and data obtained from Zythos on entries and exits since 2000

alcohol consumption habits after 2000—the data shows a clear trend: a decreasing share of pilsner beers and a rapidly increasing share of craft (including "ex-craft") beers.

5.6 Brewers of Craft Beers

As explained already, growth in the market share of craft beers came from various sources, including the increased output from existing breweries and from the start of new breweries. As Figs. 5.4 and 5.5

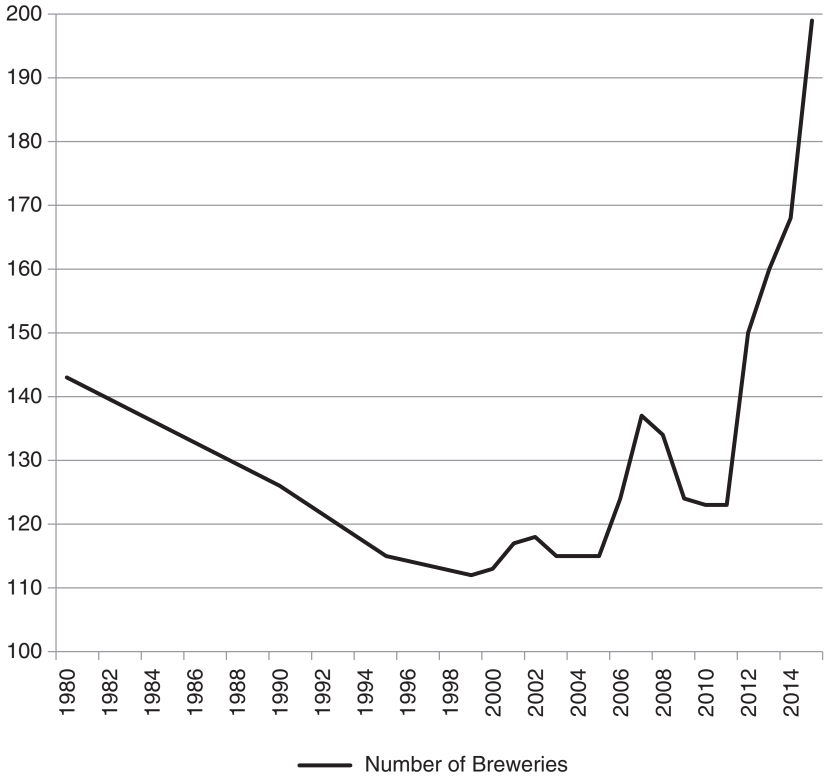

Fig. 5.5 Number of breweries since 1980. *Source* Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111 and Belgische Brouwers (2009, 2010, 2011, 2012, 2013, 2014, 2015) Jaarverslag

illustrate, several new breweries started in the 1980s and the pace of entrance increased significantly in the 1990s.

The precise evolution depends somewhat on the data source (see Figs. 5.4 and 5.5). However, the story that is consistent across sources is the following. First, the number of brewers keeps declining in the 1980s, with more breweries exiting than entering the market. Second, there are a lot of breweries starting up and going out of business in the 1990s. Third, from 2000 onward, there are more breweries starting up than stopping. The official number of breweries increased from 113 in 2000 to 123 by 2010. Fourth, there is an "explosion" of new breweries since 2010, with almost 200 breweries in 2015 (see Fig. 5.5). After 2010, every year around 10 breweries enter with few exiting.

Several new craft beers have been produced and launched, with greater or lesser success, both by existing brewers and by new breweries. Existing breweries could draw on their brewing infrastructure to try out new beers. New breweries sometimes used other brewers' excess capacity to produce their beers on contract. Such contract brewing is an interesting strategy for new breweries to overcome infrastructure and capital constraints. In many cases, when the beer is successful, the breweries have later invested in their own production facilities.

In recent years capital and infrastructure constraints for new microbreweries have lessened as the supply of small-scale brewing technology (including for homebrewing) has developed and it has been easier for start-up breweries to get access to finance, with the general success of craft beers—as has been the case in other countries such as the USA and the Netherlands (see Elzinga et al. in Chap. 2 and van Dijk et al. in Chap. 10).

While craft beer production, its market share, and the number of breweries have grown together, the relationship between craft beer and the size of the breweries is more complicated because of acquisitions in the craft sector. Some of the craft breweries have been taken over by large brewing companies, which until the 1980s produced mostly lager beer (pils). These large companies have used their marketing and distribution power to upscale craft beer production and distribution. Well-known examples are Hoegaarden, Leffe, and Tripel Karmeliet, which are now all owned by AB InBev and part of AB InBev's "craft & specialty beers" network. This means that while craft beers have continued to grow and new small breweries have continued to start up, the share of the small breweries is much smaller than the size of the craft beer market.

These mergers and acquisitions also affect the total number of breweries officially registered, and the share of the independent craft breweries in the total market. In fact, today Belgium is characterized by a dual market structure, with a few very large breweries (about 5 percent of the number of breweries) and many small-scale craft breweries (about 95 percent of all Belgian breweries). Jointly these small-scale breweries

Table 5.4 Classification of all beers produced in Belgium in 2015 according to fermentation type

Alcohol percentage (%)	Nature of fermentation				Sub-total (%)
	Pils	Craft			
	Bottom fermentation (%)	Top fermentation (%)	Spontaneous fermentation (%)	Mixed fermentation (%)	
1–3	0.6	0.3	0.5	0	1.4
3.1–6	4.6	22.0	7.5	1.0	35.1
6.1–8	0.4	36.4	0.8	1.0	38.6
> 8	0.4	24.5	0	0	24.9
Sub-total	6.0	83.2	8.8	2.0	100

Notes
Top-fermentation beer: e.g., Trappist or abbey beers (Westmalle, Leffe, etc.) or White beer (Hoegaarden, etc.)
Spontaneous-fermentation beer: e.g., lambic, gueuze, and fruit beer (Geuze boon, Kriek Lindemans, etc.)
Bottom-fermentation beer: e.g., pilsner beers (Stella, Jupiler, etc.)
Mixed-fermentation beer: e.g., red brown ales (Rodenbach caractère rouge, etc.)
Source Authors' own calculations based on Deweer, H. All Belgian beers—Alle Belgische bieren—Toutes les bières belges, 2015

produce a large variety of different craft beer types, but account for less than 10 percent of total beer production (Persyn et al. 2011 and Belgische Brouwers, jaarverslag, 2015).

To document the variety of craft beers, Deweer (2015) provides a list of more than 1600 different Belgian beers produced in Belgium in 2015. According to our definition of craft beers, approximately 94 percent of all Belgian beers in 2015 were craft beers. Table 5.4 classifies these 1600 different Belgian beers by fermentation types and alcohol percentages. Of all the beers brewed in Belgium in 2015, 83 percent were brewed under top fermentation, followed by 9 percent under spontaneous fermentation, 6 percent under bottom fermentation, and 2 percent under mixed fermentation. Most are "craft beers." Most of the top-fermentation beers have an alcohol content of more than 6 percent. Most bottom-fermentation beers have an alcohol content of less than 6 percent. Hence, more than 63 percent of the available beers have an alcohol content of more than 6 percent.

5.7 Trade in Craft Beers

Growing exports have more than compensated for the fall in beer consumption in Belgium. As Fig. 5.6 illustrates, beer exports were close to zero in the 1960s and increased particularly in the 1990s and 2000s. In 2005, Belgium for the first time exported more beer than it consumed domestically. In volume terms, exports increased from 20.5 million liters in 1960 (2 percent of total Belgian production) to 1.3 billion liters in 2015 (66 percent of production). In 2015, the largest shares of exports went—in decreasing order—to France, the Netherlands, the USA, Germany, Italy, China, and Canada (Belgische Brouwers, jaarverslag, 2015).

There is no representative data on the share of craft beers in trade, but different indicators point to the rapid growth of craft exports as part of the overall growth in exports. First, there is anecdotal information

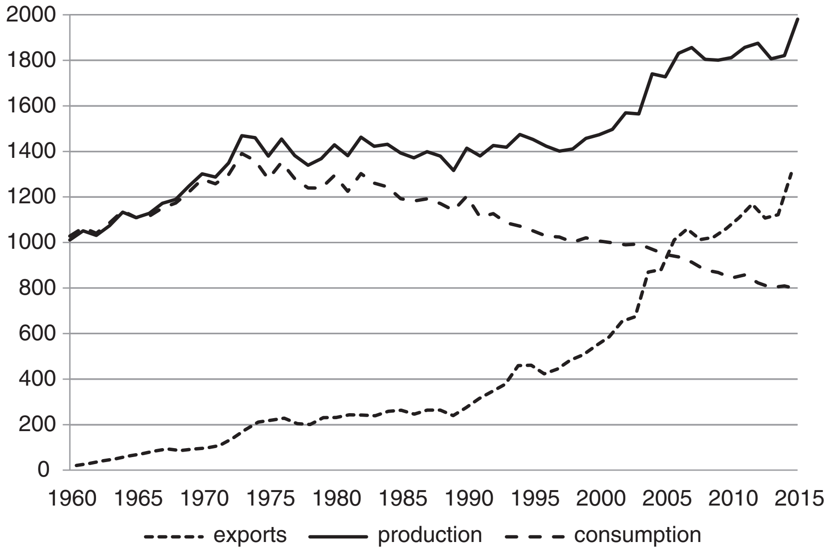

Fig. 5.6 Beer production, consumption, and exports in Belgium (in millions of liters), 1960–2015. *Source* Belgische Brouwers (2004) Het Brouwersblad, June 2004, vol. 111, p. 12; Belgische Brouwers (2009) Jaarverslag, p. 25; (2012) Jaarverslag, p. 2 and (2015) Jaarverslag, p. 5

on the ample and increasing availability of Belgian beers in many bars in the world. Second, the growth of AB InBev as a global multinational has coincided with the distribution of its portfolio of beers, which includes "craft beers" such as Hoegaarden, Leffe, and others, through its global distribution network. Persyn et al. (2011) estimated that in the second half of the 2000s, 79 percent of total beer exports were produced by the large Belgian beer producers. Third, interviews with smaller Belgian craft brewers reveal that an important share of their production is for export, sometimes to remarkably distant places (Poelmans and Ostyn 2017; Swinnen and Briski 2017).

Finally, available trade data does indicate that the unit value of Belgian beer exports—that is, the ratio of value over volume, which is an indicator of the average price of the beer that is exported—declined over the period 1960–1985, but has increased significantly in real terms since then (see Fig. 5.7). This increase is consistent with the argument that the share of higher-value beers in exports is increasing.

Swinnen and Briski (2017) argue that there has been a remarkable synergy in export strategies of small and large Belgian brewers. While these brewers are competitors on the Belgian domestic beer market, internationally they have reinforced each other's exports. The large variety and historical roots of Belgian crafts have contributed to Belgian beer's attractiveness to a new class of beer drinkers around the world, who prefer craft over traditional lagers. Many "Belgian beers"[4] have won prestigious international beer prizes over the past few years. At the same time, most small craft brewers are too small to launch international marketing campaigns and have thus benefited from the increased export orientation and strategies of the larger Belgian brewers—mainly AB InBev and more recently Duvel Moortgat—which have distributed Belgian beer and advertised it all over the world.

[4]For instance, the Belgian Trappist beer Westvleteren XII was named the "Best Beer in the World" by RateBeer, and this four years in a row (from 2011 to 2014). Nine other Belgian beers can be found in RateBeer's 2014 top 100, including Westvleteren Extra 8, Black Albert, Pannepot and Pannepot Reserva, produced by De Struise Brouwers; Sint-Bernardus Abt 12, Gouden Carolus Cuvée van de Keizer, and raspberry Lambic Hommage, produced by 3 Fonteinen; Bush de Nuits (Scaldis Prestige de Nuits) from the brewery Dubuisson, and Rochefort 10 Trappist. See "Westvleteren XII is world's best beer" (http://deredactie.be/cm/vrtnieuws.english/News/1.1860841).

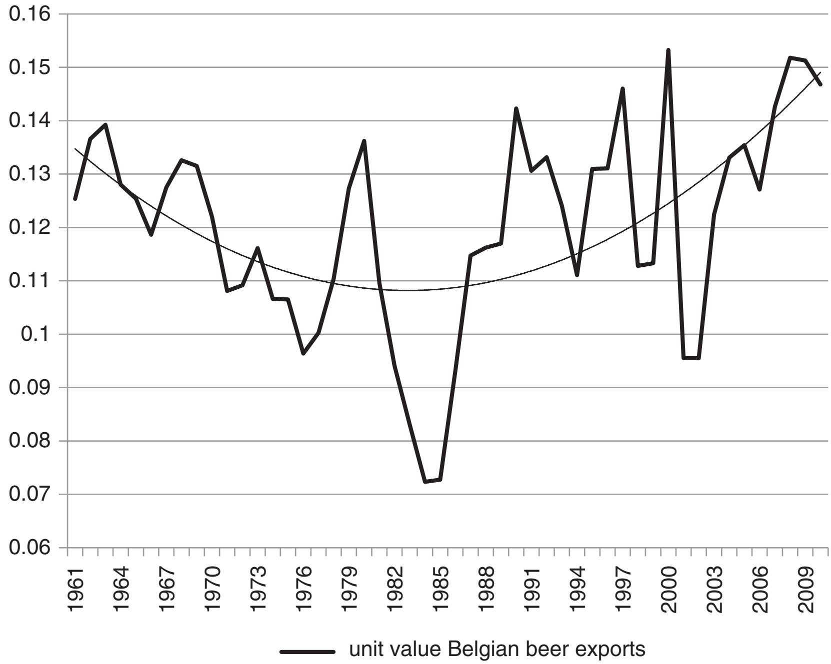

Fig. 5.7 Unit value of Belgian beer exports (in US$/kg) (In real terms and 1961 prices), 1960–2010. *Source* Authors' own calculations, based on Euromonitor (2011) and Faostat (2011)

Interestingly, the spread of Belgian beers around the world is not just through Belgian (-based) multinationals, but also through foreign multinationals. For example, Belgian specialty and abbey beers such as Grimbergen and Affligem are now owned by Danish multinational Carlsberg and Dutch multinational Heineken, respectively, and are part of the portfolio of craft beers that these companies offer globally to their customers.

Finally, there are indications of the increasing impact of international craft beers on Belgian beers. One aspect is the growing number of new craft beers which are inspired by external (non-Belgian) recipes. An obvious example is the IPA-type beers, which have their roots in the UK but have been popularized in the USA in recent years. These beers are new to the Belgian market and a growing number of Belgian brewers are experimenting with them. Another aspect is the import of these type of craft beers into Belgium. While these beers were already competing with Belgian craft beers on export markets, international craft beers (such as Goose Island IPA, initially brewed by a Chicago brewpub but since 2011 part of AB InBev) are now on sale in Belgium.

5.8 Drivers and Champions of Belgian Craft Beers: Conclusions

In the previous sections we have explained the growth of craft beer in Belgium. The drivers of the Belgian "craft beer revolution" have many similarities to those in other countries. These common drivers are explained in detail in Garavaglia and Swinnen Chap. 1. Yet there are also some factors which are specific to Belgium as a country. These specific factors are explained in detail in Swinnen (2017). Here we summarize some key points.

1. *The growth of craft beers is to an important extent a counter-reaction ("revolution") to concentration and homogenization in beer markets.* As in many other countries, the industrial revolution and associated economies of scale led in the twentieth century to a dramatic consolidation in the number of breweries and a homogenization of beer by a reduction in the number of beers. Lager beers ("pils") totally dominated the market by the 1970s. Other, specialty beers had fallen to a market share of around 10 percent.

   By the 1980s a consumer revolt was starting. A growing number of consumers were (again) searching for diversity and variation in beer types. In Belgium, as in the UK and the Netherlands, these consumers organized themselves. In 1984 De Objectieve Bierproevers, a beer consumers' organization (today better known as Zythos), was founded (Perrier-Robert and Fontaine 1996).

2. *Increased incomes*. Lager beer not only had massive scale economies, it was also cheap. Craft beers typically were more expensive. This

probably contributed to the decline of craft beers over a large part of the twentieth century, as beer prices were a major concern for much of the population. However, as Colen and Swinnen (2015) show, the income elasticity of beer is not constant but falls when people get richer; and at some point becomes negative. By the late twentieth century, growing incomes and globalization contributed to a decline of beer consumption in countries such as Belgium, as consumers consumed fewer alcoholic drinks and fewer standard lager beers, and shifted to other types of alcohol such as imported wines. This shift also included that from standard lager beers to craft beers, which are typically higher priced.

3. *Craft breweries built on a remarkable variation in old brews*. Historically there was a huge variation in beers in Belgium, which still has a major impact on craft beers today. The historical analysis of Poelmans and Taylor (2017) documents how much of the (regional) variation in Belgian craft beers today can be linked to the historical variation in beers. This is not only the case for the Trappist beers, but also for many other types of beers such as gueuze and other craft beers.
4. *Several entrepreneurs and amateurs played a crucial role in the "return of the crafts."* Arguably most important was Pierre Celis, who spent his lifetime saving white beer from extinction. When his hometown brewery in Hoegaarden went bankrupt in the 1960s, he single-handedly revived the brewery and the (now world-famous) Hoegaarden white beer. Later, when Interbrew (now AB InBev) took control of the brewery and used its distribution power to sell the beer first nationwide and later globally, he moved to the USA to start a Belgian-style white beer brewery in Austin, Texas. Other entrepreneurs who saved centuries-old beers from oblivion include Frank Boon of today's Boon Gueuze and Boon Kriek factories and others; see Swinnen and Briski (2017) for more details.
5. *Monks and beer markets.* The Trappist and abbey beer producers played an important role in keeping some of Belgian's finest craft beers alive in the face of consolidation and the growing market power of the large lager beer producers.

6. *Crafts to escape extinction*. Some of the smaller breweries which tried to survive the consolidation shakeout and growing concentration used innovative ways to market specialty beers to try to escape the competitive pressure on the lager beer markets. Early examples are Duvel and Gouden Carolus, and later examples are Omer and Tripel Karmeliet, all craft beers that helped their small breweries survive the scale effects–dominated pils market.
7. *Innovations by newcomers*. New craft breweries used various ways, including contract brewing, to overcome constraints in capital and small-scale brewing technology markets to start brewing. The successful beers were later often produced in their own breweries when cash flow helped to reduce capital constraints.
8. *Development of know-how, input, and technology markets*. The recent development of small-scale brewing technology and input markets and the exchange of brewing experiences among new microbreweries allowed many new breweries to come onto the market.
9. *Macrobrewery responses*. After macrobrewers recognized the potential of craft beers to address new consumer demand and to compensate for the fall in pils beer sales, they entered craft beer markets aggressively. Virtually all of them acquired craft breweries and started marketing their craft beers as part of a portfolio of beers that were offered to bars and retail outlets. A large share of "Belgian craft beers" is currently owned and sold by large breweries and multinationals in Belgium and across the globe, including foreign multinationals such as Heineken and Carlsberg.
10. *Craft nation.* Swinnen and Briski (2017) argue that, possibly more than any other country, Belgium has associated itself with the concept of being a "beer nation" and a "craft beer nation." This is the culmination of various factors which we discussed in this chapter. This association is reinforced in many ways, including in national and international marketing campaigns by Belgian brewers. In particular, in international marketing campaigns large and small brewers reinforce each other's argument of "Belgian beer" rather than compete.
11. *International recognition*. Somewhat paradoxically, one could argue that credit for the first truly international recognition of the

rich craft beer tradition of Belgium is not due to Belgian brewers (or consumers), but to an American visitor, Michael Jackson, who introduced Belgian beers to the world via his book *Great Beers of Belgium* (Jackson, 1991).

In the last decade the Belgian beer culture has become increasingly advertised thanks to new television programs and books on Belgian beers. Different regions/cities started to promote their region/city as a "Belgian beer region/city" to attract beer tourism. Several beer museums were founded or upgraded. Beer gastronomy is growing in Belgium and many beer events are now organized (for example, the yearly "Beer Weekend" in Brussels). Several beer magazines and specialized websites have emerged, such as www.beertourism.com on "Belgian Beer and Food Culture." Zythos, the craft beer consumer organization, publishes a quarterly magazine (Zytholoog) and organizes a yearly beer festival, which offers many beer tastings. All this culminated recently in UNESCO recognizing the Belgian beer culture as a part of world heritage.

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Westvleteren XII is world's best beer (http://deredactie.be/cm/vrtnieuws.english/News/1.1860841).

6

Entry, Survival, and Profits: The Emergence of Microbreweries in Denmark

Jan Bentzen and Valdemar Smith

6.1 Introduction

Until the twenty-first century, the beer industry in Denmark was characterized by a declining number of breweries. Back in 1950 beer production took place in nearly 200 breweries and most of these were small local breweries. During the next 50 years, the total number of breweries declined to only 16. Nearly all the small breweries had either closed down or merged with the larger breweries as part of the consolidation process in the industry. Entry to the beer industry was nearly non-existent. In the two decades before the millennium, the consumption of wine in per capita terms doubled, and with this new trend in consumer behavior there was obviously no room for microbrews.

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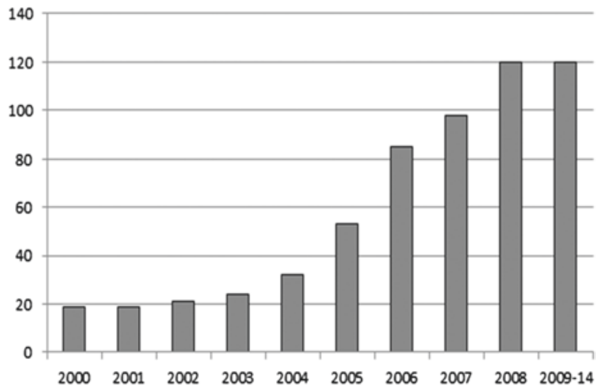

Fig. 6.1 Number of breweries, 2000–2014. *Source* Association of Danish Breweries (2015), www.beerticker.dk

This may be part of the explanation why the microbrew wave took place relatively late in Denmark.

However, after the end of the twentieth century the industry structure started to change. Massive entries of microbreweries occurred and during the next ten years the Danish brewing sector expanded to include more than 100 breweries from 2010 onward; see Fig. 6.1. A huge number of microbreweries that offered new, differentiated, and exciting beers at the high end of the beer segment were established and supplied their beer on the Danish market. A probable explanation for the expansion of the sector relates to the worldwide business upturn from 2004 to 2008, and this upturn created larger incomes for consumers, in Denmark too. Annual increases in incomes were more than 4% from 2003 to 2007. The new beers introduced to the market presumably had a relative high income elasticity, as they were highly priced[1] and belonging to the upper premium segment of the beer market. Several entrepreneurs may have seen the business opportunities and decided to enter the market. Figure 6.1 illuminates the development in the brewing industry. On average, 20–25 new breweries started up every year

[1]The per liter price of microbrew was three times the price of a standard premium beer, signaling a luxury product.

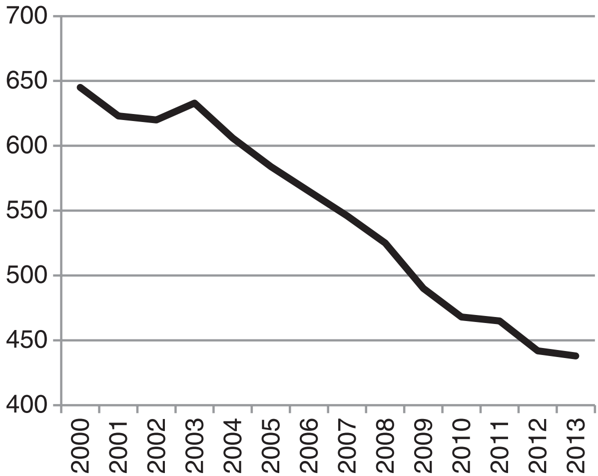

Fig. 6.2 Beer sales (million liters), 2000–2013. *Source* Association of Danish Breweries (2015), www.beerticker.dk

from 2004 to 2008. As expected, entry to the market has been stagnant since the economic crisis began and, since several breweries closed, there has not really been any net entry into the industry in the recent years.

However, there are opposing factors to the positive incentives to enter the beer market. Focusing on the demand side, the domestic beer market in Denmark has steadily declined (see Fig. 6.2). In 2000 the total Danish consumption of beer amounted to 645 million liters, which corresponded to 6.4 liters per inhabitant (+14 years of age) measured in alcohol equivalents. However, in 2013 the consumption was 438 million liters; that is, the demand for beer declined by more than 30%. The Danish experience reflects the development in the Nordic countries, with increasing consumption of wine while beer and spirits consumption stagnated.[2] Accordingly, the wave of net entries to the brewing industry happened in a significantly declining market. However, as noted earlier, microbrew belongs to the high-end segment of the beer market, and potential entrants did see business opportunities despite the declining beer market in Denmark.

[2]See Colen and Swinnen (2011) for an overview of trends in global beer consumption.

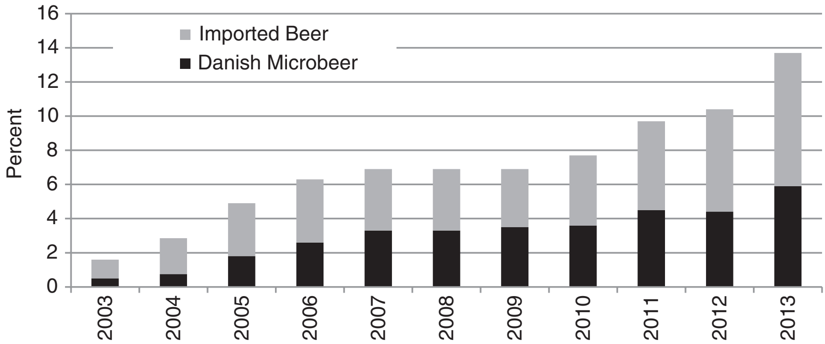

Fig. 6.3 Market shares for Danish microbrew and imported beers, 2003–2013. *Source* Association of Danish Breweries (2015), www.beerticker.dk

The brewing sector in Denmark has traditionally been dominated by Carlsberg, with an estimated market share of around 75% in the 1990s. Royal Unibrew was the next largest brewery, with a market share of around 20%. Only small imports of beer took place at that time, but, as can be seen from Fig. 6.3, microbreweries as well as foreign-produced beer have continuously gained larger market shares since 2003.

Thus, in 2003 the microbreweries had a tiny market share of around 0.5%, but ten years later they accounted for nearly 6% of the domestic market in Denmark (the market share for imported beer was nearly 8%). As a consequence, the market shares of the larger breweries have declined and today Carlsberg and Royal Unibrew have a joint market share of around 70%.[3] Still, it should be noted that until now the two largest breweries seem to have concentrated on selling mainstream premium beers, even though Carlsberg continues to introduce special beers designed for the high-end market where the microbreweries supply their beers. Thus, selling specialty beer creates a higher value per unit compared to even premium mainstream beer.

As a result of the huge entry of new breweries, several newly developed beers were introduced. Figure 6.4 clearly illustrates the increase in

[3]A significant part of the sale of microbrews takes place at restaurants, cafés, etc. Of the total turnover of beer, 75% comes from shops and direct sale to consumers and 25% is consumption in cafés and restaurants.

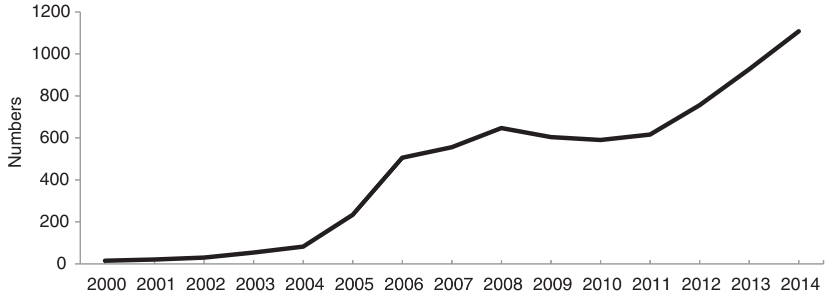

Fig. 6.4 Annual introduction of new beer varieties, 2000–2014. *Source* Association of Danish Breweries (2015), www.beerticker.dk

the annual supply of new beers—by 2014 more than 1000 new varieties had been introduced to the Danish market! Naturally, there is a connection between the number of breweries and the number of newly introduced beers. At the beginning of the twenty-first century, the average number per brewery was approximately one new beer per year. Later—from 2006 onward—the breweries introduced between 4 and 68 new beers per year, indicating both significant innovation efforts among incumbent breweries and multibrand entry among the new breweries.

In an international context, the microbrew wave took place relatively late in Denmark, whereas for example in the USA favorable conditions for microbrewers began to emerge from the 1970s (Tremblay et al. 2005); Hindy 2014), which led to a fast-growing number of small producers of specialty beers. Relatively fast entries of new microbrewers continued until 1998–2000, when a shakeout of producers took place. Firms with first-mover advantages or experience in beer brewing survived and they now have a market share of around 4% (Tremblay et al. 2005). In the UK, the number of breweries had already increased from 279 to 551 in the period 1990–1998, and most of this increase was due to local microbrewers entering the beer industry (Knowles and Egan 2001). At the UK national level, no large brewing companies entered the market in the same time period. In the case of Germany, the number of microbreweries increased from 643 in 1995 to 816 in 2006, according to Niederhut-Bollmann and Theuvsen (2008), and this 27% increase was in sharp contrast to a similar decline of some 25%

for the small-, medium-, and large-scale breweries. As for many other countries, the German beer market has been shrinking, but still entries of microbrewers are taking place.

6.2 The Analytical Framework for Market Entry of Microbreweries

The aim of this chapter is to analyze entry to the Danish microbrew market, with a focus on the first entrants. What were the characteristics of the first entrants, why did they enter the market, and what was the motivation for entering a market where in most cases the start-up could be characterized as a risky greenfield entry; that is, with many entrepreneurs having little or no background in beer production? Naturally, entry barriers, learning by doing, innovation, and organizational and marketing skills in this case become important factors for performance and in the end for the survival of the entrants. In order to get a more complete picture of the first movers on the microbrew market, the chapter will include a comparative analysis with latecomers. Thereafter performance and survival are analyzed; that is, do the (surviving) first movers perform better than breweries established later, and do they perform better in terms of survival? In the final section, the future strategies of the microbreweries are discussed.

The framework for the analysis is as follows. Naturally, *entrepreneurial theory* is a cornerstone behind understanding the behavior of the entrants.[4] We focus on the importance of *social factors* and the network, like entrepreneurial traditions in the family, investors involved in the start-up of the brewery, and former unemployment.[5] Next, *human capital factors* like formal education in brewing and relevant skills for starting your own firm are included. Also factors characterizing the *motivation and goals* of the entrepreneur, for example self-employment, profit motives, exploitation of a market niche, dreams of brand

[4]See Kirzner (1973), Benzing and Chu (2009), Harada (2003), Vivarelli (2004), Audretsch and Vivarelli (2007).

[5]Premand et al. (2012).

Fig. 6.5 Entry, strategy and performance—the analytical framework

development, and perfect brewing, are important in order to understand the decision to enter. Finally, *environmental factors* as known from the literature are integrated into the model.

Besides the entrepreneurial characteristics, entry barriers are included. Thus, founded in IO theory (i.e., Industrial Organization), we focus on the single entrepreneur's perception of the number of hindering factors, which according to the theory can act as significant barriers to entry.[6]

[6]See Sönmetz (2013), who gives a literature survey on firm entry, survival, and exit. See also Siegfried and Evans (1994) for a classical empirical study and the seminal article by Geroski (1995).

That might for example be barriers like a large need for investment, capital market barriers, supply of appropriate equipment, rules and regulations, or sales and distribution issues. Furthermore, the strategies of the entrants are closely connected to the barriers they had to overcome and the entrepreneurial factors. The overall analytical framework is illustrated in Fig. 6.5.[7]

6.3 Empirical Data and Results from the Survey on Market Entry

The data used in the following section comes from a survey which was conducted during spring 2012. There is no clear definition of a microbrewery in relation to the Danish beer market. In the USA a microbrewery is defined as a brewery with a yearly production of fewer than 17,600 hl. In Denmark, small companies with yearly beer production of fewer than 200,000 hl pay reduced excise tax compared to the general beer tax. However, using this criterion as the threshold value, production units of larger and dominant producers like, for example, Carlsberg and Royal Unibrew would be included in the population. Breweries of that size can hardly be considered to be a microfirm and therefore we limit the population to breweries with a production of fewer than 50,000 hl per year. Applying this criterion for the production level and using a database of Danish firms, a total of 117 existing microbreweries were identified at the time the survey was done. Questionnaires were mailed to the microbreweries; of these, 17 letters were returned with "address unknown," and 2 respondents reported that they closed down years ago. In total, 45 breweries returned the questionnaire, which gives a response rate of around 46%. In the following sections the results from the questionnaire are presented and discussed, with the topics organized following the framework from Fig. 6.5. The data is summarized in Table 6.1 and Fig. 6.6.

[7]See Quatraro and Vivarelli (2014) for a general discussion of entrepreneurial and industrial factors influencing entry and post-entry performance.

Table 6.1 Motives, goals and perceived barriers to market entry of microbreweries

Mean score on a 4-point scale[a]	All firms	First movers	Second movers
	Motivations and Goals		
General interest in brewing	3.37	2.78	3.53
Self-employment aspirations	2.74	2.56	2.79
Exploitation of a potential market niche	2.65	2.89	2.59
Obtaining good earnings from brewing	2.40	2.78	2.29
Ambitions to make perfect beers	2.95	2.43	3.06
	Importance of Entry Barriers		
Large start-up costs	2.97	2.55	3.09
High capital market barriers	2.51	1.67	2.74
Uncertain economic future for the brewery	2.5	2.33	2.54
Insufficient availability of appropriate technical equipment	2.02	1.67	2.13
Insufficient knowledge of brewing	1.93	1.67	2.00
Lack of overview with respect to marketing and logistics	2.24	2.00	2.30
Uncertainty in general	2.00	1.78	2.06
Rules and regulations	3.02	2.89	3.06
Share of entrants (%)	*Social Factors and Human Capital*		
Lone founder	44	44	44
Tradition in the family	47	78	38
Employed before start-up of the brewery	84	89	83
In possession of education in brewing	19	33	15
Other relevant skills for starting a brewery	76	78	76

Notes [a]Mean score on a 4-point Likert scale. *4* High importance; *3* Some importance; *2* Minor importance; *1* Not important

First movers (9 breweries) are breweries established before 2005, second movers (34) are breweries established from 2005 onward

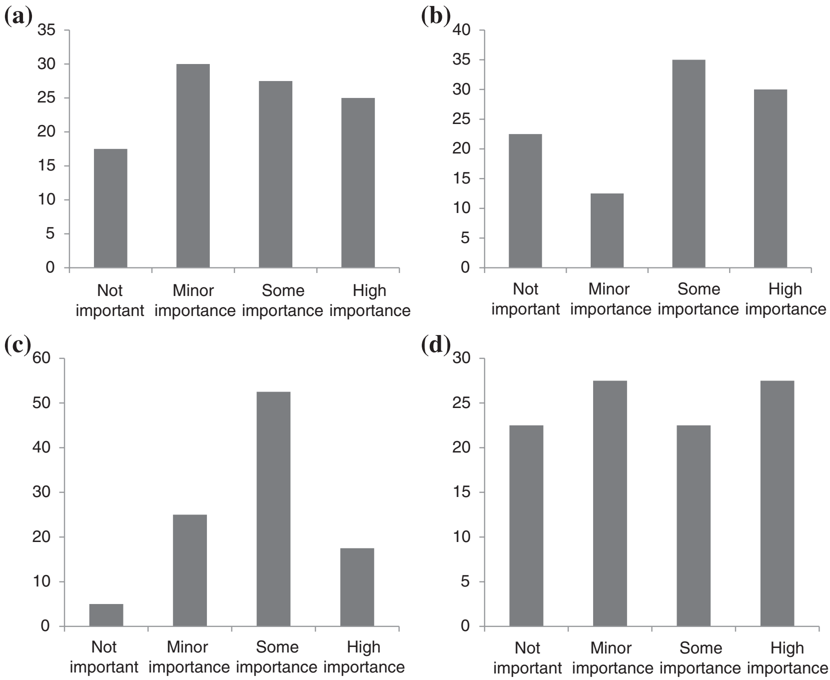

Fig. 6.6 **a** Current problems: Taxes and duties (%). **b** Current problems: Compulsory recycling system (%). **c** Current problems: Rules and regulations (%). **d** Current problems: Distribution costs (%). **e** Current problems: Customer base (%). **f** Current problems: Brewery's sales price (%). **g** Current problems: Prices of raw materials, barley, wheat, etc. (%). **h** Current problems: Competition from other microbreweries (%)

As noted in the literature review in the previous section, several studies of market entry focus on self-employment motives, performance motives, and growth motives (Wesson and Figueiredo 2001). If the basic motivation for starting a brewery is profits, for example exploiting a potential market niche, the newly started firm is expected to have a better post-entry performance compared to firms with motives like dreams of being independent. In the latter case, it can be argued that post-entry performance may suffer from deeply rooted psychological factors which may ignore the striving for optimal economic

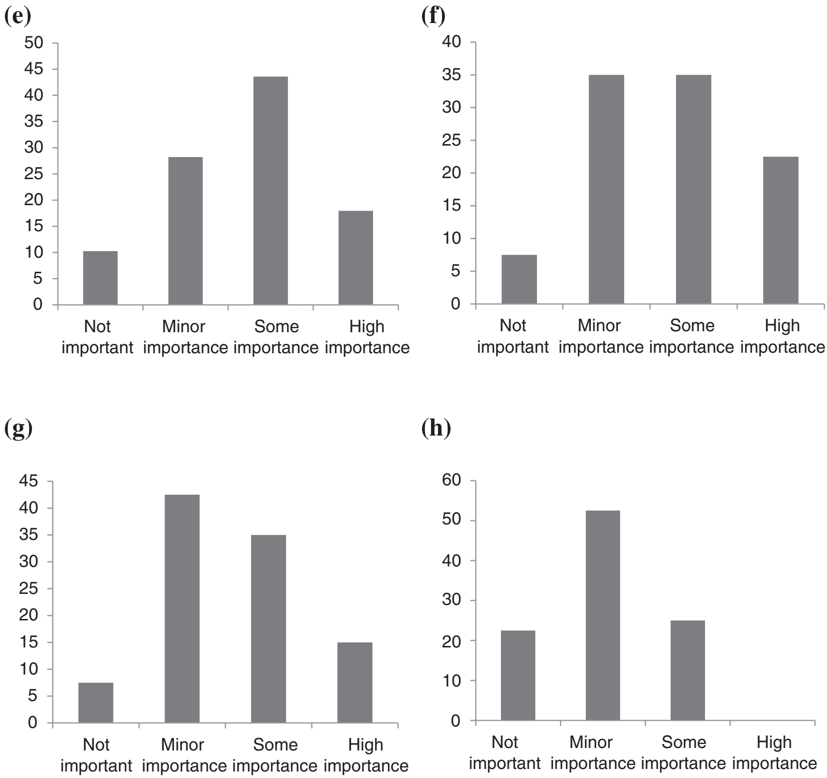

Fig. 6.6 (continued)

performance. In contrast, in competitive industries owners with explicit attention and perfect knowledge of cost minimization, supply conditions in terms of the customer base, logistics, and prices will per se maximize profits, as no other factors are included in their striving for utility maximization. If other factors are present, for example ambitions of making a perfect beer, without consideration of the profitability of the brand, the equilibrium point on the owners' utility function will not be where the present value of the firm is maximized.

Table 6.1 shows that a general interest in brewing seems to be a driving force for entering the microbrew industry. The average score on a

4-point Likert scale is 3.37, where 4 indicates "high importance." However, the average score of the first movers, defined as entry before 2005, is significantly lower, with a value of 2.78, also compared to the second generation of entrants having a score of 3.5. Thus, a general interest in brewing was relatively less important for the first entrants.

The same pattern can be observed for "ambitions to make the perfect beer" as a motivating factor. The respondents were asked about a number of non-economic factors which potentially could be of importance for entering the microbrew industry. Thus, anecdotal knowledge suggests that making a product which is better than existing products can be a strong factor influencing entry into an industry. The score for first movers is 2.43 and below the average of 2.95 for all breweries, suggesting that as the first wave of microbreweries seemed to survive, the second wave to a larger extent entered the industry with a belief of "I can do this better."

On the other hand, the table shows a tendency toward first movers paying more attention to economic factors as a motivation for starting up. Thus, obtaining good earnings from brewing is clearly more important to first movers compared to entrepreneurs who entered the market from 2005 onward. The same is the case for "exploitation of a potential market niche" as a motivation.

Consequently, the motivation and goals of the first movers for entering the microbrew industry seem to have had a more direct economic perspective than is the case for later entrants. For the latter group, non-economic factors like interest in brewing and ambitions to make the perfect beer were more important.

6.3.1 Social Factors and Human Capital

According to standard social learning theory, becoming an entrepreneur may also be influenced by observing other persons in the near surroundings. According to the seminal article by Scherer et al. (1989), the aspirations of becoming an entrepreneur depend positively on being, for example, the son or daughter of parents who were entrepreneurs themselves. Furthermore, the post-entry performance of individuals with parent entrepreneurs seems to be affected positively in comparison with entrants who did not have role models in the near family.

The lower part of Table 6.1 shows that 44% of the entrants were lone founders of the brewery, irrespective of being first or second movers. However, it is much more prevalent for first movers to have traditions for entrepreneurship in the family, as the share of 78% reveals, but only 38% for second movers. Additionally, the table shows that it is more dominant for first movers to have an education in relation to beer brewing as compared to second movers; that is, 33% against 15%. In the brewing industry, knowledge about the brewing process is an important factor in order to control quality and to make sure that products are homogeneous—also in order to develop new, differentiated products. Normally, a high level of knowledge and learning by doing among incumbent firms is seen as an entry barrier. However, the spin-off phenomena, which in fact induce more entry, are more prevalent in such industries, which might explain the higher educational level among first movers.

6.3.2 Entry Barriers

In the IO literature, it is a stylized fact that entry barriers play a significant role, especially for small firms. Small greenfield entrants are less likely to survive compared to larger firms who enter by diversification. Naturally, it is relevant to illuminate which entry barriers the microbreweries perceived as important when deciding to start beer production, both in relation to the first movers and also for later entrants to the industry.

Table 6.1 includes in the middle section the entrants' perception of various entry barriers. Large start-up costs and overcoming public regulations and rules are considered the most significant barriers. However, the first movers paid less attention to start-up costs compared to later entrants, which seems to be in line with the fact that they had more education in brewing and a stronger focus on economic factors. Thus, these costs were a part of a planned business strategy and the fact that first movers also had smaller capital market barriers made it less necessary to worry about the start-up process.

Capital market barriers are expected to be quite an important barrier, as lenders consider entrants to be risky customers—particularly in greenfield industries like microbrewing. According to the table, capital market barriers are noteworthy; that is, the score is 2.5 out of a maximum of 4. The first movers have experienced this barrier as much less important than the second group of entrants, as can be seen from columns two and three. A possible explanation might be that because the first movers focused more on economic factors, they may have had better business prospects and therefore could convince lenders more easily to obtain loans on favorable conditions. According to the IO literature, access to important inputs and technology in the right dimensions are assumed to be major problems in relation to market entry. However, in our case access to the appropriate capital equipment is not considered an important problem for new microbrewers, as we see first movers rating this barrier lower than later entrants do. Surprisingly, the founders do not report knowledge of the brewing process or of logistics and marketing as important barriers to entry. The non-importance of the latter is especially surprising as the entrants are relatively small, but a large share reports having other skills for starting a brewery. In general, entry barriers have less importance than expected. Furthermore, the overall impression is that entry barriers seem to have mattered less for the first entrants compared to later entrants.[8]

6.3.3 Environment

Further results from the survey are reported in Fig. 6.6a–h and show to what extent the environment affects market conditions. Duties and taxes are seen as a hindering factor by less than 50%, which at first glance may be surprising, because taxes and duties normally are considered to be a heavy burden for smaller firms. Note, however, that the beer tax on microbrew is lower than the beer tax for the larger

[8]However, the perception of the importance of various entry barriers may of course be non-independent for the respondent, and this was also confirmed by the abovementioned factor analysis; that is, the motives and the respondents' answers to the topics in Table 6.1 are inter-related.

breweries. The amount of rules, regulations, and public control is also seen as a disturbing factor, whereas costs of distribution are considered a smaller problem, even though more than 60% of the brewers are selling their production outside the local area. Looking at the customer base, sales prices and input prices (Fig. 6.6e–g), the distribution of the answers is similar, with most weight on the minor or some importance categories. In no case are these factors considered highly problematic by the respondents, and likewise direct competition with other breweries is not seen as a problem. To conclude on this issue, rules and regulations—that is, public intervention—are seen as the most important barriers to entry and growth, and basically this observation is in line with the well-known classical Chicago School from IO theory.

To conclude on the issues of market entry, there are notable differences between the first and second movers into the industry. The first movers paid more attention to economic factors like earnings and perceived entry barriers were less important than for second movers. On the other hand, non-economic factors like interest in brewing, dreams of making the perfect beer, and so on became more important for the later wave of entrants. Entrepreneurial characteristics underline this conclusion, where a significantly higher share of the first movers had skills in brewing techniques and a greater family tradition of entrepreneurship.

6.4 Survival of Microbreweries and Profits

In the previous section, entry barriers and entrepreneurial characteristics of first and second movers in the Danish microbrew sector were discussed. In general, the first wave of entrants had more of a focus on economic issues and did not perceive entry barriers as a significant problem compared to later entrants.[9] Consequently, it is natural to ask whether the first entrants did better in terms of earnings and survival.

[9] see also Quatraro and Vivarello (2014).

Table 6.2 Share of breweries with a positive profit after year of entry, 2007–2011

	Year of Entry				
	2003–2004	2005	2006	2007	2008
2007	0.60	0.29	0.38	0.33	–
2008	0.60	0.29	0.38	0.66	0.20
2009	0.60	0.43	0.50	0.66	0.40
2010	0.60	0.71	0.75	0.50	0.40
2011[a]	0.60	0.71	0.75	–	0.60

Notes Mean scores in the table for positive profit = 1 and negative profit = 0. First movers in the industry are defined as entry until 2005. Second movers are breweries established from 2005 onward. [a]Expected values for 2011

From the survey we have information on the year of entry and also the earnings in the following years up to 2011. Therefore, we can follow the profitability of the cohorts of microbrews in this time span. The results are reported in Table 6.2.

The numbers in the table are calculated as a mean of positive profits (value = 1) and zero or negative profits (value = 0) and thus a value higher than 0.5 indicates a majority of firms with positive profits. For the first year of observation of the profit rate (2007), there is a distinctly higher value for the first movers entering the industry in 2003–2004. Thereafter the results are very mixed, where for example the cohorts from 2005 and 2006 seem to perform well in the last two years of observation, and they are doing better than the first movers from 2003–2004. Thus, first-mover advantages may vanish over time.

Additional to the data from the survey we have a dataset with accounting information for firms in the brewing industry. The data covers a time span of several years up to 2014, but not with the same stock of firms in all periods, as some will close down and there will be new entrants. Selecting microbreweries from this data results in 140 firms by 2009, where some are not active microbreweries but still appear in the accounting statistics. Some of the firms are personal companies and in these cases no detailed financial accounting information exists, but it is possible to follow all firms in the time period 2009 to 2014. This data is depicted in Fig. 6.7 as indices with 2009 = 100, where the solid line

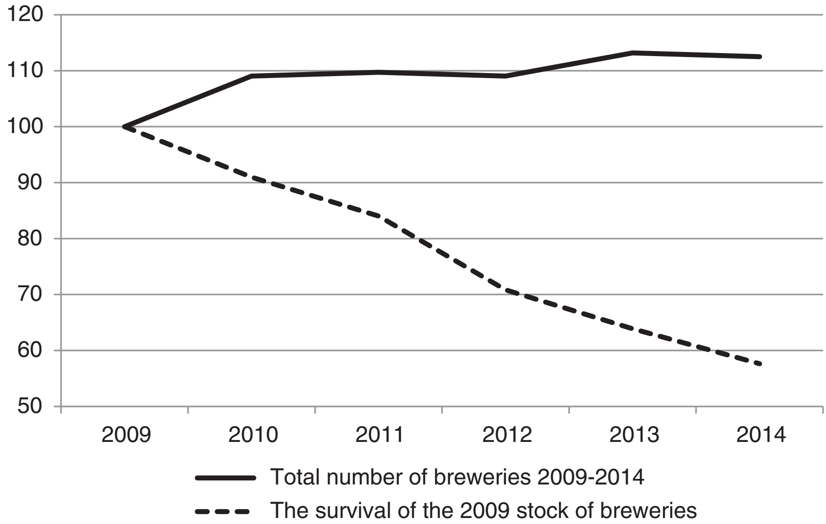

Fig. 6.7 Number of microbreweries 2009–2014 and survival of 2009 stock of breweries (Index 2009 = 100). *Source* Orbis database of accounting information for Danish firms

gives the total number of microbreweries and the dotted line reports the surviving part of the 2009 stock of firms.

The increase in the total number of microbreweries from 2009 to 2014 is relatively small, at 12%, which is very modest in comparison with the initial rise in the number of entries to the industry ten years earlier. For the microbrews existing in 2009 the survival rate is slightly below 60% for the five-year-period, as depicted in Fig. 6.7, which clearly illustrates the difficulties in keeping a microbrew as a profitable business and surviving. The total number of microbrews is slowly increasing, which means that every year there is a relatively large number of new entrants to the industry, filling the gap left by microbreweries leaving the industry.

The first movers among the microbrews are performing relatively well, as mentioned before, and may have a higher chance of survival. In order to analyze this issue within an econometric framework, a model of the lifetime of microbrews is estimated. For the firms presented in

Fig. 6.7—except for the personal companies—we have information for the year they enter the industry and from their accounting reports we have their annual rates of profitability. If they close down or leave the microbrew industry, we also have this information and thereby know the number of years they have survived. This gives information to estimate whether the first movers seem to perform better in relation to the number of years they survive; that is, if the year of entry influences the time span for which they survive in the microbrew business. A considerable number of firms are still recorded as active in business in the 2014 accounting period. The latter poses an econometric problem when estimating a model explaining the length of the economic lifetime, as some firms are still active, and therefore a censoring methodology has to be applied to the data, allowing for an open end to the upper values of the lifetime of these firms in the dataset, as data truncation bias is a problem. In Table 6.3, such models are reported where the covariates ("explanatory variables") are a dummy variable for first movers, the rate of profit, and the number of years since entry.

For the first cohorts of microbrews starting around the beginning of the twenty-first century, one of the hypotheses is that they perform better than second movers in the industry, which is tested in the econometric model presented in Table 6.3. The lifetime of a firm—that is, the

Table 6.3 Censored regression models of microbreweries; Dependent variable: Number of years in existence

	Model 1		**Model 2**		**Model 3**	
Constant	0.448	(*0.431*)	–0.968*	(*0.427*)	–0.659	(*0.445*)
Dummy (2004)	1.708*	(*0.682*)	–		1.034*	(*0.515*)
Dummy (profit)	–		0.236	(*0.345*)	0.150	(*0.339*)
Years since entry	0.742**	(*0.065*)	1.024**	(*0.044*)	0.962**	(*0.053*)
Number of observations	142		76		76	
Log Likelihood	–301.7		–137.4		–135.5	

Notes The dependent variable is the number of years in existence, and as some of the firms still exist (2014, being the last year in the data set), the observations are in these cases censored from above and the model estimated by a limited dependent variable ML-methodology, using Rats/Estima. * indicates parameter significance at the 5 percent level and ** significance at the 1 percent level, with standard errors in parentheses number of years in existence—is regressed on the number of years since entry (measured from 2014 and back in time) and the dummy variable for starting before 2005, where both of these turn out to be positive and significant. This proves that the first movers survive for a longer time span compared to latecomers, which is most likely related to the economic motives discussed in relation to the survey analysis. The year of entry is also found to be important, as the parameter for "years since entry" is positive and significant. For the year of entry and the length of time in existence we have data on approximately 140 firms, but as many microbrews are personal firms with no requirements for publicly available accounting information, the number of observations is considerably smaller for models 2 and 3 (76 observations, as reported in Table 6.3). The dummy variable for a positive, average rate of profit is included, but in neither of the two cases presented in Table 6.3 does it appear with a significant parameter value, and a little surprisingly is not of the utmost importance for surviving.

The analysis shows that the first movers seem to do pretty well when it comes to survival and earnings, with a high share of these breweries having positive earnings. When controlling for causality between the number of years since entry and survival, there is an extra positive effect on survival for the first wave of entrants. This result is in accordance with the characteristics of entrepreneurs, as discussed earlier.

6.5 Future Perspectives and Strategies of Microbreweries

An important perspective is how the microbreweries plan to move forward. Which strategies have priority? Table 6.4 lists a number of future strategies for first-mover breweries and later entrants. Both groups of breweries have as their first-priority strategy to identify and expand on new markets, which seems logical and the only way to expand production and obtain, for example, large-scale advantages in order to increase their competitiveness. Among the first movers this argument is stressed, as the second-priority strategy is to increase production in order to obtain large-scale advantages. Furthermore, these breweries also pay

Table 6.4 Ranking of strategies by importance for first-mover and second-mover microbreweries

	Rank	
Strategy	*First movers*	*Second movers*
Increase production and obtain large-scale advantages	2	4
More product differentiation, launch more brands	3/4	3
Advertising	5/6	5
Exploit the niche: Sustainable brewing, organic beer production	3/4	7
Co-operation with other microbreweries in order to obtain lower input prices	5/6	2
Co-operation with other microbreweries in order to lower sales and distribution costs	7	6
Outsourcing of production in order to lower production costs	8/9	9
Follow an acquisition strategy—Takeover of other microbreweries	8/9	8
Identify and expand on new markets	1	1

attention to making further use of product differentiation and to trying to develop and exploit niches like organic beer production. Looking at later entrants, bringing down input prices by co-operation with other breweries has a high priority and the third most important strategy is to develop and launch more brands. Going back to Fig. 6.4, this seems to be a credible strategy. In 2014, more than 1000 new brands were introduced to the market and it seems as if the microbrew industry is still in the expansion phase of its life cycle.

6.6 Conclusion

Until 2000 microbreweries barely existed in Denmark. However, the first wave of entrants into the industry took place in the following 4–5 years, entering a market where beer consumption had been steadily decreasing, while the opposite was the case for wine consumption. The analysis of the first entrants shows that the first movers had a relatively high focus on finding a market niche and profit perspectives. The entrants after 2004 had relatively more focus on other motives like interest in brewing or making the perfect beer. Furthermore, the first movers did not pay as much attention to entry barriers as later entrants did, in particular classical entry barriers like start-up (sunk) costs or capital market barriers.

Despite the first movers' relative focus on economic issues, the importance of profit is blurred. The share of breweries established until 2004 with positive earnings does not seem to be higher than the share of breweries in later cohorts, in particular when controlled for the business cycle over the years 2007–2011. An alternative way of defining performance is to look at survival. Using information on all breweries that existed from 2009 onward, a survival analysis was conducted. Using a censored regression model, it is shown that survival is inversely related to year of entry—that is, survival is less likely for later cohorts of microbreweries—suggesting that learning by doing effects may have been present, especially for the first cohorts of entrants. In particular, this effect seems to be present for breweries belonging to the group of first movers; that is, breweries established in 2004 or before.

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7

Craft Beer in Germany. New Entries in a Challenging Beer Market

Lutz Depenbusch, Malte Ehrich and Uwe Pfizenmaier

7.1 Introduction

Triggered by technical change in the nineteenth and twentieth century, national and global beer markets have experienced a process of concentration (Poelmans and Swinnen 2011). This process saw a shift in several countries recently, associated with an increased interest in small-scale production and craft beer. Although no widely accepted definition of craft beer exists, it implies a particular focus on quality as well as diversity of taste, often small-scale brewing techniques and experimental changes

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of ingredients and recipes. The number of craft brewers in the USA has increased from less than ten in 1980 to more than 3464 in 2014 (Elzinga et al. in Chap. 2). Although the market share remains at low levels, it has increased continuously from below 1% in 1990 to 10.7% in 2014 (Tremblay and Tremblay 2011). In total, there exist more than 10,000 craft brewers worldwide; mostly in the USA, UK, France, and Italy (Alltech 2015). Despite having the third highest per capita consumption of beer after Ireland and the Czech Republic, Germany only ranks eighth in terms of absolute number of craft breweries. Yet an increase in the popularity of craft beer over the last years is apparent. For example, the phenomenal success of "Braukunst Live!" beer festival underlines the raising popularity of craft beer. It is the first German beer tasting festival for national and international artisanal brews. Since its inauguration in 2012, the number of visitors increased from 2700 to 8600 by almost 220%. The number of exhibitors—majorly micro- or experimental breweries—more than doubled, going from 41 in 2012 to 90 in 2016, a 132% growth. Also in early 2016, the first German magazine about artisan brewing called Craftbeer, launched with an initial circulation of 40,079 copies. Still, it remains to be analyzed why the trend toward craft breweries is less pronounced in Germany than in other countries.

Several factors drive the so-called craft beer revolution. Many mergers of breweries took place in most beer markets which have often reduced variety and sometimes the quality of taste of beer. Moreover, most beer markets were highly competitive with low price margins. As a consequence, breweries that potentially want to enter the market need to find a niche segment which allows them to compete against large well-established breweries. Brewing craft beer is found to be one opportunity to enter these concentrated markets since this type of beer addresses previous shortcomings related, for example, to the lack of variety of beer (Garavaglia and Swinnen in Chap. 1).

At the same time, Germany's beer market has different characteristics than other markets. First, the traditional Beer Purity Law (Reinheitsgebot) from 1516, which limits the variety of possible ingredients in beer and as a result prohibited other types of beer from entering the German beer market. Second, tax regulation favors smaller breweries. Third, regulation of television advertisement in recent decades was relatively rigid. And fourth, a strong tied-house distribution system is well-established, which contractually binds pubs to purchase a particular beer brand for a longer period of time. This system particularly helps regional breweries safeguard their local markets from potentially larger competition and expose their brand to consumers, which thereby reduces dynamics in the beer market. This tied-house distribution system has affected the German beer market longer than other countries such that we expect the effect to be more pronounced in Germany (Adams 2011). As a consequence, the German beer market is less concentrated than others. For example, whereas the market share of the top four breweries in the USA increased from 25% in 1950 to 95% in 2000, the increase of the top four was much lower in Germany from 12% to only 29% (Adams 2011).

As we will argue, this low level of concentration is the main reason that causes the weaker and slower adoption of the craft beer trend in Germany. In other words, because Germany has been characterized by more breweries per capita (this means lower market concentration) than many other countries, the demand for new and often small craft breweries to enter the market was smaller. We show this by analyzing the dynamics between the change in the number of breweries and the market concentration in German federal states. In addition, we conducted several interviews with small craft brewers to improve the understanding of market entry decisions. Furthermore, we collected data from 1960 until 2015 for every German state of absolute number of breweries and production. We also have data on number of breweries categorized by production volume at the aggregate level. Data are based on the German taxation statistics and provided by the Germans statistical office via printed publication until 1992 and online for the subsequent years.

We can show that market concentration affects growth in the number of breweries within Germany because market concentration differs widely between German states. While Bavaria had about 160 breweries per one million inhabitants in 1961, Schleswig-Holstein and Hamburg as the most Northern states had only 3.6 combined.[1]

[1]This pattern of the data allows us to run panel data econometric techniques such as pooled OLS, fixed effects, and random effects estimation techniques to causally identify the effect of market concentration on growth of breweries. However, this chapter only reports results of the analysis.

The remainder of the chapter is structured as follows: Sect. 7.2 provides an overview of characteristics of the German beer market based on the literature survey as well as on the data that we collected. Section 7.3 explains in detail drivers and inhibitors of craft- and microbrewing and which of those are relevant for Germany. Section 7.4 describes our data and summarizes the results. A discussion in Sect. 7.5 and a conclusion in Sect. 7.6 complete the chapter.

7.2 Characteristics of the German Beer Market

Due to various reasons, the German beer market is a particular case. One specific characteristic is the Beer Purity Law. It was established in 1516 and is one of the oldest food (or drink) standards. Among other things, the Bavarian king wanted beer consumers to be protected from harmful ingredients that some private breweries, which had recently entered the market, added to beer as a cost reducing measure. It only allowed water, hops, barley, and later also yeast as ingredients. However, over time the motive to keep this law may also have been of protectionist nature to protect well-established brewers and not consumers' health primarily (van Tongeren 2011).

Although the Beer Purity Law was judged to contradict EU-law and as a result was officially abandoned in 1987, it still has a significant influence on the characteristics of the German beer market. Until 1987, it made the German beer market impossible to enter with more diverse or innovative styles since those were not allowed to be sold as beers. But even after 1987, beer that was not conformable to the Purity Law was not highly appreciated by German beer consumers and domestic producers still have to adhere to the regulation (van Tongeren 2011). This limitation might have added to the reduced variety of beer in Germany and the dominance of Pilsener with a retail market share of roughly 54% in 2015 (Strobl 2016). The next smaller varieties are export and wheat beer with just 7.6% and 7.4%. Distinctive local specialties like Koelsch and Alt follow far behind with just 1.6% and 0.8%. This is not to say that the market share of the different varieties is constant over time as the share of Pilsener was volatile over time. It developed from 49% in 1981 to 69% in 2002 before falling to the current level (Adams 2011).

Also partly due to the Reinheitsgebot, the *perceived* quality—understood as the quality of taste—has been high in Germany (van Tongeren 2011). This counteracts the overall trend of increasing demand for craft beer. Particularly, the debate around revoking the Reinheitsgebot served as a marketing tool for German brewers. Their lobby tried to distinguish their "pure" beer from the foreign "chemical beer," which they claimed foreign producers could produce cheaper but is not worth its money as it is of bad taste and made from mediocre ingredients that are not allowed under the Reinheitsgebot (Speckle 1998). Even many politicians argued that German beer was healthy and consumers could be aware of what they purchase. The quality of German beer was distinguished with even sacral attributes while at the same time some brewers downplayed the technological change that was actually going on in the German brewing sector (Speckle 1998). This added to the popular tail of beer as a German cultural good going back as far as to Cornelius Tacitus in 98 BC (Meussdoerffer 2013), feeding the belief in some sort of superiority of German beer. Germany is no singularity in this regard as the same cultural construct can be found in southern Europe, where it developed since the middle ages (Medina 2013).

Moreover, Germany ranks third in terms of per capita consumption. Figure 7.1 shows that Germans drink on average about 100 l beer per person per year (see Sect. 7.4 for description of the underlying data). Per capita consumption was increasing in the 1960s and 1970s, relatively constant until the late 1980s and is declining since then.[2] The decline is mainly driven by sociocultural and demographic change processes such as the aging society and the increasing relevance of health concerns (Maack et al. 2011). These drivers are unlikely to reverse anytime; hence, the decline of consumption is expected to continue.

[2]A peak in 1990 is likely to be affected by data reporting problems due to the German reunification.

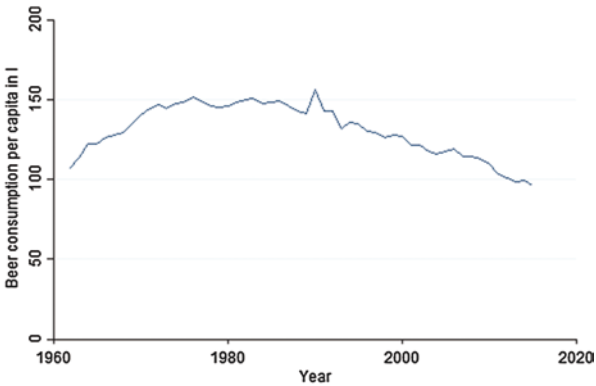

Fig. 7.1 German beer consumption per capita over time. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft. *Note* Missing production data from 1993 to 1998 were generated by interpolation. Consumption is defined as: Consumption = Production + Imports − Exports

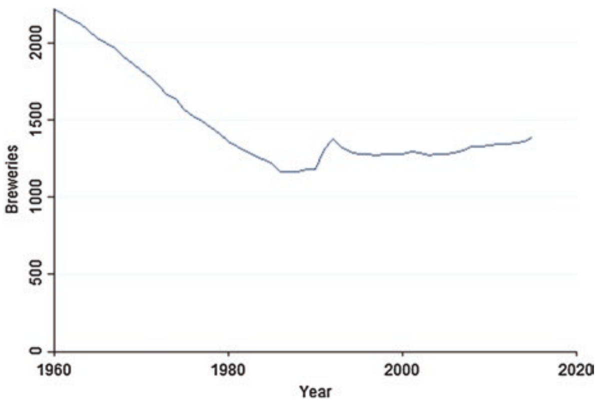

Fig. 7.2 Number of breweries in Germany over time. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft

Third, Germany is the largest beer producing country in Europe and ranks fourth worldwide after China, USA, and Brazil as of 2014 (Food and Agricultural Organization of the United Nations 2016).

Fourth, the German beer market is not heavily concentrated (Gourvish 1994; Adams 2011). The number of breweries has dropped from 2216 in 1960 to 1388 in 2015, see Fig. 7.2. But the declining

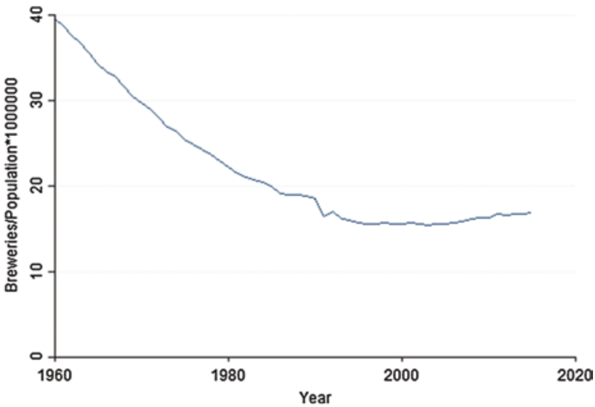

Fig. 7.3 Breweries per capita in Germany over time. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft

trend has stopped in the 1990s and has even slightly reversed. This pattern is also present in per capita terms (Fig. 7.3). The two leading breweries—Radeberger Group and AB InBev—account for less than 20%, and the top eight leading breweries account for about 67% (Adams 2011). Despite the increase during recent decades, market concentration remains still low compared to other countries. For example, in other European countries, the top two to three breweries have a market share ranging between 70 and 99% (Ypma 2012). In addition, the number of breweries also differs between the northern and the southern states such as Bavaria and Baden-Württemberg. The latter are much less concentrated, see Fig. 7.4. However, the declining trend is most pronounced in Bavaria, the state with the largest number of breweries by far. The pattern is similar in per capita terms (omitted here). In 2015, 626 breweries were located in Bavaria but only 125 in North Rhine-Westphalia, even though it is the largest German state in terms of population.

Adams (2011) emphasizes the different level of concentration in the USA and Germany. In contrast to Germany, many mergers took place in the USA after 1975 due to technological progress enabling economies of scale. Various reasons are discussed by Adams (2011) why this development took not place in Germany to that extent. The most important ones are as follows: a larger mix of beer varieties, a smaller

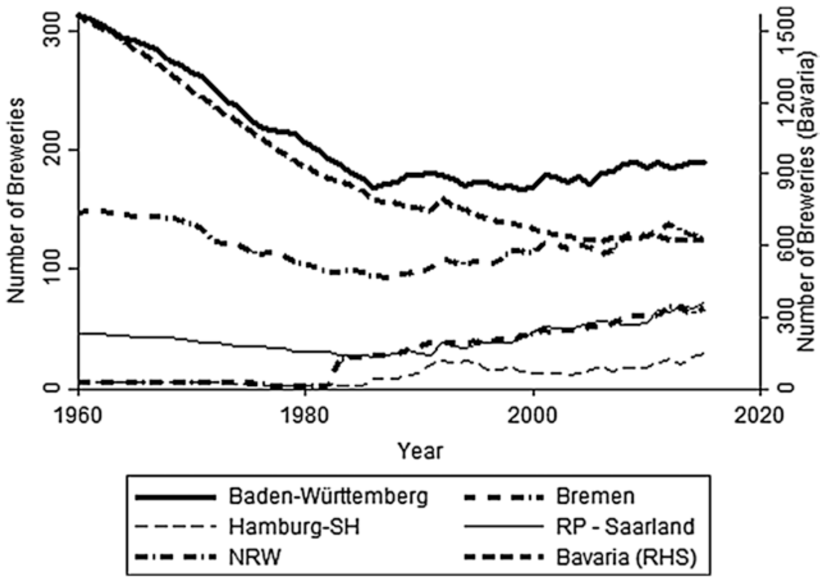

Fig. 7.4 Number of breweries by state over time. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft

share of cans in packaging, and the short shelf-life of German beer reduce economies of scale; differences in regionally consumed beer varieties drive consumers toward local producers; the late success of televised advertisements reduced the advantage of large producers in advertising; and a relatively small influence of outside owners might limit profit-seeking motives of many breweries.

Sixth, Germany has always been a net exporter of beer, see Fig. 7.5. The trade surplus is increasing with a clear upward trend. At the same time, the relative share of exports, defined as the share of production that is exported, increases similarly. Almost one-fifth of Germany's beer production is exported. The development of the import share, however, is less dynamic although also increasing over time. The increasing import–production ratio indicates higher demand of German beer consumers for foreign beer. Because this ratio remained relatively constant in previous years, we interpret this new trend starting in 2002 as an indication for an increase in love of variety. However, trade statistics remain silent about the type of beer which is imported such that we

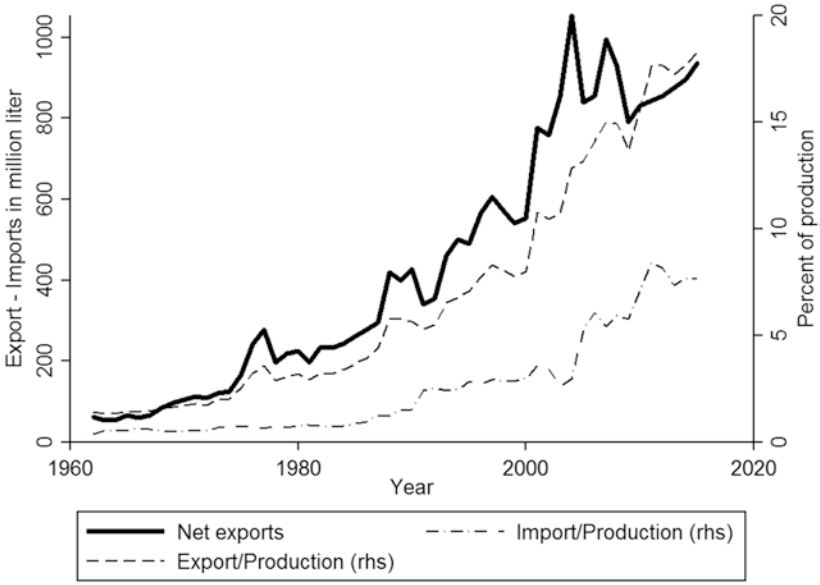

Fig. 7.5 German beer trade over time. *Source* UN Comtrade

cannot directly infer conclusions with regard to increasing demand for more variety. Major export markets are located within Europe, namely Italy and France. However, Asian countries have recently gained relevance in this respect (Alltech 2015). Although the trend points toward growing exports, the global relevance of Germany's beer remains low. For example, the top three German brewery groups have a combined global market share of 1.5%. Radeberger, as the largest German brewery group, ranks only 21st worldwide with a market share of 0.6% (Barth-Haas-Group 2015).

7.3 Drivers and Constraints of Craft Beer Production in Germany

There is no unique widely accepted definition for craft beer, as Garavaglia and Swinnen discuss in Chap. 1. However, the term certainly reflects a particular focus on the quality of taste, diversity of offering, and experiments with new ingredients. Hence, to market a standard beer-style such as Pilsener as craft beer in Germany would require some specific value-add and customization to make it distinct from off-the-shelf Pilsener. In contrast, the term microbrewery can easily be leveraged based on the size of a brewery. This requires transparency with respect to the underlying definitional threshold which determines whether a brewery is micro or not.

In Germany, microbrewing does not necessarily coincide with craft brewing. The size of a brewery can be an indication but is not a sufficient determinant for craft beer. However, there are also many large-scale breweries which sell craft-style beers. For example, Anheuser-Busch InBev's large brewery Beck's recently launched the craft beer initiative "Taste the world" by selling three types of craft beers: 1873 Pils, Pale Ale, and Amber Lager. The Radeberger Group as the largest German brewery even founded "Braufactum" as a separate company which only focuses on craft beer.

The overlap between craft breweries and microbreweries (short: micros) is not necessarily large. For example, a market survey by Alltech, which was released in 2015, attributes 307 German breweries to the craft beer industry. This is significantly less than the number of microbreweries of 717 (defined here as output below 1000 hl). The same survey attributes France and Italy twice as many craft breweries as Germany which is puzzling due to Germany's third highest per capita beer consumption worldwide (Alltech 2015). Even Switzerland as a considerably smaller beer market has more craft breweries than Germany.

Most domestic beer markets are saturated and characterized by oversupply, high degree of competitiveness, and low price margins (Adams 2011). Therefore, finding niche markets with specific brands or recipes becomes a particular strategy to generate revenue (Hills und Hultman 2006). While technological progress enabled breweries to generate economies of scale, progress in information and communication technologies gave entrepreneurs—independent of their size—equal opportunities to tell their unique stories online at minimum costs. Similarly, the spread of the internet also reshaped the structure of demand by influencing purchase decisions in favor of differentiated products (Clemons et al. 2006).

This high level of product differentiation fueled the demand for local and versatile premium products (Bachl 2011). International food trends such as a return to nature, a focus on organic products, and the so-called neo-localism amplified this process (Kaplan 2013). Local identity can be coined in various ways like marketing themes reflecting the local community such that consumers find themselves culturally attached (Schnell und Reese 2003). This trend might partially correlate with the craft beer trend as around 50% of craft beer consumers expressed interest in locally produced beer (Zegler 2013).

While there were barely any regional breweries left in most other countries when the craft beer trend took off, the German beer market was—and still is—highly fragmented. The majority of breweries have strong ties to their regions. On the one hand, German craft brewers are therefore less likely to gain such unique competitive advantage by mainly focusing on locality as it might be the case in other countries. On the other hand, the persistent food trend of "neo-localism" and the demand for authenticity affects German breweries nonetheless. For instance, Brauhaus Lemke calls itself "independent craft brewery Lemke Berlin" and offers beers such as "030 Berlin Pale Ale" where the number refers to the phone code of Berlin. Moreover, the tied-house distribution system in Germany supports established small breweries but acts as an additional burden for new microbreweries to enter the market (Adams 2011). In contrast to the US market, however, craft brewers in Germany are allowed to distribute their beer themselves as long as age-verification mechanisms are enforced.

The qualitative interviews that we conducted with craft brewers reveal additional insights of the German beer market. For example, pulling factors of the craft beer trend seem to be similar in the American and German beer market. Craft brewers create a niche by selling premium-priced beers that are highly differentiated by taste and styles. The US craft beer revolution has helped to create awareness for such beers. As a result, the German craft development with a growing community of passionate small-scale brewers who experiment, create better beer, and share the experience with consumers, is seen as a continuation of the US movement.

Craft brewers aim to address the lack of diversity of the German beer market with innovative beers, which—for the most part—still adhere to the German purity law. Interestingly, most brewers also emphasized their focus on slow but continuous expansion of production. Expanding rapidly would imply taking enormous risks in terms of financial credits and market development; one brewer explained that his operations grew at annual rates of 10–20% and that he had to order around 12,000 new special bottles at around 1€ each. This would have been impossible if growth rates were about 40 or 50%. A decline in the price margin as a result of production expansion of large-scale breweries toward specialty beers such as Pale Ale was most frequently identified as the major threat in future for small-scale craft brewers. This might also explain low investments in larger production capacities since those are likely to become non-profitable if the price margin drops.

Craft brewers are well aware of the opportunities and risks that come with the unique traits of the German market; focusing on individual niche markets by adaptation and differentiation remains as the predominant risk-reducing strategy. In addition, limiting supply at low levels allows keeping the uniqueness, and therefore the high price margin, of a particular craft beer.

All interviewed brewers identified a change in demand. One brewmaster recalled that he had tried to establish an experimental craft brewery in Berlin in the 1990s. While he and his fellow founders have experienced limited success with only one type (hemp beer) out of more than 150 diverse international specialty beers that they brewed initially, local authorities, brewer's association, and customer demand for beers produced according to the purity law have held them back twenty years ago. One brewer said that there was no market for craft beer in Germany ten to twenty years ago. Today, consumer preferences have shifted and a market for new and innovative beers has emerged, largely due to major media coverage on the craft beer movement originating in the USA, as most brewers stated. However, it remains unclear why this shift in preferences took place much later than in other markets such as the USA.

7.4 Market Concentration in German States and the Effect on Microbreweries

As discussed in Sects. 7.2 and 7.3, the German beer market is less concentrated than in other countries. Moreover, concentration differs considerably within Germany since the South has significantly more breweries per capita than the North. In order to test the hypothesis of low degree of market concentration causing slow growth of (micro-) breweries, we use data on production volume and number of breweries of German states over time.

We are not aware of specific data of craft breweries at the state level within Germany. Thus, we look at the relative change of breweries and relate these to microbreweries. As we will show, most changes in the number of breweries occur within the microbrewery segment. Although the overlap between craft breweries and microbreweries is not necessarily large, the underlying mechanisms of market entry are similar. Both types of breweries need to find a niche segment within beer markets to make them distinct from well-established large-scale breweries.

7.4.1 Data

We collected primary data of the German taxation statistics which is available via the Statistical Office of Germany either online for 1993 until today or in print for the previous years.[3] The dataset covers in total the period from 1960 to 2015. These include production of beer as well as number of breweries for various size categories of breweries. Moreover, the data source contains production by state over time (but not by size category). However, we do not have data for the states of the former German Democratic Republic (East Germany). Moreover, data on production and number of breweries for particular years were reported as the sum of two states. For example, production data of Schleswig-Holstein were sometimes reported as sum with

[3]The exact name is: "Fachbereich 14, Reihe 9.2.2 Brauwirtschaft".

Table 7.1 Breweries per capita, number of breweries, and production in million liter, averaged over the years 1960 to 2015, by State. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft.

State	Breweries per mil. inhabitants	Breweries	Production in mil liter
Baden-Wuertemberg	22.3	210	944
Bavaria	83	915	2364
Berlin-Brandenburg	5.1	21	278
Bremen-Lower Saxony	5.2	42	604
Hamburg-SH	3.3	14	326
Hesse	9.5	54	556
Mecklenberg-Vorpommern	9.8	17	269
North-Rhine Westphalia	6.9	119	2479
RP-Saarland	10	48	597
Saxony	11.6	50	811
Saxony Anhalt	7.3	18	252
Thuringia	17.7	42	311
Germany	22	1481	9425

Hamburg. This also holds true for Lower Saxony and Bremen, Berlin and Brandenburg, as well as for Saarland and Rhineland-Palatinate.

In total, the dataset contains 841 observations including Germany at the aggregate level and the states at the more disaggregated level. We collected data at the state level for nominal GDP, population, breweries, and production. At the aggregate level, we have additional data for imports and exports of beer to compute consumption as the sum of production and imports minus exports. Because trade data are provided in kg and production in hectoliter, we transformed kg to liter by multiplying with the factor 1.011.[4] This allows us to compute consumption of beer by simple accounting. Trade data were obtained from UN Comtrade database whereas the remaining variables were either downloaded from the Statistical Office's homepage or scanned from publications of the Statistical Office.

The heterogeneous structure of the German beer market is also present in our collected data (Table 7.1). Southern states such as Baden-Wuertemberg and Bavaria do not only have more breweries in absolute terms, but also in per capita. Averaging over the years 1960 to 2015,

[4]One liter beer weights approximately 989 g, depending on the content of alcohol.

Bavaria has the highest number of breweries with more than 900 breweries. In stark contrast, Northern states such as Schleswig-Holstein and Hamburg—once the flourishing brewing hub of the Hanseatic League—account for only 14 breweries on average. This pattern even holds in per capita terms: Bavaria had about 83 breweries per one million inhabitants on average, whereas Hamburg and Schleswig-Holstein had only three. Baden-Wuertemberg and Saxony take rank two and three in terms of breweries per capita. However, the largest producing state is North Rhine-Westphalia (NRW). But this remains a size effect since it is the largest state in terms of population.

Figure 7.6 illustrates the development in the number of German breweries over time. The overall number of breweries shows a strong reduction between 1965 and its lowest value in 1987, declining from 1984 to 1161. Between 1986 and 1990, the number of breweries stabilized. As a result of the German reunification, the number jumps to 1315 in 1991. The following years show a slow decline. This phase of

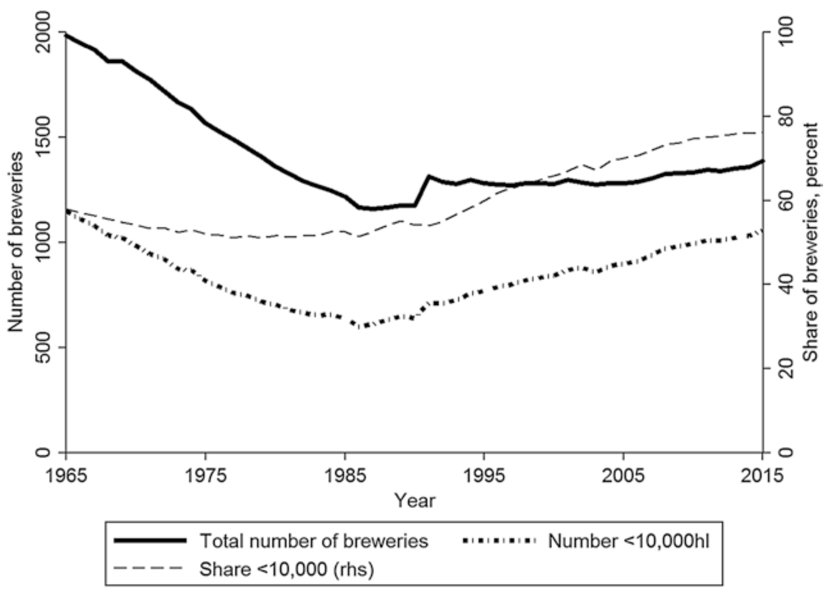

Fig. 7.6 Absolute and relative number of German microbreweries. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft

relative stability is followed by a slow increase from 1275 breweries in 2003 to 1388 breweries in 2015, thereby surpassing the numbers after the reunification.

We use two different definitions of micros which both show that they follow a similar but less pronounced trend. Hence, their share in the number of breweries increases over time. On the one hand, we use an absolute definition under which we look at breweries with a yearly production up to 10,000 hl. This is one of the few size groups that were reported for all years. Using a relative definition based on the average size of breweries in a given year does not produce qualitatively different results.

Defining micros by an output ≤ 10,000 hl, the number reduces from 1150 breweries in 1965 to 639 in 1990. After this decline, the number increases again to 1058 breweries in 2015. The number of micros is only 8% below its 1965 level after this strong rebound, while the total number of breweries reduced by 30%. In terms of the share of micros among all breweries, these developments relate to a decline in market share from 58% in 1965 to 51.1% in 1979 before it increased to its maximum of 76.2% in 2015.

Figure 7.7 shows the national production and the production of micros over time. The years after 1965 are characterized by a strong increase in output. This phase is followed by a sudden change to lower levels in 1978 and 1979. Production stagnates after this before rising drastically during the time of reunification in 1990 and 1991, reflecting the increased market size. The fact that the increase in the number of breweries lags behind the increase in production can be explained by the historical course of events leading to the reunification. The new federal states and their breweries only enter the statistics in 1991, following the reunification on October 3, 1990. Increased demand from East Germany already profited West German brewers in 1990, when they got free access to the East German market and West German currency was introduced in the East (as of July 1990).[5] No production numbers are available for the years 1993–2005 due to a change in methodology.

[5]Income, retirement payments, and part of private savings were exchanged from East to West German currency at a rate of 1:1, other deposits and debts were exchanged at rate 2:1.

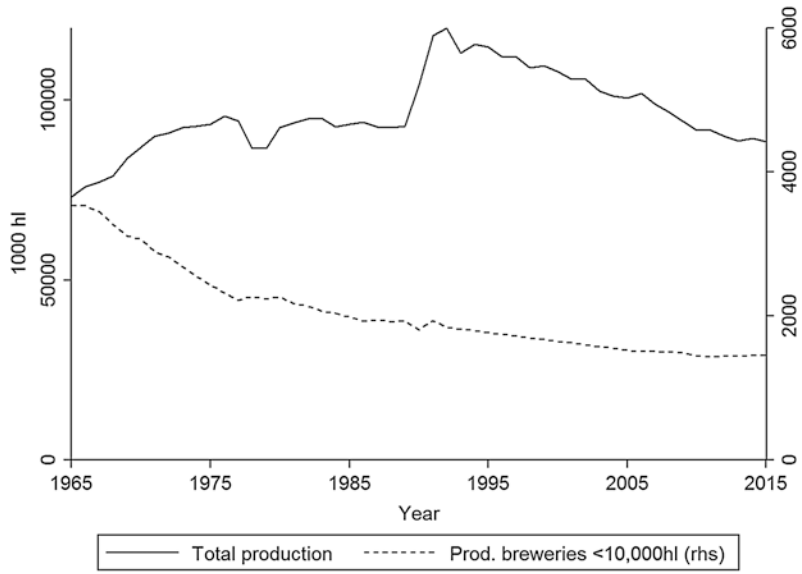

Fig. 7.7 Total national production and production of microbreweries. *Source* Statistisches Bundesamt, Fachserie 14, Reihe 9.2.2, Brauwirtschaft; Values for 1993–2005 are approximated

Our estimates for these years show a negative trend, which is in line with the quantities of alternative production measures (that means the "Bierabsatz," which excludes products with <0.5% alcohol). The same trend is observable in the years after 2005 so that overall beer production declined by 26.3% between its peak in 1992 and 2015. This effect is driven by a decrease in the consumption of beer in Germany which was not matched by the increasing exports.[6]

Production by breweries with annual output $\leq$ 10,000 hl reduced by 24.7% between 1991 and 2015. The production of these brewers follows a markedly different path over time compared to total production. While total production increased in the 1960s and early 1970s, the production by this group shows the strongest decline in the same

[6]Consumption fell from 91.5 billion hl in 2005 to 80.3 billion hl in 2014 while exports increased from 13.9 to 15.4 billion hl. (We refer to 2014 here because final quantities for 2015 are not available yet.)

time span. There is still a decline in production post-1976, but it is very moderate and steady. Against the overall trend, this group of breweries increased production by 2% between 2011 and 2015, showing positive growth for four consecutive years. This reflects the increased demand for the product of micros. Comparing this to numbers of breweries producing up to 30,000 hl shows that only the smallest breweries benefited from this trend. Also, the data show that breweries with an output up to 10,000 hl did not profit from the reunification as other brewers did. Most likely this is due to a limited area to which these breweries supply.

Comparing the development in the number of breweries with the development in production shows how the development in the microbrewing sector decoupled from the wider trend. In the years before 1990, production grew while the number of breweries experienced a strong reduction. This indicates the increase in the size of breweries during these years. In reunified Germany, the total production as well as the number of breweries producing more than 10,000 hl decreased strongly. In the same time frame, the number of the smallest breweries increased while also their production decreased. The average size of the larger breweries therefore kept on increasing while the average size of the smallest breweries decreased. In fact, breweries with an output between 10,000 and 500,000 hl are the segment that experienced the strongest decrease in number; it reduced by 49.9% compared to a decrease of just 11.6% among breweries producing >500,000 hl[7] and the 48.8% increase in the number of breweries producing ≤10,000 hl. Given these developments in the German beer market, we particularly focus on the time span after 1990 to explain dynamics in the microbrewing sector. As the increasing trend in the number of breweries on national level is clearly due to the growth in the number of micros, it seems likely that the same is also true on state level. Hence, we will assume that increases in the number of breweries in a state are a good proxy for market entry by micros.

[7]In absolute numbers, this is a decrease from 52 to 46 breweries.

7.4.2 Empirical Model

We are interested in the effect of market concentration on breweries overall at the state level. As discussed in Sect. 7.2, we expect the low degree of market concentration in Germany to cause the slow growth of breweries in Germany. Our regression results—based on the described dataset—show that this is indeed the case (see Box 7.1). A low concentration of breweries causally reduces the growth of the number of entries of new breweries. On the other hand, the growth of the number of new breweries is positive in states that are highly concentrated with few breweries per capita.

Box 7.1: Empirical model

We use the relative change in the number of breweries as the dependent variable and breweries per capita as a proxy for the concentration of the German beer market. To allow for a nonlinear relation between market concentration and change in the number of breweries we add a squared term of the concentration. This functional form enables the effect of concentration to diminish as its value increases. Ideally, we would use growth in the number micros—for example, all breweries that produce less than 10,000 hl—as dependent variable. However, these numbers by production size are not reported at the state level for sufficient years. As additional controls, we include GDP per capita and beer production on the state level. At the aggregate level, we include consumption per capita, imports and exports, as well as year fixed effects.

The panel structure of the dataset allows us to account for unobserved heterogeneity by estimating fixed and random effects models. The empirical model is defined by the following equation:

$$
\begin{aligned}
d.\text{Breweries}_{it} = {} & \beta_0 + \beta_1 \text{Breweries\_}pc_{it-2} + \beta_2 \textit{Breweries\_pc}^2_{it-2} \\
& + \beta_3 \text{GDP\_}pc_{it-2} + \beta_4 \text{Production}_{it-2} \\
& + \beta_5 \text{Consumption\_}pc_{t-2} \\
& + \beta_6 \text{Imports}_{t-2} + \beta_7 \text{Exports}_{t-2} + \lambda_t + \in_{it}
\end{aligned}
$$

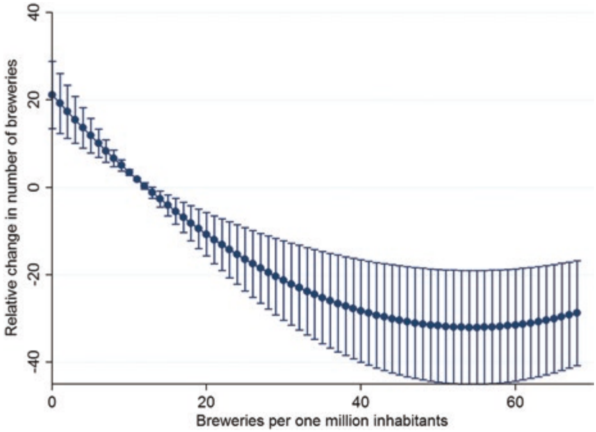

Fig. 7.8 Predictive margins for the Years 1991–2015 with 95% confidence intervals. Estimates based on FE regression on observations between 1991 and 2015

> The indices i and t identify state and year, respectively. The main coefficients of interest are β_1 and β_2. To avoid endogeneity we use the second lag of all right-hand-side variables. Thereby we account for the fact that the dependent contains information on the current and previous year. We estimate the model using pooled OLS, fixed effects (within transformation) and random effect techniques. $\widehat{\beta_1}$ is found to be negative indicating that an increase in the concentration (i.e., lower values of breweries per capita) reduces the growth rate. A positive coefficient of the squared term $\widehat{\beta_2}$ shows that breweries increase again once concentration becomes too high.

To illustrate the results, we plot the average predictive margins, meaning the average estimated effect of the concentration of breweries taking into account all other effects based on the observed data, at increasing values of the variable of interest. Figure 7.8 shows the results of this exercise for the years 1991–2015.[8] We restrict the range of the x-axis according to the minimum and maximum value of the variable observed in this time, which are at 2.63 and 67.71, respectively. Bavaria is an extreme outlier in this regard. Among all other states, the maximum value lies

[8] We chose this time span to avoid complications due to the German reunification.

at 20.98 in this period with an average at 9.68. Concentrating on this region of the graph shows that high concentration in the brewing sector (i.e., a smaller number of breweries per person) is associated with positive growth rates in the number of breweries.[9] With decreasing concentration, the predicted increase in the number of breweries also slows down. Once there are more than 13 breweries per one million inhabitants our estimations suggest a decline in the number of breweries. The rate of change diminishes as concentration falls. This implies that the rate at which we estimate breweries to disappear does not rise infinitely. Instead, the rate stabilizes as the number of breweries per one million inhabitants reaches values beyond 30. Though, the accuracy of our results needs to be seen with caution at these low levels of concentration, as is indicated by the large confidence intervals.[10]

7.5 Discussion

Based on the results of our regression, we argue that the slow increase in the number of craft breweries is at least partially based on the relatively low concentration of breweries in large parts of Germany. We observe higher growth in the number of breweries where the brewing sector is highly concentrated. With decreasing concentration (that means a higher number of breweries per capita), the growth rate reduces at a declining rate.

Interpretation of these results in regard to craft breweries is based on the assumption that increases in the number of breweries are a good proxy for this. For two reasons we are likely to under- or overestimate the effect on craft brewers. On the one hand, we might overestimate the effect because not all brewers that enter or leave the market are craft brewers. On the other hand, we observe breweries as places of beer

[9]This finding persists if Bavaria is excluded from the sample.

[10]Due to the u-shaped form of the function, the predicted change would be positive again if there were more than 98 breweries per one million inhabitants. This does not have practical relevance, though, as the value lies far above the values observed for the time span in question. Overall, due to a low number of observations at very low concentration levels, the slight reduction in the negative effect at the right end of the distribution should be interpreted with caution.

production. If the focus is on independent beer brewing companies, it needs to be considered that many large companies own more than one production facility. This is particularly important if lower concentration in the market is associated with a higher likelihood of takeover. Furthermore, some brewmasters—so-called gypsy brewers—do not own brewing facilities but rent unused fermentation space from established breweries. If the number of these brewers increased in line with the overall trend, this would introduce an additional downward bias.

One way to interpret the positive effect of concentration on the number of breweries is to connect it to consumers' "love of variety." Therefore, consumers' demand for more diversity in beer supply would facilitate market entry. Answers in the interviews support this argument. The lack of diversity was a major part of the motivation of craft beer brewers to enter the market.

Where choice between breweries is sufficiently large, consumers value an increase in the choice of breweries less. In economic terms, this is due to a diminishing marginal utility of variety. Small breweries lose a unique selling point and market exit becomes more likely. As we conduct the analysis on federal states between which trade barriers are relatively low, we would potentially underestimate the power of "love of variety." Consumers could simply demand products from other federal states. In this regard, our results would specifically suggest a preference that combines localism and diversity. While consumers could theoretically choose from more than 1300, they react to the number of breweries in their own federal state. This is explainable by referring to the regional differences in consumption patterns. For example, a northern German who is used to heavily hopped Pilsner will care relatively little for a choice of the lighter Bavarian Helles and the same is true vice versa.

This interpretation of the observed effects is only one possibility. As Tremblay und Tremblay (2011) explain small breweries face higher production costs but they also have some advantages. In particular, they refer to a higher flexibility in reacting to changing demands and an advantage in local advertising, which lowers their marketing costs. The latter argument only seems applicable to the full extent though when locality is a distinctive characteristic and not the usual case. This seems particularly likely in the case of the German distribution system for beer.

For regional and local breweries without access to shelf space in retail or wholesale distribution, Germany's tied-house system is a big advantage in terms of direct distribution. Under this system, the brewery sponsors on-premise retailers, those where the beer is consumed on the premises, with commercial equipment such as signs or glassware, sometimes even financial credit. In return, the distribution partner purchases beer and other available beverages almost exclusively from the supplying brewery. Today, such contracts usually run about five years. These partnerships are extremely important for regional breweries for brand exposure. If popular on-retailers are tied to established local brewers, off-premise retailers tend to stock these local brands, too. The long-running relations resulting from the tied-house system can act as a means to stabilize the sales of small brewers over longer time (Swaminathan and Wiedenmayer 1991). Toward new market entries, this system can act rather preventive though. New breweries would need to find an on-retailer without a contract and have the capability to provide sufficient support to her business. More accessible to all kinds of breweries might be the valuable real estate some of them own. Beer gardens, pubs, and even event locations retail their products exclusively and attract visitors.

In a nutshell, the German tied-house system turned out to be important for local and regional players for two reasons: first to help them reinforce their market position; second, to build up brand loyalty as pubs contain the end-consumer buyer power by promoting specific brands. By these means, the tied-house system contributed greatly to the high level of fragmentation in the beer industry especially in Germany where its influence has been more pronounced than in other countries (Adams 2011). At the same time, this system makes market entry much harder as new breweries can only sell small quantities to pubs under contract with another brewery or they have to wait and invest to get a contract of their own.

Explaining the small expansion of the craft beer sector in Germany, the tied-house system can in any case be considered as one reason for the rather slow developments in the number of breweries compared to other countries. Another factor is the preferential tax rate small brewers face. Reduced tax rates are available for breweries with a production below 200,000 hl and the reduction increases for every 1000 hl reduction in yearly output down to a level of 44% of the original tax. For a beer with 12° Plato, the tax is normally €9.44 per hl. Under the highest reduction (for breweries with a yearly production below 5000 hl), it is €5.28. Hence, an independent brewer who produces 5000 hl beer with 12° Plato saves €26,432 per year.

While we argue that the same mechanisms are at work regarding the growth of micro- and craft breweries, there are strong indications that the craft beer trend is only connected to relatively recent changes in the number of breweries. The market-leading search engine Google serves as a trend monitor and provides detailed relative insights on volume and relevance of search terms: various queries show a trend line that indicates rapidly growing interest in craft beer in Germany—yet this trend only became popular from 2013 onward. Figure 7.9 shows the development of the relative importance of queries related to craft beer in

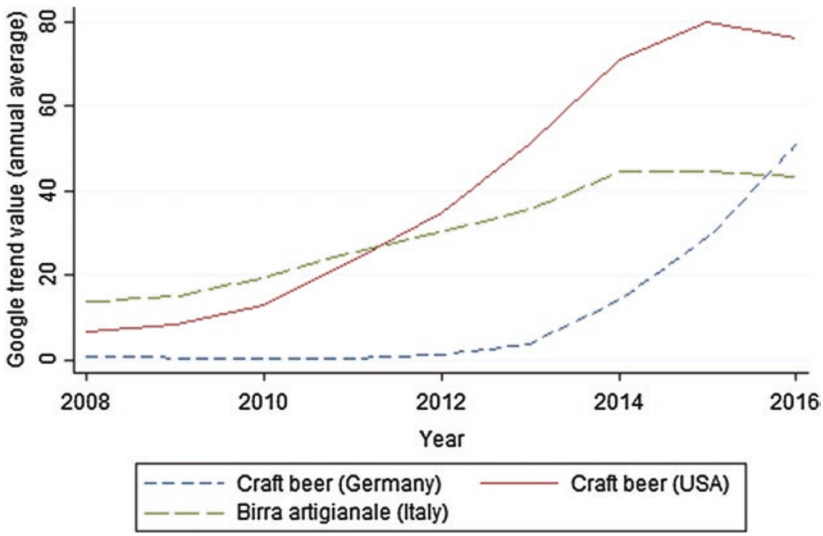

Fig. 7.9 Google trend value of the term “craft beer”. *Source* Google Trends. Google trend value range between 0 (less than 1% of max) and 100 (max); 50 indicates 50% popularity relative to max relative popularity in the United States

Germany, Italy, and the USA. The values are indexed with the highest share in queries over all countries taking the value 100. The comparison of the relative search volume of the term "craft beer" or its most commonly used local equivalent—"birra artigianale" in Italy—with two mature craft beer nations revels a lagged trend in German. The USA and Italy show traction on the term or equivalent already from before 2008. However, Germany is catching up, surpassing Italy and slowly reaching US levels—although the term "craft beer" is a loanword in German.[11] The dynamic is not driven by increased interest in beer overall. Searches for the term beer and its German and Italian translations do neither show a strong increase in popularity, nor do the differences between the countries markedly change over time.

Craft beer is still a tiny niche in Germany and no apparent threat for large brewers. Instead, the trend toward specialty beers also stirs desires of both international and national mass brewing groups, who play an increasingly active role in the premium segments. Beck's brewery already extended its "Taste the World" specialty beer portfolio with additional beer types in early 2016. This shows that there are also opportunities deriving from the craft beer movement that could benefit the German beer market as a whole. It creates the notion of a premium product of value and helps generate awareness around beer in general. While overall beer consumption declines, the search term "Bier" shows a clear upward trend in Google news search, with the highest peaks of interest only in the last three years. Wine, in comparison, does not follow this trend.

7.6 Conclusion

The departure of the analysis is the trend of craft beer in Germany which is less dynamic than in other countries, compared to the USA in particular. As a prerequisite, we use arguments provided by Adams

[11]For Germany, we use the term "craft beer" as it reaches the most queries compared to other terms, including misspelled terms such as "craftbeer," "craft bier," and "craftbier." German terms with the same meaning, for example "handwerklich gebrautes Bier," are virtually absent in the queries.

(2011) why the German beer market is less concentrated. We argue that the low degree of concentration at the German beer market can explain why new entries occur less frequently than in other countries.

We provide an empirical analysis based on interviews with craft beer brewers as well as on quantitative data based on the German taxation system. The Statistical Office of Germany provides data on number of breweries and production at the state level from 1960 until today. We also have numbers of breweries categorized by production volume at the aggregate level. Because the level of concentration also differs within Germany among German federal states, we test our hypothesis via regression analysis based on data at the state level. A decline in concentration reduces entries of breweries, when holding everything else stable, until a certain threshold of the level of concentration is reached. The effect is positive for very high levels of concentration because consumers have love of variety preferences. This implies the existence of a lower bound of breweries per capita.

Future research could enlarge the dataset by including data of additional countries. This would allow to exploit variation not only between federal states but also between countries. Ireland and the Czech Republic would be interesting case studies as well because their per capita beer consumption is even higher than in Germany. Eventually, it would be ideal to replace the dependent variable with the relative growth of craft breweries instead of breweries overall.

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8

The Emergence and Survival of Microbreweries in Hungary

Imre Fertő, József Fogarasi, Anita Major and Szilárd Podruzsik

8.1 Introduction

Over the last few decades the Hungarian beer market has traditionally been dominated by large-scale breweries. Large state-owned beer companies which produced pilsner types of beer were privatized in the first half

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of the 1990s. During the communist period, small- and medium-sized firms were missing elements from the Hungarian beer industry, but in the early phase of the transition the number of microbreweries increased rapidly, and an association was established in 1994. The number of microbreweries reached a peak in 1995 at 140 firms. The aim of this chapter is to explain the recent (post-2000) emergence of microbreweries in Hungary. More specifically, we focus on the survival of microbreweries and place special emphasis on the impact of the economic crisis. The chapter is structured as follows: the next section provides a brief overview of the history of the Hungarian beer industry. The third section describes the main trends in Hungarian beer markets, followed by a section that reviews the determinants of firm survival. Then the data and methodology used to estimate firm survival are presented, together with the main findings of the analysis. The final section draws conclusions.

8.2 The Structural Evolution of the Hungarian Beer Industry

8.2.1 Historical and Communist Period

The first written record of Hungarian brewing dates to the twelfth century. A noble lady's last will and testament, in which she willed that beer should be given out at her burial feast, is treasured in the archives of the Benedictine Archabbey of Pannonhalma. Brewing as a craft was first mentioned in various documents in the fourteenth century. Most manor houses and monasteries established their own breweries in the following centuries, and beer production increased continuously, especially after the settlement of a German bourgeoisie in major market towns in Hungary (Szathmári 1931). Breweries adapted German brewing technologies and a new Hungarian beer industry was formed over the following centuries.

A brewery by the name of The First Pest Brewery House was established by a Bavarian in Pest in the seventeenth century. True to its name, it was the first brewery to produce beer on an industrial scale.

As similar, new, and large breweries commenced production, small-scale microbreweries went bankrupt in the nineteenth century (Kovács 2004). The grape disease *phylloxera*, which destroyed two-thirds of grape plantations, resulted in a higher price for wine across the country. Due to price elasticity, wine consumption decreased, which boosted the market for and consumption of beer (Katona 2014; Győrfi 2006; Zádori 2006). The first Beer Law of Pest which was issued in 1843 ensured free competition in the sector. The first factories were established in Pest on the site of former stone mines, where the climate of the empty caves was found to be perfectly suitable for beer production. Kőbánya (now a district of the capital Budapest) became the center of brewing and was called the Town of Beers. Beer brewing was an attractive investment from this time on. Anton Dreher, an Austrian entrepreneur, also invested into the Hungarian beer industry in the second half of the century.

The four big companies at the beginning of the twentieth century were Dreher Antal Brewery, First Hungarian Brewery, Kőbánya Civil Brewery, and Haggenmacher Breweries (Katona 2014). In addition to the big firms, 86 other breweries were operating across the country in 1910, although the big four produced more than 90 percent of the 3 million hectoliters consumed domestically. World War I, decentralized distribution, the peace treaty after the war—when the country lost two-thirds of its territory, together with its beer market—and an increase in the rate of tax hampered the operation of beer companies. Production and productivity dropped and the full capacity of beer companies remained under-utilized. These factors significantly increased the price of beer (Katona 2014). To maintain their position in the market, the big beer companies started to co-operate in purchasing raw materials and in marketing (Kovács 2004). After the end of World War II, production had to be restarted from scratch.

Three years later, in 1948, the industry was nationalized. From this time on a single state-owned company, the Hungarian Brewery—later to become the Trust of the Hungarian Beer Breweries—was responsible for producing the ca. 3 million hectoliters created in Hungary; 76 percent of the total quantity was brewed in Budapest. During the socialist era, the system of centralized planning directives and a lack of investment had a major detrimental effect on the quality of the product. The nationalized beer companies were given the right to operate independently after 1981. As a consequence, two new beer companies came into existence (Katona 2014).

8.2.2 Liberalization Period: 1990s

At the beginning of the 1990s, the beer industry was faced with a new market situation: privatization and the entrance of new microbreweries to the market. New microbreweries started operations as family businesses with the employment of one or two family members. In many cases they started their operation in their own houses with their own capital investment. Most of the owners had no previous experience in the beer industry, and acquired qualifications just before they started to produce. They produced low quantities and contributed to satisfying consumers' needs in the market to a great extent. The legal environment provided them with a good business opportunity, since there was no excise duty on large-scale beer production. The beer that was brewed in microbreweries was associated with low quality and low price in those years. Right at the beginning of the phase of privatization, international companies invested in the beer industry and microbreweries closed their businesses as a consequence of strong competition, being unable to compete with the big breweries (Fig. 8.1).

Liberalization contributed to a more competitive market, as well as fostering the concentration of the industry. Multinational companies invested in making improvements such as implementing environmentally friendly production technology. Breweries were restructured and new distribution and marketing systems were developed. In spite of the investment, Hungarian beer consumption decreased. Breweries did their best to halt this trend by further improving technology and raising the quality and the general image of beer. When a new law on excise duty (based on the quantity as well as the quality of beer) came into force, in line with EU regulation in 1998, the beer industry lobby succeeded in getting excise duty cut by half. The aim was always to keep the level of excise duty low.

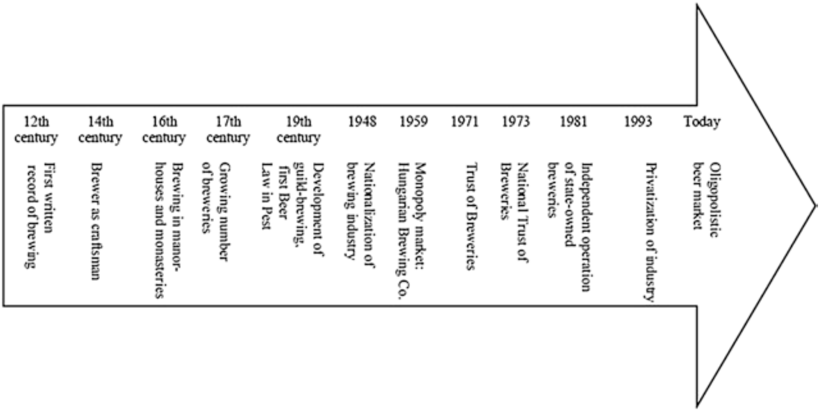

Fig. 8.1 Milestones in the History of the Hungarian Beer Industry. *Source* Authors' composition

8.2.3 Consolidation in the 2000s

Joining the EU and entering the common market repositioned the industry: beer production in Hungary decreased by 6 million hectoliters. The adaptation of EU laws increased the burden on microbreweries (e.g., the cost of introducing an HACCP system).[1] The lack of a direct connection with customs offices and less well-developed IT information systems also represented a competitive disadvantage. In order to maintain their position in the market, producers turned to niche marketing, developing beers with new tastes, and producing seasonal beer products. The aim of differentiating products was to strengthen the brewers' position in the field of gastronomy and tourism. Low volumes of production were not the focus of the big beer companies. Microbreweries set up an alliance in 1995 to represent the interests of members and to organize training for them.

Today, the structure of the Hungarian beer industry is characterized by a tiny group of big producers and a number of microbreweries. Almost

[1]Hazard Analysis and Critical Control Points, a system for reducing safety hazards in food and drink.

the entire amount produced is created by three breweries. This oligopolistic beer market is ruled by SABMiller (Dreher Breweries), Molson Coors (Borsodi Brewery), and Heineken Hungaria. The market shares of the first three main brewers are almost equal. Although Pécs Brewery has experienced a significant loss of market share over the last decade, it still has a market share of 4 percent in Hungary. Microbreweries are responsible for 0.1 percent of total Hungarian production. There are also some other market players, such as the importer Carlsberg Hungary. In the last 15 years there has been a significant drop in the total number of breweries, as well as in the number of microbreweries.

8.2.4 The Growth of the Microbreweries

Beer producers adjusted their strategies to the new market situation by introducing new assortments, innovative products, new branding strategies, and new methods of sale after the economic crisis (Gfk 2014). Not only big beer producers but also microbreweries started targeting men with new tastes, while women also became an important target group.

The total number of firms and employees has decreased considerably (37 and 47 percent, respectively) over the last 15 years (Fig. 8.2; left panel). The decline in the number of firms and number of employees was much greater for microbreweries than for other beer companies. An important factor explaining this drop is the tax burden imposed on the industry. Besides value-added tax and excise duty, brewers pay an environmental product tax and a “fat tax” (“NETA” in Hungarian). The level of these taxes has continuously increased in previous years and created an unfavorable situation for brewers. Note that the industrial restructuring which caused a drop in the number of firms and employees had largely finished before the economic crisis.

The Hungarian beer industry is split: a few large-scale firms employ more than 90 percent of the total labor force, while there are many small-scale breweries with fewer than ten employees. The Hungarian beer industry is dominated by three breweries with international ownership. The law on beer brewing changed at the beginning of 2012. Excise duty was reduced by 50 percent, stock registration was disburdened, the limit on brewing for personal consumption was increased to 1000 liters, and the allowance for purchasing equipment for breweries was

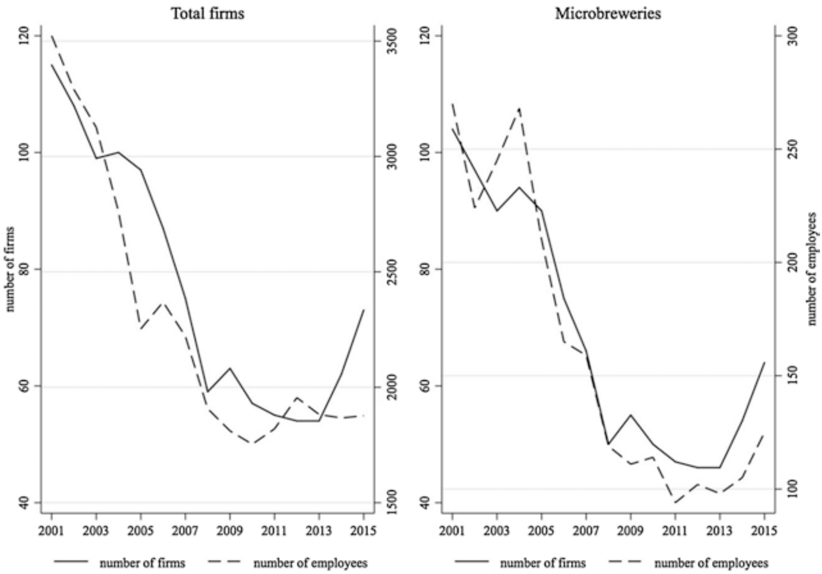

Fig. 8.2 Number of firms and employees. *Source* Research Institute of Agricultural Economics

eliminated. The decline in barriers to entry has had a positive impact on the number of firms and employees (Fig. 8.2; right panel).

Figure 8.3 shows that the Hungarian beer industry is highly concentrated, independently of the concentration measures which are applied. After 2004 new large firms have not entered the beer industry, and the top five firms generated almost 99 percent of total industrial turnover. Despite the entry of new small firms after 2012, the level of concentration remained similarly high.

Although the owners of microbreweries are largely Hungarian, the raw materials for brewing are typically imported due to the shortage of domestic malt and hops. There were about 400 microbreweries in the 1990s, but their numbers have since significantly decreased. The main reason for the decline in the number of microbreweries is that beer as a product became subject to excise duty, which significantly hampered the operation of microbreweries. In addition, the same regulation was applied for both small- and large-scale breweries. However, after 2010

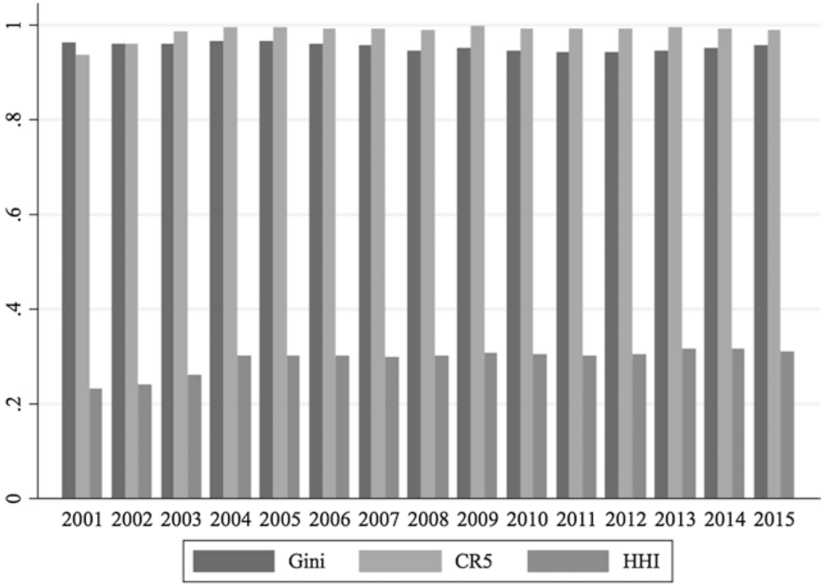

Fig. 8.3 Concentration measures for the Hungarian beer industry (2001–2015). *Source* Research Institute of Agricultural Economics

the so-called beer revolution provided additional incentives for the entry of microbreweries. On the demand side, a new young consumer generation is emerging, especially in Budapest and large cities with universities. They are searching for new tastes and they are also willing to pay higher prices for craft beers.

Microbreweries follow different strategies. A minor share of microbreweries have been following the same strategy since they started operating at the beginning of the 1990s: they sell their beers locally, or directly to pubs in their region. Secondly, the majority of microbreweries focus mainly on selling to large cities and the capital, Budapest. These microbreweries typically produce a single type of beer in huge quantities on a contractual basis with pubs. The third group of microbreweries are so-called revolutionary breweries, which are introducing new levels of quality and taste. Some microbreweries follow mixed strategies, while some have changed strategies and now produce top-quality beer for sale to premium buyers. New-wave breweries have recently opened with a focus on ale brewing and the originality of production methods. One group of "gypsy brewers" only uses the free capacity of other microbreweries (SörPont Blog 2013). In contrast to large beer factories, microbreweries cannot spend significant money on advertising, and instead they are using various internet forums and social media tools to popularize their products.

8.3 Trends in Beer Production and Consumption in Hungary After 2000

The improved technology, investment, and the changing attitudes of consumers, as well as a fusion of companies and the establishment of new breweries, have had a significant impact on the structure of the beer market during the last 15 years. The drop in consumption that the industry experienced during this period has had a profound influence on the success and efficiency of breweries. After a period of expansion, production had decreased by 17 percent by the end of 2015.

The beginning of the twenty-first century is creating new challenges for the beer industry. Besides the stagnation (or slight decrease) in domestic production, the consumption of imported beer increased due to the Common Market. After joining the EU, the beer market changed in Hungary. Exports continuously increased from the beginning of the twenty-first century, growing especially strongly in the year that Hungary joined the Common Market: the quantity of imported beer doubled compared to the previous year (2004). The Common Market opened the gates to low-priced beers. In accordance with German legislation, producers stopped using non-recyclable packaging and disposed of their stocks on the Hungarian market. The market stabilized by 2006 and the share of imported beer remained at a stable 6 percent of total Hungarian production, independent of the variable character of production, over the years. The economic crisis caused difficulties for actors in the beer industry. The beer sector was the second most important sector in the Hungarian food industry in 2009.

Beer production decreased after the beginning of 2000. It reached more than 700 million liters in 2001, but after a significant fall touched bottom in 2004 (Fig. 8.4). Over the next three years production continuously increased and reached a peak of more than 850 million liters in 2007. Although a slight increase occurred in 2011, production had dropped to below 600 million liters by 2014. At the same time, exports as well as imports have slightly but continuously increased over the last 14 years. Interestingly, exports peaked in 2004 when production reached its lowest point, and imports remained fairly stable. Imports approached exports, while remaining below 100 million liters in 2008. Exports now exceed and imports remain under 100 million liters, although the two started to diverge in 2014.

Restructured consumer behavior and preferences have resulted in a change in the number of consumer groups over the years. A preference for wine has slightly diminished over the last decade, so beer is still in

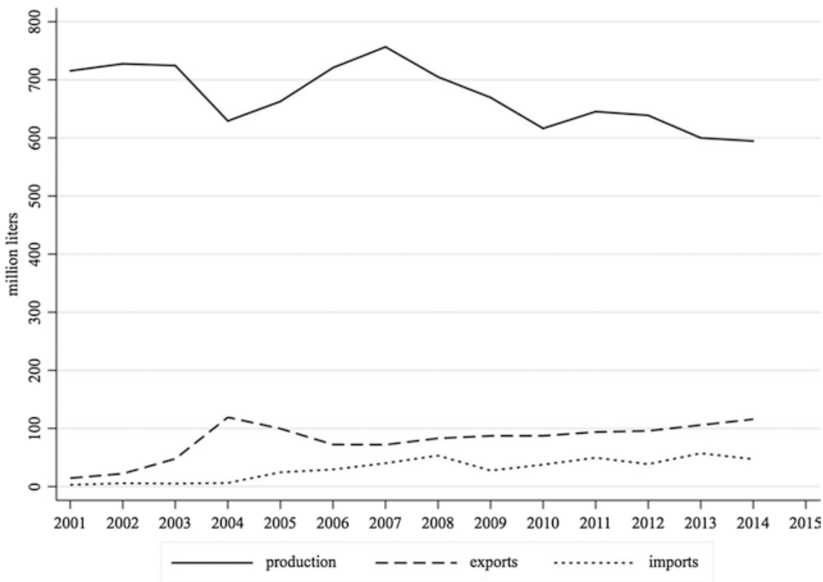

Fig. 8.4 Evolution of beer production; exports and imports. *Source* Food Balance Sheets, Hungarian Central Statistical Office

the leading position in terms of types of alcohol consumed (Fig. 8.5). The preference for beer decreased starting from 2001 until the beginning of the economic crisis, being determined by the availability of substitute products, the tax burden, and innovation.

Beer consumption remained fairly stable until the beginning of the economic crisis. The structure of consumption changed and beer consumption started to decrease after 2007. Changes in the taxation system such as an increase in value-added tax triggered a rise in prices. As a result of the economic crisis and a change in income level, consumption shifted to the retail sector and the share of low-quality and cheap beer increased in the market (Fodor et al. 2013). Overall consumption levels—except for one or two years—gradually decreased, although twice as much beer is consumed than spirits and wine (taken together) in Hungary. From the three main types of alcoholic drinks, the consumption of spirits is lowest, and remains unchanged at about 5 liters per year during the 14 years under analysis. The consumption of wine

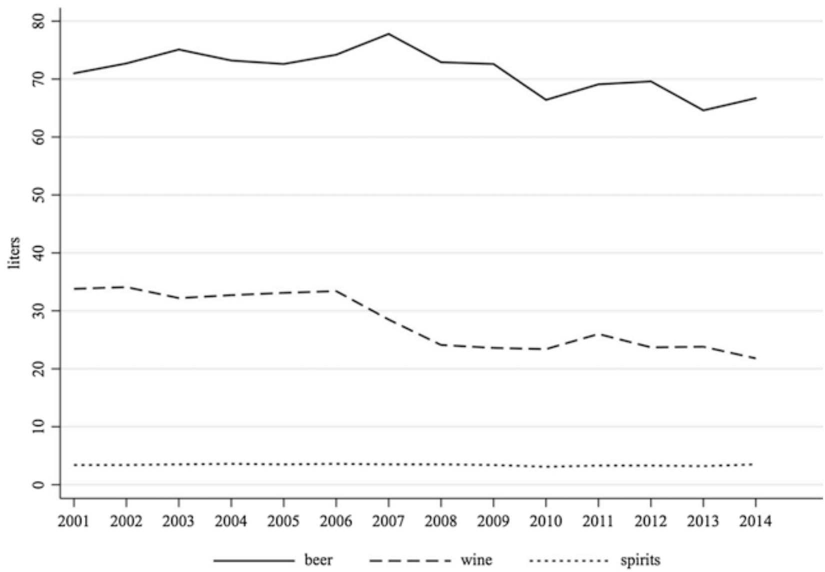

Fig. 8.5 Consumption of alcoholic drinks. *Source* Food Balance Sheets, Hungarian Central Statistical Office

exceeds the consumption of spirits, but is far less than the consumption of beer over the 14 years (actually decreasing by 15 liters from 2001–2014). Consumption of beer averaged 71 liters in 2001. The evolution of consumption shows two peaks in these 14 years. The greatest amount consumed was almost 80 liters in 2007. Although beer consumption remained above 70 liters in 2001, there was only a slight decrease in 2014.

Figure 8.6 shows the evolution of sales in the beer market according to four categories of beer: super premium, premium, mid-level, and economy. The quality of economy beer is the lowest, but its market share tracks the trend for the most popular types of mid-level beer. Premium and super-premium beer reflect the highest quality with the smallest market share and the highest price. The share of sales in each category has remained almost constant over 10 years, with only a slight change in quantity. The share of sales of the most expensive super-premium beer has also remained constant over the last 15 years. The economic crisis reduced consumers' incomes as well as overall levels of

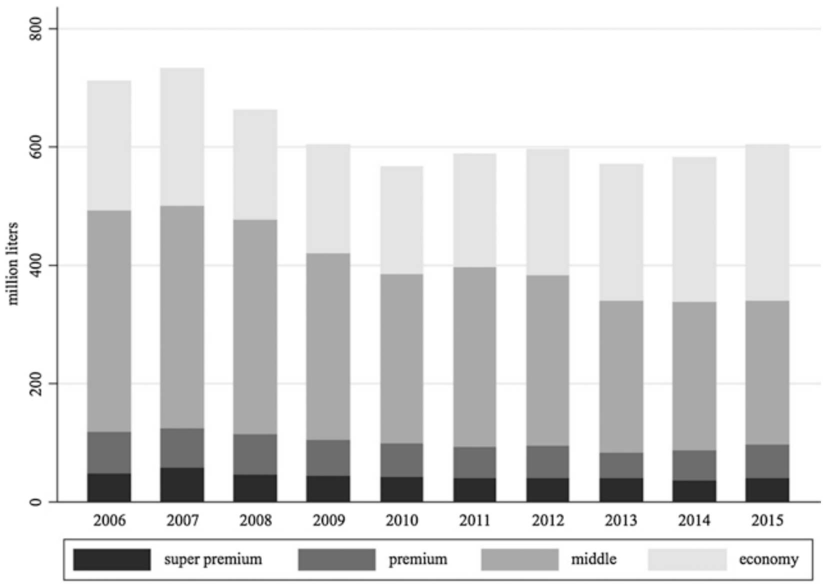

Fig. 8.6 Distribution of beer sales by product category. *Source* Authors' calculations based on the Annual Report of Hungarian Beer Association 2006–2015

consumption. Purchases of beer shifted to favor low-priced products. During this period, the goal of beer brewers was to maintain their position in the mid-level category. Due to the nature of super-premium and premium products, the crisis had no impact on their sales.

8.4 Determinants of Firm Survival

There is a wealth of literature about the determinants of firm survival (Manjon-Antolin and Arauzo-Carod 2008). However, little of this has applied to the food sector. In the following section we briefly review the main findings of the related literature.

Dimara et al. (2008) investigated the impacts of production efficiency on the survival of firms in the Greek food sector from 1989–1996. The authors find that a high level of technical efficiency increases median survival time and lowers the hazard rate of exit. In addition, as the scale efficiency of a firm operating either at increasing or decreasing returns to scale approaches one, the expected median survival time is maximized for all types of exit.

Blanchard et al. (2012) examine firm propensity to exit in French food industries from 1996–2002 using a semi-parametric approach. Their results suggest the existence of a significantly negative relationship between a firm's probability of exiting and its efficiency and age. In addition, the authors show that the level of sunk costs may be an important barrier to exit. The relationship between the exit and the industry level of concentration exhibits an inverted U-shaped curve.

Bontemps et al. (2013) analyzed the impact of quality label policy on the survival of cheese firms over the period 1990–2006 in France. They find that such a policy (the use of "Appellation d'origine contrôlée") reduces the exit risk for smaller firms. However, smaller firms still have a lower survival rate compared to larger ones, which cannot be compensated for by the quality label effect.

In conclusion, papers about the food industry reinforce the main findings of the empirical literature more generally. We may distinguish between internal and external factors to explain firm survival (Audretsch et al. 2000), focusing on the factors which are relevant to our analysis.

Firm-specific factors such as firm size are major determinants of survival: larger firms have a higher probability of surviving than their smaller partners. However, the relationship between firm size and survival may be non-linear. The age of a firm is another important driver: older firms tend to last longer than young ones. Ownership may also be a relevant factor in explaining survival, especially in transition countries where state ownership plays an important role. Firm performance, typically measured by productivity or technical efficiency, has a positive impact on survival.

Industry-specific and other external factors play an important role in the survival of firms. In general, firms live longer in growing industries than in declining industries. High entry barriers may have a positive effect on the likelihood of firm exit. Similarly, industrial concentration negatively influences firm survival, although this relationship can also be non-linear.

8.5 Survival of Microbreweries

The database employed in the analysis contains 1158 observations. It represents an unbalanced panel of 185 firms from the Hungarian beer industry about which data was gathered during the period 2001–2015. Firm-level data is collected by the Research Institute of Agricultural Economics based on bookkeeping data from the National Tax Authority. Our dataset does not include information about beer production in liters, thus we define microbreweries as firms with fewer than ten employees. We calculate the time of survival of the firms and define the terms "entrant," "exitor," "1 year only," and "stayer." These periods are evaluated as intervals, measured in years, over the period 2001–2015. Indeed, our data allows us to identify whether a firm was included in the sample for a given year, thus the minimum time unit is 1 year, with a maximum of 15 years.

On average, a firm survives 4 years in the industry, while the median value is 5.9 years during the period of analysis (Table 8.1). Density of survival shows a rather bipolar distribution (Fig. 8.7). The

Table 8.1 Descriptive statistics for survival (years)

	Mean	Median	Minimum	Maximum
Total firms	4	5.9	1	15
Microbreweries	4	5.6	1	15
Non-microbreweries	10	9.1	1	15

Source Authors' calculations

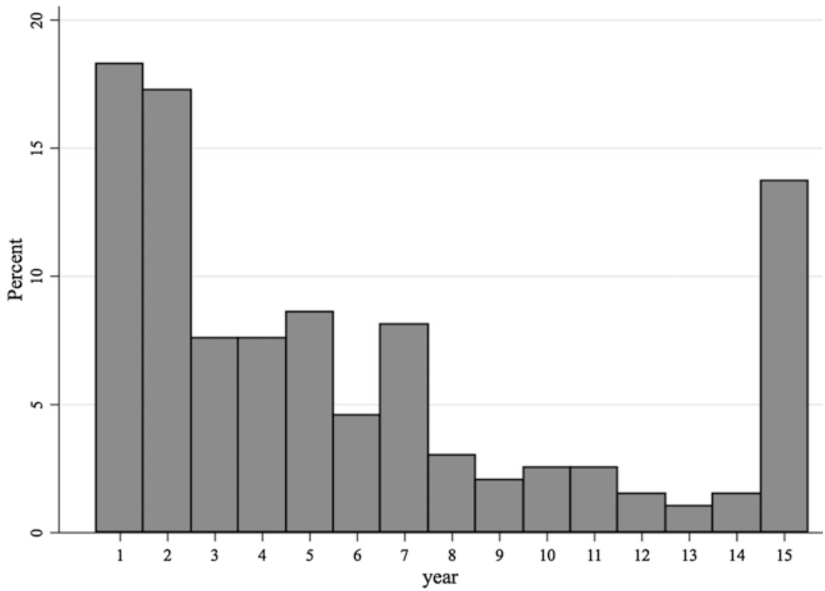

Fig. 8.7 Density of firm survival. *Source* Authors' composition

mean and median lifetimes of microbreweries are less than half that of non-microbreweries.

The pattern of entry and exit in our sample is summarized in Fig. 8.8. At the beginning of the 1990s, beer that was brewed in microbreweries was characterized by a low-quality image. Market entry and exit were determined by Hungarian legislation and the tax system, as well as the market trends of the last 15 years. Figure 8.8 shows that the share of leavers from the beer industry exceeds the share of newcomers. The year 2008 was an exception, when newcomers were more numerous than leavers. Compared with the findings described in Bontemps et al.

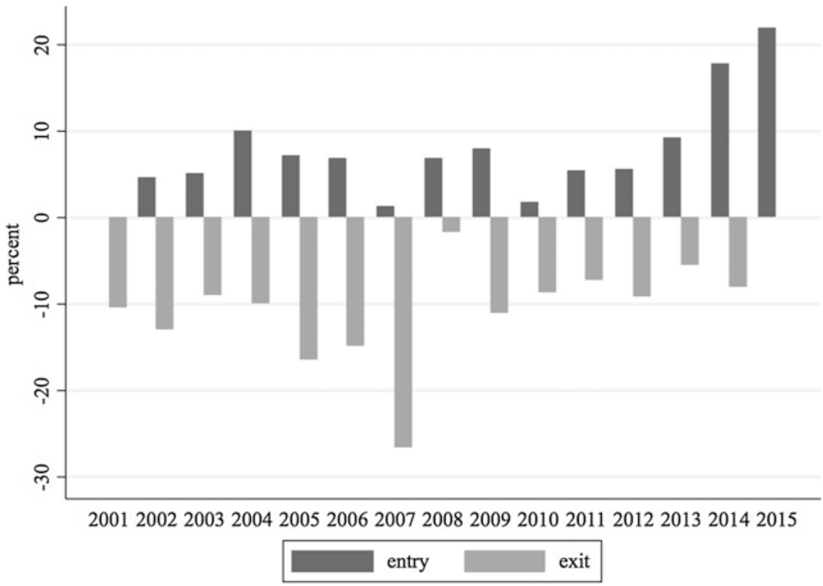

Fig. 8.8 Entry and exit from the Hungarian beer industry. *Source* Research Institute of Agricultural Economics

(2013), the Hungarian beer sector exhibits a higher turnover rate, with 11 percent of firms in the market in a given year exiting the market and 7 percent entering (corresponding numbers in the French cheese industry are 8 and 5 percent, respectively). The economic crisis had a variable impact on patterns of exit and entry. Before the economic crisis, the average number of exits was higher than those of entries (13 versus 5 percent, respectively), while after the crisis the corresponding figures are 7 and 11 percent. In other words, the average entry rate increased after the crisis, while the mean exit rates dropped around by 46 percent.

8.6 Conclusion

The Hungarian beer industry has historically been dominated by large-scale breweries. From 1990 to 2000, the number of microbreweries grew rapidly. However, the privatization of the Hungarian beer industry led to the dominance of big multinational enterprises and, together with unfavorable market conditions and regulation, has negatively influenced the chances of survival of microbreweries. The number of microbreweries had declined considerably even before the economic crisis, and the beer sector remained a highly concentrated industry (with the major share owned by the top three firms). On the other side, due to high entry costs after 2004 there were no new players in the large-scale market segment of the Hungarian beer industry. Beyond the four major firms, the Hungarian beer industry is characterized by relatively high turnover. Microbreweries are typically short-lived, surviving for only 4 years in average during a 15-year period. The entry rate of microbreweries was greater after the economic crisis than before it, while the exit rate decreased. However, in recent years, due to new regulations on the beer market, relatively low entry costs, and rapidly growing demand for craft beers, the number of microbreweries started to increase again. New-wave microbreweries efficiently reflect the new generation's demand for higher-priced craft beers and thus they are able to create and exploit a new market segment. These microbreweries concentrate on large university cities and Budapest, using social media efficiently as a marketing tool. However, it is still an open question whether the Hungarian beer revolution is a transitory or permanent phenomenon, and whether it can extend beyond the large cities to the countryside.

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9
The Birth and Diffusion of Craft Breweries in Italy

Christian Garavaglia

9.1 Introduction

According to the classical view of the structure of markets, in the presence of a high degree of concentration and high entry barriers, traditional economic theories would predict the absence of new entrants (Bresnahan and Reiss 1991; Sutton 1991; Baldwin 1995). In contrast, many industries have experienced a rapid surge in the number of firms during the late stage of their evolution, such as the American cases of the early feature film industry, telephone companies, winemakers, bank co-operatives, the newspaper industry, and auditing firms in the Netherlands (Carroll 1985; Barnett 1997; Swaminathan 1995; Mezias and Mezias 2000; Boone et al. 2000). The brewing industry in many industrialized countries displays a similar dynamics, as analyzed in this book.

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The Italian brewing industry conforms to this picture: it is highly concentrated, characterized by high entry barriers (Garavaglia 2009). Yet since the late 1980s, hundreds of new businesses have emerged: the so-called artisanal breweries or craft breweries. The new firms differ in their methods and scales of production and distribution in comparison to traditional industrial producers (national and multinational). The purpose of this chapter is to investigate the birth and diffusion of these micro producers of beer in the 1990s in a country like Italy, without a beer tradition. This has so far been unexplored. In addition, the Italian case is an important one in the international panorama because of its tradition in the production of food and beverages, and because of its conservative behavior and habits regarding food and beverage consumption.

The explanation in this chapter relates to the claim that in the 1980s–1990s, there was a gradual change in consumers' preferences with regard to beer—as well as other products within the food industry—which spurred the entry of new small firms pursuing strategies of product specialization and differentiation; that is, the craft breweries. We provide evidence that the demand developed more complex characteristics and more sophisticated features due to closer attention to the origin and naturalness of the products. Our discourse, then, stresses the need to research the changing demand patterns and ways of consumption in order to find the real source of the generation of new business opportunities in the Italian brewing industry, which were seized by the craft breweries. This ingredient, combined with a process of legitimation feeding the phenomenon of the entry of a new type of production, explains the birth and diffusion of craft breweries from the 1990s. The argument and discussion of this research are based on original in-depth interviews that I personally conducted with almost all of the initial pioneering entrepreneurs who entered the craft beer segment in Italy.[1]

[1]The interviews were conducted with Gianfranco Oradini, Renzo Aramini, Adis Scopel, Giovanni Turbacci, Agostino Arioli, Giampaolo Sangiorgi, Guido Taraschi, Enrico Borio, Alessandro Borio, Nicola Gabrielli, Rino Mini, Stefano Sausa, Gabriele Tonon, Modesto Bottone, Bruno Ioan, and Teo Musso.

A recent definition of a craft brewery has been given by the Italian Parliament[2]: craft breweries are small independent producers whose beer does not undergo pasteurization and micro-filtration during the production process; an independent brewery means a brewery which is legally, economically, and physically independent of any other brewery, which does not operate under license, and whose annual production does not exceed 200,000 hectoliters. Among the craft brewers, we can distinguish between microbreweries (producers whose production is mainly directed outside, to other restaurants, pubs, or shops) and brewpubs (a producer that sells beer only, or mainly, in the same place—usually a pub—where production takes place). For the purposes of this chapter, we also consider the so-called contract brewers, beer firms, and gypsy brewers (i.e., a business that does not physically own equipment and rents another brewery to produce beer) in order to have a broader view of the dynamics in the beer market.

The chapter is structured as follows. The next section describes the relevant characteristics of the Italian brewing industry. This is followed by a discussion of the logic behind the relevant changes in consumers' attitude during the 1980s–1990s and the consequent entry of micro producers of beer. The final section draws conclusions.

9.2 Trends in the Italian Brewing Industry

In 1980, per capita beer consumption in Italy was 16.7 liters and beer production was 8,569,096 hl. The scenario has significantly changed over the last 30 years: in 2012, per capita beer consumption had increased to 29.5 liters and beer production was 13,482,000 hl. Notwithstanding the increase in the consumption and production of beer, the number of large factories sharply declined, from 30 in 1980 to 20 in 1990, and to 14 in 2012.[3] These few statistics are enough to

[2]Collegato Agricoltura, DDL (Disegno Di Legge) n. 1328-B, which modifies article 2 of Law n. 1354 (16 August 1962). Available at http://www.senato.it/japp/bgt/showdoc/17/DDLPRES/965677/index.html.

[3]Source: Bassetti (1984), Ismea, Assobirra Annual Report (various years).

testify to the dramatic change in consumption habits and in the beer industry in Italy during the last 30 years. Among the significant changes is the advent of a new organizational form: in the 1990s a wave of craft beer producers (microbreweries and brewpubs) entered the beer market.

9.2.1 Industry Consolidation: The Emergence of National Leaders

The story of the Italian brewing industry is similar to that of many other industrialized regions. After World War II, the bigger national firms emerged and dominated the market. Even if some attempts at entering the beer industry on a small scale were made,[4] the prevalent organizational form in the industry was the multiplant national group. In the 1960s, the four largest national groups, Peroni, Wuhrer, the Luciani Group (Pedavena-Dreher), and Birra Poretti, pursued external growth strategies through mergers and acquisitions of the plants and brands of smaller companies. The biggest four groups held a market share of more than 60% in the 1960s (Colli 1998). In addition to mergers and acquisitions, the reasons for the increase in the degree of concentration were mainly linked to the exploitation of economies of scale in production and marketing. Fierce competition to reduce unit costs by increasing the size of production facilities has characterized the entrepreneurial behavior of firms in almost all international brewing markets [see Tremblay and Tremblay (2005) for the US brewing industry, Müller and Schwalbach (1980) for Germany, Gourvish (1994, 1998) and Gourvish and Wilson (1994) for the UK]. In Italy, with the implementation of restructuring processes and automation in production (Brignone 1995), the average size of plants increased from 156,000 hl in 1970 to 276,000 hl in 1980, to 507,000 hl in 1990 (Colli 1998). In addition, the ongoing diffusion of television after World War II and the consequent possibility of advertising campaigns at the national level stimulated an increase in the investment required for implementing

[4]For example, Birra Caporale in Ostuni and In.Bi.Ga.—Industria Birra Gassate Fratelli Puddu—in Oristano.

Table 9.1 Concentration, 1950–2010

Year	C4 (%)	H
1949–1950	61.78	0.131
1959–1960	66.34	0.152
1970	68.99	0.257
1980	68.00	n.a.
1990	84.75	0.257
2000	97.38	0.344
2010	89.37	0.298

n.a. not available
Source Author's computations and Colli (1998). Import share excluded

Table 9.2 Market shares, 1990

Producer	1990 (%)
Peroni	37.60
Heineken	30.36
Industrie Poretti	9.08
Moretti	7.70
Wunster	7.32
Forst	6.11
Castelberg	1.44
Menabrea	0.38
Total	100

Source Author's computations of Assobirra data (various years). Import share excluded

a profitable advertising campaign. As a result, the need to spread the investment over a greater volume of output led companies to undertake investments and strategies to increase in size in order to exploit the effects of economies of scale in marketing.

The 1980s and 1990s marked a further step toward increased concentration (Table 9.1). These are the years in which foreign groups began entering the Italian market; that is, United Breweries (Carlsberg and Tuborg), Heineken, and SABMiller. The structure of the industry in 1990 was two large groups (Peroni and Heineken) which dominated the market, together with four other medium-sized producers (Poretti, Moretti, Wunster, and Forst), as reported in Table 9.2.

At the same time as the concentration increased, the number of firms, as well as the number of production units located around the country, gradually and steadily declined, as shown in Fig. 9.1 (Brignone 1995).

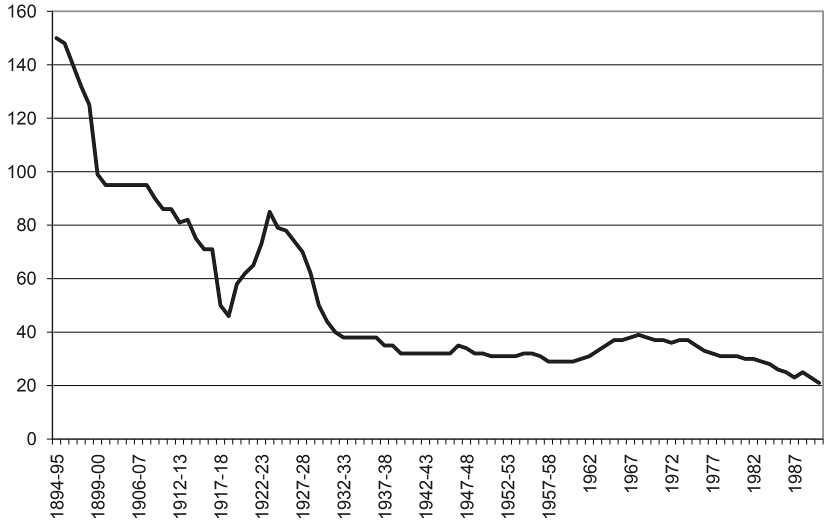

Fig. 9.1 Number of production units 1894–1990. *Source* Brignone (1995)

The largest firms are multiplant and multibrand companies. However, even if firms sell several brands in the marketplace, the vast majority of beers are lager, and the main product of the major brewers is lager beer, which is pale yellow in color, pasteurized, and contains more or less 5% alcohol. This is the most diffused type of beer among consumers. Lager has historically become "the beer" in Italy, following a tradition with origins which are close to German culture.[5] This tradition has been continuously consolidated through the decades up to recently, such that the diffusion of beer in Italy has always meant the diffusion of the standardized and homogeneous lager beer. The brands with the highest sales in 1994, both among normal and premium beers,[6] were

[5]Many of the first Italian brewmasters originated from Germany or were inspired by the German knowledge of beer. Traditional Italian producers had surnames which clearly display their foreign origins: Wuhrer from Austria, Wunster from Germany, Dreher from Bohemia.

[6]The market segmentation according to the main segments in 1994 was as follows: normal 66.9%, premium 26.3%, specialty 5.3%, low-alcohol and non-alcoholic 1.5%. Source: Antitrust Authority (Autorità Garante della Concorrenza e del Mercato)—Provvedimento n. 4049 (C2347).

Table 9.3 Most sold brands, style and market shares (1994) in normal and premium beer segments

Normal segment		
Brand	Style	Market share
Dreher (Heineken)	Lager	18.1
Moretti	Lager	6.76
Peroni	Lager	24.16
Forst	Lager	7.16
Splugen (Poretti)	Lager	6.14
Wuhrer (Peroni)	Lager	4.93
Prinz (Moretti)	Lager	2.88
Premium segment		
Heineken	Lager	20.6
Nastro Azzurro (Peroni)	Lager	17.7
Sans Souci (Moretti)	Lager	9.2
Kronenbourg (Peroni)	Lager	8.5
Tuborg (Poretti)	Lager	11.7
Stella Artois (Heineken)	Lager	4.9
Henninger (Heineken)	Lager	5.8

Source Antitrust Authority (Autorità Garante della Concorrenza e del Mercato)—Provvedimento n. 4049 (C2347)

all lager beers (Table 9.3). At the beginning of the 1990s, beer in Italy was still considered a refreshing product to consume principally during summer, in competition with non-alcoholic soft drinks. Almost half of the consumption of beer in Italy has traditionally been concentrated only during the four-month period from May to August, when the temperature is higher.

This data testifies to how consumers regarded beer in the 1990s in Italy; that is, as refreshing and seasonal. There was still little emphasis on the attributes of the beer product, as beer was almost comparable with soft drinks. Accordingly, large producers constantly moved consumers' attention from product attributes to extrinsic characteristics, as shown in many advertising campaigns. A study promoted by the National Association of Beer Producers in 1978 clearly reports the total lack of a beer culture among consumers in Italy; according to the study, beer was basically considered a drink for satisfying the physiological need of thirst, without evidence of the affection of the Italian consumers toward the product.[7]

To summarize, it is important to note the significant and constant increase in imports throughout the decades: the percentage rose from 4.79% of total consumption in 1970, to 11% in 1980, 16.5% in 1989, and 32.2% in 2012. Among imported beers, again, German lager beer has been the most imported. However, imports of special beers from Belgium, the UK, and Ireland also show a successful increase, thus demonstrating the rising interest of consumers in different types of beer besides lager.

9.2.2 The Advent of Craft Breweries

Something started to change between the late 1980s and the early 1990s, when the first group of entrepreneurs engaged in the first attempts at craft brewing in Italy, which represented an innovation in the beer industry. Innovation related to these new, small producers refers to the production process, the products produced, and the advertising strategies.

As regards production, what substantially differentiates the product of craft enterprises from the lager of large firms is the manufacturing process. Craft beer does not undergo pasteurization (i.e., a heat treatment in the packaging phase which increases the shelf-life, but flattens some organoleptic characteristics of 'fragrance') or, generally, micro-filtration. Due to the absence of these stages of production, the ingredients are combined in order to create a product with more aroma, flavor, and distinctive characteristics. In addition, it is believed that the craft beer of micro producers is more "natural". Many of the first craft beer producers in Italy (and also the others which entered later on) produced a non-pasteurized, non-filtered lager beer (among other products), thus supplying a "new" product to Italian consumers which was distinct from the large firms' standard beers.

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[7]Resarch Metra, in an unpublished thesis by Toso (1986).

In addition, craft breweries were new also because they pursued strategies of product differentiation. New varieties were constantly introduced into the market, having been traditionally disregarded by the national producers. The variety of beer produced by craft breweries is vast, and wider for microbreweries than brewpubs: according to an analysis by the craft breweries association Unionbirrai (Cannatelli and Pedrini 2012), 45.7% of the sample of microbreweries interviewed brew between one and five different beers, 32.8% between six and ten, and 21.5% more than ten.[8]

Finally, the advertising strategies of craft breweries are different from those pursued by the large producers. The leading brewing groups are among the top spenders in the beverage industry in Italy (Garavaglia 2009); in their advertising campaigns, beer has often been associated with a famous person; alternatively, it has been advertised as the appropriate drink in particular situations, such as concerts and sport events. In contrast, craft breweries focus advertising on intrinsic product attributes, mainly based on local advertising, the internet, social networks, and local festivals and events.

The first craft beer producer (a brewpub) entered the market in 1988. The initial spread of increasing numbers of new entrants was initially rather slow, but there was an exponential increase after 2000.

There are no official statistics about the craft beer market in Italy. The most detailed source of data and information is related to the website www.microbirrifici.org which constantly registers and updates the number of new openings and exits, also thank to the collaboration of many beer enthusiasts. Figure 9.2 reports the estimated number of entries and exits of craft beer producers; that is, brewpubs and microbreweries. Figure 9.3 displays the estimated total number of craft breweries in Italy from 1988 to 2015; in addition, it is interesting to note the relatively recent (for the Italian case) advent of the organizational form called "contract brewer." In 2015 we estimated 518 active microbreweries, 152 brewpubs, and 270 contract breweries. The updated analysis performed

[8] 58.3% of the brewpubs interviewed brew between one and five different beers, 25% between six and ten, and 16.7% more than ten.

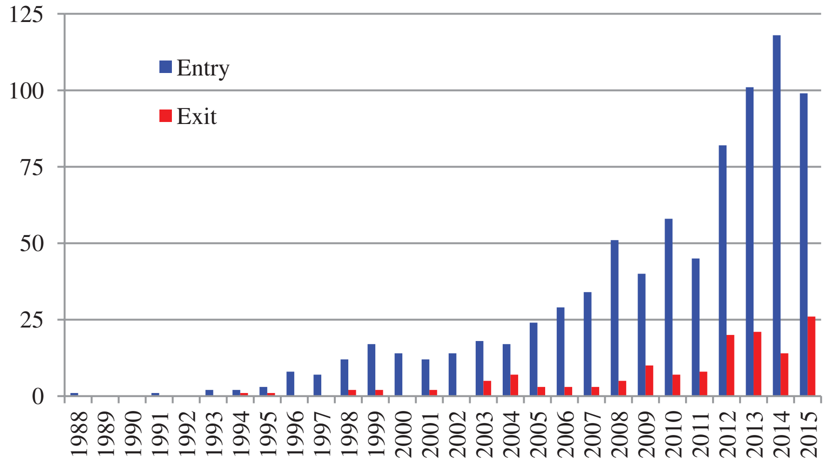

Fig. 9.2 Number of entries and exits of craft beer producers* in Italy, 1988–2015. *Contract brewers are not included. *Source* Author's computations

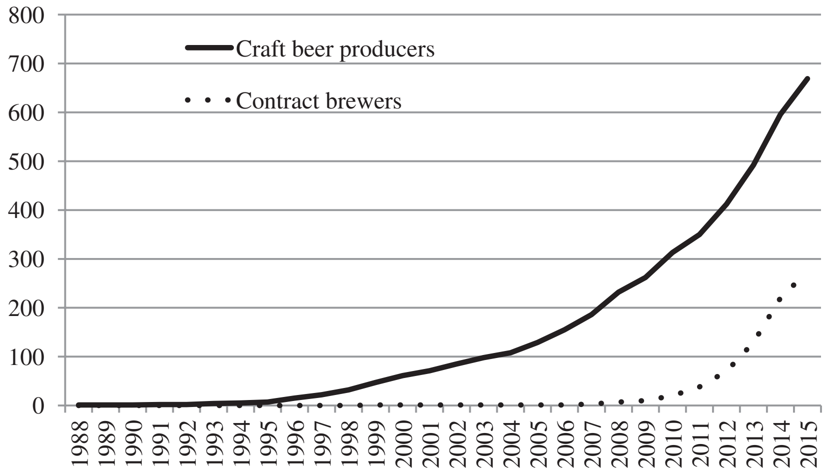

Fig. 9.3 Total number of craft beer producers and contract brewers, 1988–2015. *Source* Author's computations

by the craft breweries association Unionbirrai (Ravelli and Pedrini 2015) estimated the average yearly production in 2015 at approximately 620 hl and the total market share of craft beer at 3.3%. The size of firms is very variable, production varies from 20 hl to 20,000 hl,[9] and most of these firms are so small that it would be more appropriate to call them "nanobreweries." More than 40% of the sample interviewed have zero employees, which implies the direct involvement of the owners in the administrative, production, and distribution processes.

The data in Figs. 9.2 and 9.3 displays the success that craft brewing is still having. Italy is among the countries with the highest number of craft breweries per million inhabitants (Garavaglia and Swinnen in Chap. 1). In addition, the Italian craft breweries have become increasingly export oriented and well known abroad. Ravelli and Pedrini (2015) report that approximately one out of three craft brewers in their sample exports. This is a significant number if we consider that craft breweries are born with a strong local scope.

Italian creativity contributed to the international success of Italian craft beer. The re-interpretation of traditional beer styles, the experimentation with new recipes, the strategy to characterize beer with the addition of traditional local ingredients (for example, chestnuts, fruit, spelt, wine) contributed to the acknowledgment of Italian producers in the international beer panorama (Garavaglia 2010). The recent inclusion of the first Italian beer style, IGA (Italian Grape Ale), in the Beer Judge Certification Program—2015 Style Guidelines (BJCP) represents clear confirmation of the increasing role played by the Italian craft beer producers in the world. IGA is defined as "a communion between beer and wine promoted to the large local availability of different varieties of grapes across the country. They can be an expression of territory, biodiversity and creativity of the brewer" (Strong and England 2015).

On the other hand, it is worth noting that most of the craft breweries maintain the strategy of emphasizing their pride in being small and local, and linked to their territory. With regard to this, a typology of organization and production has been named "agricultural brewery" if production is connected with the agricultural activity of providing the raw materials for brewing beer, as indicated by the Italian Ministerial

[9]Source: Guida alle birre d'Italia (2013), Slow Food Editore.

Decree n. 212/2010, thus displaying a clear and strong localness (Esposti et al. 2015).

9.3 Theories About Small Firms' Entry into Mature Industries

Many industries have experienced a rapid surge in the number of firms during the late stage of their evolution (Carroll 1985; Barnett 1997; Swaminathan 1995, 1998; Carroll and Swaminathan 1992, 2000; Mezias and Mezias 2000; Boone et al. 2000). This phenomenon is unusual, given that mature industries tend to exhibit high concentration rates and strong entry barriers, such that it is uncommon to observe an increase in the number of entrants. The resource partitioning model (Carroll 1985) provides an explanation, distinguishing between the different types of organizations in a population of firms as "generalist" (i.e., mass producers) and "specialist" organizations.[10] In this model, economies of scale explain the decline in the number of generalist firms and the consequent rise in the concentration ratio. That is, smaller generalist firms face an economies of scale disadvantage and only a few generalists survive, adjust their offers to the mainstream need, and focus on the "center of the market" (composed of mainstream tastes) following a massification and standardization strategy. Consequently, this process increases the opportunities for specialist organizations: with the increasing concentration, big generalist producers leave some resource space[11] free for small specialist producers. Besides the typical standardized product of the generalist firms, then, small specialist producers exploit the opportunities for more specialized products. As a result, when concentration rises, new specialized small firms flow into the industry.

[10]According to some criteria related to structure, scope, stated goals, core technology, and marketing strategy.

[11]For industries based on consumer products, the resource space is interpreted as consumer demand.

Notwithstanding the elegance of and some empirical support for the resource partitioning model (Carroll 1985; Swaminathan 1995; Carroll and Swaminathan 1992, 2000; Mezias and Mezias 2000; Boone et al. 2000), in this chapter we contend that this explanation is too simplistic, and that other relevant logic must be considered in order to understand the entry of craft breweries to the Italian beer industry and why this occurred during the 1990s. If the heart of the resource partitioning explanation relates to the demand side rather than the supply side, then it could be argued, in an exercise of counterfactual analysis, that although the number of generalist firms (which produce a lager beer, pale yellow in color, around 5% alcohol) would not have decreased, the opportunities for small new specialized entrants would have been generated anyway, because consumer demand was seeking a higher degree of differentiation and product variety as compared to the standardization of the product of all generalist firms. Hence, this chapter argues for the need to focus research investigations on the demand side in order to interpret the structural dynamics of the supply side of the market. Among others, Delacroix and Solt (1987) and Swaminathan (1995, 1998) also discuss the role of niche-formation processes on the demand side that may foster the entry of new firms.

9.4 Explaining the Entry of Craft Breweries in the Italian Beer Industry

In the following, this chapter provides a robust argument of the dynamics underlying the emergence and spread of craft breweries in Italy during the 1990s, taking into account the fundamental role of demand. The argument is that two main factors contributed to stimulating the birth and diffusion of new craft beer firms in Italy between the late 1980s and mid-1990s:

1. Something changed in the general attitude of consumers during and after the 1980s–1990s, and the brewing industry is part of this broader change. That is, new opportunities opened up for new

businesses and organizational forms (i.e., craft breweries) in beer brewing as well as in the broader agri-food industry.
2. The subsequent legitimization and emulation effects played a key role in sustaining the diffusion of this new organizational form.

We first investigate the forces behind the general social and cultural changes during the late 1980s to mid-1990s and the entry of the pioneer craft brewers. Then, we analyze the subsequent legitimization force and the related flood of entrants.

9.4.1 Broad Social Dynamics, Changes in Demand, and the Entry of Pioneering Firms

Some key events and dynamics depict the social and cultural atmosphere of the period under study, 1980s–1990s, and they inevitably affected and shaped consumers' patterns of behavior.

- **Increasing Revenue**

Per capita income in Italy had an upward trend from the 1970s to the 1990s. This factor led consumers to a slow but significant change in their attitudes and consumption choices. Referring to Maslow's hierarchy of needs (Maslow 1954), there was an identifiable change designed to satisfy the needs of a higher order than the basic physiological needs. Due to this gradual change, consumer demand became more sophisticated, more refined, and inclined to greater variety (Mason and McNally 1997). In some recent empirical works, Chai and Moneta (2012) and Chai (2011) show that as household income rises, total household expenditure is distributed across different goods in an increasingly even manner, and that, over time, there has been an acceleration in the rate at which household expenditure patterns become diversified as household income rises.

- **Food Scandals and Environmental Concerns**

Over the past few decades, a series of food scandals have exercised an important influence in the attitude toward food consumption in Italy.

The methanol scandal in the wine industry in 1986 is a prime example of how consumers can suffer serious health consequences, including death, due to the consumption of unhealthy and uncontrolled food. This created significant consequences for consumers, generating skepticism and concern, which led to growing attention to signs and information attesting to the safety of consumer goods. There have been further scandals over the years, such as mad cow disease during the 1990s and dioxin-contaminated chicken in 1998. Similar cases obviously diminished consumer confidence in food products and fostered a more aware and conscious attitude to food consumption.

- **Mass Consumption**

The 1980s may be considered the years of the fast-food boom in Italy.[12] Fast food experienced immediate success in the country; however, the model of mass consumption and increasingly globalized products that dominated the 1980s began to show its weaknesses shortly thereafter, in the 1990s. Similar to what happened in the USA during the 1970s and 1980s, when a shift in thinking brought about a new direction opposed to mass consumption, in Italy there was a cultural shift in food consumption behaviors: consumers began using products to express their identities, and the consumer–product relationship started to reflect crucial life themes and identity concerns (Fournier 1998). The Slow Food movement was initiated in Italy in this context in 1986, and it became an international association in 1989. This association clearly represents the change in consumers' attitudes in the 1980s and 1990s. The diffusion of the Slow Food movement demonstrates the existence of a community of consumers who want to become part of a broader process beyond mere consumption. Consumers are asked to "take care of producers that are marginalized by global, standardized commodity circuits" (Sassatelli and Davolio 2010). Local food, artisanal producers, traditional cuisine, and traditional modes of production are part of

[12]The success of the Italian fast-food brand Burghy started in 1982 in Milan and rapidly diffused throughout the 1980s and 1990s; during the same period, the American Wendy's and Belgian Quick entered the Italian fast-food market, and the first McDonald's restaurant in Italy opened in 1985.

the community culture which Slow Food aims to preserve. As a consequence, during the 1980s and 1990s consumers started to develop an attitude in favor of local production.

- **International Integration**

The 1980s and 1990s were crucial decades in terms of the international integration of people and economic relationships. In 1985, Belgium, France, Germany, Luxembourg, and the Netherlands signed the Schengen agreement, by which these states agreed to progressively remove controls at their common borders and to introduce freedom of movement for all citizens. The Schengen agreement has been extended over time. Italy signed it in 1990, although it did not go into effect until several years later. In addition, the mid-1980s marked the beginning of the process of liberalization of European air transport, with the gradual implementation of measures establishing different stages of deregulation between 1983 and 1992 (Arrigo and Giuricin 2006). The movement of people in Europe became gradually easier and less expensive also due to the development of low-cost airline services, which, for example, transported fewer than 3 million passengers in 1994, a number that rose to 14.8 million in 1999, 40 million in 2002, and more than 150 million passengers in 2007 (Cepollina and Parola 2008). According to Istat (the Italian National Institute of Statistics), during the 1980s tourism for the first time began to play a socially relevant role. The costume and the type of holiday have changed from the past, and the number of citizens visiting foreign countries has constantly increased over the years. It happened that during the 1980s and 1990s the internationalization of people and communication contributed to increasing consumers' knowledge about the existence of a great variety of food products which had previously been unknown or less known.

The abovementioned facts and social dynamics had a strong impact on consumers' patterns of behavior. During the 1980s and 1990s, there was a gradual change in the overall consumer culture, with new, progressively developing patterns of consumption which explain the emergence of different preferences and demand for new products (Mason and McNally 1997). During this period, there was also a growing awareness among consumers of the importance of knowing the attributes and characteristics of their food. What emerged was a demand with different traits compared to that in previous years. During the 1990s, consumers became more aware and more sophisticated, and they sought novelty and variety; on the one hand, new cultural and social meanings were attributed to consumption choices, while on the other, continuously growing attention was given to certification and guarantees of food safety, quality, and environmental respect, with an attitude less prone to the dictates of consumerism and more interested in and motivated by the product's intrinsic characteristics. Cultural, social, and environmental values were thus deflected to consumption activities (Nicosia and Mayer 1976; Fabris and Rullani 2007; Featherstone 2007), and consumers used their purchases to create their identities (Baudrillard et al. 1976). Some postmodern authors emphasize that consumers were no longer just consumers: consumption was not only for utility but also for experience, and consumers were in search of experience in food consumption (Firat and Venkatesh 1993, 1995; Firat et al. 1996; Fabris and Rullani 2007; Humphreys and Grayson 2008).

Some illustrations could provide evidence of the consequent dynamics relating to these broader social changes. Cuisine became a key component of lifestyle, and a field in which acquiring (and exhibiting) knowledge progressively diffused during the 1980s and 1990s, together with the increasing consideration of food consumption in a more existential—an assertion of individuality—than utilitarian manner. The interest in preparing food expanded and also included male consumers. Food was thus "born again" during these decades: year by year, a new culture of conscious consumption assigned aesthetic, social, and symbolic values to food. This new attitude is evident in the revival of the consumer magazine market dedicated to cooking since the early 1980s, and the boom in the next two decades. In addition, the diffusion of TV programs dedicated to food, cuisine, and agri-business experienced rapid growth in the 1990s (Davolio 2007).

Furthermore, during the 1990s, the interest in the production of organic food and local production began increasing significantly. New legislation in defense of consumer rights also developed: in Italy, some local authorities (regions) introduced new laws in this regard in the 1980s and 1990s,[13] and the national government enacted a law in 1998.[14] PDO (Protected Designation of Origin) labels were established by EEC Regulation 2081/2092[15] and progressively diffused across countries: in Italy, there has been a rapid spread of PDO products.

Finally, the significant increase in the number of agri-tourism entrepreneurial activities during these decades exemplifies both consumer attention to food attributes and origin and the entrepreneurial opportunities for creating a new business in the agri-food sector.

The Italian brewing industry is an example of this broader narrative. Consumers of beer in the 1990s were notably different from those of ten years before. Their increased income induced consumers to seek out greater variety, and the growing interest in food characteristics and safety, as well as in environmental issues, created more aware and demanding consumers. Further, international integration expanded consumers' knowledge about beer; besides the standard lager beer described above, Italian consumers became progressively aware of new varieties, like the English ales, the Irish stouts, or the Belgian Trappist and abbey beers.

The feasibility of beer production on a small scale, with the distribution of beer at the local level, was a tradition in other countries like Belgium, Germany, and the UK (as described by Poelmans and Swinnen in Chap. 5, Depenbusch et al. in Chap. 7, and Cabras in Chap. 14), whereas it was a "new" discovery for Italian consumers, whose travels provided the opportunity to increase their knowledge of drinking habits abroad.

New models of consumption also developed with the spread of a new form of distribution in contrast to the traditional Italian *osterie* and *caffè* bars: pubs specializing in beer proliferated during the late 1980s and 1990s, further broadening the culture and knowledge of beer.

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[13]E.g. Abruzzo in 1984, Tuscany and Lombardy in 1985, Emila-Romagna and Liguria in 1992, Sicily in 1994.

[14]Law n. 281, 30 July 1998.

[15]Recently replaced by EC Reg. 510/2006.

Since the prevalent beer in Italy was not able to satisfy consumers' growing demand for new varieties, imports of beer (as reported above) as well as the number of pubs, which resembled pubs of traditional beer-oriented regions like the UK, Ireland, and Germany, continued to increase.

During interviews with the founders of the pioneer craft breweries, Giampaolo Sangiorgi (Birrifcio Lambrate) and Agostino Arioli (Birrifcio Italiano) claimed that pubs during the 1980s contributed toward communicating to young people that there were interesting beers around the world. Nicola Gabrielli (Arte Birraia) believes that the 1980s–1990s were the first decades in which young people started traveling around the world and experiencing the traditions of local beers and pubs. According to Guido Taraschi (Centrale della Birra), "In those years, people were ready for something new and different; people were tired of the standard products." The founder of Baladin, Teo Musso, reports in his autobiography:

> It is objectively very difficult to distinguish a Moretti from a Peroni, a Beck's from a Bud and so on: it is always a blonde beer, a lager, the taste of which is a reassuring standard and not at all surprising. Uncorking a pasteurized beer or a Coca-Cola is the same: you know in advance what flavor you would have felt, without the possibility of surprises. For a long period, therefore, the standardization of industrial production has brought the beer to a level of prestige only slightly higher than that of the carbonated soft drinks. (Musso and Drago 2013)

"Craft consumption" also emerged as a new pattern of consumption, where consumers actively participated in the creation of products (Campbell 2005). In the brewing industry, this attitude materialized in homebrewing: people started to produce beer at home for personal consumption, for pleasure, for sharing a passion for beer with friends, for showing off their competence and expertise, and for controlling the naturalness and authenticity of the product. This phenomenon played an important role. In fact, on the one hand homebrewing was the first experience of many entrants; many entrepreneurs who opened a craft brewery were also homebrewers (Bottero 2005). On the other, the homebrewers represent one of the main diffusion channels of the new beer culture: they have enabled a sort of face-to-face advertising which has helped to sustain the increase in interest in and consumption of craft beer.

9.4.1.1 The Pioneering Entrants in Craft Brewing in Italy

The panorama described spurred some pioneers to enter the craft beer market. The very first entered between 1988 and 1994. In 1988, Gianfranco Oradini and brothers opened the first brewpub in Italy within a multifunctional venue (SensoUnico) in Torbole (TN) on Lake Garda, where they produced the beer Orabräu, in collaboration with the famous Bavarian Luitpold, which supplied the production equipment and know-how in brewing beer (Monarca 1991). In 1991, Peppiniello Esposito opened the microbrewery St. Josef in Sorrento (NA) after working for several years in Bavaria, Germany (Nasini, 1991), where he was inspired by the German culture and quality of beer. The third entrant was the microbrewery Aramini Brauerei, opened in 1992 near Asti by Renzo Aramini, a former bartender (Bearzatto 1993). IBS (Industrie Birre Speciali) was founded in 1993 in Capoterra (CA) in Sardinia by Adis Scopel, a brewmaster who had worked in some breweries in Germany and for some years at the historical Italian beer plant, Ichnusa. In 1994, Bruno Ioan founded the Mastro Birraio brewpub. He used to travel a lot for commercial reasons and explicitly reports that he was inspired by some microbreweries in Budapest, Hungary; the first brewmaster he employed came from Hungary. Lastly, Modesto Bottone, founder of Brew Mood Ale House microbrewery in 1994, used to visit his brother in the USA, where he came into contact with many homebrewers and in particular with the Northampton Brewery, in Massachusetts, where he had the opportunity to have some training.

These first entrepreneurs who entered the Italian craft beer market were directly or indirectly influenced by foreign beer culture, through their travels to traditional beer-oriented regions (mainly Germany), where they were intrigued by the foreign experience of the existing craft breweries and where they came into contact with people working in the beer industry. The combination of the Italian food culture and the foreign beer culture established fertile ground for the emergence of micro producers of beer in Italy. However, five out of six of these pioneering companies, for various reasons, closed after a few years of activity.

In the mid-1990s, the number of new entrants increased significantly. This wave included famous producers, like Turbacci (1995), Birrificio Italiano (1996), Baladin (1996), Birrificio Lambrate (1996), and Beba (1996), which remain at the top of craft beer production today, and some other smaller brewpubs, like Greiterhof (1995), Mastro Birraio Lind Beer (1995), and Centrale della Birra (1997). Many of these producers were also influenced by foreign culture and by new varieties of beer imported to Italy. Giovanni Turbacci, an entrepreneur in the food sector, declared that he was stimulated by the evolution of craft breweries in the USA. Teo Musso, founder of Baladin, was inspired by the varieties of beer he had first discovered in Monte Carlo (France) and later in Belgium during his travels. Agostino Arioli, founder of Birrificio Italiano, spent some time during his studies in Munich, where he developed his technical knowledge of the production of beer. Guido Taraschi, founder of the Centrale della Birra brewpub, used to travel to Germany, where he first discovered the existence of microbreweries and brewpubs, which stimulated him in the decision to open a brewpub in Italy. Giampaolo Sangiorgi, founder of Birrifcio Lambrate, believes that the diffusion of new English and Irish pubs during the 1980s and 1990s in Italy contributed to stimulating the interest in and expanding the knowledge of beer among young adults.

Furthermore, according to Sandro and Enrico Borio, founders of Beba, there were no high-quality beers in Italy, and this created an opportunity to start a new business in this niche. Guido Taraschi believes that the Italian beer market was flat, and that unique new ideas for success were related to franchising an Irish or English pub. These dynamics stimulated the first wave of entrants in beer brewing to make something different but local.

9.4.2 Legitimization, Emulation, and the Growth of Craft Brewing

The role of the pioneering firms was crucial, but insufficient for establishing a new, viable path. The followers defined and refined what the pioneers had created and explored. Thus, the role of the first followers became as important as the first entrants in shaping the path of the diffusion of the craft breweries.

Undeniably, first entrants face greater difficulties, since a particular organizational form initially follows a process over time, during which it becomes increasingly considered the natural way of doing certain things (Carroll 1997). The first manifestation of a new organizational form lacks legitimacy, suffering the "liability of newness" effect. This can be observed in different contexts. For instance, there might be general hostility from suppliers, customers, and institutional authorities; further, workers might be hard to find, suppliers must be properly informed about needs, customers have to be persuaded, and, usually, capital resources are limited because of the risks and the reluctance of financing institutions associated with something new. As the organizational form proliferates, its legitimacy rises. Firms established during periods of rising legitimization find it easier to attract capital and customers, and to identify proper suppliers and employees, and face fewer institutional impediments (Carroll 1997). While the legitimization effect increases, opportunities associated with this organizational form open up and trigger the entry of new firms. Initially, some of the first craft breweries faced difficulties in convincing consumers about the quality of their products.

In addition, at the beginning of a new phenomenon like craft beer there is higher uncertainty about future profitability at the moment of undertaking the entry decision. It is by observing the post-entry results of other firms that potential entrants disentangle their uncertainty about future profitability. Thus, a mechanism of informational cascade can explain further entry. That is, firms that initially may be pessimistic about the future, due to the fact that entry may prove to be unprofitable, can resolve their uncertainty and may decide to enter the market by observing the experience and performance of the established firms:

> as more firms enter the market, more information gets released to potential entrants by their operations, speeding up the resolution of uncertainty and triggering additional entry whenever the likelihood of a good market increases. (Horvath et al. 2001)

This process puts in motion a virtuous cycle in favor of the diffusion of the new organizational form of production.

The experience of the first entrants was promising. While some of the very first pioneers exited the market after a few years, others grew in size and in the variety of beers they produced. Year by year, the first decade of the craft brewery movement attracted the increasing attention of consumers, whose interest was piqued by the culture of beer, the history of these products, the use of the ingredients, and the stories of the Italian craft beer producers themselves. Consumers started to organize in local cultural associations and on blogs and websites about craft beer, discovering more and more new stories, new varieties of beer, and new producers. There was active attention, far beyond the pleasure of consuming a good product, which gave consumers a crucial role in contributing to the diffusion and maintenance of the craft beer segment in Italy, similarly to what happened in the 1970s in the UK with the CAMRA consumer movement (Mason and McNally 1997; Danson et al. 2015; Cabras in Chap. 14).

Also the producers founded an association in 1997, named Unionbirrai. Soon the association became a place where they could exchange ideas, share problems, help in the resolution of technical and bureaucratic impediments, and be in contact with homebrewers and consumers. The association was a real form of collaboration among the first entrants. After a few years, Unionbirrai grew and started to provide technical and bureaucratic advice to new entrants, organize events to promote craft beer, hold competitions, and bestow awards on producers, thus spreading knowledge of the new craft beers at the national level. Many craft breweries which entered the market after the first wave benefited from the advice and support of Unionbirrai. The roots of the new segment in the Italian beer industry were thus established.

Changes in Italian law were also crucial to the development of the craft beer segment. The pioneers suffered from a lack of legislation concerning the production of beer on a small scale, such that small craft firms were subjected to the same finance laws and authorizations as the large national firms. Gianfranco Oradini (Orabrau) reports that finance officers had to remove the plumb at the beginning of each production day and replace it at the end. In his book, Teo Musso (Baladin) says that the finance officer's response to his requirement to start a new business in beer production was: "it is not possible" (Musso and Drago 2013). Adis Scopel (IBS) ironically claims that the Italian regulation on beer production in 1993 was comparable to a "medieval law." According to Enrico Borio (Beba), the Beba brewpub opened in May 1996, but did not start to produce beer until September because the local finance office was not ready to manage the authorizations for craft beer production. Two significant changes in the Italian laws removed some strict requirements, thus helping craft producers to manage the bureaucracy. To comply with EU legislation, the tax regulation on beer was changed in 1992.[16] This was a key moment because a new simpler method of taxation was introduced passing from taxation on the intermediate product to taxation on the finished product. Another crucial change occurred in 1995, when Legislative Decree no. 504[17] introduced simpler methods of control and detection of the local finance officers during production. These changes created a more favorable environment for the upcoming entrepreneurs.

The evolution of consumer preferences, the legitimization effect, the emulation among producers, the simplification in the laws, and Unionbirrai facilitated a virtuous cycle in support of the diffusion and success of the new organizational form for producing beer in Italy—the craft breweries.

9.5 Conclusion

This chapter has investigated the reasons behind the phenomenon of the entry of a new organizational form, craft breweries, to the brewing industry in a wine-oriented region, Italy. It demonstrated that the

[16]Legislative Decree 27 November 1992, n. 464.

[17]26 October 1995.

evolutionary dynamics of these new organizational forms need to be connected to the dynamics of consumption, which have gradually characterized the changes in consumer choice since the 1980s and 1990s. Increasing revenues, a growing interest in food knowledge, greater attention to safety and the authenticity of food, and the rise of new cultural and social meanings attributed to consumption choices generated a new kind of demand for variety and new products.

In addition, international integration created the possibility for consumers to increase their knowledge about the food habits of foreign cultures. The changes in the social and cultural scenarios also affected consumer preferences in relation to beer. The changes in the attitudes of consumers, who were no longer satisfied with consuming the prevalent standardized products and were looking for variety, and who were more aware of the importance of knowing about food, ingredients, origin, quality, and attributes, opened up fresh opportunities for new firms and new niches in the market. These factors created the conditions for the emergence of the craft beer segment. In addition, a virtuous process of self-sustainment through the effects of legitimacy and emulation stimulated further new entrants.

This chapter has some implications for future research. Its analysis represents an original contribution to the understanding of an unexplored segment in a mature industry; namely, the brewing industry in Italy. In addition, the original discourse should contribute to spurring further research into the role of demand, in particular in the evolutionary economics field. The chapter argues for the need to study demand conditions in order to grasp the logic behind the birth and evolution of a new market or a new niche. Evolutionary economics theories and studies in industrial dynamics have largely focused on the supply side of the evolution of industries, while the role of demand has remained less explored. The analysis of the demand and of the related changes will also be fundamental for interpreting the evolutionary dynamics of the craft beer niche over the next few decades, to explore if there will be a gradual consolidation of the largest craft beer producers, if there will be a shakeout in a few years, and if multinational companies will strengthen their competitive strategies to respond to this growing phenomenon.

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10

From Pilsner Desert to Craft Beer Oasis: The Rise of Craft Brewing in the Netherlands

Michiel van Dijk, Jochem Kroezen and Bart Slob

10.1 Introduction

In 1980, the Dutch beer brewing industry could be described as a 'Pilsner desert.' At that time, there were only a handful of independent beer producers and their designated products were so homogenous that even connoisseurs and professional tasters could not distinguish between them in blind taste tests. Today, the picture is strikingly different. The number of

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beer breweries has skyrocketed and continues to increase exponentially. The variety of available beers produced in the Netherlands approximates the variety in both historic and current beer styles that have ever been available worldwide. Due to the emergence of an eclectic set of fundamentally different types of breweries, often referred to as specialty, micro- or craft breweries, the Dutch beer brewing industry has transformed from being one of the most stagnant industries to being one of the most innovative industries in the Netherlands. This phenomenon of renewal does not uniquely apply to the Dutch beer brewing industry. The US beer brewing industry went through a similar process in the 1990s (Carroll and Swaminathan 2000), and a similar rise in craft breweries is simultaneously taking place in many other European countries. This suggests that both country specific and wider societal factors that operate across borders are important drivers of renewal in the Dutch brewing sector.

The main aim of the paper is to explain the recent emergence and proliferation of craft breweries in the Netherlands. How can we explain this revival? How were founders able to successfully establish new organizations in an intensely competitive mature industry? To answer these questions, we provide a detailed historical account of the evolution of the Dutch beer brewing industry since its emergence during the early Middle Ages to the present. Four periods are distinguished that each represents distinct phases in the development of the sector. We show data on the number of (micro)breweries between the beginning of the nineteenth century to 2015, which underscore the dramatic rise of craft breweries which already began in around 1980 but surged since the mid-2000s. The analysis is based on the information from historical records, popular literature and almost 100 interviews with (micro)brewers, industry experts and suppliers.

The chapter has the following structure. After an introduction, Sect. 10.2 briefly summarizes the theories that have been proposed to explain the phenomenon of industry renewal—a process through which a mature industry that is characterized by a decreasing number of producers and increase in scale experiences a period of rapid entry of new entrants. Section 10.3 describes the methodology and data. Section 10.4 provides a historical narrative of the recent evolution of the Dutch beer brewing sector and presents descriptive data on Dutch craft breweries. Section 10.5 provides explanations for the observed phenomenon of industry renewal. Finally, Sect. 10.6 presents a discussion of the findings linking possible theoretical explanations with the observed evolution in the Dutch beer sector and conclusions.

10.2 Theoretical Perspectives on the Renewal of Mature Industries

We define industry renewal as the process through which a mature industry experiences a sudden flux of entrepreneurial activity through the entry of organizations of a new form. From traditional perspectives in industrial organization, this may seem to be a puzzling phenomenon, as mature industries have seemingly steep barriers to entry due to the dominance of a small set of powerful players. However, there are two bodies of prior work that provide relevant explanations for the renewal of mature industries. The first is research on resource partitioning that explains why small specialist firms may thrive alongside dominant incumbents by observing the structural features of the industry. The second is research on social movements that explains how individuals may become mobilized to challenge and change dominant organizational practices in mature industries.

The leading theory to explain industry renewal is resource partitioning theory (Carroll 1985; Carroll et al. 2002), which falls under the broader branch of organizational ecology (Carroll and Hannan 2000). Resource partitioning theory challenges the conventional industry life cycle model, which states that industry evolution can be described by three stages: discovery, mass entry, and shakeout induced by competition on scale and cost. This eventually results in a concentrated market that exists of a few large companies, which produce relatively homogenous products (Klepper 1997). Resource partitioning suggests that there may be a fourth stage: renewal, which logically follows a shakeout (Carroll et al. 2002). In particular, the theory explains why small specialist firms may surge and thrive alongside dominant incumbents by highlighting several mechanisms that lead to a partitioning of the resource space into generalist and specialist segments. The core of the theory states that as market concentration increases, the total amount of resource space—reflected by the total number of potential consumers—that is open to specialist organizations will expand. Large companies that dominate the market focus on the 'center' of the resource space by producing mass products, which opens up space for specialist companies to exploit the smaller niches of the resource space. Resource partitioning theory is empirically supported by the finding of a positive (negative) relationship between market concentration and founding (mortality) rate of specialist organizations for a large number of sectors (see Carroll et al. 2002 for an overview).

Apart from market concentration, three other mechanisms for resource partitioning have been proposed in the literature. First, in a study of Dutch auditing firms, Boone et al. (2000) highlighted the role of customization in the resource partitioning process. They found that the higher flexibility and personal approach of small auditing forms offered a competitive advantage over large auditing firms in catering for small clients. Second, Carroll and Swaminathan (2000) concluded that anti-mass-production cultural sentiment was an important determinant of resource partitioning in the US beer brewing sector. Their conclusion was based on the finding that even after large beer brewers started to produce specialty beers of similar or even higher quality, the demand for similar beers from craft brewers kept increasing. Finally, although empirical support is limited, Carroll et al. (2002) argue that the status of a product (e.g. an expensive or luxurious brand) or organization (e.g. a prestigious service provider) leads to resource partitioning as a small set of customers wants to be associated with them.

A second branch of research that is relevant for the understanding of industry renewal is social movement theory (McCarthy and Zald 1977). Research in this strand focuses on understanding when and how organizational and individual actors may shape the structure of industries and other societal systems. Social movement theory looks at how collective organizational action may emerge in society and may shape industries and other social systems. An important insight from this research is that marginalized actors may be likely to engage in entrepreneurial behavior when provided with the opportunity to organize (McCarthy and Zald 1977; McAdam et al. 1996). Several studies have shown how social movements are often the motor behind processes of industry renewal. Carroll and Swaminathan (2000) argue that social movement-like character of craft brewing in the USA has played an important role in differentiating craft brewers from the established producers. Other examples of sectors where social movements have led to industry renewal are radio broadcasting (Greve et al. 2006) and gastronomy (Rao et al. 2003).

According to social movement theory, the success of a social movement depends on at least three factors. First, a successful social movement requires a beneficial political opportunity structure that allows marginalized actors to self-organize, provide them with the opportunity to voice their ideas, and allow them to attract support from other actors (McAdam et al. 1996; Meyer 2004). Second, a successful social movement requires the effective mobilization of resources such as material capital to establish an organization, socio-organizational and human capital (to effectively run the organization) as well as moral and cultural capital (to effectively attract support) (Edwards and McCarthy 2004). Third and finally, social movement success depends on the emergence of an effective 'frame' that resonates with a sufficiently large audience (Benford and Snow 2000). Without an effective frame of an issue that the social movement is trying to address, the movement will struggle to gain sufficient support to generate any form of change.

10.3 Methodology and Data

This paper relies on both qualitative and quantitative data related to the emergence of craft breweries in the Netherlands. Qualitative data primarily consisted of semi-structured interviews with 99 brewery founders and industry experts that were collected during the period 2004–2015.[1] These data were supplemented by extensive evaluation of existing literature, such as Unger (2001), and archival materials, such as breweries'

[1]A large share of the interview data is taken from Kroezen (2014), who conducted 76 interviews between 2004 and 2011. Four additional interviews were conducted in 2015 to collect information that captures the recent dynamics in the sector.

Web sites and news articles in the Dutch quarterly beer magazine PINT. Quantitative data were compiled in the form of a database that included information on all new breweries in the Netherlands since the establishment of the first new craft brewery in 1981, currently known as *Hertog Jan* and owned by AB InBev since 1995. Our primary source for these data was Cambrinus (www.cambrinus.nl), an online database containing information on Dutch beer breweries. The database reports information on contemporary and historical breweries, listing the brewery name, address, year of founding, year of closure if applicable, and current owners. It also provides a description of the founding story and products for many of its entries. The Cambrinus Web site was also used to obtain insights on the number of breweries before 1981 complemented by information from Unger (2001) for the period before 1900. We define a craft brewery as an independent brewing organization established after 1980 that produces beer according to its own recipes, which typically rely on top-fermenting yeast rather than the bottom-fermenting yeast that is used to produce lager, and at a relatively small scale (<25,000 hectolitres per year). This definition includes both organizations that have their own brewing capacity as well as organizations that rent brewing capacity elsewhere, so-called contract breweries.[2]

10.4 Evolution of the Beer Sector in the Netherlands

Organized beer brewing in the Netherlands emerged in the early Middle Ages (eight and ninth century) when monasteries, associated with Carolingian authority, began to brew beer for their communities

[2]Note that for the purposes of our paper, we collapse the distinction that Carroll and Swaminathan (2000) make between microbreweries, brew pubs, and contract brewers into one category. We decided to do this as we found the boundaries between the three subcategories were considerably fuzzy. We observed that contract brewers often acquired their own brewing capacity over time and that most breweries had tasting rooms and thus had at least some resemblance to a pub. In addition, it should be noted that setting a clear size limit for our definition of craft brewery is somewhat arbitrary. However, our data shows that by the end of our observation window (2015) the yearly production of the largest craft brewery (Jopen at 20,000 hectoliter) was still only a very small fraction (0.15%) of the yearly production of the largest industrial brewery (Heineken at 12,800,000 hectoliter).

(Unger 2001; Hornsey 2003; Unger 2004). Until then, beer brewing had been a cottage industry occurring exclusively in rural households. The Carolingian monasteries developed new equipment and employed improved techniques compared to 'home brewers' and had artisans with special skills to produce the drink. At that time, beer was not typically produced with hops, but with a mixture of dried herbs referred to as *gruit*. With growing urbanization during the thirteenth and fourteenth century, beer brewing was increasingly organized as a commercial activity independent of church connections. Subsequently, beer brewing rapidly developed into one of the most important industries in the Netherlands (Unger 2001). Following the initial emergence, the Dutch beer sector went through four subsequent phases of development that resulted in the structure that can be observed today.

10.4.1 Prehistory (1450–1970)

1450–1650: Golden Age of Dutch Beer Brewing

The 1450–1650 period can be described as 'the Golden Age' of Dutch beer brewing (Unger 2001), as exemplified by the rise of large clusters of beer breweries in several Dutch towns—most commonly in densely populated Western locales like Haarlem, Gouda, Delft, and Amersfoort, but also in more remote towns like Groningen and Nijmegen. Many of these clusters soon established a national and occasionally even international presence in the Western European beer trade (Unger 2001). Historical sources report that some towns had over 100 breweries, with more than 50 percent of their production intended for export (Dekken 2010; Lintsen et al. 1992; Unger 2001).

Towns with significant historical beer brewing activity typically had their own unique beer styles. For example, Gouda was known for its *koyt* beer that was brewed with a mixture of bitter herbs instead of hops, while Groningen was known for its *kluin* beer, a heady brew high in alcohol (Karst 1980). However, an important innovation that contributed to the prosperity of the Dutch beer brewing industry was the adoption of hops as an important ingredient. Hops provided increased durability—and thus transportability—of beer, and their use was popularized by German beer breweries (in particular those based in Hamburg). German hopped beer reached the Netherlands during the late Middle Ages (1350–1450) through the trade network of northern European cities known as the Hanseatic League (Alberts 1969; Van Uytven 2007).

1650–1850: Decline

This period of prosperity was followed by one of substantial decline. Historians have ascribed the decline to a variety of factors including (a) a loss of foreign export markets due to the development of brewing industries in other countries, such as England, (b) increased (price) competition from wine, distilled beverages, and 'colonial' drinks (coffee, tea, and cocoa), and (c) increased grain prices and (d) rising taxes (Unger 2001). The declining market for Dutch beer led to a reduction in overall beer production and a substantial number of breweries in the Netherlands went out of business. Towns like Haarlem, Gouda, and Delft lost their leading roles in the beer trade, and the focus of the industry shifted to larger port cities like Amsterdam and Rotterdam, where large-scale breweries were able to survive due to thriving shipping industries and more populous local markets (Unger 2001). An important client for beer breweries in these two towns was The Dutch East India Company (VOC), which had 'chambers' in both cities.

1850–1970: Modernization, Concentration, and Upscaling

Technological innovations during the Industrial Revolution (1760–1840) set the stage for the first revival of Dutch beer brewing (Lintsen et al. 1992; Unger 2001; Poelmans and Swinnen (2011). Several scientific breakthroughs—such as the steam engine, mechanical refrigeration, and electricity, combined with scientific discoveries related to food chemistry—allowed for increased control over the brewing process and provided opportunities for production and distribution on a larger scale. This process went hand in hand with the diffusion of pilsner beer across Europe. Pilsner is a lager, a beer style brewed with yeast that ferments at low temperatures, the production of which requires electrical refrigeration. Ale, in contrast, is brewed with yeast that ferments at ambient temperatures. A shift from ale to lager thus required significant investments in refrigerated fermentation tanks.

While Dutch brewers were initially slow in adopting these innovations, toward the end of the nineteenth century and in the beginning of the twentieth century, many new breweries were founded that made use of these more advanced technologies (Unger 2001). Amsterdam was the center of this transition, where three breweries (*Koninklijke Nederlandsche Beiersche Bierbrouwerij, Heineken's Bierbrouwerij Maatschappij,* and *Beiersch Bierbrouwerij De Amstel*) started producing pilsner between 1860 and 1870. A decade later, breweries in other towns such as Amersfoort (*Phoenix Brouwerij*) and Rotterdam (*Brouwerij d'Oranjeboom*) followed suit. This modernization process was driven by wealthy investors who entered the field during the last decade of the nineteenth century by acquiring existing breweries or starting new breweries while investing heavily in modern equipment (Unger 2001). Some of these investors were owners of German breweries who saw the Netherlands as a potential market for the then increasingly popular beer style—Bavarian Pilsner—such as in the case of *Brouwerij De Leeuw* in Valkenburg (Philips 1999).

In the twentieth century, the Dutch beer sector experienced an unprecedented degree of concentration. In conjunction with the economic outfall related to the two World Wars, tougher competition and expansionist practices of industrial breweries led to a substantial shakeout of local and family-owned breweries as predicted by the industry life cycle model. Breweries such as Heineken, Amstel, Oranjeboom, and De Drie Hoefijzers rapidly expanded their capacity by means of the establishment of new brewing locations and the takeover of smaller competitors, in part facilitated by a growing export market. The number of independent producers quickly reduced from about 500 in 1900 (Simons 1992; Unger 2001) to about 100 in 1940 (Simons 1992), and finally, to 13 independent producers in 1980 (see Fig. 10.1). These breweries included all the large breweries that still dominate the Dutch pilsner market such as Heineken, Grolsch (now Asahi Group Holdings), Bavaria, and Dommelsch (now AB InBev). The concentration wave went hand in hand with significant homogenization—characterized by the fact that by 1980 brewers almost exclusively produced pilsner beer.

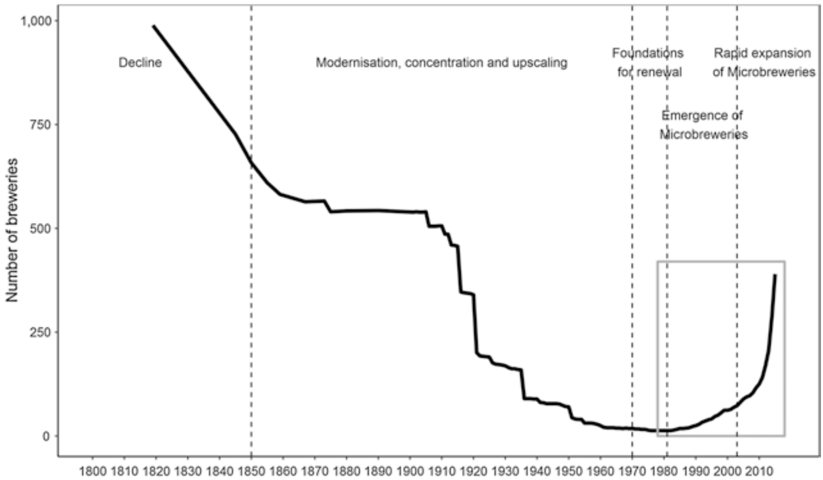

Fig. 10.1 Historical evolution of Dutch beer brewing population. *Source* Unger (2001) and Cambrinus. *Note* Rectangle demarcates our primary observation window (see Fig. 10.2)

10.4.2 Foundations for Renewal (1970–1981)

10.4.2.1 Pioneering Beer Pubs

While the concentration wave was still in full swing during the late 1960s and early 1970s, four specialty beer pubs were established that took on a pioneering role in creating a market for alternatives to pilsner. These were: De Beyerd in Breda, Jan Primus in Utrecht, Gollem in Amsterdam, and ‘t Pumpke in Nijmegen.[3] In contrast to existing pubs, these beer pubs began to offer foreign ales, predominantly from Belgian origin, as an alternative to Dutch pilsner. The preference for Belgian ales, as compared to alternative beers from other ‘neighboring’ countries such as Germany and the UK, can be explained by the relatively short

[3]De Beyerd in Breda was not a new pub, but ownership shifted to the next generation of the De Jong family in the 1960s which went hand in hand with a change in focus on specialty beer. The other three pubs mentioned here were established as new.

geographic distance, shared language, and wide variety of ales. The pubs had in common that they all emerged in student towns and that they appeared to appeal to the younger population. Piet De Jongh, owner of De Beyerd, said about this: '*I have benefitted significantly from the youth. Their presence made it easier for me to sell the beers that I brought back from Belgium… …I wanted to specialize the pub and distinguish myself from the traditional neighborhood café. I saw that demand was changing. There was an increasing number of students that visited the pub and I was able to respond to that by offering specialty beers.*' The establishment of the alternative beer pubs was quickly followed by the rise of professional importers and also led to considerable media attention that gradually made the wider public aware of alternatives to mainstream pilsner beer.

10.4.2.2 The Establishment of a Consumer Movement Organization: PINT

At the end of the 1970s, on the coattails of the growing attention for foreign ales that were fueled by the alternative beer pubs, a small group of beer enthusiasts emerged that was dissatisfied by the state of the Dutch beer culture and started to advocate for change among Dutch beer producers. This led to the establishment of the Dutch beer consumer organization PINT. This association had as its main aim '*to make beer culture important again in the Netherlands*' and encouraged breweries to produce, what they called, 'traditional beers' (PINT Nieuws 1, November 1980, p. 12). One of the founders said: '*There are enough different beers with a whole bunch of different tastes, still most Dutch breweries offer only one kind of beer. The consumer doesn't have the opportunity to make a real choice between different kinds of beer and unknown is unloved. PINT was established to bring clarity to an environment of unclear consumer information. We try to bring lesser-known beers to the fore and to bring our half-dead beer culture back to life.*' The founders of PINT did not have any ties with the established Dutch beer brewers. They were predominantly beer enthusiasts that had a variety of unrelated professional backgrounds, ranging from education to photography. However, initial members did include owners of some of the pioneering beer pubs, such as Paul van Oosterom (*Gollem*, Amsterdam) and Piet de Jongh (*De Beyerd*, Breda).

A very important source of motivation and inspiration for PINT was the British beer consumer association CAMRA. CAMRA was founded about a decade before PINT and had achieved substantial success in mobilizing individuals to join their 'campaign' for the revitalization of ale beer, which had contributed to the re-emergence of ale beer production and consumption in the UK. In 1980, one Dutch member of CAMRA wrote a letter to all other Dutch members of CAMRA in which he called attention to the 'poor state' of the Dutch beer culture and asked them to join him in taking action. This led to the formation of an initial group of 20 individuals, who laid the foundation of what later became PINT. One of the founders of PINT reflects on this: '*We went to England very often. In England we were introduced to good English beer and to the fact that there was a consumer association in existence there that dealt with beer (The Campaign for Real Ale). And we got to know London's pubs and met people there that were also interested in beer, that had tried different types of beer and thought: Shit, we don't have anything like this in the Netherlands. We then asked around in the Netherlands and talked to people in our network. Subsequently, in 1979, a small group began to emerge of individuals that all had a direct or indirect involvement with the English beer scene and that were interested in doing something similar in the Netherlands. We then asked CAMRA for all the addresses of the Dutch members and wrote them a letter. CAMRA ended up donating a small symbolic sum of 50£ to contribute to the launch of what ultimately became PINT.*'

In contrast to CAMRA, which was actively engaged in campaigning and lobbying, PINT became a typical consumer organization that represented the interests of beer consumers at the national level. Like CAMRA, PINT started to publish a bimonthly magazine that aimed to inform beer enthusiasts about alternatives to mainstream Pilsner and update its membership on developments in the beer industries of the Netherlands and surrounding countries. PINT also mimicked CAMRA by actively engaging in the organization of specialty beer festivals such as the annual *Bokbierfestival*.[4]

10.4.3 Emergence of Craft Breweries (1981–2003)

PINT's activities seemingly started to have a serious impact with the establishment of the first new brewery on Dutch soil since World War II in 1981, *De Arcense Stoombierbrouwerij* in *Arcen*. The founders of the brewery were former employees of the British brewing conglomerate *Allied Breweries* who saw an opportunity when their employer decided to close one of its production facilities in the Netherlands. Following the increased attention generated by the pioneering brewpubs and PINT, they decided to set up a new brewery at the former location of *Allied Breweries* that focused exclusively on traditional top-fermenting beer. PINT played an important role in the founding process by bringing several parties together that could help make the brewery viable. For instance, through their extensive network, PINT was able to establish a relationship between the new brewery and suitable distributors. PINT also paid extensive attention to the founding of *De Arcense Stoombierbourwerij* in their magazine.

The subsequent 5 years saw the establishment of another nine new craft breweries that focused exclusively on the production of traditional beer styles. These were predominantly traditional Belgian ales, such as *witbier*, *dubbel*, and *tripel*. The most successful of these new breweries were *Brouwerij Raaf* in Heumen, *De Friese Brouwerij* in Bolsward, *'t IJ* in Amsterdam, and *Christoffel Brouwerij* in Roermond. Similar to *De Arcense Stoombierbrouwerij*, many of the founders of these new breweries had ties with incumbent breweries. Herm Hegger, the founder of *Brouwerij Raaf,* had worked in the same brewery as the founders of *De Arcense Stoombierbrouwerij* and Aart van der Linde (Friese)

[4] *Bok* or *bock* beer is a fuzzy category of beers that are produced seasonally (in autumn and spring) and is commonly acknowledged to be of German origin. Bock beer can be either bottom-fermenting, resembling the production process of lager, or top-fermenting, resembling the production process of ale. During the early 1980s, the few alternatives to Pilsner that were produced on Dutch soil fell typically in the *bock* category.

had worked in *Bierbrouwerij De Leeuw* in Valkenburg and in the new *Arcense Stoombierbrouwerij* before opening his own brewery. Leo Brand, the founder of *Christoffel Brouwerij,* was a member of the famous Brand brewing family which owned a successful brewery in the South of Limburg. Breweries that were established by individuals without any prior brewing experience did not fare well during this time period. *De Alkmaarse Brouwerij* in Alkmaar and *Brouwerij De Noorderzon* in Groningen had struggled with infections and inconsistent quality, which led to their demise within 3 years after opening. *Brouwerij 't IJ* in Amsterdam is the only exception of a brewery with an inexperienced founder that was able to survive.

However, the fates of inexperienced founders were soon to change. Through their activities, PINT contributed not only to the emergence and proliferation of a community of enthusiastic consumers of alternative beer, they also fostered a growing community of hobby brewers. Although officially homebrewing was illegal by Dutch law up until as late as 1992, the practice regained legitimacy as evident by the fact that it was largely tolerated throughout the 1980s and the eventual abolishment in the early 1990s. Starting with the establishment of hobby brewers' guild *De Roerstok* in Tilburg in 1984, a number of guilds emerged throughout the country that encourages hobby brewing and facilitated knowledge sharing. Although it is likely that at least some of these guilds would have emerged without the activities of PINT, they did actively encourage the growth and professionalization of this community as evident by the following statement in PINT Nieuws Nr. 7 (1981): '*The number of beer brewers in the hobby world is also growing. Those that have been brewing beer on their own have done the pioneering work required to get their hands on the necessary equipment and ingredients… … It appears that a few enthusiastic hobby beer brewers have found a way in and have built up quite a bit of brewing experience. We'd love to get in touch with these individuals. The main goal would be to exchange experiences. We were also thinking of making joint purchases and holding tastings of each other's' beer.*'

PINT's activities and the growing hobby brewing community contributed to increasing entrepreneurial activity leading to the entry of an additional 60 breweries between 1986 and 2003 (see Fig. 10.1).

Founding rates gradually increased from a couple per year around 1986 to around 7 per year by 2003 and new brewery viability increased as evident by the fact that up until 1996 40% of new entrants would fail within 5 years of establishment, whereas this applied to only 25% of breweries established in the period between 1996 and 2003. Increasingly, new breweries were successfully established by founders that had learned the tricks of the trade through homebrewing without any prior professional brewing experience.

10.4.4 2003–Present: Rapid Expansion of Craft Breweries

10.4.4.1 Establishment of a Collective Trade Association: KBC

The initial growth of the craft brewing sector was followed by a landmark event in 2003 when a collective association was established that was exclusively dedicated to the interests of craft breweries, the Small Brewery Collective (KBC). The acronym deliberately mirrored the acronym of the trade association of the incumbent brewers, which at the time was called the Central Brewery Office (CBK). The association initially consisted of 32 craft breweries, about half of the total population of craft breweries at the time. The association was founded by a prominent beer enthusiast and brew masters with substantial craft brewing experience. Whereas PINT had succeeded in mobilizing beer enthusiasts, the KBC provided another essential platform that allowed for increased professionalization of craft breweries through discussion of collective issues, such as quality control, and exchange of information and knowledge. The press statement at the time of founding stated that the aims of the KBC were threefold: '*To ensure that the voices of the small beer breweries were heard within the various agencies that affect the fates of the small beer breweries, such as the CBK (Central Brewers Office) and the various branches of the government that deal with beer, to promote Dutch specialty beers through the organization of beer festivals and creating awareness, and to encourage collaboration and mutual initiatives.*' Since its establishment, the KBC has grown to count 155 members.

10.4.4.2 The Proliferation of Contract Brewers

From 2003 to 2015, the number of craft breweries increased exponentially to 382 (390 breweries in total, including the eight established pilsner brewers). The population of craft breweries can be divided into two groups: 202 breweries that own and operate equipment (e.g. kilns, kettles, and bottling machinery) and 188 'contract' brewers, which do not own equipment but outsource the brewing process to 'host' brewers, which are often craft breweries that rent out a share of their capacity. Figure 10.2 shows that the rapid increase in the number of craft breweries, in particular after 2010, has mainly been caused by the entry of contract brewers.

The explosion in contract brewers can be explained by three factors. First, it simply reflects increased entrepreneurial activity in the industry as the expectation is that many of the contract brewers will transition to full-blown breweries if sufficiently viable in the eyes of the founders. Second, brewery founders are likely mimicking the successful

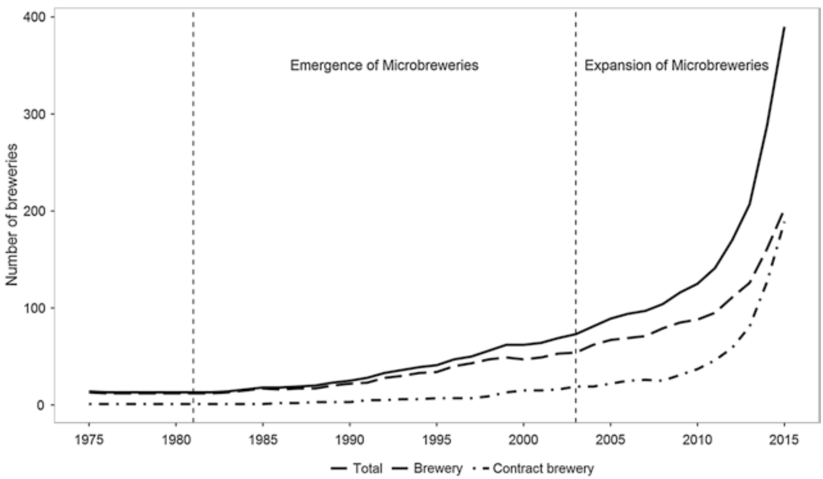

Fig. 10.2 Recent evolution of Dutch craft brewery population. *Source* Cambrinus. *Note* The 'brewery' type represents breweries that own and operate equipment

examples of other breweries that began as contract brewers. Third, there was availability of production capacity among Dutch (and sometimes Belgian) breweries. Whereas in earlier stages finding production capacity elsewhere could be challenging due to lack of availability and skepticism toward the practice, until recently aspiring brewery entrepreneurs were able to find brewing capacity in their direct vicinity. Experts and contract brewers pointed out that this has become much more difficult in the last few years due to the high demand and that finding capacity is even starting to become a barrier to entry for new contract brewers.

The contract brewer form emerged and proliferated despite initial contestation. Owners of breweries that *did* have their own equipment often strongly opposed the form. For example, Han Clijssen (owner of Moerenburg in Tilburg) said about a particular contract brewer: '*He has never brewed his own beer. So he lets others produce his beer by his command. That is actually a point that is a very hot issue for us at the moment. They let others produce their beers. If it is not good, they won't take it. What kind of risk do they have? Nothing, nothing at all. So I think you cannot call that a brewery.*' In their study of the American craft brewery movement, Carroll and Swaminathan (2000) found similar negative sentiments toward contract brewing as a practice that ran counter to the 'authenticity' typically attributed to craft brewing.

However, when taking a closer look at what the Dutch contract brewer actually does, this criticism is only partially justified. Most contract brewers see contract brewing as a start-up phase that ultimately leads to the establishment of their own brewery. They typically use this phase for two reasons. First, contract brewing provides an opportunity for learning. Unlike what the quote above suggests, most contract brewers are actually involved in the brewing process that takes place at other breweries in order for them to work on their brewing skills. Second, contract brewing lowers the barriers to entry associated with the need for capital for starting a brewery. Through contract brewing, a brewer can establish a brand and generate initial revenue before investing in brewing equipment. There are many examples of successful Dutch craft breweries that started out as a contract brewer of which *Jopen* is probably the most successful. As such, the distinction between regular breweries and contract breweries should not be seen as set in stone.[5]

Although the total production of craft breweries has grown substantially, the total market share remains relatively small in comparison with the large industrial brewers. All Dutch brewers together produced approximately 11.5 million hectoliters of beer in 2015 (www.nederlandsebrouwers.nl). Around 59% percent of the total beer production was carried out at the eight largest Dutch beer breweries who in numbers only make up 2% of the entire population of beer brewers.

10.4.4.3 Variation in Styles and Geographic Distribution

The rapid increase in the number of breweries has also led to a significant increase in the variety of beers that are produced in the Netherlands. Although initially most craft breweries focused on the production of Belgian-style ales and many continue to do so, newer entrants are increasingly finding inspiration in American-style ales (such as India Pale Ale). Yet other brewers have adopted a more experimental approach as evident by the use of unique strains of yeast or the addition of non-traditional herbs, spices, and fruits. However, significant inspiration continues to be found in traditional beer styles and brewing practices. For example, Oersoep Brewery founded in 2012 in Nijmegen is described as '…*a brewery that makes clear choices and is not afraid to experiment. We brew a wide variety of beers and take into account the changing seasons, the rotation of yeasts and wooden casks. As a young brewery it is very important to seek out experiments and continue to maintain a high learning curve. For example, in 2013 we were the first Dutch brewery to use wild yeast (Brettanomyces) at a serious scale and complete the yeasting process in wooden casks.*' The *Campagne Nederlandse Bierstijlen*

[5] Nonetheless, prominent organizations in the Dutch craft brewery movement have drawn sharp distinctions between these organizations. PINT, for instance, distinguishes between a *bierbrouwerij* (beer brewery), which owns its own production equipment, a *brouwerijhuurder* (brewery renter), which uses another brewery's equipment to produce its own beers, and a *bierhandelaar* (beer merchant), which commercializes someone else's beer.

(Campaign Dutch Beer-Styles) which was established in 2012 plays an important role in encouraging the rediscovery and reproduction of traditional Dutch beer styles. One example of such a style is *kuit*, which was a style that was popular during the Dutch Golden Age when Dutch breweries dominated the European brewing market. By publishing detailed recipes, the Campaign encourages Dutch brewers to reincarnate such traditional beer styles.

Variation is also found in the geographic distribution of craft breweries. Whereas the early cohorts of craft breweries were typically found in large cities (such as Amsterdam) and in the southern provinces, which have a richer local beer culture, more recently, specialty beer has also gained popularity in smaller cities and villages throughout other parts of the country. Even in the North of the Netherlands in the provinces of Groningen, Friesland, Overijssel, and Drenthe, which traditionally focus more on the production of local spirits ('bitter') than beer, craft breweries have been emerging in the last couple of years. Nonetheless, the highest concentration of breweries continues to be found in the large cities. Amsterdam is the 'capital' of craft brewing with 39 breweries in 2015, followed by Rotterdam with 11 and Utrecht with 8.

10.5 What Explains the Emergence and Proliferation of Craft Breweries in the Netherlands?

From our historical analysis and the interviews we conducted with brewery founders, we concluded that the revival of the Dutch beer sector cannot be attributed to a single cause. Instead, the explanation has to be sought in a combination of multiple drivers that interacted and operated in different ways across the various stages during which the foundations for craft brewing in the Netherlands were laid. Below, we distinguish between demand-related factors that could explain why there was a shift to alternative beer styles and supply-related factors that could explain why this new demand was exploited through the establishment of new breweries on Dutch soil.

10.5.1 Increasing Demand for Alternative Beers

Our historical narrative shows how there were active and visible efforts to change the demand for beer in the Netherlands which contributed to the successful emergence of craft breweries. During the first stage, the consumer movement organization PINT played an important role in changing demand, supported by a number of pioneering beer pubs. During subsequent stages, demand for alternatives evolved due to increased exposure to the American craft beer scene and related experimental work by newly established Dutch craft breweries. If we take the founders of these organizations as opinion leaders for the broader group of consumers interested in alternative beer, we can use our interviews and archival material on these actors to make inferences about the drivers behind the shift in demand away from industrial lager.

Here, we discuss two demand-side drivers that we identified in our research that seemingly have contributed to the emergence and proliferation of craft breweries in the Netherlands: (1) consumer resistance and (2) a society-wide change in consumer preferences for food. Although, arguably, these drivers are not completely independent from one another, there is some evidence that allows us to say something about which demand-side drivers contributed to the initial emergence and which drivers contributed to subsequent expansion. Our qualitative data suggest that, initially, change in demand was predominantly fueled by consumer resistance of while a broader change in consumer demand drove further expansion.

10.5.1.1 Consumer Resistance

Demand for alternative beers changed in the first place due to consumer resistance, which we define as contestation by consumers of an increasingly dominant organizational product or form. Our historical analysis shows that the reason for why early consumer activists started to look for alternatives to the dominant pilsner beer was that they contested the practices of the incumbent brewing corporations as they were dissatisfied with the beer culture that had emerged. In our interviews, we

Table 10.1 Evolution of the Dutch beer brewing sector: 1450–present

	1450–1650: Golden age of Dutch beer brewing	1650–1970: Decline followed by concentration	1970–1981: Foundations for renewal	1981–2003: Emergence of microbreweries	2003–present: Rapid expansion of microbreweries
Characterization	After initial emergence, concentration in a few brewing towns with access to international trade routes	Decline followed by modernization, rapid growth in scale and shakeout	Initiatives and activities to create a market for specialty beers	Entry of first cohort of new microbreweries	Rapid expansion of microbreweries
Number of breweries	>1000	>500→18	18→13	13→73	73→390
Main type of beers	Traditional ales with local variation (e.g. *kuit, gruit, luijks, mol, kluin*)	Modern lagers (pilsner)	pilsner	+Belgian-style ales and German bock predominantly	+ Increasingly American-style ales, traditional Dutch styles and experimental styles
Type of breweries	Family/village or city with modest international market	Large established multinationals	Large established multinationals	+few small independent breweries	+ independent breweries and contract breweries
Equipment	Traditional/artisanal, manual	Shift toward large-scale industrial	Large-scale industrial	Increasingly second-hand or self-assembled	Increasingly small-scale industrial or contracted

(continued)

Table 10.1 (continued)

	1450–1650: Golden age of Dutch beer brewing	1650–1970: Decline followed by concentration	1970–1981: Foundations for renewal	1981–2003: Emergence of microbreweries	2003–present: Rapid expansion of microbreweries
Representative breweries	Those located in the traditional Dutch brewing towns of Haarlem, Delft, and Gouda	*Heineken, Amstel, Phoenix Brouwerij, Oranjeboom, Bavaria, Grolsch Bierbrouwerij, Bierbrouwerij De Kroon, De Drie Hoefijzers*	*Heineken, Grolsch, Bavaria, Dommelsch (Artois), Oranjeboom (Allied Breweries)*	*De Arcense Stoombrouwerij, De Koningshoeven (La Trappe), Brouwerij Raaf, Brouwerij 't IJ, De Friese Brouwerij, Christoffel Brouwerij. Jopen Bier, Texelse Bierbrouwerij*	*Brouwerij De Molen, Bierbrouwerij Emelisse, Ramses Bier, Brouwerij Maximus, Kaapse Brouwers, Butcher's Tears, Wijchense Schone*

(continued)

Table 10.1 (continued)

	1450–1650: Golden age of Dutch beer brewing	1650–1970: Decline followed by concentration	1970–1981: Foundations for renewal	1981–2003: Emergence of microbreweries	2003–present: Rapid expansion of microbreweries
Key events	• Shift from production in rural households and monasteries toward production in newly emerging urban centers • Introduction of hopped beer • Emergence of the Hanseatic League (trade network of Northern European towns)	• Introduction of first steam engine in *Brouwerij Het Hert* in Haarlem (1841) • Acquisition of *Hooiberg Brouwerij in Amsterdam* by family Heineken (1863) • Establishment of first brewing corporation, *Koninklijke Nederlandsche Beijersch Bierbrouwerij* in Amsterdam, with shares of one million Dutch guilders (1864)	• Establishment of four pioneering alternative beer pubs (*Gollem* in Amsterdam, *Jan Primus* in Utrecht, *De Beyerd* in Breda, 't Pumpke in Nijmegen) • Appearance of beer importers specializing in (predominantly) Belgian ales (*De Kikvorsch, Bier & Co*)	• Founding of *De Arcense Stoombierbrouwerij* (1981), the first new Dutch beer brewery since WOII. • Reintroduction of ale beer brewed in the Netherlands	• Founding of Small Brewery Collective/KBC (2003). • Number of beer breweries in the Netherlands exceeds that of Belgium. • *Duvel Moortgat* acquires stake in brewery *'t IJ*. • *Bavaria* acquires 35% ownership of *De Molen*

Source Unger (2001) and authors' research found that there were two triggers for resistance. One was a general dissatisfaction with what was experienced as an impoverishment of the brewing landscape due to the strategies of incumbent brewing corporations. Upon the discovery of alternatives to Pilsner in foreign countries, initially predominantly the UK and Belgium, some of these consumers began to engage in active contestation through vocalization of their demand for alternatives. This is most clearly reflected in the founding story of the consumer movement association PINT that we detailed above.

Another trigger of consumer resistance that we encountered was direct experience with the demise of a traditional beer brewery due to the strategies of the incumbent brewing corporations. Over the course of the twentieth century, many beer breweries had disappeared in the Netherlands. Often incumbent brewing corporations were directly responsible for their disappearance as they pursued aggressive growth strategies that involved the acquisition and annihilation of smaller breweries. Consumers that had witnessed the disappearance of a small brewery due to the growth strategies of the incumbent breweries often expressed negative sentiments toward pilsner, the signature product of the incumbent brewers, and as such, had a greater interest in alternative beers. This is reflected in some of the statements made by the founders of PINT but was also encountered in our interviews with brewery founders. One of the founders, for instance, said: '*Well, I would dare to say that the big guys – Heineken, for example – are just crooks. They are just mafia. They buy something just to close it. They bought De Ridder, for example, and it is now closed. Heineken acquired it and closed it. Brand, for example, they brew a very good Pilsner and as well as craft beers. But in spite of this, it won't exist in 10 years' time. It is Heineken that acquired Brand. The brewery has a good name and people from Limburg are proud of it, but Heineken would rather do away with all things Brand and replace it all with Heineken. That's how they are.*'

The idea of consumer resistance has been described before. For example, in a study of the US banking industry, Marquis and Lounsbury (2007) found that the acquisition of community banks by national banks was frequently quickly followed by the establishment of an alternative community bank. They attributed this effect to the resistance of banking professionals to the dominance of national banks. We have found clear qualitative evidence that, for our case, corroborates Marquis and Lounsbury's assertions of target consumer resistance that is generated by historic within-industry events. Our findings suggest that, through their growth strategies, large generalist organizations may fuel resistance which may ultimately threaten their own existence.

The notion of consumer resistance can also be related to the concept of anti-mass-production cultural sentiment as described by Carroll et al. (2002) and discussed above. The negative sentiment toward mass producers can be a trigger of resistance activities as evident in our example above. However, whereas anti-mass-production cultural sentiment could be used to describe a more general sentiment in society that does not necessarily have to lead to any entrepreneurial action, consumer resistance relates to specific within-industry dynamics that do produce entrepreneurial activities.

10.5.1.2 Society-Wide Change in Consumer Preferences for Food

Several studies point out that food consumption habits and preferences in North America and European countries have changed considerably over the past two decades as a consequence of various factors, such as changing demographics, health concerns, better education, income growth, and customization in food marketing (Lappo et al. 2013; Martinez et al. 2010; McCluskey 2015). Broadly, four intertwined trends in consumer preferences for food can be identified. First, consumers have become more concerned with sustainability and environmental issues (e.g. climate change) and, as a result, have increasingly developed an interest in food that is produced with a lower environmental footprint. Second, there is a shift in consumer preferences toward safer and healthier food, for instance, reflected by an increasing demand for transparency regarding ingredients, production processes, and suppliers throughout the production chain and an increasing demand for organic food. Third, consumers are showing a distrust of modern food technologies, in particular GMOs, and instead prefer local foods to which they feel connected. Motivations for this trend are that consumers want to support the local economy and are interested to know where their food is coming from. A final but related trend is that consumers are seeking alternatives for mass-production goods and the business-oriented ('fast') way of living. Examples are the global Slow Food movement, which encourages traditional ways of growing, producing, and preparing food, and the growing interest in craft and artisanal production.

Out of these four trends, the growing demand for local and non-mass-produced products most likely has been the main drivers of the increase in the number of craft breweries after 2003. Apart from a few craft breweries such as *De Leckere* in Utrecht, which present themselves as the first organic and climate-neutral producer of beer, sustainability is hardly ever used to market specialty beers. Similarly, there seems to be little demand for organic beers in the Netherlands. A recent survey among representative Dutch beer drinkers showed that only 17% valued organic beers, while 37% did not consider this of importance, the remainder being neutral (Nationaal Bier Onderzoek 2014).

The same survey demonstrated that a relative larger share of beer consumers favored local beers; 23% of the sample answered yes to the question if they preferred locally brewed beer over other beers if they had a choice, while 29% disagreed and 48% were neutral. Many craft breweries cater to the demand for local beers by involving local names, imagery, and dialect to market their products. An example of this is Brewery *Wijchense Schone*, based in the village of Wijchen, which uses local expressions as names for all their beers (also see below).

Growing consumer interest in local and craft products in the Netherlands is also demonstrated by the rapidly increasing number of festivals and activities around these themes, such as the Kimchi festival in Amsterdam and the *Dag van het Ambacht (national craft day)*. Specialty beers have turned into one of the items that are most associated with the local and craft movement, underscored by the strong presence of craft breweries at these festivals. Another, indicator for the growing interest in craft and specialty beers is that they are increasingly sold by the large supermarket chains that have outlets throughout the Netherlands. This contrasts with the 1980s and 1990s, when specialty beers were almost exclusively sold in dedicated beer shops and liquor stores.

10.5.2 Increasing Supply of Brewery Entrepreneurs and Resources

Demand-side factors alone are not sufficient to explain the emergence and proliferation of alternative organizational forms in a mature industry. Apart from the existence of latent demand opportunities, the rise of a new market also requires supply of entrepreneurs and organizational resources to transform latent opportunities into manifest businesses. From our in-depth qualitative research, we distinguish between four different supply-side drivers that lowered barriers to entry for craft breweries in the Dutch brewing industry: (1) Hobby brewing associations; (2) Growing network ties and access to information; (3) new forms of financing; and (4) Remnants from old breweries.

10.5.2.1 Hobby Brewing Associations

A major factor that contributed to the increased 'production' of potential brewery entrepreneurs was the growing number of hobby brewing associations in the Netherlands that developed in conjunction with PINT. The budding hobby brewing scene allowed individuals to experiment with brewing and share knowledge about the brewing process. Brewing beer at home was strictly forbidden by law in the Netherlands up until as late as 1992. However, PINT was able to get the Ministry of Finance to confirm in 1983 that although 'The brewing of beer outside of an approved brewery was illegal, the government would seek no prosecution in such cases where the beer is exclusively consumed in the family circle.' Subsequently, the first official Dutch hobby brewers' association, *De Roerstok* in Tilburg, was established in 1984. This was followed by others, such as *De Deltabrouwers* in 1987 and *'t Wort Wat* in 1991. These hobby associations would not only encourage the practice of homebrewing and facilitate knowledge sharing but also organize competitions. A significant number of brewery founders that we interviewed reportedly learned the tricks of the trade through participation in these hobby brewing associations before 'going professional.'

10.5.2.2 Growing Network Ties and Access to Information

While the first generations of Dutch brewery entrepreneurs in the 1980s and 1990s struggled to solve technical challenges, more recent generations of brewery entrepreneurs had a considerably easier time in solving these challenges. Experts and founders indicate that information on the brewing process and the availability of equipment are much less of a constraint in the most recent period of craft brewery growth. Mastering the brewing process and experimenting with different recipes have become much easier due to the availability of numerous information sources on the Internet and the emergence of fora and networks of home brewers that exchange experience. Similarly, the increasing popularity of homebrewing as well as the increase in craft breweries has led to the entry of specialized suppliers of (home) brew equipment and engineering companies that can assist with the design and construction of a new brewery. An example is *Brouwtechniek Nederland,* which has supported the design and expansion of a number of craft breweries such as *'t IJ* in Amsterdam, *Maximus* in Leidsche Rijn and *Graaf van Heumen* in Heumen. Finally, another source of information for new brewers is the small brewery initiative (KBC). Several brewers indicated the usefulness of the hygiene guidelines for craft breweries that were drafted by KBC.

10.5.2.3 New Forms of Financing

The first craft breweries in the 1980s started with very limited resources and as such had to be creative in constructing their breweries as outlined above. Small breweries of the first cohort, such as *De Noorderbierbrouwerij* in Alkmaar and *De Noorderzon* in Groningen, struggled to finance their modest start-up costs of around 100,000 Dutch Guilders at the time. For example, Colin Brown, of *De*

Noorderbierbrouwerij, was required to seek support from a governmental institution for small and medium-sized business (CIMK) before a loan would be approved. He said about this: '*We received the advice from CIMK to produce beer that was tailored to the Dutch taste. And yes, that meant we also had to produce Pilsner. However, that is impossible, I told them: then we may as well shut everything down. I would never be able to compete with big brewers like Grolsch.*' In the more recent period, new ways of funding and in particular crowdfunding have reduced the entry barriers for starting up a craft brewery. A large number of breweries, such as *Oedipus* in Amsterdam and *Oersoep* in Nijmegen, have used crowdfunding to finance the construction or expansion of the brewery. Also due to the popularity of local beers, craft breweries are regarded as an interesting investment by private funders and financial institutions. Several founders indicated that banks are now familiar with the concept and therefore willing to provide start-up capital.

10.5.2.4 Remnants from Old Breweries

For the first generations of brewery entrepreneurs in the Netherlands, there was hardly any publicly available information on the brewing process and the operation of a (micro)brewery, let alone a network of equipment suppliers and specialized engineers that could support the foundation of a brewery. Founders often resorted to a process of tinkering to set up their breweries, using second-hand equipment from disbanded or renovated breweries in Belgium and Germany or from dairy and soda producers in the Netherlands. Examples of this are breweries *Raaf* and *'t IJ*, which were founded in 1984 and 1985, respectively, but also brewery *De Molen* and *Butchers Tears*, which were established after 2003 and are part of what we see as the second wave of craft breweries.

One additional important source of organizational resources we found was in the form of remnants from ancestral breweries—dissolved breweries from previous generations. Resembling a biological process, we found that many founders benefited from the recycling of organizational 'detritus' pertaining to such ancestral breweries in the form of technical and symbolic organizational resources (Kroezen 2014). For example, several founders benefitted from using discarded equipment and production sites of failed ancestral breweries in the Netherlands, which substantially reduced start-up costs. We also found that a large number of founders used names, labels, logos, and recipes of local historic breweries as a basis for their brewery and beers. This practice increased the legitimacy of the craft breweries who engaged in it by allowing them to authentically strengthen their link with the local community. An example is *Jopen* in Haarlem, which first beer was based on an authentic recipe to celebrate the 750th anniversary of Haarlem. At present, an assortment of *Jopen* exists of a wide range of beers that all have some reference to local beer brewing history. The active, conscious creation and maintenance of attachment to place are referred to as neolocalism. Several authors have pointed out that this also played an important role in the expansion and geography of US craft breweries (Flack 1997; Schnell and Reese 2014).

Our archival data on all craft breweries that were established between 1981 and 2012 reveal that at least 35% made use of some form of detritus. However, the use of detritus became less prevalent over time. Whereas at least 46% of craft breweries established before 1994 made us of some form of organizational detritus, this applied to only about 30% of breweries established after 1994. This suggests that as the craft brewery sector grew, it became easier to mass technical and symbolic organizational resources without making use of remnants from ancestral organizations.

10.6 Discussion and Conclusions

Since the entry of the first new brewery after World War II in 1981, the Dutch beer sector has experienced an unprecedented phase of structural transformation and renewal. The number of breweries increased from 13, mostly established breweries that produced lager to 390 organizations of which the majority are craft breweries that produce a wide variety of types, including Belgian- and German-style ales, American Ales as well as traditional Dutch styles.

In this chapter, we have sought explanations for this remarkable phenomenon. Our findings provide deeper insights into the emergence of craft brewing and extend previous research on the renewal of mature industries. First, although our findings are overall in line with resource partitioning theory (Carroll 1985), they also provide additional evidence for alternative mechanisms that can lead to resource partitioning (Carroll and Swaminathan 2000; Carroll et al. 2002). We find that, similar to the US industry, craft breweries emerged after there was significant concentration and homogenization when established producers began to focus exclusively on the center of the market through the exclusive production of pilsner at the expense of traditional beer styles. This did appear to lead to 'resource release' in the form of latent demand for alternatives as consumers at the periphery of the market were no longer served. However, a complete understanding of renewal also requires an answer to the question of how latent demand becomes manifest, something which is not addressed in resource partitioning theory.

Making latent demand manifest requires two things: ideas about alternative products and the production of entrepreneurs that are motivated to market such products (see Weber et al. 2008). In other words, we can look at demand factors and at supply factors when unpacking the mechanisms of resource partitioning and industry renewal. In terms of demand factors, we find that social movements played a crucial role in the renewal of the Dutch beer sector. The establishment of the first craft breweries emerged out of the dissatisfaction with the dominance of established breweries and the related offer of a very homogeneous product selection (i.e. pilsner). This spurred the resistance of beer enthusiasts, which resulted in the foundation of the first specialty beer pubs and a national consumer movement organization out of which the first microbreweries emerged. After a period of steady increase, the Dutch beer sector entered a new phase during which the growth in the number of craft breweries accelerated dramatically after 2003. The rapid expansion of craft breweries has been driven by a society-wide change in consumer preferences for food, induced by several social movements of which the movements for local and anti-mass-produced food have been most important.

In terms of supply factors, we found, in the first place, that again consumer resistance and related anti-mass-production sentiment was an important mechanism that motivated consumers not just to resist through the development of alternative demand, but also through actual organizational founding. Many breweries were founded because consumers transitioned from resisting mass-produced beer to active hobby brewers to actual brewing entrepreneurs. The deterioration of the Dutch beer culture and the common attribution of this to the activities of the large pilsner breweries were the primary motivations for early founders to establish new breweries. We also found that several broader structural forces, operating at different phases and intensity during industry renewal, facilitated the entry of craft breweries. The combination of growing network ties, increasing access to and availability of information, alternative forms of finance, and building on the remnants of ancestral breweries have considerably lowered the start-up costs of entrepreneurs in the beer sector over the past three decades.

The year 2015 was a landmark in the history of the Dutch beer sector. For the first time in 100 years, the number of breweries in the Netherlands was higher than that in Belgium, which beer culture has inspired many of the Dutch craft brewers.[6] A relevant question is whether the beer sector in Netherlands can sustain its rapid expansion and renewal in the future or if it is in fact entering a new phase of mass entry that defines a second industry life cycle, which soon will be followed by shakeout and consolidation. There are some indications that point to the latter as on September 1, 2015, it was announced that the Belgian brewery *Duvel Moortgat* obtained a substantial share of brewery *'t IJ*—one of the largest and oldest craft breweries in the Netherlands.[7] Similarly, on April 4, 2016, brewery *De Molen*, another long-running craft brewery, issued a press statement that Dutch brewer *Bavaria* purchased 35% of its shares.[8]

[6]http://nos.nl/artikel/2042938-nederland-streeft-belgie-voorbij-qua-aantal-bierbrouwers.html (accessed 25-04-2016).

[7]http://www.brouwerijhetij.nl/samenwerking-t-ij-duvel-moortgat (accessed 25-04-2016).

[8]http://brouwerijdemolen.nl/dev/wp-content/uploads/2016/04/20160404-De-vier-wieken-van-Brouwerij-de-Molen.pdf (accessed 18-05-2016).

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11

From Macro to Micro: The Change of Trendsetters in the Polish Beer Market

Aleksandra Chlebicka, Jan Fałkowski and Jan Lichota

11.1 Introduction

Beer and brewing in Polish territories have their roots in remote history. Various medieval chronicles had numerous mentions of the variety of Polish beers and multitude of taverns serving them. The development of agriculture in Poland, and of cereals cultivation in particular, contributed over the centuries to the wide presence of beer.

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Modern brewing history, related to the industrial revolution, had a similar bright development as in the rest of Europe in the Polish territories encompassed within the Austrian, Prussian, and Russian domains between the end of the eighteenth century and the end of World War I (Jezierski and Zawadzki 1966; Puś 1984). In each of those territories various breweries were established, with some "jewels in the crown" like the breweries in Elbląg, Żywiec, Okocim, or the Haberbusch and Schiele brewery in Warsaw. The two world wars had a major impact on Polish breweries. The disappearance of many breweries was a direct consequence of warfare, and the economic reconstruction of the country after each of the conflicts took decades. To illustrate this, one can recall that while it is estimated that before World War I around 500 breweries were present in Polish territories and in 1939 Poland counted 137 breweries, in 1987 there were only 78 (Agnosiewicz 2014).

An important turning point for shaping the Polish beer market is the collapse of the communist regime. The political, societal, and economic changes which occurred in Poland and other Central European countries at the beginning of the 1990s were reflected in both the brewing sector structure as well as consumers and authorities' attitude toward beer.

Following the regime collapse in 1989, the beer market in Poland was subject to rapid consolidation and the expansion of global firms in the country. Over time the process led to the situation that in 2012 the three main players (SABMiller, Heineken, and Carlsberg) controlled more than 80% of the market (Bogacz 2014).[1] This process was not unique for Poland, and elsewhere, especially in other Central and Eastern European countries, similar patterns could have been observed (Swinnen and van Herck 2011; Howard 2014). The entrance of large foreign breweries had an impact not only on the distribution of market share, but also on the technology used for beer production, beer quality, and subsequently the assortment of beers available. This in turn had

[1]In fact, the dominance of large multinationals was noticeable already in the second half of the 1990s (Boratyńska 2009).

important repercussions for domestic companies, creating both threats and opportunities.

In the twenty-five years following the change of political and economic regime, there have been substantial fluctuations in the total number of breweries in Poland (Daszyńska-Żygadło 2004; Gołaś and Ścibek 2010). Much of the dynamics has been due to the entries and exits of smaller producers. While these changes could have been observed from the very beginning of the transition period, microbreweries have been booming especially from 2010. Again, this trend is certainly not confined to Poland, and an increase in the number of microbreweries has become a part of a broader phenomenon. That said, it is likely that its origins and dynamics may differ from country to country. Therefore, it seems interesting to have a closer look at these issues in the Polish context.

The picture presented here is based on a qualitative analysis. In total, 11 interviews were conducted with key informants from the local brewing sector. Breweries selected for the interviews included both medium-sized breweries that were opened in the first half of the 1990s as well as new entrants to the market, those that were established only in the last five years. All the interviews were conducted between July 2014 and December 2015. The qualitative data from the interviews are complemented by a review of the relevant literature and a descriptive analysis illustrating key facts and trends regarding the brewing industry's development in Poland. Clearly, this kind of analysis does not allow for any definite statements to be made. Yet the results were consistent and suggest the following explanation for the boom in microbreweries in Poland, especially the most recent one which we can observe in the last five to ten years.

The combination of five inter-related phenomena seems to have played a crucial role here. The first is consumers' love of variety. Secondly there has been an increase in consumers' income. The third one is a large-scale standardization of the products offered by big commercial breweries which has taken place since the second half of the 1990s, increasing the interest in other beers some years later. Finally, two parallel phenomena, the development of the homebrewing movement and the exchange of experiences at an international level, gave a new impetus to the creation of microbreweries.

In this chapter we aim to provide some insights to support this explanation. The first section gives an overview of the main developments in the Polish beer market in the last 25 years regarding beer production and consumption, which builds the context for our analysis. This is followed by a description of the development of Polish microbreweries in the context of the global craft beer revolution. Relevant conclusions are drawn at the end.

11.2 Key Trends in the Polish Beer Market Since 1989

A useful way to look at the evolution of the Polish beer market is via Bain's structure–conduct–performance (SCP) paradigm (Bain 1956). In fact, this approach has been widely used to study beer markets elsewhere, both in a global context (Madsen et al. 2011) and a country context (Johnson and Thomas 1987; Persyn et al. 2010; Chidoko et al. 2015). Derived from the neo-classical analysis of markets, the SCP paradigm stipulates causal relationships between the structure of the market, the conduct of firms in the market, and their economic performance. In effect, to understand the recent dynamics of the Polish beer market, it seems important to focus on the structural conditions paving the way for the developments in the local brewing sector which ultimately led to the emergence of microbreweries.

Today's picture of the beer market in Poland is a result of the privatization of public companies, as part of a political and economic transformation in 1989, and the rapid concentration in the sector during the 1990s, which took place because of foreign direct investments of global breweries in Poland (Huculak 2004; Klimek 2014). At the onset of the transition process, beer production was characterized by a very low rate of concentration, with breweries owned by the state, albeit being autonomous entities. The privatization process started in 1991 and after just three years almost 70 percent of market share was controlled by private investors, due to sales of breweries to foreign investors or Polish businesses. In under 15 years, a highly fragmented industry became dominated by four major players which controlled over 80 percent of the market in 2004 (SABMiller, Heineken, Carlsberg, and Royal Unibrew), with competitive dynamics like those observed in Western Europe.

Several authors suggest that the beer sector was one of the fastest and most effectively privatized sectors in Poland (Urban 1993; Boratyńska 2009). The big market represented by a country with a population of 38 million was a key motivation for entering the Polish market for foreign investors with expectations of high economic growth and the corresponding increase in demand for consumer foods over time.[2] The economic environment was at the same time characterized by a less sophisticated institutional situation and a weak resource endowment, which are typical features of all emerging economies.

These changes in ownership structure coincided with, and importantly influenced, tremendous changes in beer production and consumption. Regarding beer production, in the 1970s it amounted to 13 million hectoliters of beer on average per year. In the 1980s, beer production declined to the level of 10.5 million hectoliters annually.[3] That said, in the last two decades beer production in Poland has multiplied almost four times (from 11.1 mln hl in 1991 to 39 mln hl in 2014), with an average annual increase of 5.6%.[4] The dynamics of growth of the sector measured by the annual average increase of production during the first decade of transformation was 8.4%, and then slowed down to 3.6% in 2000–2013.

This outstanding development of production was mainly caused by an increase in domestic demand. At the beginning of the 1990s Poland, compared to other Central and Eastern European countries, featured the lowest level of beer consumption per capita. However, since the economic transformation the beer sector in Poland experienced the highest dynamics of beer consumption in Europe. From 1990 to 2014, beer

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[2]As argued by many authors, makret size and growth potential were indeed the major determinants of foreign direct investments in Central and Eastern Europe in the '90s (Bevan and Estrin 2004; Lankes and Venables 1997).

[3]Central Statistical Office, Statistical Yearbook (1985, 1990).

[4]All statistics reported in this paragraph come from the Polish Central Statistical Office (GUS).

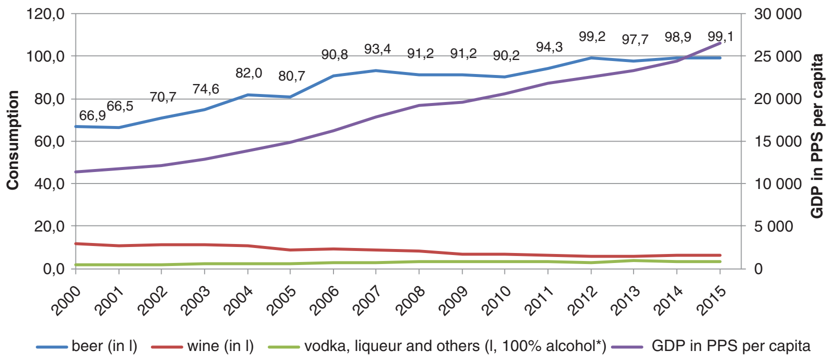

Fig. 11.1 Consumption of alcoholic drinks including beer and GDP per capita in Poland, 1980–2015. *Note* *Calculated using standard amounts of alcohol contained in vodka (40%). PPS = Purchasing Power Standards. *Source* Central Statistical Office of Poland (GUS)

consumption changed from 30.5 to 98 l per person. Beer consumption more than doubled during the first ten years of the market economy, with average annual growth of 8.2%. The next decade brought another boost of about 35% (from 67 l in 2000 to 90.2 l in 2010) with a 3% annual growth rate (Fig. 11.1).

This impressive growth was driven by two main factors, both of which have been recognised as worldwide phenomena (Adams 2006). First, thanks to the successful restructuring process of companies and the introduction of large investment programs in those controlled by foreign investors, there was a change in beer quality standards, commercial practices in retail, and marketing practices, all of which were followed by consumers. Since brewing is a culturally embedded industry with a high degree of loyalty to local brands, foreign entrants usually combined global and local brands in an effort to achieve synergies between them (see, for example, Carlsberg's entry strategy to the Polish market, described by Meyer and Tran 2006). This approach was particularly effective in the highly segmented Polish beer market in the early 1990s. So-called multitier strategies joined global and local brands and solved the dilemma of either not attaining substantial market share or not capitalizing on the global brand value. Synergies occurred especially in distribution channels through economies of scope in local production and logistics, strengthening bargaining power vis-à-vis suppliers and retailers. The latter was important given the dynamic expansion of supermarkets in Poland and their continuing increase in market share of food and beverages distribution (GUS 2006; Planet Retail 2006).

Secondly, during the 1990s a rapid change in the alcoholic drinks consumption model in Poland could be observed. The consumption of high-grade alcoholic drinks (mainly vodka) started to be replaced by the consumption of low-grade alcohol like beer (Krzemiński 2013). Although the strongest decrease in vodka consumption could be observed in the 1980s—from 6 l (calculated per 100% alcohol) in 1980 to 3.8 l per person per year—the average annual decrease in vodka consumption between 1990 and 2013 amounted to 0.2%. At the same time, wine consumption decreased annually on average by 1.1%, whereas beer consumption increased by 5.2%. This could be attributed to cultural, social, and economic factors as well as the promotional strategies of breweries (for a broad discussion on the determinants affecting beer consumption, see Colen and Swinnen 2010).[5] More specifically, rising affluence and increasing standards of living led to a wider acceptance of the Western drinking culture (Siemieniako et al. 2011). In addition, a broad appearance of advertising, more availability of beer, and marketing practices by breweries at points of sale or through events sponsoring were positively adopted by consumers looking for novelty and aiming at changing their drinking patterns compared to older generations (compare this with the discussion, for example, in George 2009). Finally, price differentiation among beverage categories allowed heterogeneous preferences in society to be better addressed.

Additionally, another key determinant leading to beer consumption growth was the increase in incomes, which (measured in GDP per capita based on Purchasing Power Standards, PPS) rose by 5.8% per year on average between 1990 and 2013 (Fig. 11.1). What is worth stressing here is that the annual dynamics of the increase in GDP per capita in PPS has remained high, amounting to 4.4% during five recent years, whereas the pace of the increase in beer consumption in the same period slowed to 1.7%. Thus, on the one hand there is a potential for growth

[5]Similar pattern has also been observed in Russia (Deconinck and Swinnen 2015).

in incomes in Poland, which in 2015 were at 68% of the EU-28 countries average. On the other hand, the consumption of beer is relatively high, since Poland ranks third in Europe with over 40 mln hl in 2015 (The Brewers of Europe 2016), imposing barriers on the further development of the market in terms of the volume of domestic sales. What we do observe, though, is that roughly at the same time as the discrepancy between GDP growth and beer consumption growth started to be visible, interesting dynamics in terms of the number and characteristics of beer producers and changes in the structure of beer consumption in the direction of premium products have appeared. We return to this issue below, where we describe the development of microbreweries in Poland.

Another specific feature of the development of the beer sector in Poland in the last 25 years is that the expansion of beer production was not reflected in the increase in domestic production of the raw materials used to produce beer, namely malt and hops. Regarding hops, while the yield has remained stable (Fig. 11.2), there has been a decline in acreage

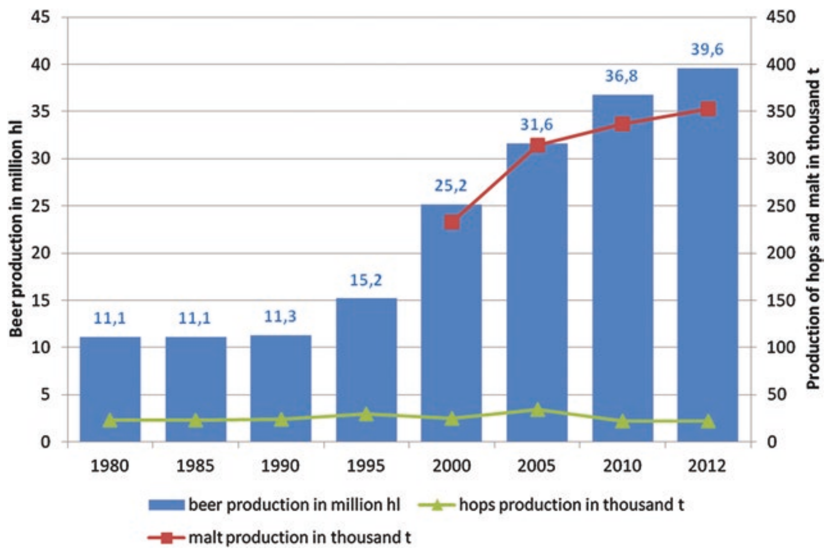

Fig. 11.2 Production of beer in million hl vs. production of hops and malt in Poland between 1980 and 2012. *Notes* hl = hectoliters; t = tonnes. *Source* Central Statistical Office of Poland (GUS)

and in the number of farms growing hops. The scale of the decrease in acreage and number of growers was similar, with a drop of about 44% and 42%, respectively, between 2004 and 2012, keeping production fragmented, with the average plantation only being 2 ha.[6] Both the yields and the alpha levels of Polish hops are too low to be internationally competitive, which results in very low exports. However, these trends are relevant for the analysis here, as they allowed some regional breweries to enter the market or strengthen their position by offering beers prepared according to traditional recipes and using local ingredients (see below). The supply and demand for hops deserve further analysis due to the changing brewery panorama in the country.

11.3 Market Structure and Distribution

The Polish beer market had gone through various stages of brewery creation, foreign investment, and mergers and acquisitions. Since 1993, when South African Breweries (SAB) entered the Polish market, various foreign investors had purchased breweries all over the country. SAB was followed by other brewing companies such as Carlsberg, Heineken, Bitburger, Royal Unibrew, Holsten, BrauUnion AG, and Palm.

The costs of the development of a sales network, and competition among the different foreign investors and with smaller breweries, which since 1995 have benefited from a reduced rate of excise duties (three levels of reduction for yearly production below 200,000 hectoliters), has led to a steady consolidation of the market. In Poland as elsewhere, brewing sector market consolidation could be attributed to technological progress which led to greater economies of scale, mainly due to automation of the beer production process and the acceleration of packaging (Adams 2006).

As in various other countries in Europe, the majority of the beer market in Poland is dominated by three major brewing companies owned

[6]In effect, the growers have continued to protest about the attitude of both policy-makers (for not supporting hop production) and breweries (for using “foreign hops in the Polish beer” (as slogans said)).

by international corporations. In 2014 the biggest market share was held by Kompania Piwowarska, owned by SABMiller, with 36% of the market and an annual average of production of 14 mln hl. The second producer is Grupa Żywiec, owned by Heineken, with 30.5% market share and average annual production of 11.6 mln hl; and the third major player is Carlsberg Polska, with 18.5% market share and production of 7 mln hl per year.[7]

Nonetheless, the market position of the largest breweries has been slowly weakening. The share in total sales volume of beer of the three leading companies decreased from nearly 88% in 2008 to 82% in 2013.[8] The lost market share was taken over by two types of brands: retailers' private labels and brands owned by smaller breweries. The former increased their market share from 5% to 8% and the latter grew from 7% to over 10%. With regard to the latter group, in 2013 a share of 5.6% belonged to two independent, medium-sized corporations: Van Pur (year of entry 1997) and Perła Browary Lubelskie (a brewery founded in 1948 and privatized in 1993). Those companies were established as regional breweries, but expanded to a national scale. The remaining share of about 4.4% belonged to a group of smaller breweries, including some regional breweries such as the Browary Jakubiak group (formerly Ciechan), Browar Amber or Browar Kormoran, and the new microbreweries, which we describe in the next part of the chapter.

The changes in market structure have also been accompanied by the evolution of product variety (Olkowski 2004; Warzocha 2004). While the major players do offer premium beers, much of their business involves mass-market products. That said, even if lager beers are still dominant in the sales structure, with a share of roughly 90% of total volume, flavored drinks almost doubled market share during the last decade, reaching around 7% in terms of volume in 2013. Specialty beers remain a niche segment, not exceeding 5% of total volume.[9] This shift toward more differentiated products is part of a broader

[7]Data for the market shares for 2012 collected from the websites of top breweries.

[8]Euromonitor International.

[9]Euromonitor International.

phenomenon observed in the food chain as a whole. It could be perceived as a response to the constantly growing consumer demand for products with an increasingly wide array of attributes (Moser et al. 2011; Thilmany et al. 2008).

Finally, important changes were identified in relation to distribution channels. This applies especially to off-trade distribution. According to Euromonitor International data, the share of discount stores in 2008–2013 increased from 8% to 14%, and the share of supermarkets grew from 10% to 14%. Simultaneously, the share of hypermarkets dropped from 14% to 12%, and the share of small retail points of sales (mainly groceries that operate as chains, not individual retailers) decreased from 67% to 60%. These changes are reflected in beer distribution in Poland. Small retailers continue to be the main distribution channel for beer—about 62% of beer consumers buy beer at the grocer's. Beer is purchased less frequently at petrol stations (20%) or in highly specialized stores (13%). According to the breweries' opinion, the potential for growth in beer sales lies mainly in discounts and supermarkets, but it can also be identified in the case of specialist shops, with visible growth in market share (KPMG 2014).

At the same time, almost 19% of beer sales by volume was distributed through on-trade channels, mainly pubs, bars, cafés, and restaurants. In comparison to other countries the share of these channels in marketing beer remains relatively low in Poland—compared with 30% in Hungary and Slovakia, 42% in the Czech Republic, and 52% in the UK—but it remains the highest when we look at other categories of alcohol. The share of the home budget spent in restaurants is on average 3.5%, while the European average is about 9.5%. However, Poles are eating more and more outside as an effect of a change in lifestyle (Siemieniako et al. 2011). Still, on-trade distribution channels are not perceived as promising because of the small share in the volume of sales and the high costs of using them (KPMG 2014).

A phenomenon which will require more attention will be related to purchases made through e-commerce or m-commerce. Although the internet is getting more and more important in food distribution, still only 8% of Poles buy food online.[10] The future of internet sales of beer and other types of alcohol is also unclear, because the legal framework has not yet been created.

Overall, then, the restructuring of the Polish beer market thanks to foreign investors and tax reductions for smaller breweries helped to introduce new dynamics and commercial practices through the 1990s. The consolidation of the Polish beer market among three major players has led to a reduction in the number of breweries and further competition among larger companies and regional smaller breweries. The restructuring of the market also had an impact on the offer to the consumer, where the increasing presence of lager beers resulted in the launch of other styles by smaller breweries, leading to their differentiation and increasing interest from beer drinkers. Against this background, in the next section we try to highlight the main characteristics of the relatively recent development of small-scale breweries, which took place in Poland mostly in the last five to ten years.

11.4 The Emergence of Micros in the Polish Brewing Sector

11.4.1 Global Trends

The emergence of the "Polish beer revolution" is encompassed within global trends. The search for "local," the evolution of the equipment for brewing, traveling and knowledge exchange through the internet, homebrewers' activities, and the interest in beer culture have been present in Poland as in other parts of the world. The brewing of the hoppy Atak Chmielu by contract brewer Pinta on March 28, 2011 at the facilities of the Browar na Jurze brewery has been commonly accepted among beer writers and consumers as the start of the "craft beer revolution" in Poland (Wita 2014). This symbolic event established the

[10]According to the report Raport E-commerce w Polsce 2014, http://www.infomonitor.pl/download/e-commerce-w-polsce-2014.pdf.

new dynamics of market changes on the beer scene, which enhanced the trend of diversification already initiated by the regional breweries, Ciechan, Sulimar, and Kormoran, some years earlier.

11.4.2 Definitional Issues

To present the phenomenon of microbreweries in Poland, it is probably worth starting with the observation that there exists a jumble of different names to describe them. In fact our respondents referred to small breweries, mini-breweries, local breweries, regional breweries, traditional breweries, craft breweries, home breweries, family breweries, and restaurant breweries. Additionally, contract brewing companies also produce local beers or craft beers. These different concepts partly overlap, in that they often refer to the small scale of production. In some other respects, though, they draw our attention to distinct features of breweries (ownership; sales place or container; commercial or home production; production methods; local selling market or national presence; etc.).

Consequently, focusing on one category (e.g., on mini-breweries or craft breweries) may exclude other types of small-scale breweries and thus pertain to only part of the microbrewery phenomenon in Poland, especially given that there exists no definition regarding the scale of breweries' production that would allow a strict demarcation between microbreweries and other breweries. Using definitions from other countries is not very helpful and probably not very informative either. As mentioned by our respondents, often breweries considered as microbreweries in other countries in Poland would have to be considered medium-sized at least. However, the suggested scale of up to 2000 hectoliters is indicative of the current capacity for most of the existing microbreweries established between 2010 and 2015, and confirmed by observations and responses to interviews.

The rich diversity of names to describe microbreweries provides a challenge for the analysis. However, it also contains two important insights. First, it suggests that there is a big variance in the behavior of microbreweries: in their strategies to position themselves on the market or the nature of their core activities. Second, it also indicates that the real development of microbreweries in Poland is a relatively recent phenomenon and therefore the relevant definitions must still be worked out, even if most of them qualify themselves as “craft” breweries (*browar rzemieślniczy*).

11.4.3 Microbreweries by Numbers

Keeping in mind the definitional difficulties mentioned above, the existing accounts allow us at least to track some general trends in the number of microbreweries in Poland over the last 25 years. Whereas in 1995 there were 80 breweries owned by 33 companies and in addition to that “beer was also produced in 17 small breweries called ‘minibreweries,’” in 2009 beer was produced in 70 breweries and “40 of them were classified as ‘industrial enterprises’” (Boratyńska 2009). A more detailed split shows that in 2007, 63 breweries were listed in Poland and were divided into 10 large breweries, 15 medium-sized breweries, 26 small breweries, and 12 restaurant breweries (as specified at www.browar.pl).

According to the assessment provided by our informants, it is estimated that at the beginning of 2015 there were about 90 breweries producing under two thousand hectoliters per year (including roughly 30 “craft breweries” and roughly 60 “restaurant breweries”). The respondents estimated that overall these breweries account for about 1% of the market (in terms of volume). These numbers suggest that there is both a modest but continuous increase in the total number of microbreweries and a rapid increase in the number of restaurant breweries. Those new micro entrants to the market focused explicitly on the market periphery and on luring the incumbents’ over-served and under-served customers to them (Markman and Waldron 2013), as they could insist on differentiation as a key factor of attractiveness.

What is important to emphasize though is that simply comparing these numbers does not reveal all the dynamics taking place in the beer market in Poland. Two points seem to be particularly worth noting in this context. On the one hand, over the last 25 years there have been a lot of exits from the market. Therefore, these numbers do not fully reflect the scale of new entries. To illustrate this, one may recall the following evidence. According to Wawszczak (2014), from the 82 breweries producing in 1994, only 32 were still on the market in 2014. Similarly, from the 66 breweries listed in the *Brewer's Guide* issued by Pascal in 2002, only 41 still existed in 2014. The second point to observe is that, especially in the last 5 years, we have been witnessing a rapid increase in the number of restaurant breweries (Kowalczyk 2012) and home breweries. This phenomenon is clearly illustrated by the fact that the Polish Home Brewers Association, which was started by 24 homebrewers in 2010, in 2013 had more than 500 members in eight local branches (Hieronymus 2015), and reached 705 members with local branches for each of the 16 Polish regions in 2016 (PSPD 2016).

As home breweries have proved to be a group from which new craft breweries emerge, a further increase in the number of microbreweries can be expected. The proportions of the process of moving from homebrewing to commercial craft brewing are difficult to assess, however. Yet, as shown by the example of the Artezan brewery (Wypych 2012)—which originated from a home brewery and now is investing to enlarge its capacity to 5000 hectoliters a year—it is certainly possible.[11] Other breweries previously existing as contract breweries have also been moving to their own premises. This trend was confirmed by our informants, who unanimously agreed that there is a prospect for new breweries to enter the market. One of them, sitting on a board of directors in one of the medium-size breweries, even declared that he would not be surprised to see the total number of breweries double in the next ten years, precisely due to new entries by relatively small-scale breweries. These trends are clearly visible in Fig. 11.3.

The growth of small-scale breweries after 2010 was mainly due to the development of the "craft beer revolution." However, within this growth a distinction should be made between the different components of the market, such as the setting up of own brewing facilities, contract brewers, and brewpubs.

Whereas in 1991 the Polish beer scene counted over 70 breweries gathered in 24 state-owned companies (Boratyńska 2009), in 2015 it

[11] This was the first homebrewing initiative to be established as commercial brewery in 2012.

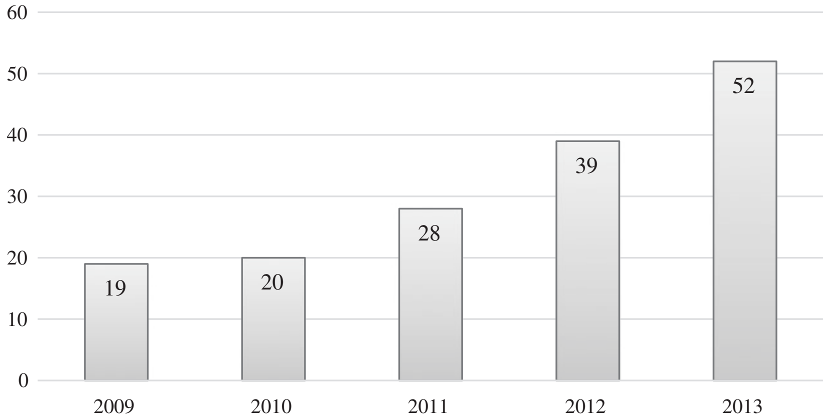

Fig. 11.3 Number of small-scale breweries in Poland, 2009–2013. *Source* Kozicka-Puch (2014)

amounted to over 100 breweries and a steady number of new brewing initiatives every year (47 in 2014, 57 in 2015; Piwna Zwrotnica 2015), reflecting a radical change in private initiatives over the years.

11.4.4 Situation Change

What has distinguished Polish microbreweries from their larger-scale counterparts is the assortment they offer. An important element which runs through many of the interviews was also that microbreweries have to be combined with passion, as this is crucial for producing high-quality beers (Scott Morton and Podolny 2002). According to our informants, the large, foreign-owned breweries that entered the market aimed predominantly at standardization of their production over the years. Therefore, despite the improvement in the quality of beers compared to the situation observed in the late 1980s and early 1990s, the changes led to the opinion that “it did not matter what beer you drunk as every beer tasted the same.” Whereas this strategy still appears to be very profitable as large breweries dominate the market, after some time (around 2006) consumers’ love of variety started to manifest itself more and more clearly. Obviously, this could be seen as part of a broader phenomenon and it is not confined to the beer market. Indeed, over the past two decades, consumer demand for niche products (including organic and locally grown foods) has grown substantially. Various sources suggest that both of these niche food sectors have seen double-digit annual growth (Moser et al. 2011). While some studies propose that the motivation to purchase organic and local products derives from environmental concerns, other production and quality concerns (nutrition, support for family or small farms, and treatment of animals) are increasingly reported as issues guiding consumer choices (Thilmany et al. 2008).

As suggested by our respondents, in the case of the Polish beer market this phenomenon was partly driven by a more frequent exposure to the rich variety of beers offered in other countries (either due to imports or traveling abroad). One should however link it predominantly to the increase in consumers' income described earlier, which is a natural factor promoting more diverse purchasing. That the effect of consumers' love of variety is indeed gaining importance one can see not only from the slow but continuous growth of microbreweries' share in the market, but also from the change in the assortment offered by the large breweries, as they started to offer more and more non-pasteurized or non-filtered beers, which was traditionally the domain of smaller breweries. In fact, as one of our informants noted, "twenty years ago small [breweries] tried to become similar to large [breweries], and nowadays we have a paradox that large [breweries] tell [us] that they are like the small ones." In this context, it might also be noted that among professionals from small and medium-sized breweries, there is a common opinion that this message from large breweries is only part of their marketing strategy, although there is not a shred of truth in that. As they argue, beers from large breweries are not comparable to those produced by smaller breweries, mainly due to the different technological processes and different ingredients used by each type of producer.

In this context, it is also important to note that as regards a recent trend in large breweries to differentiate their production and introduce new beers, our respondents were not unanimous in assessing to what extent this is driven by the competition from microbreweries. Some of them argued that this is a reflection of the fact that large breweries noted the competition from the smaller breweries and realized that perhaps slowly but continuously they will lose a part of the market. Others, on the other hand, presented the opinion that this trend is simply an attempt to offer a wider range of products, and that microbreweries were not taken seriously as a potential threat to the largest players, in terms of resource equivalence (Bergen and Peteraf 2002), since they were not equal players and were not offering the same product.

11.4.5 Strategies Adopted by Microbreweries

In response to an increased demand for a more differentiated product, regional brewers and microbreweries have adopted two strategies. First, some of them try to look for their niche in the market by producing beers using Polish traditional recipes and local ingredients. In a sense this strategy could be seen as becoming a part of a broader phenomenon, namely supplying consumers with food which is locally produced. Part of this trend is also reflected in the beer names, playing with humor, vocabulary, origin, and the Polish language. This tries to appeal to consumers' tastes by convincing them that such food is not only healthier, but also contributes to the vitality of the local community.[12] Importantly, this happens not only through strengthening the local economy, but also by cultivating its traditions. According to the opinion of people working in regional/traditional breweries, these issues are taken very seriously.

The second strategy adopted by some of the microbreweries was to innovate following well-trodden paths abroad. On the one hand, brewers and consumers gained easy access to trends present in brewing

[12]To explain the rationale behind emergence of consumer preferences toward local food, Kneafsey et al. (2008) argue that modern mainstream food production systems are highly complex and much of our food comes from 'elsewhere' which has a paradoxical effect. On one hand there is a wide range of food available at affordable prices, but on the other hand food in an industrial world became very homogenized. Local food economy, comprising 'short' or 'direct' personalized supply chains occurred as an alternative structure to international supply chains distributing 'faceless' products at the start of this century. A crucial feature of recognition of alternative or local food networks is thus based on a reconnection between producers and consumers. It is in line with the explanation of Fishler (1998), according to which a shift in Western culture connected with preferring 'natural', 'organic' and 'local' food is a reaction of industrial food which is derived from symbols, origin and history, in short without identity.

industries abroad. Interestingly, the existing accounts inform us that this was due both to business trips to breweries to learn new technologies as well as touristic visits, where people simply came across new tastes when drinking beers abroad. It follows that some of the microbreweries created their uniqueness by using special varieties of hops imported from abroad (recently aromatic varieties are on the up), and/or brewing beer types which are present abroad and are not necessarily rooted in the Polish brewing tradition (like IPA). This second strategy adopted by microbreweries is clearly following trends from other countries (especially the USA, UK, or Germany) and therefore one may clearly see here influences from abroad.

Finally, further differentiation was drawn in relation to sales channels. Whereas increased competition was taking place regarding sales at large stores, smaller independent groceries (as well as new beer festivals) became a natural channel for sales from smaller breweries. Thus, the size of the opponent became an advantage (Yoffie and Cusumano 1999) when approaching local markets in the development of the new entrants' business strategy in the initial period between 2006 and 2013, when there was no direct confrontation between larger and smaller breweries. The situation changed when retailers and on-trade progressively started to diversify their offer. A closer analysis of this trend from a longer time perspective would be of interest.

11.4.6 Contracting Hops

As mentioned by the co-owner of one of the biggest companies purchasing and processing hops in Poland, small and medium-sized breweries do not have long-term contracts for buying hops and try to look for a bargain. Further, one may note that, at least according to our informants, microbreweries hardly cooperate with each other when contracting for hops (or negotiating with retailers) and instead act on their own. This is largely explained by the fact that these breweries are rather dispersed and still not that numerous. Finally, and this is important in the light of the previous discussion, some smaller breweries specialize in producing beers using local ingredients. Therefore, hop growers have some hopes in relation to the development of craft breweries that are interested in Polish hop varieties, especially the most popular "Marynka," used primarily for its bittering qualities in beer. Other expectations of keeping or even increasing hop production in Poland are linked to the new variety "Magnat," offered by the Polish Institute of Soil Science and Plant Cultivation, which might constitute a major breakthrough, at least for Polish hop growing. In this context, the interests of hop growers and microbreweries using Polish hop varieties do, at least to some extent, coincide. Whether this will bring stronger vertical coordination between these actors is difficult to say, yet this is one issue which should receive more attention in the future.

11.4.7 Consumers

The dynamics of the market, driven by omnipresent marketing campaigns, price competition, and uniformity, ignited the appearance of consumers looking for change. The growing homebrewers movement, the dynamic internet scene, trends from abroad, and the growing number of festivals, as well as multitap and non-tied bars, were elements that permitted the emergence of new consumers. Their awareness of beer and demand for novelty matched the intentions of many new entrants setting up in Poland. The beer varieties and the high number of newly presented beers on the Polish market—from fewer than 100 in 2012 (Kopyra 2012) to over 1000 in 2015 (Piwna Zwrotnica 2015), mainly from contract brewers—do not seem to exceed demand. Part of these processes are captured by the figures reported in Table 11.1.

The large number of new beers also confirms that consumers of beers produced in microbreweries are characterized by a lower sensitivity to price. This is evident when one takes into account that beers from microbreweries are two to three times more expensive than beers from large commercial breweries.

This clearly explains why microbreweries' development needed not only consumers' love of variety and standardized beers from large breweries, but also an increase in consumers' incomes. The analysis of the Polish blogosphere and internet fora, confirmed by interviews, shows

Table 11.1 New beers introduced on the Polish market by craft brewers

New Beers Offered by Craft Brewers in 2014		New Beers Offered by Craft Brewers in 2015	
Brewery	No. of beers	Brewery	No. of beers
Artezan	35	Piwne Podziemie	40
Pracownia Piwa	33	Bednary	32
Widawa	19	Artezan	27
Bednary	18	Bazyliszek	27
Pinta	15	Kraftwerk	27
Doctor Brew	15	Widawa	23
AleBrowar	14		

Source Piwna Zwrotnica (2015)

that consumers differentiate between large breweries and microbreweries, focusing their observations on quality, price differential, branding, image, and ownership. It follows that with beers from microbreweries it is more a question of savoring the beer than drinking it in large quantities. This is also why consumers are more willing to pay for these beers.

11.5 Conclusion

The Polish beer market has undergone a very dynamic evolution since 1990, even if this happened in various stages. However, it is undeniable that market dynamics in 2015 reflect a combination of forces and circumstances that required time to reach its full capacity. The rapid entry into the brewing sector of the 1990s was tempered by the wave of mergers and acquisitions, which stabilized the market. This stabilization gave opportunities for smaller companies and prepared the ground for a continuous renewal of the offer by the brewers, largely benefiting the consumer.

Our study suggests that the entrance of microbreweries to the market was possible due to a combination of five factors: consumers' love of variety, increased incomes, enormous standardization of beers from large commercial breweries since the end of 1990, learning from foreign experiences, and the leap from homebrewing to commercial sales. The boom for microbreweries may also be perceived as a broader phenomenon of consumers looking for things which are healthier (higher-quality products) and this also relates to beer, as shared by some of the informants. Finally, it was a common opinion that there is room for the further development of microbreweries in Poland, as well as sales outlets in off- and on-trade. This would also favor the presence of beers from foreign microbreweries in Poland.

The increase of microbreweries on the Polish market will occur most easily through contracting breweries, which may widen the range of products. The limits would only come from production capacity or due to technological reasons. A passion for making beer has also been pointed out as a crucial element for successful microbrewery development. The combination of passion and entrepreneurial spirit within the current generation allows us to predict that various home breweries will start commercial sales and further increase the importance of microbreweries and the diversity of the beer market in Poland.

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12

Craft Beer in Slovakia

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12.1 Introduction

Recently there has been a rapid expansion of craft breweries in Slovakia. The first craft breweries appeared in 2005 and their number reached 51 in 2016. There are many new craft breweries under construction and it is expected that by 2020 there will be around 150 craft breweries in the country, according to Association of Small Independent Slovak Breweries. This is a significant number relative to the nation's

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population of 5 million people (for example in Poland, which is about nine times bigger, there are 61 craft breweries).

Various reasons have affected the rise of craft breweries. New, available, and cheaper technology, as well as inputs for brewing beer, know-how, and EU subsidies, have a positive impact on the supply side, while rising incomes, increasing demand for diversity, the homogeneous product offered by standard breweries, and changing life styles had a strong positive impact on the demand side.

Currently the brewing industry in Slovakia is dominated by two multinational companies: Heineken and SABMiller. Together they control around 80 percent of the domestic market. Imported Czech beers complement the beers available for Slovak consumers. Czech beer brands are well recognized in Slovakia due to strong historical links that date back to the times of the former Czechoslovakia, from 1918 to 1992.

The current structure of the beer market in Slovakia reflects 40 years of development under the communist regime in the period 1948–1989, which was characterized by central planning and state ownership of production factors, including breweries, malting companies, and barley-producing farms, as well as state-owned pubs, restaurants, and retail establishments. After 1989, privatization of breweries and malting companies, agricultural state farms, and cooperatives, as well as of other state-owned enterprises, had a profound effect on the Slovak economy in general and the beer industry in particular. Opening up to global markets and the liberalization of the domestic economy led to increased imports of Western products to Slovakia, including beer, wine, and hard liquors.

Overall, demand for beer in Slovakia has been declining since the beginning of the transition period and has been stagnating in the last few years. On the other hand, wine consumption has been increasing.

Slovakia is one of the most economically successful transition countries in Central and Eastern Europe. After the initial fall in gross domestic product (GDP) that occurred in the aftermath of the collapse of the communist system in 1989, the economy picked up and after 1999 a period of high economic growth followed, accompanied by rising incomes. Due to liberal economic reforms and EU accession, Slovakia, among other countries, attracted inflows of foreign direct investment

(FDI) to all sectors of the economy, including the barley–malt–beer supply chain. The economy opened up more to global economic and societal forces.

The objective of this chapter is to evaluate how the globalization of the Slovak economy, economic growth, and the inflow of FDI to the economy, as well as to the brewing industry, affected not only the structure of the standard beer market, but also the expansion of craft brewing. In particular, we evaluate how the inter-play between the development of a standardized and globalized traditional beer industry, income growth resulting in increasing demand for beer diversity, and the development and dissemination of craft brewing technology and know-how, changing life styles, and the expansion of entrepreneurship, as well as government policies, affected the growth of craft breweries. To deal with these issues and to collect the relevant data, we performed a survey among craft breweries.

A combination of forces formed the conditions for the successful take-off of microbrewing. There is no strict definition of a craft brewery in Slovakia. Excise duty law differentiates only two groups of breweries based on quantity of production: one with production lower than 200,000 hectoliters per year with a lower excise duty rate; and the other with higher production and also a higher rate. All of the surveyed craft breweries had much lower production (below 10,000 hectoliters per year).

12.2 Literature Review

Globally, beer consumption is more important than wine or other alcoholic beverages. In terms of volume, the gap has grown strongly over the past 50 years. While in the 1960s the global volume of beer was approximately double that of wine, beer consumption was more than seven times larger than wine consumption by 2009 (Colen and Swinnen 2016). The brewing industry is a very interesting example of an industry in which a decades-long trend toward consolidation of production in the hands of a small number of producers of uniform and undifferentiated products was halted, and then reversed (Clemons et al.

2006). Until the mid to late nineteenth century, most brewers were locally based and privately owned. National, let alone global, brands barely existed. The evolution of the industry into the global behemoth it is today has attracted considerable attention, first among business and economic historians and subsequently among scholars interested in industrial economics and strategic management (Cabras and Higgins 2016).

Despite extensive study, the reasons for a thirty year period of consolidation beginning in the 1950s remain unresolved. Two competing explanations have been offered for the shift. Greater economies of scale brought about by technological innovations in packaging, automation, and water treatment almost certainly played a role, and a large literature explores changes in efficient scale in the industry. Elzinga (1973, 1986) is probably most closely associated with the view that scale economies are sufficient to have led to the observed increases in concentration in brewing. Others, especially Greer (1971, 1981), have argued that escalating advertising expenditures by the largest brewers were a more important driver of concentration. The effects of concentration in the market started to be most significant during the 1970s and 1980s. A number of global conglomerates originated as a result of a series of large acquisitions and mergers. In the USA, the continued expansion of Anheuser-Busch, Miller Brewing Company, Coors Brewing Company, and Pabst brought almost 75% of the US market into the hands of only four companies in the early 1980s. In Europe, Heineken dominated the market, together with Guinness (later Diageo) and Carlsberg. By 1999, four global leaders accounted for 60% of the world production of beer, with Anheuser-Busch having 25%, Interbrew 13%, Heineken 12%, and AmBev (later InBev) 10% in volume terms (Stone and McCall 2004).

The beer brewed by these large companies is very homogeneous. The homogenization of macro beer is one of the reasons for the success of craft (and imported) beer (Tremblay and Tremblay 2011). According to Tremblay et al. (2005), factors such as changes in local demand conditions and a more favorable regulatory environment have created profitable niches in many local markets for craft brewery beer. Another reason is the continued growth in personal income. A 2009 survey of beer drinkers found that high-income consumers are more likely to buy craft beer (Beer Marketer's Insights, 2010). For these consumers, growing personal income increases the demand for craft beer. In addition, growth in personal income increases consumer demand for variety (Silberberg 1985). Gruenewald et al. (1995) also showed that greater incomes are associated with more purchases of alcohol at on-premise places (e.g., brewpubs) and at higher prices. The increase in consumption of craft beer is primarily driven by younger consumers (Voight 2013). It can be expected, as more youngsters reach legal drinking age, that the craft segment will grow as a percentage of the market.

The homogenization of macro beer provoked some consumers to search for new styles and taste signatures in beer. The growing domination of increasingly standardized beer produced by fewer brewing companies has led to a counter-movement. People started to show a renewed interest in specialty beers (like porter, pale ales, bitters, and stout; Poelmans and Swinnen 2011). Carroll and Swaminathan (2000) argue that greater economic prosperity increases consumer demand for locally produced products. Craft beer attempts to identify itself as locally produced. Small-scale production comes at a cost, because there are substantial economies of scale associated with beer production and packaging. Nevertheless, local brewers have lower transportation costs and, although the evidence is not clear, may pay lower wages as well (Elzinga et al. 2015).

Most recent times have seen a rise in the number of micro and craft breweries almost everywhere in the world. In 1980, there were about 142 breweries in the UK. Just over three decades later, in 2012, the number had increased to 1113. Even larger growth was registered in the USA within the same period, with the number of breweries rising from 92 to 2751. Similar trends have been registered in many other European countries, such as Germany, the Czech Republic, Italy, and Spain (Balach 2012; Garavaglia and Swinnen in Chap. 1). In the 2000s, microbreweries and brewpubs continued to rise in number, but some of the older breweries consolidated their presence in the market by enlarging their brewing facilities and acquiring new plants to increase their capacity, and expanding their production into other states through a series of acquisitions and mergers, becoming major national brewing companies while exporting to different markets worldwide (Moore et al. 2016). Expansion of brewing companies happens mostly through mergers and acquisitions, and brewing licenses for in-country production of foreign beers than actual trade in beer (Colen and Swinnen 2011).

Many studies have analyzed the demand for beer (Hogarty and Elzinga 1972; Tegene 1990; Lee and Tremblay 1992; Nelson 1999; Freeman 2001; Nevo 2000). According to economic theory, demand for beer is a function of the price of beer, the prices of substitutes and complements, income, product characteristics, and consumption preferences (Stigler and Becker 1977; Tremblay and Tremblay 2005). The consumption of alcoholic beverages may also be influenced by social status (Akerlof and Kranton 2000; George 2011; Deconinck and Swinnen 2015). Craft beer is perceived as a high-quality product, especially for men (Gómez-Corona et al. 2016).

The brewing industry is characterized by high product differentiation. The impact that differentiation has on demand depends on three major contingencies: the ability of the firm to differentiate its products; the competitive nature of the product market environment; and the commitment of consumers to the products of rival firms. Beer can be considered a differentiated product for further reasons:

- The numbers of new breweries and new beverages grow rapidly.
- Purchases are motivated by customers' desires and not by customers' requirements.
- Beer is a consumable not durable good and it is consumed repeatedly.

Drinkers are willing to pay more per unit of alcohol for some brands because of differences in product characteristics such as taste, packaging, product image, and other factors. As such, it is unrealistic to treat beer as a single product with a uniform price (Gruenewald et al. 2006). The price of craft beer is usually higher when compared to macro beer because craft breweries use more expensive ingredients, special brewing techniques, and careful distribution. Roughly 40% of net revenues go toward raw materials costs, with up to three-quarters of that accounted for by packaging, while another 20% go toward ongoing production costs (Wesson and De Figueiredo 2001). Several studies have attempted to analyze the income elasticity of beer consumption (Salisu and Balasubramanyam 1997; Gallet 2007; Meng et al. 2014). Most studies indicate that the demand for beer is inelastic.

The main substitute for beer is wine. There is a shift from beer to wine even in the traditional beer-drinking nations. In many traditional beer-drinking countries such as Belgium, the UK, Germany, and the Czech Republic, the relative share of beer in total alcohol consumption is declining and that of wine increasing. In Germany and Belgium, beer consumption declined from close to 150 liters per capita in the 1970s to respectively 100 and 74 liters per capita by 2009 (Colen and Swinnen 2016). One of the possible explanations for this fact is that global economic integration has weakened the association between production and consumption (Aizenman and Brooks 2008; Persyn et al. 2011; Meloni and Swinnen 2013). The traditional consumption patterns are further altered by innovation, capital, and production technologies.

12.3 Beer Consumption, Production, and Trade in Slovakia

Beer production in Slovakia has been decreasing recently (Fig. 12.1). In 2003, 4,670,000 hectoliters of beer was produced, while the number reached 2,857,000 hectoliters in 2014 (a 38% reduction). The consumption of beer has declined too over the same period, by 21.5%.

The increasing price of beer is among the main reasons for the decrease in overall beer consumption. The price is heavily influenced by the increasing excise duty. Slovaks are changing their beer-drinking habits. In 2003 they consumed half of their total consumption in pubs and restaurants and half at home. Nowadays they prefer beer consumption at home (66%) compared to beer consumption in pubs and restaurants (34%). The main reason is the different prices of draught and bottled beer. Other reasons are healthier life styles (consumers have started to prefer non-alcoholic drinks to alcohol, see Table 12.1) and the changing preferences of alcohol consumers, who tend to substitute beer with wine.

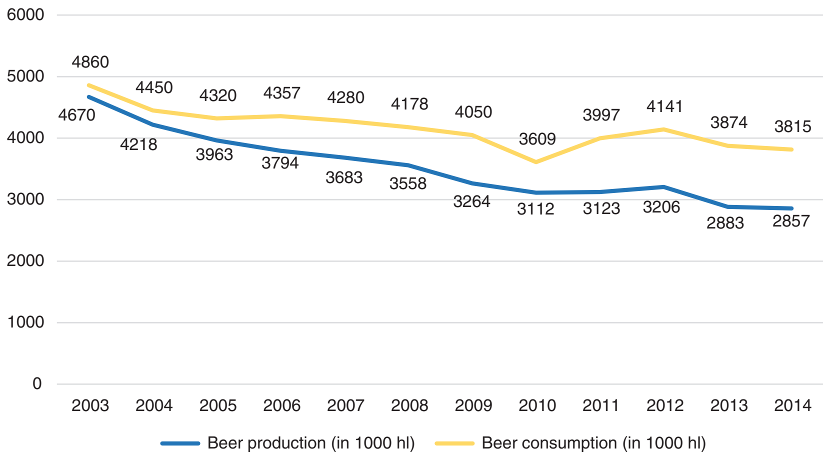

Fig. 12.1 Development of beer production and consumption in Slovakia (in 1000 hl), 2003–2014. *Source* The brewers of Europe. Beer statistics 2015

Table 12.1 Consumption of non-alcoholic beer, radler (shandy), and cider (in 1000 hectoliter), 2014–2015

	2014	2015	2015/2014
Non-alcoholic beer	118.25	128.55	1.09
Radler and cider	407.69	563.42	1.38

Source Statistical Office of the Slovak Republic, 2016

However, Slovakia still belongs to the beer-drinking nations. In 2000–2006 Slovakia was in the top 15 countries with the highest beer consumption per capita in the world. Consumption of beer per capita reached 90 liters in 2003. Recently the consumption decreased to 70 liters per capita in 2014 and has not yet changed (Fig. 12.2). Wine consumption was prompted by the liberalization of the markets that occurred with the economic reforms of the 1990s, and especially with EU accession, which allowed imports of various wines from the EU and all over the world. The wine choice in Slovakia has surpassed the assortment of beers available for consumers. These factors led to changes in the structure of alcohol consumption in Slovakia in the last few years. Beer consumption has fallen, while consumption of wine and spirits increased (Fig. 12.3).

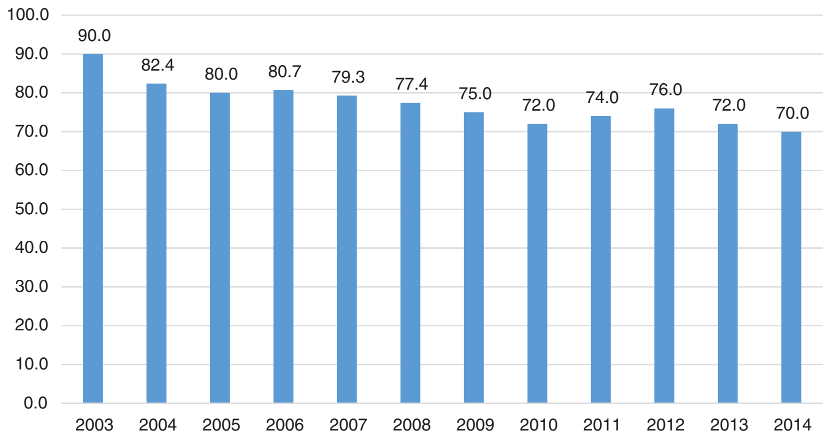

Fig. 12.2 Development of beer consumption per capita in Slovakia (in liters), 2003–2014. *Source* Statistical Office of the Slovak Republic, 2015

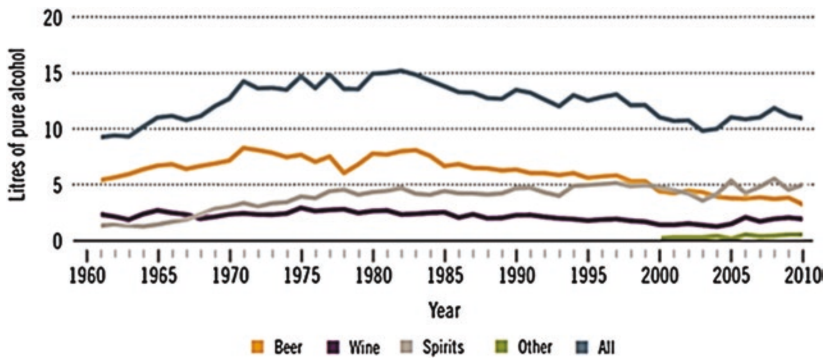

Fig. 12.3 Recorded per capita consumption of alcohol, 1961–2010. *Source* WHO, 2014

The development of alcohol prices is depicted in Fig. 12.4. Since 2003 the price of beer has increased by 32.5%, while the price of wine has increased only by 16.4%.

The average income in Slovakia increased from €5722 per year in 2003 to €10,056 per year in 2014 (Fig. 12.5, Table 12.2). The increase in income has a significant impact on demand for differentiated and

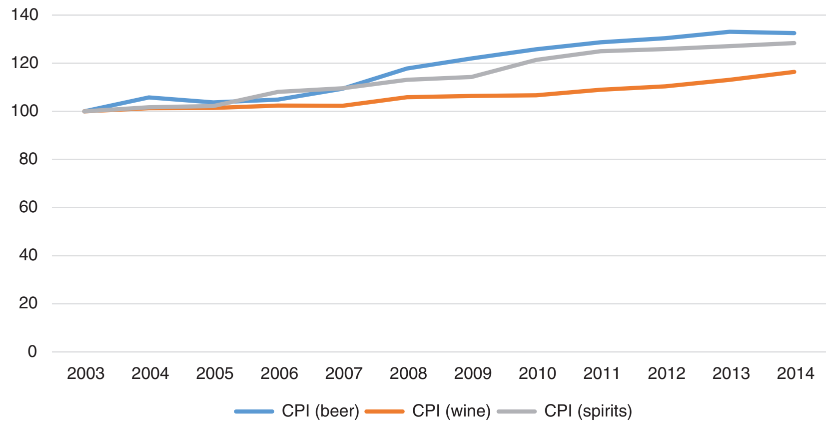

Fig. 12.4 Customer price index (CPI) for beer, wine, and spirits, 2003–2014 (year 2003 = 100). *Source* Statistical Office of the Slovak Republic, 2015; authors' own calculations

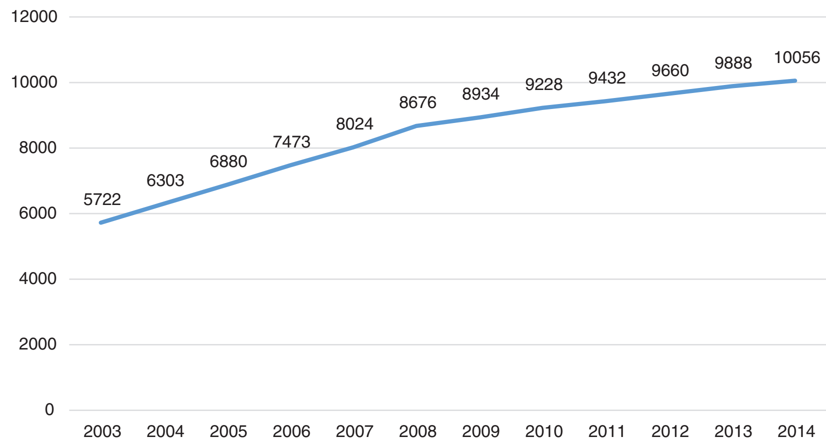

Fig. 12.5 Average nominal income (in €), 2003–2014. *Source* Statistical Office of the Slovak Republic, 2015

higher-quality products. Furthermore, due to rising incomes Slovaks consume more food away from home (Cupak et al. 2015). However, the quantity of beer consumed away from home is reduced at the expense of increased quality of the beer consumed.

Table 12.2 Stratified net monthly income (in €), 2005–2012

	2005		2009		2010		2011		2012	
	Country	Town	Country	Town	Country	Town	Country	Town	Country	Town
≤500	84.9	73.6	75.9	64	74.1	61.7	73.6	62.2	73.2	61.4
501–1000	13.4	21.1	21	28.3	22.4	29.8	22.4	28.9	22.7	29.4
1001–1500	1.2	3.3	2.2	4.8	2.5	5.5	2.8	5.5	2.8	5.6
1501–2000	0.3	0.9	0.5	1.4	0.5	1.5	0.6	1.7	0.7	1.7
>2000	0.2	1	0.5	1.5	0.5	1.6	0.6	1.8	0.6	1.9

Source Slovak Academy of Sciences, 2014

Slovakia is a net beer-importing country. Beer consumption is higher than beer production. Beer imports have been increasing, from 350,000 hectoliters in 2003 to 1,191,000 hectoliters in 2014. The majority of the imported beer is from the Czech Republic, followed by the Netherlands, Ireland, Germany, and Belgium. However, imports from the Czech Republic represent 90 percent of overall beer imports to Slovakia. Beer export rates have changed greatly (Table 12.3). We can see an increase from 132,000 hectoliters in 2003 to 187,000 hectoliters in 2014. However, there was a period (2006–2009) when exports were (at least according to Beer Statistics 2015) virtually non-existent.

Almost all beer consumed in Slovakia (and all beer produced) is a type of lager. There was no tradition in the consumption and production of other types of beers, like bitters, stouts, or others. With rising incomes and the globalization of the Slovak economy, differentiated beer has started to be imported, but its share of total consumption remains negligible.

12.4 Structural Changes in the Brewing Industry

At the beginning of the twentieth century there were over 40 breweries in Slovakia. The Stein brewery (Bratislava) and Bavernebel (Kerschau) were the largest, although their combined production was less than 20% of the production of the Pilsner Urquell brewery at that time. After World War II, 12 breweries were nationalized and reorganized into 3 state-owned breweries. In 1953 the number of breweries reached 8. Because of the steadily increasing beer consumption, new breweries were launched in Slovakia. Some of them were established after the reconstruction and rebuilding of the formerly active breweries in Bratislava, Nitra, Poprad, Bytča, Michalovce, Martin, and Košice. Other breweries were built in cities where there was no brewery in the past (Topolčany in 1964, Rimavská Sobota in 1966, Veľký Šariš in 1967, Hurbanovo in 1969, Banská Bystrica in 1971, and Trnava in 1974).

During the communist period beer production in Slovakia was centrally planned. There existed local breweries that supplied beer to a given area. Beer was therefore a regional product. Some brands (e.g.,

Table 12.3 Beer imports and exports, 2003–2014

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Index 2014/2003
On-trade/off-trade (in %)	50/50	–	50/50	–	–	40/60	40/60	40/60	40/60	40/60	40/60	34/66	–
Imports (in 1000 hl)	350	420	470	600	630	650	906	912	1026	1107	1157	1191	340.3%
Exports (in 1000 hl)	132	184	118	37	28	30	37	271	135	171	290	187	141.7%

Source The brewers of Europe. Beer statistics 2015

Pilsner Urquell) were distributed nationally or internationally. However, there was no or weak competition between the beer brands or breweries and therefore consumers were forced to consume mainly regional beer. The number of breweries and their location were decided by central planners, and so was the quantity of beer, exported and imported. Almost no beer was imported into Czechoslovakia. Concerning the beer type, the only beers produced and consumed in that period were lagers, which were, however, more differentiated than they are nowadays.

Transition from communism to democracy and a market system had a strong impact on the beer market. Breweries were privatized and later taken over by multinational corporations Heineken and SABMiller (Anheuser-Busch InBev), which today dominate the beer industry. Heineken bought the biggest Slovak brewery, Zlatý Bažant, in 1999, followed by Corgoň in 2001, Martiner in 2003, and Gemer in 2006. SABMiller bought brewery Topvar in 2005 and Šariš in 2007. In 2016 the market share of Heineken was 40% and that of SABMiller was 36%.

Privatization and foreign direct investment into Slovak breweries have led to the increase of efficiency in the sector, because of the inflow of international know-how and technology, improving vertical coordination in the supply chain, as well as utilization of economies of scale (Gow and Swinnen 1998).

Internationalization of the Slovak beer market also affected the quality of the beer. Traditional local beer was replaced by homogeneous beer produced by large corporations. The technology of beer production was adjusted in order to achieve shorter production cycles (the processes of fermentation and post-fermentation were combined). This led to standardization of quality, which on the one hand caused elimination of inferior-quality beer, but on the other also reduced product differentiation.

Privatization by multinationals Heineken and SABMiller did concentrate the brewing industry in Slovakia. Production of local beer brands produced during the communist era in some towns like Bratislava, Nitra, Trnava, Poprad, Topoľčany, and Martin was transferred to two locations in Hurbanovo and Veľký Šariš. Driven by economies of scale, the product became more uniform and homogeneous, although the historical brands in the sense of the name are still produced. The

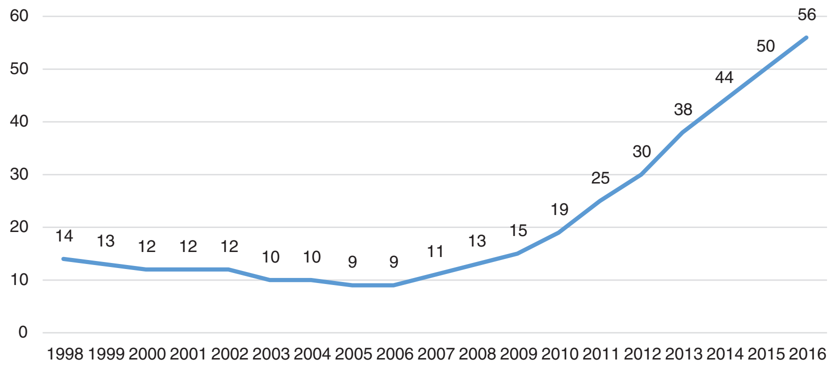

Fig 12.6 Number of active breweries (including craft breweries). *Source* Slovak Beer and Malt Producers Association, 2016

Table 12.4 Number of craft breweries and direct employment in brewing industry, 2009–2016

	2009	2010	2011	2012	2013	2014	2015	2016
Craft breweries	9	14	20	26	33	39	45	51
Direct employment	1900	1800	1700	1700	1600	1500	1550	1600

Source Slovak Beer and Malt Producers Association, 2016

consumption of beer, like that of food and drink generally, is connected with emotions and patriotism. People like to taste local food and drink. Local beer did disappear in Slovakia with the concentration of the beer market and that market niche was identified by entrepreneurs with the potential to launch a craft brewery. As a substitute for the former local beer, new craft breweries, craft beers, and brewpubs arose. Nowadays, out of the total of 56 breweries there are 51 craft breweries and/or brewpubs in Slovakia. There is still space for new craft breweries, according to the owners and managers of craft breweries we surveyed. It is expected that the number of craft breweries will further increase. About 6 new craft breweries are opened a year, and since 2009 42 new breweries have been established (Fig. 12.6 and Table 12.4).

12.5 Drivers of and Constraints on Craft Breweries

Launching a craft brewery is considered a good investment opportunity by the current craft brewers. It is expected that demand for beer from craft breweries will be rising, prompted by increasing income and demand for differentiated, high-quality product. In the regions with higher unemployment and lower incomes (eastern and northern Slovakia), the growth of craft breweries is currently slow, as demand for higher-quality products is weaker there. Also, lower prices are decreasing the earnings of craft breweries in those regions. Regional income is the most significant factor influencing the demand for craft beer. There are significant differences in the price and quantity of craft beer sold between the high-income region (the western part of Slovakia close to the capital Bratislava) and low-income regions (eastern and northern Slovakia). Out of 51 craft breweries in Slovakia, 14 are located in the city of Bratislava. Craft beer prices are higher in Bratislava and craft breweries there concentrate on the higher-quality, more expensive types of craft beers (India Pale Ale [IPA], American Pale Ale [APA], and stout) compared to craft breweries in eastern Slovakia.

A structured interview was used as a tool for data collection. The respondents interviewed were 20 owners of craft breweries in Slovakia. The survey was focused on:

- Factors affecting demand for craft beer
- Impact of traditional beer market characterized by homogeneous products on demand for differentiated craft beer in Slovakia
- Types of beers produced by craft breweries (lager, bitter, stout, etc.)
- Motivation behind starting the craft brewery
- Factors influencing the supply of craft beer
- Availability of inputs, know-how for craft beer production
- Regulation of craft beer production
- Government support for craft beer production
- Vertical and horizontal cooperation in microbrewing

A sample structure is shown in Table 12.5.

Table 12.5 Survey sample structure

Production in hl per year	%	Type of beer produced	%	Share of lager production in total production	%
≤100	15.79	Only lagers	10.53	≤25	42.11
101–500	26.32	Only ales	15.79	26–50	15.79
501–1000	21.05	Both	73.68	51–75	26.32
>1000	36.84			>75	15.79

Source Authors' own calculations

Each craft brewery in Slovakia has to employ a qualified brewer, who must have taken certified training in brewing and completed an exam. Taking a training course is costly and time consuming, which hinders the development of craft breweries in Slovakia. On the other hand, this certification process ensures that all health and sanitation requirements to protect the public are fulfilled. However, most craft breweries complain that the certification process is unnecessarily long and bureaucratic.

Owners and managers of craft breweries also confirmed our hypothesis that their decision to start a craft brewery was strongly affected by a lack of diversity on the supply side of the beer market. Large breweries produce only lagers and most of the imported beer was of a lager type. More affluent consumers demand different varieties of beer (IPA, APA, stout, or bitter).

The diversity of craft beer is a result of differences in production technology and variations in inputs used. Apart from pale ales, the Slovak craft breweries are brewing stouts and porters as well as bitters. Depending on the type of beer, the inputs vary. There are four main inputs needed for the production of beer: water, malt, hops, and yeast. Based on the survey, the vast majority of inputs are imported except for water. Only some of the craft breweries are using domestic malt from national malting companies. However, many of the hops are imported from the Czech Republic, Germany, and other countries. The hops needed for the production of ales are mostly imported from the UK, Australia, the USA, the Netherlands, and Belgium. Yeasts are imported as well. Generally, even if 80% of the inputs are imported, the availability is not an issue and none of the interviewed brewers reported problems with inputs.

The brewery equipment is another source of craft beer diversity. There is a traditional Slovak producer of brewery equipment established in 1972. The former state-owned company was privatized and nowadays it exports 90% of its production. With the rising number of craft breweries, the company, which historically focused on equipment for large breweries, started to produce craft brewery equipment as well. However, the majority of the craft brewers interviewed imported their brewery equipment. Initially, craft breweries imported second-hand equipment from the Czech Republic, Germany, and other countries. Nowadays they purchase specialized, high-quality equipment.

There are three options for financing the purchasing of brewery equipment: own capital, bank loans, and investment grants. EU investment grants were provided within the Slovak Rural Development Programme 2007–2013 in measures focused on income diversification. The grants did cover up to 50% of the investment. However, the majority of craft breweries are financed in the form of their own capital and bank loans. Some of the craft brewers are managers and owners of businesses and their partial objective was also to diversify their portfolio. These people financed their investment in craft brewing with their own capital, while others had to use a combination of their own capital and bank loans.

The demand for craft beer is driven by the lack of diversity in beer produced by the large breweries. Historically, in Slovakia in 1989 the production of beer was much more regional. Although all beer produced was lager, it was more differentiated with respect to taste. Globalization led to mergers and acquisitions in the brewing industry and to homogenization of the product. Craft breweries offer the diversity for which consumers are looking. Demand for diversity is reflected in the co-operation of craft breweries in joint marketing of their products and selling each other's products. However, craft breweries in Slovakia also developed co-operation in the transfer of knowledge and know-how and joint public relations activities.

The majority of owners of craft breweries had not previously worked in a large brewery. Many of the current owners of craft breweries in Slovakia had previously brewed their own beer as homebrewers.

However, there are some exceptions to this rule. The former owner of the third biggest brewery in Slovakia opened his own craft brewery as well.

Craft breweries consider taxation of their products unfair. There are only two excise duty rates: the lower rate for production below 200,000 hectoliters a year and a higher rate for production above that threshold. However, many craft breweries are producing fewer than 1000 hectoliters. Furthermore, excise duty for wine is zero, which discriminates against the beer industry.

The changing drinking patterns and life styles of Slovak consumers have a significant impact on craft breweries. Slovak consumers drink less beer but demand higher-quality products. The homogeneous beer produced by large breweries is being substituted by wine and craft beer. This change in life styles is reflected in the national media, where craft beer receives significant attention relative to its share of total alcohol consumption in Slovakia.

12.6 Conclusion

Slovakia belongs to the beer-drinking nations. Considering the brewing industry concentration, the expansion of craft breweries in Slovakia seems to be a logical consequence. Nowadays there are more than 51 craft breweries operating in the brewing industry and over 20 new ones are under construction. There is still market space available for new craft breweries and it is expected that there will be over 150 craft breweries active by 2020. There are many reasons affecting the expansion of craft breweries in Slovakia, but increased demand for diversified beer and different beer styles seem to be the biggest ones.

The brewing industry went through many changes in the last few years. There were 8 state breweries in 1953, but 14 private breweries in 1998. Then the brewing industry was globalized, after Heineken bought the biggest Slovak brewery, Zlatý Bažant, in 1999, Corgoň in 2001, Martiner in 2003, and Gemer in 2006. SABMiller bought brewery Topvar in 2005 and Šariš in 2007.

Beer production has been decreasing, from 4.67 million hectoliters in 2003 to 2.86 million hl in 2014, and the consumption of beer has declined by 21.5%. The consumption of substitutes like wine and spirits has increased. One of the reasons is the zero excise duty on wine in Slovakia, which discriminates against the whole beer industry. The increase in income positively increases demand for differentiated and high-quality products, which positively affects the demand for craft beer as well.

The survey (interviews at 20 craft breweries) showed that the craft brewery business is considered to be a good investment because of the increasing demand for heterogeneous beer. On the other hand, there are also some barriers to expansion. The major ones are bureaucracy, lack of qualified brewers, and taxation policy.

The owners and managers of craft breweries interviewed confirmed the hypothesis that their decision to launch a craft brewery was strongly affected by the lack of diversity in the beer offered on the market. Different styles of beer necessitate different production technologies and variations in inputs used. The vast majority of inputs in Slovakia are imported. Hops are usually imported from the Czech Republic, Germany, the UK, Australia, the USA, the Netherlands, New Zealand, and Belgium. The yeast is imported, according to the beer style being produced, from the USA, Belgium, the Czech Republic, Germany, and the UK. Malt is produced by a domestic malt producer, apart from the special malt needed for the production of special beer styles like stouts and porters.

The launch of the majority of craft breweries is financed by a combination of their own capital and bank loans.

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13

The Recent Advent of Micro Producers in the Spanish Brewing Industry

Christian Garavaglia and David Castro

13.1 Introduction

The earliest archaeological remains of beer in Europe have been discovered in the Spanish region from many thousands of years before the formation of the country called Spain. The best-known remains, discovered by a group of researchers from the University of Barcelona,[1] are traces of malt and beer adhering to stone-grinding objects and pottery bowls dated to the Neolithic period (mid-fifth millennium BC) in a

Christian Garavaglia shared and developed the first ideas and content of this chapter with Steve Huxley who passed away in October 2015. This chapter is dedicated in memory of Steve.

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burial context in a cave, Cova de Can Sadurní (Begues) near Barcelona (Blasco et al. 2008; Huxley 2010, 2012). Also a team of archaeologists under the direction of a professor[2] at the University of Valladolid found pottery bowls in the Ambrona Valley (Soria), which, after content analyses, revealed the presence of beer made of wheat dating to around 2400 BC (Rojo Guerra et al. 2003).

The Spanish beer industry is not important only for its history. Spain is nowadays (data from 2015) ranked fourth in beer production and total consumption among the EU countries, even if only at the bottom of the ranking with regard to per capita consumption. It is ranked 11th in beer production at a global level. The beer industry in Spain is also important because of its relevance for the Spanish economy, representing 1.4% of GDP (Informe Socioeconomico del sector del la cerveza en España 2016).

Moreover, Spain is the most striking example of change in consumption patterns in beer as a share of total alcohol consumption (beer, wine, and spirits) in the last few decades: in 1965, wine had the highest share in alcohol consumption, 65.4%, followed by spirits with 23.6% and beer with 11%, while in 2009 beer was the beverage with the highest share, 49.9%, followed by wine with 20.9% and spirits with 29.2% (Colen and Swinnen 2016).

Notwithstanding its long history and the large volume of production, traditionally beer variety has always been limited. Production and consumption seem to have settled on a flat situation where, on the one hand, producers offered a thirst-quenching, cold, clear, uncomplicated drink and, on the other, consumers were satisfied with ordering a *caña* (i.e., a glass of draft beer) without even asking what beer was on tap. The situation has changed in the last few years, with some attempts at craft production in the 1990s, which developed into a more significant phenomenon more recently.

The Spanish association of craft brewers, founded in 2014, provides a definition of craft breweries as companies with their own plants, which have not participated directly or indirectly with other companies in the sector, with a maximum production of 50,000 hectoliters, which do not

[2]Manuel Rojo Guerra.

use ingredients other than barley and wheat malt as a source of starch with the purpose of cheapening the production process, except for those beers that are characterized by the use of other raw materials and do not exceed 10% of the total production of the brewery.[3]

The history of the craft beer market in Spain is the history of the enterprising people who contributed to triggering the craft beer "revolution." Thanks to some interviews with some of the first protagonists, in this chapter we represent the main dynamics behind the establishment of the craft brewing scene in Spain. We first present some historical traits of the evolution of the Spanish beer industry. Then we investigate the diffusion of micro producers, focusing on the influence of consumers, the role of pioneering firms, and the impact of the Catalonia region.

13.2 Some Historical Facts About Beer in Spain

Some brief hints about the history of beer in Spain highlight interesting features for interpreting the recent development of the craft beer scene, in particular the influence of people from foreign countries and the role of the Catalonia region.

Most of the first spanish factories were located in Madrid and in the vicinity of seaports, like Santander and Barcelona (Catalonia region), because of the need to import raw materials

In the first half of the nineteenth century, various beer producers settled in Madrid. In the majority of these firms, capital and knowledge coming from foreign countries, in particular from the German region, were crucial. For example, the Santa Barbara brewery started in 1815 and was directed by a German man, Carlos Brück. In 1816, two other breweries were established: Geronimo Kastler y Compañia, which was proud to say that the brewery was constituted according to the German and English styles; and a brewery opened by a Frenchman, Juan Gaselin. Subsequent breweries also had a connection with foreign people and/or a declared inspiration of brewing according to the German style (García Barber 2014).

[3]http://aecai.net/sobre-nosotros/.

Most of the initial growth of industrial brewing in Spain took place in Catalonia. Louis Moritz Trautmann arrived in Barcelona from Pfaffenhoffen, Alsace, in 1851. Moritz's brother had practiced as a brewer in Alsace; this experience helped him join a small brewery in Barcelona, run by a Frenchman, Ernest Ganivet. By 1856 Moritz bought the company and took over another, larger brewery from a man of German origin, Juan Maurer (Huxley 2010, 2012). August Kuentzmann Damm also moved from Alsace to Barcelona in 1871. Damm was a brewer escaping from the Franco-Prussian war, and planned to find a Catalan financial partner to start a new brewery in Barcelona, named Camps y Kuentzmann. The collaboration did not endure and by 1876 Damm was in business with his cousin Joseph, also a refugee. The importance of the story of this brewery is related to the fact that it is supposed to be the first producer with the technology to produce bottom-fermentation beer, which was to become the prevalent beer in the market (Huxley 2010, 2012; García Barber 2014). In Barcelona there were two other important breweries. Cammany was established by Catalans in 1899, and La Bohemia was set up by a Czech brewer, Miklas Bohuslav, and a Catalan wine dealer in 1902. In 1910, three out of the four main brewers merged under the name Damm SA, with the exception of the largest firm, Moritz, which took the name Ernesto Petry. The advent of bottom fermentation was accompanied by the growing need to exploit economies of scale in production. The process of concentration among producers led to a 40% decline in the number of firms in Spain, from 61 in 1889 to 36 in 1904. Only two firms survived in Barcelona, Damm and Moritz. In 1917 these two firms produced 20.3% of the market, thus making Barcelona the second largest area of production after Madrid, which held 34.4% (García Barber 2014).

In Madrid, there were two relevant producers: Mahou, a brewery that was founded in 1891 thanks to a Frenchman, Casimiro Mahou Bierhans, and his sons; and El Aguila, which was founded in 1900 and started production in 1903. El Aguila took care to state its connection to the German tradition in one of its first documents, which emphasizes that the founders went through a deep study of this business, for which they received the authorized advice of such a competent person as Mr. Langeloth from Frankfurt, who had installed most of the breweries in Germany (García Barber 2014).

The vivid growth of industrial brewing was not limited to Catalonia and Madrid. The opportunities of the beer industry were exploited also in many other parts of the country. Many small and mid-sized breweries were disseminated all over Spain, mainly with a local scope. Among others, La Cruz Bianca started in Santander in 1878; La Zaragozana was founded in Zaragoza in 1900; La Cruz del Campo in Seville was set up in 1904 by two brothers of English origin, thanks to the project of a German brewmaster; La Estrella de Galicia was founded in La Coruña in 1906; La Tropical was set up in 1924 and later became La Compañia Cervecera de Canarias; and Alhambra opened in Granada in 1925 (Huxley 2010, 2012).

These brief historical facts show at least three important aspects for understanding the evolution of the Spanish brewing industry. First of all, foreign people have always been influential in the beer industry in Spain and have played a crucial active role in its development. Secondly, it is important to note that all the companies mentioned were brewing (and would have continued to brew) German-style lagers (with a very few significant exceptions like Ambar 1900, a pale ale produced by La Zaragozana) probably under the influence of the foreign brewers who started businesses in Spain. Medina (2011) claims that even if we can recognize a tradition of beer brewing in Spain (as well as in other Mediterranean European countries), it has always strongly referred to the Northern European and Germanic model. Thirdly, the region of Catalonia, together with Madrid, has acted as a protagonist in the beer scene in Spain since the very beginning of the industry.

13.2.1 The Modern Spanish Beer Industry

Feo Parrondo (2005) describes the growth of the modern beer industry that took place in the years after World War II. Beer production rapidly grew from 60.3 million liters in 1950 to 145.1 in 1955 and 343.2

in 1960 (Consejo 1962). The increase in production was accompanied by a steady increase in consumption. As in many other industrialized countries, the industry gradually concentrated over the decades, moving from 54 factories in 1967 with an average production of 17.5 million liters to 34 in 1987 with 71 million liters produced (Feo Parrondo 2005). The economic literature discusses how the increase in the degree of concentration was mainly due to larger producers' exploitation of economies of scale and to mergers and acquisitions (Carroll and Swaminathan 1992, 2000; Tremblay 1987; Tremblay and Tremblay 2005; Garavaglia and Swinnen in Chap. 1). In fact, the 1980s and 1990s registered some relevant acquisitions among Spanish firms, which led to the disappearance of the smaller independent brewers. Market concentration in 1986 was relatively high: the C5 concentration ratio measured approximately 83%, with 19.4% of market share held by Cruzcampo, 18.7% Aguila, 15.8% Mahou, 15.7% Damm, and 13.3% San Miguel (Feo Parrondo 1988–1989). The dominant brewing firms became larger and larger, ranked among the largest firms in the whole agri-business industry in Spain.

Throughout the 1980s, the increase in consumption was among the most significant in Europe, from 20 million hectoliters in 1980 to 27.3 million hectoliters in 1989 (Feo Parrondo 2005). This was also thanks to the remarkable increase in advertising investments made by the large producers (from 1985 to 1995 the advertising investments of beer producers in Spain went from €2,863,145 to €13,277,310, and to €79,765,833 in 2005) and to the increasing tourist flows. The huge number of foreign tourists and their increasing flows were a central element for sustaining the demand for beer in the country (Gourvish 1998; Cerveceros de España 2003).

In the following years, foreign multinationals played a fundamental role in the process of increasing concentration, and the entry of Spain to the European Common Market accelerated this process. The presence of foreign capital in the Spanish beer industry accentuated in the 1990s: Guinness acquired 99% of Cruzcampo, Heineken acquired control of El Aguila, United Breweries 60% of Union Cervecera, Oetken 18% of Damm, and BSN 30% of Mahou (Feo Parrondo 2005). The stagnation of production and consumption in the 1990s, the seasonality of consumption, and storage constraints led to most factories being over-sized, resulting in an average utilization rate lower than 70%, thus causing efficiency problems (Navarro Asenjo 1997); in addition, tax increases and strong competition among the major brewers led some companies, such as El Aguila and Zaragoza, to sell some of their factories to foreign groups—that is, to Bavaria and Coors, respectively—and to close some other factories. The remaining 23 factories were unevenly distributed between the regions, with most establishments in the three regions of Andalusia, Catalonia, and Madrid. In 1999, Guinness sold Cruzcampo to Heineken. Danone also increased its participation in the Spanish brewing industry through the control of San Miguel and Mahou. At the beginning of 2000, only two firms, Hijos de Rivera (La Coruna) and La Zaragozana, were not owned by multinationals (IFES 2000).

Although Spain is only at the bottom of the ranking in terms of consumption in Europe, with about 66 liters per capita per year, it is the Mediterranean country that drinks the most beer. The 1990s were also extremely important for marking a gradual change in the attitude toward the consumption of beer. Gracia Arnaiz (2011) claims that in the late 1990s beer became considered a drink for evenings like other “social” drinks, and started to be accompany meals and be used in the preparation of recipes. From the old model of the beer consumer, identified as men of the popular class, we register an increase in status for beer drinkers and a gradually differentiated public that comprises women, young people, and adults of all social classes, in particular in the metropolitan areas. While the strategy of Spain’s wine producers was to produce vast quantities of wine, increasing prices, the young 1990s generation changed attitude with respect to their parents: beer became a wine substitute and was particularly appreciated because of its lower alcohol content compared to wine, its refreshing nature appropriate for consumption in hot summers, and its lower price.

All the big groups have operated with a multiplant organizational structure and have offered an ample number of different types of beer. However, they basically focus their main production on lager beers: despite the product differentiation, the bulk of consumption is centered on normal and special beers, with approximately 42% and 50%

Table 13.1 Groups, establishments, and market shares in the Spanish beer industry, 2015

Group	Establishments	Share (%)
Mahou–San Miguel	7	34.38
Heineken Espana	4	29.53
Damm	3	25.04
Hijos De Rivera	1	5.86
Compania Cervecera De Canarias	2	2.54
La Zaragozana	1	2.13
Others	na	0.52
Total	18	100

Note na = not applicable
Source Author's computations on data from Cerveceros de España (2015) Informe Socioeconómico del Sector de la Cerveza en España

of total consumption in the 2000s, respectively (Gracia Arnaiz 2011). Recent data shows how nowadays the industry is highly concentrated, with market leader Mahou controlling 34.38% of the market, and a C4 index equal to 94.81% in 2015 (Table 13.1).

13.3 The "Revolution" of the Craft Brewers

13.3.1 The Pioneers

The start of craft beer in Spain was not easy. Huxley (2010, 2012) claims that the main problems were caused by insensitive, inflexible bureaucracy. The local and regional authorities had no knowledge about the production of beer and were not prepared to cope with the administrative practices and authorizations related to the brewing process. Public administrations in charge of giving licenses to produce food, in which beer is included, had a tendency to behave in an overly bureaucratic manner. This would require the entrepreneurs to spend vast quantities of resources and discourage them from applying for authorizations altogether. This context of local, regional, and state legislation created a jumble that had to be dealt with.

The first craft beer producer was Naturbier, a brewpub that opened in the tourist center of Madrid and struggled to obtain a permit. Naturbier was founded by Jaime Tejada, a businessman and politician born in 1923. The idea of opening the first craft beer producer in Spain came to Tejada during one of his trips: he was passionate about the German culture and decided to recreate the atmosphere of an authentic German tavern. To do this, he bought new equipment directly from Germany and opened a brewpub in the very center of Madrid in 1986, but it could only actually produce and serve its beer in 1989, after three years of bureaucratic obstacles and permissions.[4] A few months after opening, the founder brought in Alex Schmid from Munich, a brewmaster who had graduated from the well-known University of Weihenstephan, who was to work at Naturbier for the next 24 years. Naturbier produced mainly German lager-style beers, pils, and dunkles. In a personal communication,[5] Alex Schmid revealed the first difficulties that Naturbier had to encounter, because at the time of opening, since it was the first in Spain, people did not know about craft beer and did not understand the turbidity caused by yeast (Murrell 2014). However, Naturbier's experience was a success and an example for other firms for many years, until it stopped production in 2015.

The second craft brewery was also a brewpub: the Barcelona Brewing Company (BBC). BBC suffered because of bureaucratic reasons too. It opened in April 1993, thanks to the desire of Steve Huxley to produce different styles of beer with respect to mass-market products, in an English-style real ale fashion: a bitter, a special bitter, and a stout. Huxley arrived in Barcelona in 1977 for work. Since his studies at the University of Leeds, he had always been looking for traditional English beers, like real ales, which were more and more rare in English pubs. For this reason, he started to homebrew beer. When he arrived in Spain, his dissatisfaction with the available beer became even stronger. The idea of opening a craft brewery continued to grow in Huxley's mind. Therefore, in 1992 he moved to London, where he trained with Alistair Hook, the brewmaster of the Meantime Brewery, who finally sold

[4]Murrell (2014) explains that Spanish city laws make it extremely difficult for activities such as brewing to take place outside a *polígono industrial*; i.e., an industrial park (see also the case of Magister).

[5]Personal written communications, February 2016.

Huxley machinery with 810 liters of capacity for installing a microbrewery in the center of Barcelona, in Sant Agustí street. Despite great public acceptance, it was not so well received by the public authorities. The efforts to solve the intricate administrative and bureaucratic problems ultimately failed, which, in addition to some financial constraints, led to its closure in 1995. The business was acquired by the Martí family and, after training with the founder, the 21-year-old Olaf Martí learned to produce beer and continued the business under the name La Cervesera Artesana. Its purpose remained unchanged; that is, to increase knowledge about beer and to serve new styles for Spanish consumers, inspired by foreign traditions, in particular the English one. According to Meritxell Plana (La Cervesera Artesana), Barcelona was an open-minded city, where tourism was important for the local economy; these factors helped to create the very first inclined and fertile environment for craft beer.[6]

Magister microbrewery presents another case of how entrepreneurs had to deal with burdensome regulations. José Delgado García, Luis Basanta Fernández and José Moreno Carretero opened Magister in Granada in 1999. However, the health authorities were not certain how to classify Magister, so they classified it as an industrial operation which meant it could not produce downtown. This regulatory decision forced Magister into an unusual position: they physically separated the manufacture of wort from the process of fermentation of beer. They built a small plant (10 hl) to manufacture the wort 5 km from Granada. Then, the unconcentrated liquid wort was cooled and loaded into a tank, placed in a van, moved to the building in the downtown and fed to a 10 hl fermentation tank. These entrepreneurs responded creatively to this excessive bureaucracy: once they had solved the problem of separating manufacturing and fermentation into two separate facilities, they decided to replicate this process on a larger scale by creating a chain of establishments. They built a centralized factory in La Coruña where

[6] Personal written communication, September 2015.

they produced the concentrated wort and then they transported the wort to 7 different cities for the fermentation process.[7]

Unfortunately, the business did not work as expected: beginning in 2004 Magister gradually began to close its chain of pubs, closing the last one in 2010. The story of Magister also has some international connections. In the 1990s, José Moreno Carretero worked as the CEO of a milk factory in France, and he visited a microbrewery in Alsace in 1997. Carretero wanted to return to Spain with his own businesses and he thought that a microbrewery could be a good opportunity. Shortly thereafter, the founders did several tours of microbreweries in Germany, looking for both inspiration and for potential brewers.

Boris de Mesones has been the brewmaster of Magister since 2002. He studied in Berlin at the well-known VLB (Versuchs- und Lehranstalt für Brauerei, an independent institute affiliated with the Berlin University of Technology) and, inspired by some brewpubs in London and in Berlin he decided to start to brew beer; however, after facing significant bureaucratic hurdles, he decided to move to Korea in 2004, where he opened two brewpubs. After a few years, he closed both brewpubs and de Mesones came back to Spain to start brewing beers in collaboration with several other craft breweries in Spain which bought the equipment he had designed.

In 1999, a brewpub, La Fábrica, started to produce beer in a shopping center in Seville, run by José Benavides Cordoba and Francisco Ferrete Alcobet. During Expo 1992 in Seville, Alcobet was the brewmaster at the Cruzcampo brewery pavilion, where a small brewery with a 20 hl capacity was installed. It was a big success. Francisco Ferrete Alcobet remembers Expo's year as a period of discoveries. This exciting experience induced him to believe in the opportunity to start a new business in beer production. However, the shopping center did not prove to be a success and in 2004 La Fábrica closed.

In the Basque region, two other small craft beer producers were founded. The Basque region has always had a significant brewing tradition. In 1999, José Ángel and José Mari Arbelaitz founded Euskal

[7]Personal written communication, June 2017.

Garagardoa, at Oiartzun near San Sebastian, which produces the brand Pagoa. In the same year in May, another craft beer producer, Bertoko Gar., was founded at Zeanuri by four persons: Carlos Foruria, Susana Etxeberria, Mikel Alberdi, and Jon Alberdi. The idea came from travels in the USA, where craft breweries were already developed (Aparicio de Castro et al. 2001). The founders bought equipment from Canada, and decided to start to produce beer with a strong local and artisanal character, as the brewery name reflects ("Bertoko" means "from here"). The short shelf-life of their beers coupled with the wrong organization of the distribution system created some problems, which finally led to the closure of the brewery in 2001, only two years after its start (Aparicio de Castro 2002; Bort and Expósito 2011).

The initial diffusion of craft breweries seems to be unevenly spread over the country. The preferred locations for the first brewers were in the capital Madrid or in the peripheral regions, like Catalonia, the Basque region, and the Canary Islands, where the tourist presence is significant. Again, the foreign influence is revealed to be important. Clear examples are given by the two brewpubs in the Canary Islands, where the beer produced was strictly inspired by the German tradition.

Cercasa Viva opened in 1999, on Gran Canaria Island. The characteristics of its beers may be referred to the German tradition, such that the declared respect of the German Purity Law (Reinheitsgebot) of 1516 is shown off as a quality signal in the brewpub.

The same attitude can be found in Cerveza y Cerveceria Tacoa, a brewpub which opened in Tenerife in 2001. One of its founders, Joachim Zeisel, studied a Master's in brewing technologies in Berlin, where he got to know the German microbreweries, which became the inspiration for the decision to open a brewpub in Tenerife. The founders got in touch with Naturbier in Madrid in order to try to get over the bureaucratic obstacles presented by the island's local legislation, which was not prepared for managing the novelty of such a business. Cerveza y Cerveceria Tacoa also declares proudly that it brews beers according to the German Purity Law.

Another case which has a connection with the foreign culture of beer is the Dougall's craft brewery, which opened in Santander in 2006. Andrew Dougall was born in England, where he worked for a brewery.

When he arrived in Spain he found a very homogeneous and standardized beer market. He then decided to explore the opportunity of producing something different inspired by the English tradition.

To conclude, we claim that four factors played a crucial influence in the birth and diffusion of the first craft beer micro producers in Spain:

1. The first is the influence from abroad that has been effected by two channels: first, the increasing economic integration and movement of people among countries allowed many Spanish people to discover new styles of beers during their travels abroad (Spain was admitted to the EU in 1986); second, the tourists who visited Spain every year (in particular from Germany and UK) represented a stimulus and a source of information about beer. Consider that Ollalla Marañón (2013) claims that more than 25% of beer consumption in Spain is tourists' consumption, and that 87% of their consumption is made on-trade, thus implying socialization and communication.
2. The second is the increasing interest in beer on the part of Spanish consumers and the changes in habits which induced people to consume food more often out of the home, this trend induced beer producers and the food industry to increase their offer. It is because of these reasons, for example, that the number of franchisee pubs and restaurants sharply increased during the 1990s and the early 2000s. Ramirez Hurtado (2007) reports an increase of 177.3% in the number of franchisees, going from 326 in 2003 to 904 in 2006. Most of these are Irish Pubs and Cervecería Gambrinus, both belonging to the group Heineken Spain.
3. The third is that the prevalent idea of beer among Spanish beer consumers was the anonymous *caña*, which is related to a German pilsner or helles, highly carbonated and usually consumed extremely cold. The example of the pioneer craft beer producers opened up a new sector, unexplored by any Spanish entrepreneurs and unknown to consumers. The first craft beer producers proved that, on the one hand, there were many other existing varieties of beer, different from the anonymous *caña*; and, on the other, that it was possible to start a new business to produce these varieties locally in small quantities. Given the uncertainty about future viability at the moment of

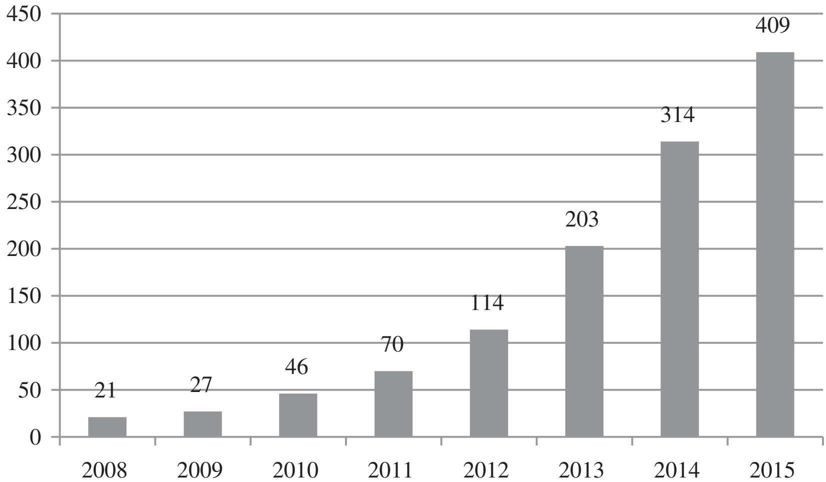

Fig. 13.1 Number of craft breweries in Spain, 2008–2015. *Source* Author's computations on data from Informe Socioeconómico del Sector de la Cerveza en España (various years)

undertaking the decision to enter, in particular with regard to new market segments like craft beer, the role of the pioneer firms is crucial for disclosing information to subsequent entrants. Horvath et al. (2001) claim that by observing the post-entry outcomes of other firms, more information gets released to potential entrants, which alleviates their uncertainty about future profitability, thus triggering additional entries.

4. Finally, the diffusion of consumer associations helped to spread a new culture, knowledge, and attitude toward beer among young consumers in particular. This factor helped, on the one hand, to foster demand for a greater variety of beers among consumers and, on the other, to create knowledge and passion among a large ensemble of entrepreneurial young people, also through the diffusion of home-brewing. This was particularly evident in Catalonia.

Thanks to these factors, the number of micro producers constantly and remarkably increased over the years, as is shown in Fig. 13.1: by January 2017, the number of entries registered at the Ministry of Health, AECOSAN, was 495. Most of them are very small, having no more than a 5 hl brewhouse and a total annual production of 300 hl.

13.3.2 The Diffusion of Craft Brewers in Catalonia and the Role of Consumer Associations

Where craft beer has really taken off in the last few years is in Catalonia (Huxley 2010). This has always been one of the most developed regions in Spain. One of the advantages of the region is its proximity to Europe, which makes it a traditionally open region: most of Spanish export activity is based in Catalonia. Moreover, its geographic position on the Mediterranean coastline has always given opportunities to develop an important tourist industry, which contributed to the development of the economy and to the intercultural exchange with foreign people, especially those coming from Germany, the UK, France, and Italy. Finally, the region has been characterized by an entrepreneurial base with proven innovative tendencies. For example, data about foreign direct investments (FDI), a proven vehicle for technology transfer and productivity growth for a region, demonstrates the region's openness, dynamism, and capacity to facilitate contacts: 30% of Spain's accumulated FDI inflows over the period 1987–2000 came to Catalonia (Cuadrado Rour 1991; Bajo-Rubio et al. 2010).

In this favorable context, we register the first successful experiences of craft brewing in Spain and the most relevant presence of craft breweries. In 2015, Catalonia accounts for 21.7% of the total number of craft breweries in Spain, with 89 units of production out of 409, and the province of Barcelona alone has 44 craft breweries. The number of craft breweries in the other regions are Andalusia 59, Castilla y Leon 43, Galicia 36, Valencian Community 35, Castilla-La Mancha 28, Madrid 21, Aragon 16, Basque Country 16, Balearic Islands 12, Murcia 12, Cantabria 11, Extremadura 9, Asturias 8, Navarra 6, Canary Islands 5, and La Rioja 3, as shown in Fig. 13.2.

The interviews with some of the protagonists of the craft beer scene in Catalonia and the evidence reported in the extensive work of Masero

Fig. 13.2 Distribution of craft breweries in the Spanish regions, 2015. *Source* Author's computations on data from Informe Socioeconómico del Sector de la Cerveza en España (2015)

(2010) demonstrate the role of consumer associations and the influence from abroad in the diffusion of craft beer in Catalonia.

The seeds of the craft beer movement were disseminated around the experience of the Barcelona Brewing Company (BBC), which was the first craft beer producer in the region. Some brewing courses were offered at BBC by the founder, Steve Huxley, where some young beer enthusiasts had the opportunity to learn the techniques of homebrewing and to meet other people passionate about beer, among them Alex Padró and Paco Sánchez, two of the leaders of the craft beer movement.

Two beer associations were soon set up in the middle of the 1990s, which have educated and inspired, directly or indirectly, most of the people nowadays involved in craft beer in Catalonia: Humulus Lupulus and Catalunya Home Brewers (Masero 2010).

The beginning of Humulus Lupulus is linked to Cerveceria Jazz, where some people, who had previously taken a brewing course at BBC, started to experiment with the first joint production of beer to share costs. The founders were the owner of Cerveceria Jazz, Alejandro Camacho, who was nominated President of the Association (and who would have continued to sustain the diffusion of craft beer in Barcelona) and, among others, Àlex Borda, Alex Padró, Carme Valero, Raúl Ramirez, Imma Collado, Salvador and Boris Marimón, José Luis and Nuria Villanueva, and Dani and Abel Criado (Masero 2010).

Another association, Catalunya Home Brewers, was founded because of the enthusiasm of some students. Paco Sánchez, Albert Tintó, and José Manuel Vidal were students of biology when they discovered homebrewing thanks to a professor. The three students soon started to meet and explore homebrewing at Paco Sánchez's house. In 1996 they met Pablo Vijande, a student of chemistry, who was interested in beer production. Vijande immediately joined the association. A profitable activity arose among the four students: courses about beer and brewing were taken, a forum about beer was created, and an important collaboration with the Department of Archaeology of the University of Barcelona took off (the university was developing a project about the production of a beer based on the archaeological remains of beer found near Barcelona). The declared purpose of the Catalunya Home Brewers association clearly sums up the importance of the activities which all the consumer associations organized in this period: "The cultural association … has the purpose to promote the knowledge of beer culture, explaining its origin, the existing varieties, the production process and the ingredients" (Masero 2010).

The protagonists of these associations not only played a key role in spreading knowledge and culture about beer among consumers, but more importantly they also directly developed the first craft breweries in the region.

The role of consumer associations devoted to homebrewing has been recognized as a potential incubator of entrepreneurs and a generator of business start-up intentions for craft breweries (Carroll and Swaminathan 2000; Biraglia and Kadile 2016). In 2005 Alex Padró, Carme Valero, and Raul Ramirez (Humulus Lupulus) founded Llupols i Llevats, mainly inspired by Bavarian-style beers. Salvador and Boris Marimón (Humulus Lupulus) founded Install Beer SL, a firm manufacturing equipment for producing beer. Guzman Fernandez (Humulus

Lupulus) became a brewer at Ca L'Arenys. Paco Sánchez, Albert Tintó, and José Manuel Vidal (Catalunya Home Brewers) initially founded a magazine, *Cerveart*, devoted to the diffusion of beer culture and published a book about homebrewing (Sanchez et al. 2006), and then opened the craft brewery Art Cervesers (Cervebrew) in 2007. Pablo Vijande (Catalunya Home Brewers) started as a homebrewer in 1997 and, in the same year, came in contact with the Wolf Brewery in England, where he worked during his university summer break. In 2003 he founded Mas Malta Cervecera, which supplies equipment and raw materials to micro and homebrewers. Vijande also worked for La Cervesera Artesana and founded Companyia Cervecera del Montseny in 2007, together with other people who had attended a beer course organized by Humulus Lupulus.

Comprehensive support to the development of craft beer in Spain has also been provided by other initiatives than direct production, for example Cerveteca, a shop, bar, distributor, and educational place for brewers and beer lovers. It was founded in 2006 by Guillem Laporta and Rubén Rio (Humulus Lupulus). Laporta also contributed to incorporating craft beers on the menus of some serious restaurants, thus contributing to increasing the quality image and culture of craft beer in Spain (Huxley 2010, 2012).

It is clear how all these activities find their origin in the initiatives of the two associations, and how crucial the role of consumer associations was in fostering the diffusion of craft beer in Catalonia. Among others, Josep Borrell (Birrart 2007) explicitly acknowledges the crucial role played by the consumer associations: "Over time there have been associations which contributed to sustain, organize fairs, create some magazines that helped to disseminate the culture of craft beer." The protagonists of the first consumer associations, and the people who gravitated around them, were the lead consumers thanks to whom the very first seeds of a new beer culture were spawned in Catalonia, and later on all over Spain.

Lead consumers are individuals who "face needs that will be general in a marketplace – but face them … before the bulk of that marketplace encounters them" (von Hippel 1986). Many studies have explored how lead consumers are inclined to accept new products more intensely and more quickly than other consumers and, in addition, contribute to product creation, coming up with innovations themselves in order to meet needs which cannot be satisfied by the available products (von Hippel 1986; Urban and von Hippel 1988; Morrison et al. 2004; Schreier et al. 2007). Like the experimental users of a new technology (Malerba et al. 2007), the lead consumers of craft beer contributed to form, on the one hand, a bulk of individuals who were willing to experiment with new products on the beer market and, on the other, a niche of consumers who directly wanted to participate in product creation—that is, the homebrewers—thus generating a new consumer class with a fresh attitude and a different preference set. These individuals made an important contribution to the diffusion of information; to the creation of new knowledge about beer; to the support to the pioneer producers; and to the creation of a "status" for hedonic, snobbish behavior toward the consumption of a "new kind" of beer, which displayed a remarkable difference compared to the "old" standard consumers of the standardized and anonymous *caña*. Moreover, Morrison et al. (2004) and Urban and von Hippel (1988) emphasized how the leading-edge status of lead consumers could empower them to serve as a field's opinion leaders (Schreier et al. 2007). As a consequence, similar to the role played by the experimental users of new technologies, lead and experimental consumers contributed to strengthening consumers' preferences in demand, thus influencing the set of opportunities for new firms to enter the market and survive (Adner and Levinthal 2001; Adner 2003; Windrum and Birchenhall 2005; Malerba et al. 2007). In fact, many founders of the first entrants in Catalonia declared that they had had experience of homebrewing in order to learn the basic skills to make beer, as in the cases of Birrart 2007, Les Clandestines, Llupols i Llevats, Companyia Cervecera del Montseny, and Masía Agullons (Masero 2010).

The other relevant factor which played a key role in triggering the development of the first craft breweries in Catalonia was influence/inspiration from foreign countries. Almost all the first entrepreneurs acknowledged some inspiration from other experiences, in particular from the USA, the UK, Germany, Italy, and France. Among others, Alejandro Padró Ruiz (Llupols y Llevats) declared himself to be inspired by the Bavarian breweries, like the Fässla Brewery in Bamberg, Germany. We have already mentioned the connection of Pablo Vijande (Companyia Cervecera del Montseny and Mas Malta Cervecera) with the Wolf Brewery in the UK. The inspiration from the English tradition was also strong in Steve Huxley's decision to start the Barcelona Brewing Company. Ramon Ollé (La Gardenia) reports that his main influence was provided by the Brasserie des Albères, France. Josep Borrell (Birrart 2007) states that his inspiration was from the existing Italian and German micro producers. The founders of Art Cervesers report the importance of their travels in Italy in search for equipment to start the business (Masero 2010).

The idea that the development of the craft beer scene in Catalonia, and in Spain overall, is part of a more general dynamic, combined with the role played by some key people, is well explained by Pablo Vijande:[8]

> I believe it is a worldwide trend, but obviously the melting pot of people that appeared in Barcelona definitely helped its development. I think that beer is ubiquitous and that is why there have been pioneers of this sector scattered throughout Spain. But in Catalonia, and especially in Barcelona, we have been fortunate to have a good group of people: the Humulus Lupulus association and the Catalunya Home Brewers associations. These two associations have created the seed of the craft beer movement.

Also David Castro, brewer at Cervezas La Cibeles and the President of the Spanish Association of Independent Craft Brewers, reports the positive influence from abroad (Gallud 2015): in particular, young people traveled more and had the opportunity to observe the variety of beers served in pubs, while homogeneous products, more similar to a soda than a fermented cereal drink, were usually available in Spain; therefore, craft breweries started to satisfy new consumers' unmet needs.

The diffusion of the new attitude and different preferences in beer consumption was supported in the late 1990s and the beginning of the 2000s by the increasing use of the internet and social media. The success of these resources defined a new and different way of marketing

[8]Personal written communication, April 2015.

products. Thanks to the internet, consumers are more informed, more rapidly, and more connected. Small firms can gain an advantage from the use of the internet and social media in comparison to the traditional marketing tools. The diffusion of craft beer culture, and the success of craft beer producers, benefited from the increasing use of internet resources, such as the increasing number of blogs (see Reynolds 2006). Blogs are internet-based network communities focused on a subject or product (Droge et al. 2010), creating a sense of community among users, which have been identified by Kalyanam and McIntyre (2002) as a crucial part of the e-marketing mix, because of their advertising and promotional meaning, of their word-of-mouth communication results, and of their gatekeeper function (Droge et al. 2010). As with other internet-based resources, blogs contribute to influencing the dynamics of industries. Droge et al. (2010) and Reynolds (2006), among others, have studied the impact of blogs, emphasizing how they may raise the visibility of smaller firms and encourage entrepreneurship among small firms, weakening the importance of the economies of scale of large producers. Beer blogs have spread in recent years, in particular with regard to craft beer. Also with respect to this aspect, Catalonia was displayed as an innovative region. In fact, Catalonia has always been among the Spanish regions where internet use was most widespread (Castells and Diaz de Isla 2001; Jordana et al. 2005; Eurostat Regional Yearbook 2016). We claim that this factor also contributed to supporting and helping the diffusion of the new small craft breweries.

In order to sustain the diffusion of a new form of organization, the supply of equipment is also crucial. Barcelona has also been upfront with regard to the development of the equipment for microbrewing. In 2003, an Italian entrepreneur, Nereo Garbin, started a new firm, Cerveza Artesana Homebrew, in order to provide the necessary technology and support to the first entrepreneurial experiences in microbrewing, bringing the already developed experience of microbrewing from Italy.[9]

[9]Guía para descubrir las mejores cervezas artesanas (2013).

At the beginning of the 2000s, a critical mass of both consumers and producers was established. After the initial period, the Catalan brewers began to be more daring and to produce more special products, gradually becoming appreciated abroad as well. Josep Borrell at Moska, near Girona, is brewing lagers and ales together with special beers containing indigenous cereals such as buckwheat for Pep Nogué, a culinary expert, under the brand name Kecks, to pair with local food. Some others are using exotic additions: La Gardenia (La Rosita) is using rose petals in one beer and hazelnuts in another; Les Clandestines adds thyme to one of its beers.

13.4 The Future of Craft Beer in Spain

The region of Catalonia was the pioneer, thus contributing to fostering the development of craft brewing in the rest of Spain. However, the current situation is constantly changing: on the one hand the continuous entry of new small producers, and on the other the acquisitions of some craft producers by the multinationals, make the Spanish craft beer market very vivid.

From 2007 to 2016 other regions too displayed significant dynamics in craft beer production; in particular, Madrid and nearby regions like Castilla-La Mancha and Castilla y León have become more important in terms of the volume of production of craft beer, with the largest craft beer plants in Spain. Recently, some of the largest craft beer producers in these regions have been noticed by the multinationals: for example, La Virgen and Cervezas La Sagra have been acquired by AB InBev and Molson Coors, respectively.

Moreover, the recent phenomenon of "contract brewing," or "gypsy brewers," is becoming more important in the Spanish craft beer scene. For a small firm, managing the activity of producing beer is something different than managing the beer distribution network. Some new contract brewing companies have been created, mainly by homebrewers or people involved in the wine industry, to produce beer in other existing breweries and then sell it under their own brands. Contract brewing could be interesting from a producer's perspective because it implies fewer customers to handle, exploitation of economies of scale, and some seasonal advantages; on the other hand, it could provide negative effects to the producer because of the increased competition it generates. Nowadays, many Spanish breweries with a brewhouse larger than 10 hl are producing beer for contract brewers. After years of contract brewers, after having gained experience in managing the distribution activity, some of the contract brewers have then entered the market, investing in their own brewery.

The near future for craft beer in Spain is also linked to the possibility of strengthening the image of the "craft beer" and thus promoting craft beer production. With respect to this, the Spanish independent brewers' association, AECAI, was engaged in a debate about the definition of craft beer in the new Spanish law, which was approved by Royal Decree no. 678 on December 16, 2016:[10] craft beer manufacture is a process that is developed completely in the same equipment and in which the personal intervention constitutes the predominant factor, under the direction of a brewmaster or artisan with demonstrable experience and giving priority in manufacture of the human factor over the mechanical process, obtaining unique batches, not produced in large series, as long as the legislation applicable to the craft industry is fulfilled. Beer produced according to this definition may include on its labeling and in its communication the name "craft beer." However, craft breweries believe that this is a loose definition. Most if not all of the industrial beers are produced in the same factory, with people involved in the production process and under the supervision of brewmasters. Craft breweries fear that this definition will not protect them from increasing competition from the macrobreweries. In fact, some Spanish large industrial producers have increasingly entered into the ownership of craft breweries and some others have started to conduct new marketing campaigns to raise public awareness about beer styles or their ingredients, as they never did before.[11] The rivalry among small and large brewers seems set to

[10]Available at https://www.boe.es/boe/dias/2016/12/17/pdfs/BOE-A-2016-11952.pdf.

[11]See Cerveza Artesana (2016), available at https://cervezartesana.es/tienda/blog/los-curiosos-y-recientes-movimientos-de-las-grandes-cerveceras-espanolas.html.

intensify: on the one hand, we see the growing interest of the large producers in entering the craft beer segment; and, on the other, the small and young craft breweries struggle to defend their unique image of craft, and thus to strengthen their product differentiation strategy. This challenge will definitely affect future strategic choices in the Spanish beer market.

13.5 Conclusion

In this chapter we aimed to investigate the birth and diffusion of craft brewing in Spain. After having briefly analyzed the main historical traits of the industry's evolution, we studied the relevant factors which we believe to be crucial for interpreting the recent diffusion of craft breweries in Spain. We have shown that "history comes back": the early historical emergence of the Spanish brewing industry revealed the influence of pioneering entrepreneurs from foreign countries, and the relevant contribution by the region of Catalonia in terms of production and the diffusion of firms. The role of these aspects comes back also in the interpretation of the recent diffusion of micro producers of beer. The first craft brewers have been, directly or indirectly, linked to some experiences in foreign countries, like in particular Germany, and the UK.

We discussed how consumers' interest in beer, influenced by the discovery of a richer culture and variety of beers in foreign countries, and organized in consumer associations, fostered the creation of a new demand for beer on the Spanish beer market. This created fresh opportunities for new small firms, who entered the market to produce differentiated products with respect to mass-market beer. We conclude that the first entrepreneurs in the craft brewing sector had connections with foreign experience or with a consumer association. The role of the first entrepreneurs was crucial for spreading the idea of new business opportunities and for satisfying the demand of a new consumer attitude, more sophisticated, more local, and more informed.

Nowadays, craft breweries are spread all over the country and have increasingly gained success in recent years. The mass producers have started to react strategically, entering the craft beer segment themselves.

We claim that the strategic competition in the Spanish beer industry deserves the attention of future research.

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http://aecai.net/sobre-nosotros/.

14

Beer on! The Evolution of Micro- and Craft Brewing in the UK

Ignazio Cabras

14.1 Introduction

The past century has seen high levels of concentration in the brewing industry worldwide, with several mergers occurring among major companies, which have left the market in the hands of a few international companies (Tremblay and Tremblay 2009; Taplin et al. 2011). This process, led by progressive efficiencies and yields derived from economies of scale, resulted in a general standardization in the global supply of beer between the 1950s and the late 1980s. The production and distribution of beer were mainly aimed at satisfying a uniform demand, with little diversification with regard to the type of product sold, with a few exceptions mainly occurring at a local level (Jackson 1988; Stack 2000). In such a context, new businesses and entrepreneurs started to brew different types of beers and to develop their business strategies, based on low-scale levels of production and moderate investments. Their entrance to

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the industry has diversified the brewing landscape, and is recognized as the microbrewing movement (Carroll and Swaminathan 1992).

There is no general agreement in defining "micro" or "craft" breweries (Cabras and Bamforth 2016). However, in the UK there is a tendency to identify microbreweries in accordance with the production threshold which makes brewers eligible for claiming a tax break, fixed at 5000 hl (SIBA 2013). Another common classification for British breweries follows the number of employees working in the business. In this case, microbreweries are usually defined as businesses employing fewer than 10 employees, while small breweries are businesses employing between 11 and 50 employees (Danson et al. 2015). The size of breweries in the UK is also frequently associated by the general public with the "craftness" of their beers: as a result, micro and small breweries tend to be defined as craft breweries too.

Notwithstanding this variety in definitions, in recent decades the number of small breweries in the UK has literally exploded, with many small businesses successfully able to diversify their offerings and to expand their operations well beyond their local areas. Several studies have examined microbrewing, microbreweries, and craft breweries in the UK in recent times (Preece 1998; Knowles and Egan 2002; Cabras et al. 2012; Danson et al. 2015), mainly focusing on the growth occurring in specific regional areas and markets, or in relation to the effect of taxation and subsidies, and of particular business models adopted by new entrants in these markets.

This chapter aims to contribute to the literature on micro and craft breweries in the UK by focusing on possible evolutionary patterns which may have occurred in the British microbrewing sector. It has seven sections. The second section explains the theoretical background which explains the rise of British micro and craft breweries. The third section focuses on the historical events that created the terrain for the microbreweries movement, while the fourth explores the growth that occurred in the period 1980–2012. The fifth section presents the main outcomes gathered from a recent survey of British breweries, which are discussed in the following section with regard to the microbrewing context in the UK. The final section draws conclusions.

14.2 The Brewing Industry in the UK: 1900–1980

The British brewing industry benefited considerably from discoveries in the nineteenth century that significantly changed commercial brewing, not only in the UK but at a global level. The introduction of refrigeration, the development of pasteurization techniques, and improvements in quality control processes facilitated the production of a wide range of beers at any time of the year (Poelmans and Swinnen 2011; Cabras and Bamforth 2016). The expansion of the steam engine brought more complex and efficient steam-operated machinery to the brewing process, reducing production costs as well as transportation costs (Poelmans and Swinnen 2011), and enabling the distribution of beers over greater distances. Storage of beer also benefited from the invention of the "chilled iron mold," which significantly cut the costs of producing glass bottles; and from innovative sealing systems (e.g., the "screw stopper" and the "crown cork") which improved the way of closing bottles by replacing the traditional cork held with wire (Stack 2000).

These innovations fostered the growth of traditional small brewers into large companies, and the beginning of the twentieth century saw the industrialization of brewing as a production process. Brewers were now able to control the process as well as the environment and type of fermentation, and the pure yeast culture technology facilitated greater consistency in the production of all beers, including lagers. Innovations in packaging and transport meant that beer could be transported faster and more efficiently, and the expansion of infrastructure and networks accelerated the process of mass consumption (Stack 2000; Bamforth and Cabras 2016). Beer developed into a "standardized" product, providing more consistent and stable results once bottled, something that had always been prevented before due to limited knowledge (Gourvish and Wilson 1998).

Table 14.1 shows figures related to the British beer industry. Beer production remained pretty steady in the UK in the early 1900s, with patterns of consolidation characterized by a constant reduction in the number of breweries. The period between World Wars I and II had a significant impact on British beer and the brewing industry. In the UK,

Table 14.1 Production, consumption, and number of breweries in the UK, 1900–1980

Year	Breweries	Production (million hl)	Consumption (million hl)	Per capita consumption (liters)
1900	6447	41.6	52.2	136.3
1910	4398	41.2	51.5	122.3
1920	2914	41.0	33.1	75.0
1930	1418	28.9	–	–
1940	840	29.5	53.4	60.0
1950	567	40.7	42.1	81.1
1960	358	44.3	45.0	85.9
1970	220	56.2	57.2	102.6
1980	142	68.2	65.5	118.3

Sources Cabras and Bamforth (2016)

the Defence of the Realm Act (DORA) introduced the first licensing laws, which reduced pub opening times, increased prices, and lowered the alcohol content of beer. This situation pushed larger brewers to diversify into alternative products, such as soft drinks. Brewers also had to cope with the general lack of resources related to the war effort, including rising prices for raw materials. The great shortage in supply experienced during the war continued years after the end of the conflict, also due to an increase in the costs of grains combined with a general scarcity of raw materials. Between 1939 and 1950 the number of breweries in the UK decreased from 885 to 567 (Brewers Almanac 1955), with a general reduction of production and consumption and a contraction of per capita beer consumption of nearly 25% in that period (Gourvish 1994).

During the period 1950–1970, the number of independent brewing companies in the UK continued to decrease, with the number of plants shrinking from 539 to 177 (Gourvish 1994). Concentration in the market resulted in the rise of six major corporate players: Bass, Allied, Watneys/Grand Metropolitan, Scottish and Newcastle, Courage, and Whitbread—the "Big Six"—which accounted for about 80% of total UK production in 1970 (Gourvish and Wilson 1994). The remaining breweries were mainly regional companies supplying pubs and free houses (those pubs run as independently owned businesses) in their local areas. Brewhouses or brewpubs, for example small estates that traditionally brewed their own beer in an on-site brewery, almost completely disappeared, either purchased by larger breweries or because they ceased activity by the end of the 1970s (Jennings 2002).

The patterns that led to heavy consolidation in the UK involved companies operating in other economic sectors. Large, national brewers tried to diversify and expand their interests in different markets, needing to grow in size and capacity to create the base for significant financial operations. For instance, Scottish and Newcastle expanded on the British leisure market during the 1960s, pursuing the development of Thistle Hotels, a leisure hotel company. Similarly, Whitbread acquired a large stake in another leisure hotel company, Country Club Hotels (Gilbert and Smith 1992).

Financial operations by the other major breweries supported the growth of the food and drink, hotels, and leisure sectors, seen by large brewers as a natural combination of products (Gilbert and Smith 1992). However, expanding into the leisure market allowed the Big Six further to increase their control on total volumes of beer sold by acquiring more pubs and other licensed premises and directly controlling them via the tie system. This system implied that pubs were either managed on behalf of the breweries, or rented to tenants forced by contract to buy supplies from their company landlords. As a result, of approximately 72,400 pubs open in the country in 1974, about 38,300 (53%) were owned by or rented from one of the Big Six. Finally, a change in consumer tastes occurred in the 1960s: until then the bulk of British beer comprised low-end ABV cask-conditioned ales,[1] with a very limited consumption of lagers that accounted for just about 1% of beers sold in the country (Slade 2004). With concentrations and mergers occurring in the industry at a global level, and the advent of marketing strategies associated with mass-media advertising, the consumption of lager went from 450,000 hl in 1960 to nearly 4 million hl in 1970. These figures are reflected in the 20% increment registered by imports of beer to the UK in the same period.

[1]ABV stands for alcohol by volume. Cask-conditioned ale is defined as unfiltered and unpasteurized beer which needs conditioning (including secondary fermentation) when delivered to the pub cellar; the beer is served from a cask without additional nitrogen or carbon dioxide pressure. In the UK, cask-conditioned ale is also referred to as "real ale."

14.3 The Rise of Microbreweries in the UK: 1980–2010

In 1980, there were around 142 breweries in the UK; 35 years later, in 2015, the number had increased to nearly 1500 (BBPA 2015). Figure 14.1 shows this impressive growth. Notwithstanding the space left for new entrants by the heavy concentration processes in the brewing industry, several other factors contributed to the advent of microbrewing in the UK.

According to Cabras and Bamforth (2016), the rise of micro and craft breweries in the UK can be described in three waves. The first wave arrived between the late 1970s and mid-1980s, when many British consumers started to express dissatisfaction, blaming the high level of concentration in the industry for a progressive reduction in beer variety. This situation created a growing demand for traditional beers, and provided a platform for the creation, in 1971, of the Campaign for Real Ale (CAMRA), an organization with the main objective of campaigning for the revival of "real ale," cask-conditioned beers brewed with traditional methods, for instance non-pasteurized and non-filtered, and served without gas-driven dispensing but rather hand pumped.

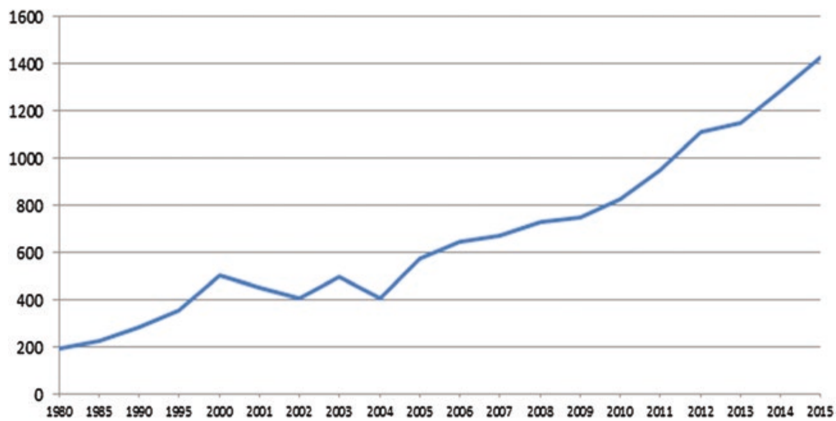

Fig. 14.1 Number of breweries in the UK, 1980–2010. *Source* BBPA 2015

The work of CAMRA in promoting traditional ales created a potential customer base for the rise of new breweries, increasingly perceived by the public as an alternative to mass producers. In addition, CAMRA campaigns changed the image of real ale drinkers, promoting them as customers keen to preserve traditions and values, rather than sampling variety for personal satisfaction. CAMRA soon passed from being perceived as a "reactionary" organization fighting for the preservation of real ale to a sort of "lobby" promoting the appreciation of traditional British beer. Membership increased steadily from its foundation, with membership going from a few dozen to thousands by the early 1980s. Regional and local branches started to open across Britain, with member events such as annual general meetings and beer festivals held in different locations every year.

The territorial reach of CAMRA and the compartmentalization of its membership into regional and local branches created an important platform for the development of the British microbrewing movement, giving a crucial impulse to new entrants to the beer market. The first wave of micro and small breweries comprised mostly businesses founded by entrepreneurs with previous experience in the industry, attracted by the opportunities related to an increasing demand for real ales (Mason and McNeill 1997). Aside from demand, the technology available for opening a microbrewery, and the amount of knowledge dispensed in the form of books and do-it-yourself kits, made entry to the market affordable for many, although survival was far from guaranteed (Swann 2010). However, the emphasis for the first entrepreneurs appeared to be on quantity rather than quality. Particularly those who did not have significant experience in the industry started to experiment with homebrewing kits, sales of which reached a peak in the mid-1970s. These kits were frequently made with cheap and not very reliable materials, and the final brews often resulted in barely drinkable beer. Nevertheless, the proliferation of kits and books provided manifold possibilities to experiment for beginners, and increased the level of networking among the community of brewers that was forming.

New brewers end entrepreneurs entreing the market were also characterized by a greater regional dispersion. According to Swann (2010), about half of the microbreweries in the post-CAMRA period opened in villages or even on isolated farms, in contrast to the critical mass of pre-CAMRA breweries, that were mainly concentrated in cities and towns. Swann indicates beer provenance as a possible explanation for this geographic dispersion, as the regional and local origins of a beer progressively became an important factor influencing consumers' choice:

> The best-informed consumers may know the production heritage of each brand of beer, but the less well informed may judge production heritage by geographical origins. A beer from Burton-on-Trent is surely the product of one of the giant breweries. By contrast, a beer from a farm on the Lizard Peninsula in South Cornwall or Wasdale Head in the heart of the Lake District, must surely be the product of a micro-producer of real ale. (2010, p. 19)

The second wave arrived in the early 1990s, after a period of stabilization which saw the number of new breweries matching that of those closing down (Knowles and Egan 2002). This wave was mainly characterized by the entry to the industry of new founders with little or no connection with breweries or brewing (Glover 1988), such as retirees or beer lovers in search of a career change. However, the fast increase in the number of new businesses brought the development of specialized real-ale manufacturers, which enabled many new breweries to start with more efficient technology and more cost-effective brewing equipment (Glover 1988). This second wave occurred in conjunction with the Beer Orders introduced by Parliament in 1989 on recommendation of the Monopolies and Mergers Commission (MMC), which identified barriers meaning that small breweries were disadvantaged in their access to the market owing to the degree of consolidation and the monopolistic nature of the brewery industry (Wyld et al. 2010). The Beer Orders forced the larger breweries to free most of their pubs from the tie. The separation between brewers and pubs generated an even more complex situation in the industry, with the formation of large retailing companies or pubcos purchasing the majority of freed pubs, creating fewer opportunities for new breweries to expand their supply network (Pratten 2007; Preece 2016). In addition, industry concentration remained unhindered by the orders, since the four major national breweries increased their supply of national output in the UK from 75% in

1989 to 84% at the end of the 1990s, with an additional 15% supplied by regional breweries (Preece et al. 1999).

The third wave arrived in the early 2000s and saw a further and sharper increase in the number of microbreweries, as developments in brewing technology lowered barriers to entry by making the necessary equipment cheaper, more compact, and easier to install (Mason and McNally 1997; Wyld et al. 2010). In 2002, the UK government introduced the Progressive Beer Duty (PBD) in support of smaller brewers, granting these businesses a lower levy than large brewers. Such a decision came after years of active campaigning from industry organizations such as the Society of Independent Brewers (SIBA), established in 1980 to represent the interests of the growing number of British independent breweries. It also aligned the UK system with those applied by other EU members for small businesses operating in the brewing industry.

Prior to the introduction of PBD, all breweries paid a flat rate of excise duty per hectoliter of beer produced according to its alcoholic strength (Wyld et al. 2010). With the PBD, brewers started benefiting from a 50% reduction in duty on the first 5000 hl of annual production, and a progressive tax remission system up to an output level of 30,000 hl (raised to 60,000 hl in 2004), after which the full duty is paid. Given an approximate average beer strength of 4.2%, the main rate of beer duty would imply a cost of about £76 per hectoliter of beer produced. For instance, a brewery remaining within the threshold of 5000 hl would receive about £38 per hectoliter in terms of rate relief. As the threshold increases, the corresponding relief for breweries diminishes in a progressive manner; for example, breweries producing up to 20,000 hl and up to 40,000 hl would receive relief of approximately £9.50 and £3.20 per hectoliter, respectively.

The introduction of the PBD boosted the growth of microbrewing all over the country, shaping the size of new businesses and tending to keep their production low in order to take advantage of the tax break. The new breweries opened after the PBD tended and still tend to remain small in size, focusing their supplies on licensed premises located within spatial proximity, with only a few breweries expanding their business activities toward large distributors. Moreover, the most recent financial crisis hit large pubcos severely, forcing them to put large parts of their estates and creating more opportunities for small breweries to acquire their own pubs (Andrews and Turner 2012). This situation helped many breweries to expand their reach and to increase their presence at least on a regional level, although business targets and distribution remained mostly restricted to areas in close proximity for the vast majority of them.

14.4 Stabilisation and diversification: 2010–2015

The growth of UK micro and craft breweries continued in the period 2010–2015, although the pace has now stabilized. This section presents information extracted from the British Beer 2016 Report prepared by the author for the SIBA, which currently represents 845 independent small and microbreweries, about 60% of the total number of breweries operating in the UK. SIBA collects information on the state of its membership on a regular basis.

Data presented in this section was gathered by means of a survey questionnaire sent to members. The template used for the survey comprised six sections. The first section aimed to gather information related to the surveyed businesses, their owners/managers, and their respective locations and length of membership. The second section examined levels of production, accounting for cask, kegs, and bottled beer. The third section explored the types of beer styles brewed by members. The fourth section focused on the level of employment generated by surveyed members. Questions aimed at capturing levels of full-time and part-time work, employees' ages and locations, personnel holding relevant qualifications, and provision of training. The fifth section investigated members' annual turnover, average prices to on-trade and off-trade customers, and current routes to markets. Finally, the sixth section examined capital investment made in 2014 and members' plans for future expansion and development.

The survey was officially launched online in November 2015 and the data collection progressed until January 2016. A total of 387 responses was gathered at the end of the data collection, but a more detailed inspection enabled the identification of 301 responses as valid, thus providing an appropriate level of data and information in relation to all the sections included. Valid responses accounted for 77.8% of the total responses received, and for 35.6% percent of the total membership, meaning that about one in three members took part in the survey.

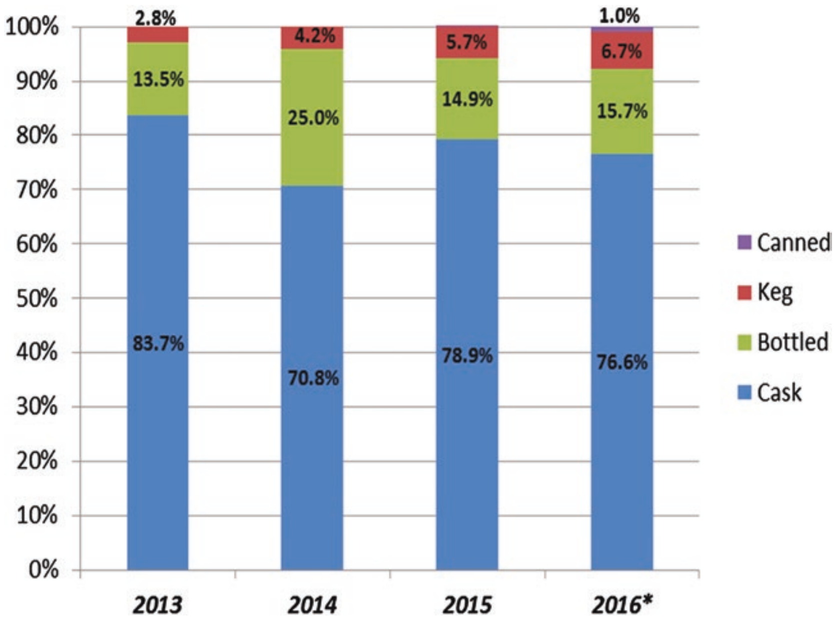

Fig. 14.2 Proportion of beer production* according to packaging, 2013–2016. *Note* *Estimated for SIBA surveyed members in 2015, accounting for 60% of total UK breweries. *Source* SIBA (2016)

According to the responses, levels of beer production amounted to a cumulative total of 1.64 million hl. This equates to roughly 287 million pints produced by respondents, and translates to approximately 532 million pints brewed by SIBA members. Figure 14.2 shows level of production by packaging and compares 2015 figures with levels of production estimated in 2013 and 2014 and with those forecast for 2016. Cask beer still represents the bulk of production, with a relatively steady increase in the amount of bottled/canned beer, although less than 5% of the surveyed breweries reported bottled beers accounting for the majority of their brewed output.

The vast majority of beer produced was contained within two ABV range intervals: 3.5–4.2% and 4.6–6.0%, with an average strength of 4.3%. On the one hand, and similar to figures gathered from previous surveys, just five breweries reported brewing low-alcohol beers, which anyway accounted for a very low proportion of their total production in 2015 (mostly below 5%, with only one brewery reporting up to 10%). On the other hand, 96 breweries reported brewing beers with an ABV higher than 6.0%, which accounted for more than 20% of total production in five cases.

Beer styles brewed by the surveyed breweries on a regular basis are reported in Table 14.2. The regular production of golden bitter/ale beers is indicated by more than 90% of respondents, followed by traditional bitter ales, stouts/porters, and strong bitter IPAs, also brewed in the majority of brewers. Conversely, only a handful of breweries indicated gluten-free and low-alcohol beer in regular production. Interestingly, roughly one in three breweries brews organic and specialty beers on a regular basis. The vast majority of respondents (about 85%) indicated having more than four different brands regularly brewed at their premises, with a quarter indicating at least seven different brands in regular production. Engagement with seasonal or "one-off" beers is also significant, with almost all respondents engaged in brewing seasonal products in 2015. Nearly one in four had brewed more than 10 seasonal beers in the period considered, and only 21 breweries (less than 7%) did not brew any.

Table 14.2 Types of brands and seasonal beers*

Beer styles	%	Beer styles	%
Pale golden bitter/golden ale	94.7	Strong ale/barley wine	20.6
Traditional brown/copper/ amber bitter	83.4	Lager-style beer	20.6
Stout/porter	74.4	Local ingredients beer	19.6
Strong bitter/IPA	67.4	Themed series of beers	16.3
Bottle-conditioned beer	38.9	Wheat beer	14.3
Speciality-ingredient beer	30.9	Foreign-style ale	11.3
Traditional mild	30.6	Super-premium bottled beer	11.3
Special hop beer (e.g., single variety, green)	29.2	Unfined cask beer	9.6
Strong mild/old ale	23.6	Gluten-free beer	1.7
Craft keg beer	22.9	Lower-alcohol beer (<2.8% ABV)	1.3

Note *Percentages calculated on total responses per category. *Source* SIBA (2016)

Figure 14.3 shows the distribution of the surveyed breweries with regard to level of annual turnover. One in four breweries approached by the survey indicated an annual turnover for 2015 below £50,000,

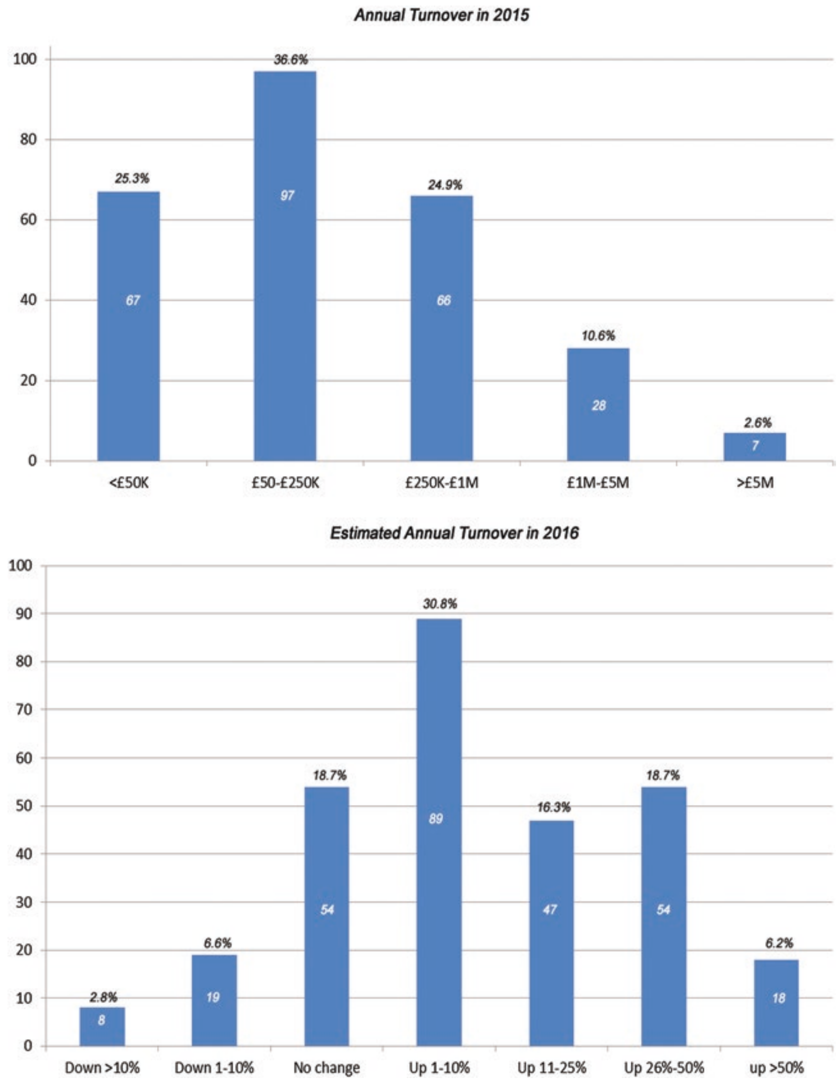

Fig. 14.3 Annual turnover in 2015 and estimates for 2016.* *Notes* *Counts of responses provided in bars, percentages on top. Estimated for SIBA surveyed members in 2015, accounting for 60% of total UK breweries. *Source* SIBA (2016)

with the bulk of responses within the band £50,000–250,000 and about 35% reporting an annual turnover above the £250,000 threshold. Just 10% of respondents indicate an annual turnover above £1 million, confirming the small nature of these businesses. Estimation for the next 12 months seems overall very positive: three in four respondents expected an increase in annual turnover in 2015, with nearly one in five forecasting growth above 25%. Conversely, about 8% of respondents expected a decline in turnover for the next year, with another 15% predicting no change.

The surveyed breweries provided valuable information with regard to employment generated by their activities. The total workforce captured by the survey comprised 1669 staff employed in the breweries approached. The vast majority were full-time equivalent (1187, equal to nearly 71% of the total), with men representing approximately three in four employees. About 43% of part-time employees work between 10 and 20 hours per week, with another 26% working above 20 hours. Jobs of under 10 hours per week related to one in three non-full-time employees. Figure 14.4 classifies employees by age bands and residency. The average age of almost half of the employees surveyed was between 35 and 54 years, with more than one in three employees aged below 34. Interestingly, the number of employees grouped in the oldest age band (55 years and above) outnumbered those grouped in the youngest category (16–24 years old). The majority of workers lived in the same

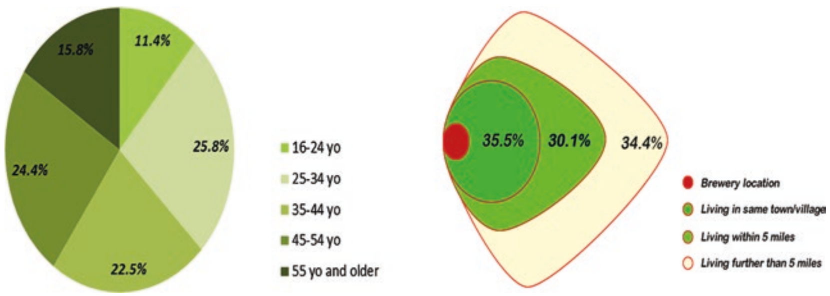

Fig. 14.4 Workforce categorized by age bands and place of residence.* *Notes* *Estimated for SIBA surveyed members in 2015, accounting for 60% of total UK breweries. yo = years old. *Source* SIBA (2016)

town or village as the brewery, with about two in three employees living within five miles of the brewery. These findings confirm the importance of breweries in terms of impact on local employment. In addition, the vast majority of breweries surveyed indicated the intention to expand their staff in the next 12 months, with three in four breweries planning to recruit two or more new employees.

In addition, the surveyed breweries also appeared to be important for their local communities with regard to capital investments made, as shown by Fig. 14.5. More than one in four breweries invested less than £10,000, with 57% of respondents investing above this threshold and with about 13% investing more than £100,000 in their breweries. Breweries invested to increase capacity and to modernize equipment, while other respondents invested in purchasing or expanding their transport fleet, enlarging their current premises, or acquiring new premises. When asked to express their objectives in terms of growth and expansion for the period 2016–2019, the vast majority of breweries indicated the intention to increase production, sales volume, and annual turnover. While the bulk of responses expressed the intention to achieve marginal growth up to 25%, almost one in five breweries planned to double their current levels of production, sales, and turnover by

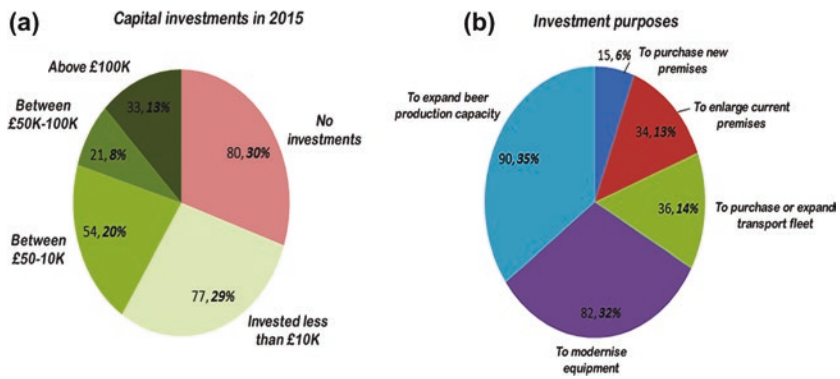

Fig. 14.5 Levels of capital investments made in 2015 and related purposes.* *Note* *Estimated for SIBA surveyed members in 2015, accounting for 60% of total UK breweries. *Source* SIBA (2016)

2019. Only 15 breweries indicated no plans in terms of growing their business.

The surveyed breweries indicated free-trade pubs, owned pubs, and wholesalers as the main channels for their sales, with an average of 56% of breweries' production supplied to free-trade pubs and about 9% to owned pubs. Beer supplied to wholesalers and other retailers accounted for a cumulative 20%, with the rest supplied via other channels. The majority of responses indicated tje largest proportion of production (80% and above) sold within spatial proximity. About one in three breweries sold more than a fifth of their beers beyond a 40-mile radius, with just 20 breweries selling more than half of their production farther away from their location.

Table 14.3 provides details about pub ownership/management among the surveyed breweries. About one in five breweries in the survey indicated that they own, lease, and rent pubs. In particular, the total number of pubs owned by breweries captured by the survey was 294, while those leased/tenanted were 161. The majority of respondents (42) owned at least one pub, while 4 respondents seemed to possess directly more than ten pubs each, for a cumulative total of 147 controlled pubs. Numbers related to leased/tenanted pubs were smaller, with 20 respondents controlling at least one pub under these types of management, and other 16 revealing to have more than two. Operations conducted and finalized in 2015 saw the purchasing/undertaking of 39 pubs, of which 20 were bought and 19 were undertaken by

Table 14.3 Number of surveyed breweries owning or leasing/tenanting pubs (counts)

	Freehold		Leased/tenanted	
No. of pubs operated	Total	Bought in 2015	Total	Taken on in 2015
0	155	–	180	–
1	42 (42)	10 (10)	20 (20)	8 (8)
2	11 (22)	3 (6)	8 (16)	3 (6)
3–5	9 (34)	1 (3)	3 (17)	1 (6)
6–10	4 (30)	–	2 (12)	–
>10	4 (147)	–	3 (76)	–
Total	70 (275)	14 (19)	36 (141)	12 (20)

respondents. These figures indicate a huge increase since the previous year, when findings from the survey indicated operations involving 24 pubs, of which 10 were bought and 14 were undertaken by respondents.

Finally, some important information collected by the survey related to export and pub ownership/management. About one in seven of the breweries approached indicated that they sold and exported their beers overseas, with 30 destinations reported in the survey. The main markets were in Europe (Italy, Sweden, Finland, Norway, and Spain), but some breweries reported exporting as far as Brazil, Canada, Australia, and China.

14.5 Discussion

Notwithstanding the significance that industry consolidation, technological improvements, and an increasing demand for craft beers had in relation to the rise of businesses in the UK brewing market, there are other important aspects that need to be considered when analyzing the growth occurring in both countries.

Firstly, initially microbreweries tended to build their success on a renewed appreciation of localism that involved a younger generation of consumers, a sort of "neo-localism" used to create a sense of place (Flacks 1997). Much of the appeal of microbrewed beer is that it is a rejection of national, or even regional, culture in favor of something more local (Danson et al. 2015). In addition, microbreweries in the UK appear to have consolidated their presence and level of recognition within their respective areas also in social and economic terms. These statements seem to be corroborated by the previous section's findings related to the overall production of seasonal beers, and to the figures associated with workforce and capital investments. Seasonal beers are frequently brewed in relation to events such as beer festivals and market fairs (e.g., farmers' markets, mostly organized by neighborhood committees and CAMRA branches; Cabras 2016). Local breweries and brewers are almost always actively involved in the organization of these events, and get significant returns in terms of visibility and appreciation. Moreover, breweries tend to employ a local workforce, and the majority of investments that these businesses make tend to fall within the spatial proximity of their premises. This emphasis on geographic origin has now become a sort of trend characterizing the existence of many new firms, with inevitable clashes and overlaps in the same areas (Maye 2011).

Secondly, micro and craft breweries tend to serve and be served by a spatially constrained supply chain, which brings advantages with regard to local custom, but puts boundaries around their ability to expand. For instance, British microbreweries generally supply pubs within a range of a few miles, as longer distances will result in higher transport costs (Danson et al. 2015). As demonstrated by the findings of the last SIBA annual survey, figures related to beer distribution indicate that about two-thirds of the beer goes to pubs, which remain the main channel of distribution. The increasing number of estates put on the market by large pubcos hit by the recent financial crisis provides opportunities for many breweries to expand their control of more pubs and licensed premises, as demonstrated by the increased number of purchases and leases made by SIBA members since 2014. However, this may also create a situation of conflict among breweries located within close spatial proximity, particularly for those operating in peripheral and remote areas, where the availability of pub premises is reduced compared to urban areas. Furthermore, aside from market fairs and beer festivals, the numbers of which have progressively increased since the early 2000s, the internet could represent a significant resource for micro and craft breweries in terms of expanding their visibility and selling beers beyond their local areas (Fry et al. 2001).

Thirdly, small breweries tend to function in a collaborative/competitive environment, and do not suffer from the aggressive context in which the larger brewing companies operate. Newcomers within the UK brewing industry seem to work in an environment characterized by a high exchange of knowledge and information and by mutual support, which functions as an incubator for creativity and innovation with regard to brewing processes and recipes. The "swap system" is an example: breweries periodically exchange beers between one other, enabling brewers to experiment and learn as well as exchange information and opportunities available in the on-trade market. In such an environment, many brewers experiment and try innovative things, and the outcomes of this process benefit the final consumers, who enjoy a greater and more diverse selection of beers (Cabras 2016). In addition, given that pubs and beer festivals still represent the main channels used by breweries to supply and showcase their beers, respectively, the rise of the UK microbrewing movement may bring multiple social benefits. Consumers tend to be more involved with micro and craft breweries, and keener to increase their knowledge of beers and brewing processes. Particularly in rural areas, communities engage with their local breweries in relation to a variety of initiatives, which bear huge potential in terms of increasing and retaining social capital at a local level, with social capital defined as "the amount of features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam 1995, p. 67). Higher levels of social capital are often associated with healthier and more engaged communities, and are important with regard to strengthening relationships among different groups of residents, generating positive effects particularly in spatially remote areas (Cabras et al. 2012).

Lastly, tax breaks provided to microbreweries have fostered growth by allowing new breweries to use part of their revenue to invest in their facilities and equipment, improving their productivity. The level of support made available by successive governments and local development agencies in the form of PBD, business rate reliefs, and grants has significantly helped these businesses, particularly in the initial stages of their activities (Cabras et al. 2011). In particular, the PBD is still considered extremely important by breweries with regard to their ability to compete as small businesses. In the SIBA annual survey conducted in 2014, about 70% of respondents indicated that the PBD was "vital" for their activities, with another 23% seeing it as "very important" or "important," and with only six respondents not considering the PBD to be important for their activities. In the survey conducted in 2015, the percentage of responses considering the duty to be "vital" increased to 85%, with a further 11% indicating it as "very important" or "important," and only two respondents not considering the PBD important for their activities.

Furthermore, in the SIBA 2015 survey, increasing capacity and purchasing new equipment were indicated by breweries as top priorities with regard to utilizing savings on duty (for those who qualified) in relation to their business activities. Conversely, savings seemed not to be essential in relation to staff training, discounting prices, or developing marketing/branding. While these findings confirm the important role played by the PBD in supporting the growth of UK micro and craft breweries, they may also highlight some of the risks for businesses relying too much on this form of support. For instance, there may be a lack of incentive for breweries to expand beyond spatial proximity, or they may be missing opportunities in terms of increasing the level of skills and training for their employees.

14.6 Conclusion

The study presented in this chapter explored and examined the growth of the microbrewing movement in the UK, discussing the main aspects related to the beer industry in these two countries and exploring the expansion of micro and small independent breweries in the light of historical and theoretical issues. While the majority of British breweries continue to operate in spatially restricted areas and niche markets, a few businesses expanded significantly in terms of production and turnover, gradually acquiring larger shares of the market and competing with multinational producers at home as well as abroad.

It appears that the steady growth registered by the microbrewing movement has created a new market segment for craft beers, mainly intended and perceived in the UK as cask-conditioned ales with low carbonation using traditional techniques (Cabras 2016). Aside from the reference to size, the definition is vague and leaves space for speculation with regard to the type of product brewed. Furthermore, despite the impressive choice for consumers, craft beer sales remain marginal in the British market, with little more than 7% market share in 2015. Nevertheless, the rise of craft beers has pushed large brewers to design and develop part of their offering in order to resemble the type of products marketed by smaller competitors (Bamforth and Cabras 2016).

From the analysis presented in this chapter, it appears that UK micro and craft breweries found themselves operating in a developing market whose expansion inevitably increased business risks and the costs associated with fast-growing competition. As a result, the vast majority of relatively new breweries decided to remain small, and still do, mostly to profit from the support available in the form of tax breaks. Many breweries tend to differentiate their production as a function of the reduced market they serve, trying to preserve the original niche in which they started. More recently, however, an increasing number of micro and craft breweries are starting to compete with large brewers on a much larger scale, increasing their output and enlarging their range of products by investing significantly in innovation and marketing (Cabras 2016). This choice, however, poses some questions in relation to the types of beers offered, and whether these breweries can continue to be identified and perceived by consumers differently from mass producers.

This chapter adds to the literature on breweries and the brewing industry in general, which tends to focus more on larger-scale production processes and the marketing strategies implemented by large breweries, sometimes neglecting the traditional and historical aspects that contribute to shaping the ways in which many breweries develop and use innovation, and the ways in which they attract new customers and retain old ones within their respective markets. As a result, there is a general paucity of information with regard to micro and small breweries and the growth registered by these businesses in past decades. This lack is even more significant in relation to other countries than the ones discussed in this chapter. Given the resurgence of real ales and craft beers, more studies on microbreweries and more specific examples of the business models and strategies adopted by these businesses would help in predicting future behavior not only in the UK beer market, but also other beer markets overseas.

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15

Craft Brewing in Australia: 1979–2015

André Sammartino

15.1 Introduction

Craft brewing is booming in Australia. The number of independent beer producers has leapt from just less than 100 in 2005 to over 350 by 2015.[1] The path to this boom was slow and punctuated, however. The mid- to late 1980s saw an initial rush of craft beer start-ups, with 34 firms operating by 1990. Yet this was followed by a lull, such that the firm count had only crept up to 43 by 2000. As I will argue, partially this delay reflects a correction to the over-exuberance of the first wave of entrants. Only a small number of firms developed a viable business model and even fewer a model for sustainable growth. What

[1] I use the term *craft brewers* to refer to smaller scale, independent beer-producing firms. These contrast with large-scale macro beer companies. The term *craft beer* is a recent affectation (Hieronymus 2015). Through much of the period of this study, such Australian firms have been known as mini-breweries, micro breweries or boutique brewers. The key defining characteristic is the independent ownership and control of the firm.

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is particularly distinctive about Australia, in the early days of craft, is that macro brewers often acquired the rare successful market entrants. In doing so, they also laid a key foundation for the eventual boom by easing mainstream access to *gateway* pseudo-craft beers.

The lull in craft beer start-ups from 1991 served an important purpose, as the smaller number of new players carved out more sustainable niches and set about building a community of co-evolving firms and consumers. The scene was set for the subsequent boom in a number of ways. As a result of the innovations of the pioneering craft brewers, and also greater exposure to imported beers, drinkers became more sophisticated and adventurous. This community of consumers and prospective entrepreneurs was nurtured and inspired through festivals and industry associations. Those willing to make the entrepreneurial leap faced a more amenable start-up environment. The skills and resources were more readily available in the form of employees within the early generations of breweries. A viable distribution system of retail outlets and sales agents slowly developed. Innovations also occurred in the entry form. While the initial entrants were a mix of small brewing operations and brewpubs, this second wave of start-ups includes a large number of *gypsy* operations—firms using excess capacity of fellow brewers—and this strategy appears to be facilitating much greater ease of access.

This chapter explores this evolution by first setting the scene of the broader Australian beer industry. Extensive data are then introduced showcasing the entire population of entrants into the craft segment over the period 1979–2015. Three distinct periods are examined with mini-case studies of various path breaking ventures. I draw lessons regarding the nature of entrepreneurial motivations, the interaction of various contextual factors in both eliciting and constraining growth, and demonstrate the diversity of viable business models that have emerged in this vibrant but still small segment of the Australian beer market.[2]

[2]Estimates of the market share of craft beer in Australia in 2015 vary widely—from 4 to 8%. This discrepancy reflects (1) uncertainty about how to delineate the product from the producer (i.e. no requirement of independent ownership is consistently applied); and (2) a lack of any cooperative collection of aggregate data from across the beer market (unlike in the USA, e.g., where the Brewers Association collects and reports a league table of brewers). There is consensus that the segment is growing at the same time that overall beer sales are in persistent decline.

15.2 The Broader Australian Beer Industry

Beer was introduced to Australia with European settlement and has been a persistent presence in the nation's culture and economy ever since. Australia was the fourteenth-largest beer market in the world by volume in 2000 (Euromonitor 2015), bigger than the Czech Republic and Italy.[3] The geographic isolation of the country, in particular the costliness of shipping beer across oceans to Australian drinkers, has historically precluded engagement with international markets. And for over 150 years, the immense size of the continent and distances between major cities prevented even the emergence of national brewers. The Australian brewing industry did undergo considerable consolidation through the second half of the twentieth century, however.

While almost 1200 breweries, excluding the craft brewers discussed herein, have operated during the period since colonization (i.e. the arrival of Australia's first European settlers in 1788), by 1979, there were only eight breweries still in business (Deutscher 2012). These breweries were predominantly regional monopolists or duopolists, served principally their home state.[4] The surviving firms had achieved economies of scale in production and transportation such that all smaller brewers had been either acquired by their bigger rivals or simply shutdown over the preceding century. The remaining players had sustained and reinforced their advantages through continued expansion and modernization of production, but equally important was the practice of *tied* pubs. Hotels, by far the biggest outlet for beer sales, were often locked into exclusive sale contracts with a single brewer. This practice coupled with

[3] By 2014, Australia's market ranking by volume had dropped to 22 (Euromonitor 2015). Australians are typically ranked number one outside Europe in terms of per capita beer consumption (Colen and Swinnen 2011), but this consumption has been in decline since the 1970s. Between 2009 and 2014, the per capita beer consumption dropped from 108 to 92.4 litres, the lowest level in over 50 years (Australian Bureau of Statistics (ABS) 2015).

[4] Australia is made up of six states and two territories plus several small administrative regions. The eight brewers and their respective home states/dominant markets in 1979 were Carlton & United (Victoria), Cascade (Tasmania), Castlemaine Perkins (Queensland), Coopers and South Australian Brewing (both South Australia), Swan (Western Australia) and Tooheys and Tooths (both New South Wales). Carlton & United did have also footholds in southern Queensland and the Northern Territory (Merrett 1998).

price maintenance schemes encouraged a détente on encroachment across state borders and served as very effective barrier to new entrants (Merrett 1998; Stubbs 1999). Beer drinkers were typically exposed to very few choices and presumed to be intensely loyal to state brands.

This ecosystem became unstable, however. Beer consumption had plateaued by the mid-1970s as cultural norms changed, and drinkers faced increased regulatory imposts and ever-rising sales taxes.[5] New competition laws from 1974 on broke the *ties* binding pubs and the price maintenance schemes (Merrett 1998). Relaxation of liquor licensing laws meant beer purchases were also increasingly through retail stores rather than pubs. The brewers were under pressure to sustain growth through grabs for market share. This opened up the prospect of cross-border incursions. An attack on Carlton & United Breweries' (CUB) home market of Victoria by British brewer Courage, who set up a Melbourne brewery in 1968, had triggered an unprecedented investment in branding and advertising by the incumbent, crucial weapons for a national battle. This all set the scene for the consolidation to follow.

The year 1979 saw the first of several interstate mergers and acquisitions, many fuelled by ambitious corporate raiders building debt-laden conglomerates. When the dust settled in the early to mid-1990s, there were two very large national players—CUB (known internationally as Foster's Brewing) and the New Zealand-owned Lion Nathan.[6] These two players often accounted for over 90% of national beer sales by volume for following two decades, with fortunes swinging back and forth between the two in terms of market predominance. Each firm had a full portfolio of mainstream beers, but was highly reliant on sales of barely

[5]Excise on beer is especially high in Australia. It represented the second-largest source of indirect tax revenue in Australia after petrol taxes in 2008. For lower-priced, packaged macro beers, taxes can constitute almost half the retail price (IBISWorld 2008).

[6]Carlton & United (Victoria) had acquired Tooths by 1983 and Cascade in 1993. Tooths had acquired Courage in 1978. Castlemaine Perkins, Swan and Tooheys were merged by 1985 and acquired by Lion Nathan in 1990. Their Australian portfolio expanded to include South Australian Brewing in 1993. A secondary Tasmanian brewer Boags was spun out of Cascade in 1994 and run independently until acquired by Filipino brewer San Miguel in 2000. In 2007, Boags was sold to Lion Nathan.

distinguishable bland Euro lagers and, increasingly, low-alcohol variants.[7] Through the 1990s and 2000s, each also secured licensing deals to brew and import various international brands such as Stella Artois, Corona, Heineken, Budweiser, Carlsberg and Grolsch. Both also expanded internationally, with Foster's at one point the sixth-largest brewer in the world.[8] Unsuccessful entries into China damaged both firms, as did Foster's diversification into wine (Zalan and Lewis 2007).

Although a low growth market, the isolated duopolistic Australian market was viewed as unusually profitable in comparison with other Western beer markets. In 2009, Lion Nathan was acquired by Japanese brewer Kirin. South African giant SABMiller acquired Foster's in 2011. This left family-owned Coopers as the largest Australian-owned brewer. In 2015, Coopers has a national market share of roughly 5%.[9] The remaining players in the Australian *macro* beer market as of 2015 are Japanese brewer Asahi, who purchased a local contract brewing facility in 2011, and Coca-Cola Amatil (CCA) one of the five largest Coca-Cola bottlers in the world, headquartered in Sydney. CCA had a joint venture, Pacific Beverages (see below), with SABMiller from 2006 until the Foster's acquisition. CCA re-entered the beer market in December 2013 with a new joint venture with Casella Wines (owner of the highly successful Yellowtail Wines brand). As discussed below, each of these five macro players has shaped the nature of craft brewing in Australia also.

[7]Low alcohol beers were partially a response to drink-driving legislation and shifting attitudes to drunkenness. But equally important was the shift in excise structures in 1984 such that beers below 3% alcohol (ABV) were taxed much more lightly. Australia has an unusually aggressive system of ever higher tax payments based on alcohol level. At current rates, a 2.5% ABV beer sold in 50 litre kegs would incur A$0.11 per litre in excise, an 4.5% ABV A$1.11 and an 8.5% ABV A$2.46. The rates are much higher for packaged beer (or beer sold in kegs < 48 litres), but the discount for low ABV is much less. The same beers above would pay A$0.55, A$1.59 and A$3.49 per litre respectively.

[8]Fosters' was the first foreign brewer to enter India, for example, in 1998 (Arora et al. 2011).

[9]As a tightly held private company (the majority of shareholders are from the multiple generations of the Cooper family), Coopers was able to fend off a A$420 m acquisition attempt by Lion Nathan in 2005 (Byrom and Lehman 2009).

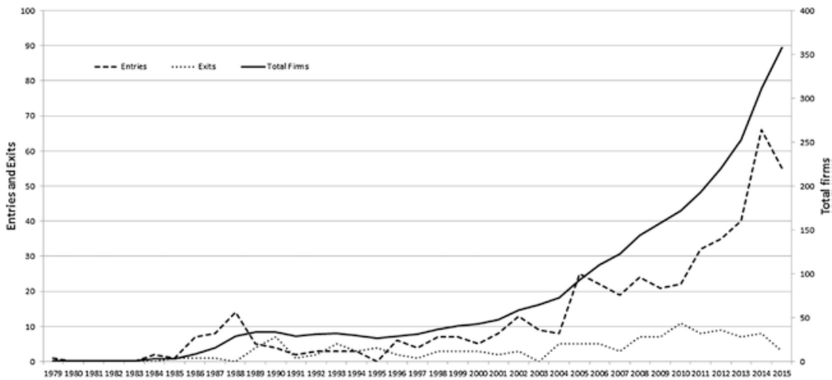

Fig. 15.1 Entries, exits and total firm counts in the Australian craft beer sector 1979–2015

15.3 The Micro Upstarts

A total of 479 new non-macro brewing entities have opened in Australia since 1979. I define a brewing entity as an independently owned and operated Australian-based firm producing beer. As discussed below, this includes firms who may not own brewing facilities, but who do take a locally made beer to market. Figure 15.1 tracks the emergence of these *craft brewers* from 1979 to 2015.[10] As the figure shows, there was an initial flurry of entries through the mid- to late 1980s, peaking at 14 in 1988. Entries tapered off for the subsequent decade or so, with the total count of operating craft brewers not exceeding 50 until 2002. By 2006, there were 110 craft brewers in business. That number doubled to 220 by 2012, and by the end of 2015, the count had reached 358. Only 3 years saw exits exceed entries (1991, 1994, 1995).[11]

[10]The database underpinning the following figures and tables has been built up from a variety of sources. All physical breweries in operation up until 2011 are listed in Deutsher (2012), while those opening from 2012 are reported in the *Small Breweries Updates* at the Brew News website. Further firms were identified from *Beer and Brewer* magazine, beer competition entry lists, social media, beer rating websites and Simpson (2006, 2007, 2011).

[11]Exits here refer to (i) a company ceasing to operate or (ii) ceding independence to a macro player (there have been no examples of mergers within the craft beer segment). Instances where ownership changes but the business continues to operate are not treated as exits unless there is a radical shift in the nature of the business.

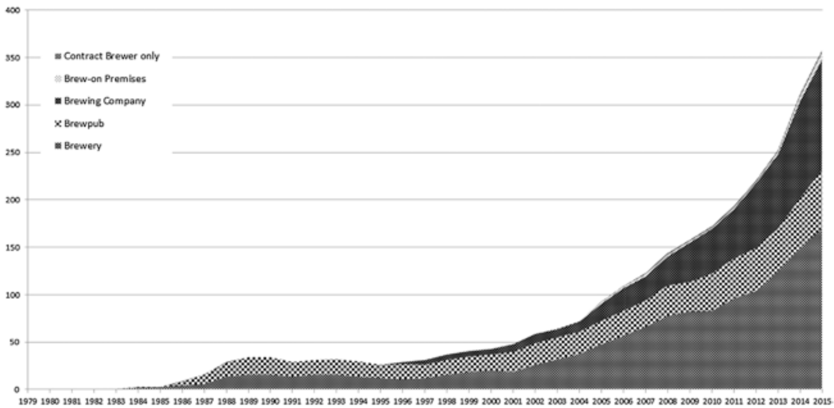

Fig. 15.2 Total firm counts in the Australian craft beer sector by type 1979–2015

Figure 15.2 breaks down the annual firm counts by type of operation. Table 15.1 reports data for select years with percentages. For the first 15 years, start-up craft operations were pretty evenly split between breweries (production facilities which might or might not have a retail outlet/tasting room) and brewpubs (an in-pub brew facility and limited/no off-site sales). From the late 1990s, a third option emerged—*brewing companies*—firms that utilized other brewers' facilities to produce their own branded product.[12] As discussed below, this category includes both firms, who were principally engaged in marketing (and who left recipe design and actual production to the contracted brewery), and *gypsy brewers,* who were much hands-on with the brew process (and can be thought of as leasing brew time and space).[13] There were also small numbers of *brew-in premises* businesses, where the public could engage

[12]It is possible there were more brewing companies in the 1980s and 1990s. As brewing historians almost exclusively chronicle physical breweries rather than end product, it is very difficult to track such entities.

[13]Unfortunately, it is not possible to readily distinguish between these two forms of Brewing Company as firms are not consistently forthcoming in describing their level of involvement in the brew process.

Table 15.1 Australian craft brewers by type, select years, 1980–2015

	1980	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015
Brewery	1 (100%)	2 (67%)	16 (46%)	12 (47%)	20 (47%)	48 (52%)	83 (48%)	96 (50%)	104 (48%)	124 (49%)	149 (48%)	169 (47%)
Brewpub	–	1 (33%)	18 (54%)	14 (53%)	17 (40%)	25 (27%)	39 (23%)	42 (22%)	45 (20%)	45 (18%)	52 (17%)	62 (17%)
Brewing Company	–	–	–	–	6 (14%)	18 (19%)	47 (27%)	52 (27%)	67 (30%)	80 (32%)	103 (33%)	117 (33%)
Brew-on Premises	–	–	–	–	–	1 (1.1%)	1 (0.6%)	1 (0.5%)	1 (0.5%)	2 (0.8%)	4 (1.3%)	7 (2.0%)
Contract Brewer only	–	–	–	–	–	1 (1.1%)	2 (1.2%)	2 (1.0%)	2 (0.9%)	2 (0.8%)	3 (1.0%)	3 (0.8%)
Total	1	3	34	26	43	93	172	193	220	252	311	358

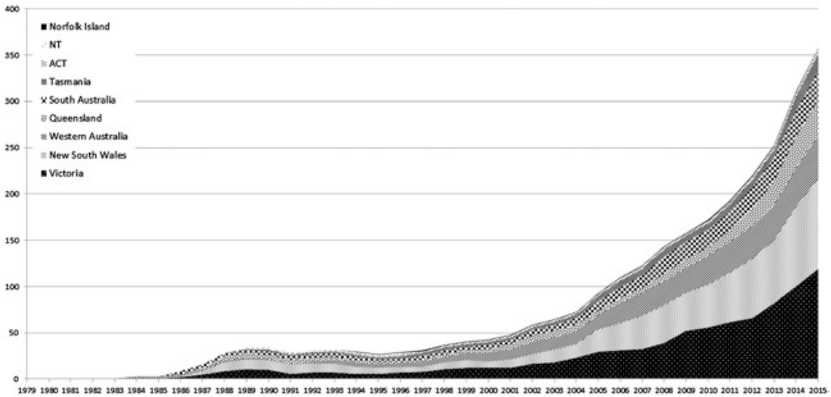

Fig. 15.3 Total firm counts in the Australian craft beer sector by state/territory 1979–2015

in brewing, and several firms who offered contracted brewing services exclusively.[14]

Brewpubs have declined as a percentage of the population firms since the mid-1990s and by 2013 were less than 20% of all craft beer producers. Breweries have remained consistently around half the firms in the sector, with brewing companies the emergent force. Firms do switch between modes of operation. Particularly common is a shift from brewing companies to breweries. The reverse shift has happened occasionally. A few brewpubs have evolved into breweries (often through a successful move to greater packaged beer sales) or contracted out manufacturing.

Figure 15.3 shows the geographic distribution of the craft brewers by state/territory. Table 15.2 reports percentage data for select years with a comparison to the relative size of each state by current population and output. The predominant state for craft beer operations has typically been Victoria. Tasmania, South Australia and Western Australia

[14]I have only included those Brew-on Premises who also retailed their own branded beer, thus excluding around 75–80% of such businesses. While a number of breweries offered some contract brewing services, only those without their own branded beer are included under the *Contract Brewer Only* categorization.

Table 15.2 Australian craft brewers by state/territory (%), select years, 1980–2015

	1980	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	Population	Output
Victoria	–	33	29	22	28	32	33	32	30	33	32	33	25	22
New South Wales	–	–	29	22	16	26	27	27	29	27	28	27	32	31
Western Australia	–	33	6	15	23	17	19	18	16	15	14	13	11	17
Queensland	–	–	12	7	9	4	5	7	8	10	11	11	20	18
South Australia	–	–	12	11	9	11	11	10	10	10	9	9	7	6
Tasmania	100	33	6	7	7	6	4	4	4	3	5	5	2.2	1.6
ACT	–	–	2.9	7.4	4.7	2.2	1.7	1.6	1.4	1.2	1.3	1.4	1.6	2.2
NT	–	–	2.9	3.7	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.3	1.0	1.4
Norfolk Island	–	–	–	3.7	2.3	1.1	0.6	0.5	0.5	0.4	0.3	0.3	0.01	n/a

Note ACT Australian Capital Territory, *NT* Northern Territory. Population percentages from Australian Bureau of Statistics (ABS) Series 3101.0—*Australian Demographic Statistics, June 2015*. State output from ABS Series 5220.0—*Australian National Accounts: State Accounts, 2014–2015* have produced more firms than would be expected for their population bases. The mineral-rich Western Australian economy makes a disproportionately large contribution to the Australian economy, and the state's resultant higher per capita income may explain, partially, the high craft beer activity. There is also a likely spillover effect from the huge successes of two of that state's pioneering craft start-ups (see below). Australia's largest state by population and output—New South Wales—has slightly underperformed. Queensland has been the real underachiever throughout the rise of craft beer. Despite being roughly three times larger than South Australia, Queensland has often trailed its southern counterpart on brewery count

15.4 The First Wave of Australian Craft Brewing: 1984–1990

The first new independent brewer in Australia, since Courage, opened in 1979. Cygnet Brewery was based at a winery in rural Tasmania and only brewed for the tourist season each year. In 1985, it was delicensed due to breaches of labelling laws in their winery business (VBLCS 1986). Victoria's pioneer was the Old Ballarat Brewery, which opened as part of a new motel and convention centre in 1984, brewing one style—a full malt lager. Within 3 years, ownership had shifted to a maltings company who introduced a stout and another lager. By 1990, the firm was shut down (Deutsher 2012, pp. 308–309). It is fair to say the impact of these business was low, especially when compared to the action on the country's west coast.

The first ripples of the craft beer wave came from the opening of the Sail and Anchor brewpub in Western Australia in late 1984. One of the three founders, Phil Sexton, exemplifies a common craft beer journey. He had worked as a brewer at local macro Swan before studying in Britain, where he was exposed to the emerging brewpub phenomenon, as well as traditional Belgian styles on European travels. Keen to target the new increasingly affluent Perth drinkers, Sexton and his partners imported a specialized small-scale brew system from Burton-on-Trent (Stubbs 2015). Drinkers were soon exposed to exciting and unfamiliar brew styles such as strong ales, pilsners, steam ales, stouts, porters and chilli beers (Deutsher 2012, pp. 330–331). Within a year, the firm had opened a dedicated off-site brew facility under the banner of Matilda Bay Brewing Company (Holden 2011). Over the subsequent 5 years, the firm entered joint venture arrangements to open further brewpubs in South Australia, Victoria and Tasmania and secured national distribution through the wine and spirits division of CUB.

Matilda Bay publicly listed in 1988 and was taken over by CUB in 1990, with a valuation of A$50 m.[15] The brand continues to operate today as the *faux* craft arm of SABMiller in Australia, and one of their beers—Fat Yak—is among the mostly widely available premium-priced beers nationwide. While the portfolio of offerings has changed considerably, Matilda Bay beers remain the *gateway* introduction to non-mainstream beers for many Australian drinkers. Phil Sexton went on to also play a crucial role in the second wave of Australian craft beer.[16]

Brewpubs predominated the craft beer scene during these early years, with all states boasting at least one such operation by 1989. The rationale for this forward-integrated entry mode was sound. The equipment was readily available, as several of the early players ran side businesses as agents for foreign suppliers advising on design and aiding installation (Stubbs 2015). Pubs came with pre-existing licences and customer bases, thus speeding up time to market. By selling direct to customers and bypassing middlemen, brewpubs also secured greater margins. As Stuckey and White argue (1993), vertical integration makes sense if it can overcome market power of competitors. While *tied* contracts between pubs and brewers were no longer legal, gaining tap access in existing hotels was difficult for new firms, with anecdotal evidence of the macro players withholding product and threatening any publicans daring to offer these new craft lines (Holden 2011). Brewpubs at least had a chance to reach customers.

[15]This transfer of ownership is treated as an exit in this study's database, as the firm was no longer independent of the macro sector.

[16]Sexton also had an impact in one of the homes of global craft beer. He designed the signature India Pale Ale (IPA) at Bridgeport Brewing in Portland, Oregon in 1996. This influential brew is believed to be Oregon's first bottled IPA.

Running more than one such pub requires considerable repeated capital outlays, however, and few of these new firms expanded beyond a single operation. Production and marketing of packaged beer for retail distribution outside the pub itself were rare. The inability to scale up output, achieve economies of scale and build broader brand awareness and distribution meant most of these brewpubs operated for no more than a decade, or stayed very small. Several were also over-leveraged financially, often forming part of ambitious property developments. One noteworthy exception was New South Wales' first craft start-up, the Lord Nelson Brewery Hotel in the historic Rocks precinct of harbourside Sydney. The brewpub still continues to brew in the basement of Sydney's oldest continually licensed hotel, 29 years after its first brew. However, in the early 2000s, Lord Nelson expanded into offsite packaged beer production through a contract brewer and has several beers nationally available.

The first generation of craft breweries was typically less successful than the brewpubs. Of the 20 new breweries opened before 1991, only five were still operational in 1996. Only two still operate as independent breweries today. The problems appear to have been on the production quality side as much as distribution. The requisite resources and capabilities to achieve competitive parity, let alone competitive advantage were lacking (Barney 1991, 1995). A number of breweries used wort concentrate rather than all-grain brewing, resulting in a beer not much better than home-brewed quality (Stubbs 2015). This did little to reduce the perception of these new brews as amateurish and non-premium. Attracting consumers was tougher in the late 1980s and early 1990s, as drinkers' loyalties to their local, regional macro brands were only just being broken down by the efforts of the two consolidated giants to promoted national brands. Without consistent quality, the scope to get these new craft beers into stores was limited.

Two new independent brewery ventures did make a substantial and immediate impact during this period. Power Brewing opened an enormous, modern production facility in Queensland in 1988 with the explicit aim of competing with the *big boys*. Within 2 years, the brewery had expanded to an annual capacity of 120 million litres

(Deutsher 2012). This equated to roughly 6% of the Australian market size.[17] The firm was successful at winning over mainstream beer drinkers in Queensland, New South Wales and Victoria with a reliable lager and backed by a story of independence. Such an audacious move was bound to grab the attention of the acquisitive macro brewers. By 1993, Power had been acquired by CUB who shifted their Queensland production into the acquired brew facility. That site has subsequently been expanded such that it reportedly produces 25% of Australia's beer annually, but the Power brand has pretty much disappeared.

Even more significant for the eventual emergence of craft beer's second wave was the Hahn Brewery which opened in Sydney in 1988. Founder Dr Chuck Hahn had extensive experience brewing at Coors in the USA, as general manager of Tooths Brewery and Technical Manager at Lion in New Zealand. Brewing on German equipment he bought from a brewery he was charged with closing in New Zealand, Hahn had a zealous focus on quality and innovation. His debut beer, a pilsner, was a huge success, pitched as a premium beer to restaurants and high-end hotels. The firm was hard hit, however, by Australia's 1990 recession and the associated sharp interest rate rises. After several years of financial restructuring, the firm was sold to Lion Nathan in 1993. Hahn stayed on as that firm's new head brewer. In 1998, Lion Nathan rebadged his original brewhouse as Malt Shovel Brewery and allowed Hahn free rein to produce premium craft-like beers under the James Squire label. This arm of the Lion Nathan business operates to this day with a broad portfolio of entry-level beers for craft beer drinkers. The firm has flirted also with brewpubs using the Squire brand, further promoting different beer styles.

Ultimately, the outcomes of this first wave of craft beer start-ups were as follows: (1) a recognition by the macro brewers of the scope to charge premium prices to a segment of the drinking population for more *crafted* beers, and the capacity to do so through acquired assets and brands; (2) some exposure of consumers to the more diverse range

[17] Total annual Australian beer consumption peaked in 1989–1990 at 1.93b litres (ABS 2011). The latest data (2013–2014) show 1.74b litres consumed (ABS 2015).

of beer styles possible. There were some tough business lessons for craft beer operators, however. Of the 41 independent beer ventures to commence between 1979 and 1990, only nine were still operating independently in 2000, and none of them would have been considered among the most successful at that point in time. As Fig. 15.1 shows, entries had hit a high water mark in 1988 which would not be passed until 2002. The nascent segment stalled at a firm count of 34 in 1990 which would not be surpassed until 1998. A strong, sustainable business model for operating in the craft beer niche was not yet apparent. No independent brewer had yet produced a reliable product of the quality that could attract a premium price outside of a brewpub setting and also managed to stay independent.

15.5 The Slow Build: 1991–2004

The calm after the initial Australian craft beer storm lasted through the remainder of the 1990s and into the new millennium. While 41 new ventures had launched between 1984 and 1990, the decade 1991–2000 saw only 40 additional start-ups. As noted above, the churn from the first wave was also considerable, such that only 43 ventures were in operation by 2000. There was a slow upswing from 2001–2004, with 38 additional entrants and a surviving population of 73 firms by the end of 2004.

The mix of new venture types shifted during this period. Only 11 of the 40 start-ups between 1991 and 2000 were brewpubs. This included Canberra's influential Wig and Pen Tavern, which offered an extensive range of often single batch beers that tweaked traditional English ales and other European styles. Another six commenced as brewing companies, outsourcing beer production to existing brewers. Several of these were brand extensions by wineries (e.g. Pikes Beer, Wineglass Bay, Boars Rock), or marketing exercises (Piss Beer), and it is likely in these instances, the recipes were primarily designed by the contracted brewer.

An important exception was Victoria's Mountain Goat Beer, who utilized excess capacity at two of the pioneering Victorian craft breweries to brew from 1997–1999 before raising the necessary capital to establish their own inner-Melbourne brewery.[18] Founded by two home-brewers who caught the craft beer bug while travelling in North America, Mountain Goat initially targeted pubs associated with the vibrant local music scene. They sponsored public radio and even advertized at local independent cinemas. Mountain Goat built up a substantial local and eventually national market, especially for their English amber ale. This is one of the earliest examples of a *cool* brewery that captured the attention of what would become the core market for many in the next wave of craft start-ups—hip, inner urban drinkers with adventurous palates and a leaning towards independently produced products. The introduction of a steam ale and summer ale drove further growth and led Mountain Goat in the early 2010s to shift production of their major beers offsite to a contract brewery that was subsequently acquired by Japanese macro Asahi. In 2015, Asahi purchased Mountain Goat Beer thus shifting another of Australia's most successful craft beer start-ups into the macro sphere.

The most impactful start-up of this period occurred in the new millennium. Phil Sexton and his Matilda Bay co-founders re-entered the independent craft beer scene with a new Western Australian venture in 2000—Little Creatures Brewing. Inspired by his time in the USA, Sexton designed a flagship hoppy pale ale which used lager yeast for a secondary fermentation in the bottle. The firm launched through a hangar-style waterfront brewpub (repurposing one of the boatsheds from the 1987 America's Cup series which had subsequently operated as a crocodile farm). This *cellar door* experience proved hugely popular, as did the quality beer range. Soon the brewery built-up national distribution and expanded into an adjacent brew facility. The Little Creatures founders had Lion Nathan as a *silent partner* (holding 20%) from the outset. This stake had increased to 26% by the time the firm was publicly listed in 2005 as Little World Beverages (LWB). Annual sales had

[18] The host locations for this *gypsy brewing* were the first Steam Packet Brewing (founded 1996) which used the dormant in-pub brewhouse at the Scottish Chiefs Tavern Brewery in Geelong (which operated only in 1990) and then Grand Ridge Brewing (previously called Strezlecki Brewing, founded 1988) in Mirboo North (Deutsher 2011).

reached A$15.8 m at that stage, and the firm was valued at A$59 m (LWB 2005). By 2011, the firm had grown to A$70 m in annual revenue, opened a second brewery in Victoria under the White Rabbit brand and announced plans to open a much larger Little Creatures Brewery in Geelong, Victoria, to service east coast markets more effectively (LWB 2011). In 2012, Kirin/Lion Nathan announced a takeover of the company, valuing the firm at A$382 m. Following this acquisition, Kirin claimed to have almost 50% of the Australian craft beer market, with LWB's sales representing 13% market share, and James Squire/Malt Shovel accounting for 33% (Greenblat 2013).[19]

The LWB case highlights the capacity of a well-run, well-resourced craft beer start-up to make inroads into the broader Australian beer market. The founders brought extensive experience, not just in brewing, but also in the wine industry, coffee retailing and property management. This points to some of the relevant core capabilities for firms seeking to position a new, differentiated product up market of the macro mainstream (Peteraf 1993; Porter 1996).[20]

A much less mainstream, but almost as influential Western Australian brewery launched in 2002. Based in the Swan Valley wine region, and boasting a restaurant among the wineries, Feral Brewing was a stickler for quality and sophistication from the outset. Its initial success

[19]Kirin's calculations are not clear. LWB had revenue of A$85.8 m in 2012. If the brand had 13% market share, then total Australian craft beer market annual turnover would be approximately A$660 m. Yet the same statement indicates craft beer is only 3.2% of the total Australian beer market. That would result in a total Australian beer market size of A$19.8b, whereas the typically cited market size is approximately A$4.3b. While LWB presumably had some small revenues from cider sales and hospitality, this cannot account for the huge discrepancy.

[20]In 2003, another new venture attracted macro attention. Bluetongue Brewery was the brainchild of a winemaker, a hotelier and a former Toohey's senior brewer based in Newcastle, New South Wales. Within 2 years, a prominent advertising identity bought a 50% stake, as the firm's flagship lager, light beer, pilsner and alcoholic ginger beer became available nationally. The firm was quickly sold on to the new CCA/SABMiller joint venture Pacific Beverages, and in 2008 they broke ground on a new 50 m litre brewery just outside Newcastle (Simpson 2011). The brand was sustained for several more years, while the brewery also brewed several foreign beers under licence. The 2012 SAB Miller acquisition of Foster's and the dissolution of Pacific Beverages saw the brewery move into CUB's portfolio. By late 2013, the Bluetongue brand had been shelved and the brewery shut down as part of a rationalization of the firm's operations. Again, this case shows the appetite of the macro players for acquisition, especially of those rivals brewing on a significant scale with sufficiently mainstream beers.

was with a Belgian-style witbier, and the portfolio soon included a farmhouse ale, an abbey ale and a barley wine. Their flagship Hop Hog—a bold US IPA—attracted most attention, however. Feral steadfastly refused to truck the beer to the Australian east coast (a 3400 km drive principally through desert) until a completely refrigerated supply chain could be assured (Smith 2014). This ensured cult status for the beer among the emerging *beer geek* community. Feral's beers are the most awarded over the past decade at the Australian International Beer Awards, and Hop Hog has been voted best craft beer in the country by a popular poll every year since 2012.

Feral and Mountain Goat serve as prime examples of the new, more audacious face of Australian craft beer. The branding may have been irreverent, but the word of mouth messaging was about quality and difference, with a strong nod towards the craft beer movement of the USA. Perhaps more than any other emergent brewers, these two inspired the second big wave of Australian craft brewers.

During this period, a community of craft brewing began to emerge also. State microbrewing associations were founded in Western Australia (2001), Victoria (2003) and South Australia (2006). In 2005, the Victorian association secured funds from the state government for a *Beer Lover's Guide to Victoria's Microbreweries* which appeared in tourist information centres. In 2006, they launched biannual Victorian Microbrewery Showcases which served as both trade fairs and a chance for consumers to meet brewers and taste product. Each association had a charter of education and publicity along with a mission to lobby for excise and licensing reform.[21] An educational pathway to craft brewing

[21] Among the issues around excise have been: (i) the administrative and cash flow burden of paying excise weekly (and at point of manufacture rather than sale); (ii) the very low threshold level at which a small brewer could receive an excise rebate; (iii) the requirement that kegs be > 48 litres to incur lower excise rates; and (iv) the climbing ABV-excise link which severely disadvantages high ABV styles such as imperial stouts in terms of price point. The associations repeatedly argued that craft beer was getting minimal support at the same time that wine producers were getting up to A$500,000 each in excise relief annually. The lobbying had some impact, as rebate levels for brewers were raised in 2012 to a maximum refund of A$30,000 a year (versus the previous cap of $10,000 that was not available to any brewer producing >30,000 l annually).

employment also developed with brewing courses at universities in three states (Victoria, Western Australian and South Australia) up and running by 2007, each with their own in-house brewery for student use (Stubbs 2015). The scene was set for the impending craft beer boom.

15.6 The Second Tidal Wave: 2005–2015

In 2005, 25 new craft beer producers entered the market, the biggest annual gain since 1988. The number of new entrants annually would not fall below 19 over the following decade, reaching 40 in 2013, 66 in 2014 and 55 in 2015. This wave has struck across the country, with each state at least tripling its firm counts over the 11-year period.

The explanations for this entrepreneurial explosion are several. Consumers were becoming more sophisticated and adventurous off the back of the innovations of the pioneering craft brewers, and also due to greater exposure to imported beers. As noted, from the mid-1980s, the macro firms had begun importing and brewing under licence various international brands. While many of these products were only subtle variations on the Australian macro lagers, the diversity of brands fuelled an appetite for the new. By the late 1990s, more traditional Belgian ales were appearing in some bottle shops, along with occasional British ales and US craft efforts. While a real upsurge in imported craft product would not happen until the latter part of the first decade of the 2000s (helped by a rising Australian dollar), it was clear that the consumer base was growing and also actively seeking out new and exciting flavours. There were parallels in adjacent gastronomic segments, with consumers also embracing artisanal coffee, new cuisines and ever diverse wines (Frost et al. 2010; Patterson et al. 2010). This community of consumers was increasingly cultivated and networked through events, festivals and, later, social media.

These consumers, along with many of the staff within the earlier generation of breweries, also formed the pool of prospective entrepreneurs (Watne and Hakala 2013). Those looking to make the entrepreneurial leap faced a less daunting start-up environment. As craft brewing boomed in North America and parts of Europe, so too did suppliers of smaller scale brewing equipment. For example, as Stubbs (2015) notes, Canadian specialist DME installed more than 20 of its brewery systems in Australia from 2000 on. This contributed to increased quality and consistency of end product. The increased range of equipment allowed for more frequent and cost-effective expansion in capacity. As breweries upgraded and expanded, a second-hand market for brewery equipment developed.[22] Not only were the physical resources more readily available, willing and able employees could be recruited from the existing breweries, the university brewing courses and the highly active home-brew community.

Getting beer to market was easier by the mid-2000s also. The macro brewers' stranglehold of pub taps was slowly loosening, as consumers became used to see not just the regular national brands, but also Coopers' products, the macro pseudo-craft offerings and occasional foreign labels. Various states loosened liquor-licensing laws, opening up opportunities for smaller bars and restaurants to sell alcohol. Many of these bars sought to differentiate themselves by offering craft beers. Specialized distributors also started to push craft product into retail stores, bars, restaurants and pubs. Many of these agents initially acted as importers of some of the larger US and European craft brands, but also started to take on Australian clients.[23] The new *big box* liquor retailers with their extensive shelf space also offered new opportunities to get packaged craft beer in front of larger numbers of customers across a greater number of locations (Sammartino 2007).

Some of the most prominent and distinct craft brewers in Australia were founded during this period, and quickly built strong followings. Tasmania's most widely known craft brewer, Moo Brew, sprang from the Moorilla Wine Estate in 2005, with highly distinct bottles featuring commissioned labels from a prominent Australian artist. A 25-year old

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[22]For example, Mount Tambourine Brewery (founded in Queensland in 2008) sourced its equipment from Bluetongue when that brewery had its huge upgrade. Riverside Brewery (New South Wales 2012) obtained their kit from Mountain Goat.

[23]Australian brewers are not legislatively constrained from acting as distributors, but nevertheless building a national sales force can be a large expense. Distributors have clear economy of scope advantages. The increased dispersion of liquor sales across smaller bars and restaurants also limited the market power of the macros in that space.

with a wine-making background opened Bridge Road Brewers in rural Victoria in 2005 brewing in his dad's shed, before moving to a high street location in the coach house of an historic pub. With a wide range of beers including a chestnut pilsner, saison and biere de garde, this brewery has become a tourist destination and a regular stop for international craft brewers looking to collaborate.[24] One drawcard has been the brewery's access to experimental hop varieties from the local growers. Bridge Road was the first commercial brewery to use the Vic Secret and Enigma hops, and they have a nationally distributed single hop IPA series showcasing Australian varietals.

Two New South Wales breweries launched in 2008 that have grown to be among the most widely available and awarded. Four Pines opened in Sydney with a highly approachable range of traditional European beers, including Australia's most successful kolsch. Meanwhile, three former Matilda Bay (and Fosters') employees founded Stone & Wood Brewing Company in Byron Bay. Unusually, Stone & Wood have maintained a tiny range of core beers, with their reputation resting on their hugely popular Pacific Ale, a pale ale showcasing Australian hops. The beer won silver at the 2012 World Beer Cup.

Unlike Stone & Wood, most craft brewers launched between 1985 and 2005 had tended to build a broad and relatively predictable portfolio of offerings (e.g. a pale ale, a pilsner, a porter/stout). Greater specialization was apparent among this second wave of craft start-ups, however. As the organizational ecology literature argues, entrepreneurs may find niches in mature markets to be less competitive and less prone to attack from much larger rivals (Baum and Singh 1996; Bhide 1994). Indeed, the larger players may see little value in investing in the requisite resources and capabilities to take on such challengers (Aldrich and Martinez 2001; Carroll 1985; Carroll et al. 2002).

The Australian craft beer scene now has brewers specializing in hop forward IPAs (plus imperial and black variants) such as Kaiju (Victoria, opened in 2013), Pirate Life (South Australia 2015), Ekim (New South Wales 2010) and Brewcult (Victoria 2013). Two Metre Tall (Tasmania 2006) focuses on

[24] Among Bridge Road's international collaborators have been Mikkeller and To Øl (Denmark), Birra del Borgo (Italy), Nøgne Ø (Norway), 8 Wired (New Zealand) and De Struisse (Belgium).

sours, while La Sirèné (Victoria 2011) concentrates on saisons. Boatrocker (Victoria 2009) has launched an ambitious barrel-ageing facility.[25] Both Bacchus (Queensland 2011) and Moon Dog (Victoria 2011) push the boundaries of extreme brewing (Bilger 2008), with a huge catalogue of beers that seek to mimic desserts, lollies, cocktails and savoury dishes.

Such adventurousness is encouraged by various beer festivals around the country and embraced by the more passionate pocket with the craft consumer segment. The most visible festival is the annual Great Australasian Beer Spectapular, which started with a few hundred patrons at a Melbourne bar in 2011 and now runs over four days in Melbourne and Sydney with more than 20,000 attendees. Brewers must submit never-seen-before beers, and the entries from Australia, New Zealand and elsewhere tend to push the boundaries in the quest to attract drinkers' attention. Many of these beers have become staples in these new brewers' line ups, further fuelling the diversity of product in the marketplace.

The other striking difference over this last decade is the rise of the brewing company business model. Almost 44% of the entrants between 2005 and 2015 commenced without brew facilities. This option became much easier, at least in Sydney and Melbourne, with the opening of several contract only facilities, plus several other breweries that had a sideline in contract production. As noted earlier, a number of these brewing company entrants leave all of the brew design decisions to their production partner (and the brewing itself), focussing instead on marketing. Many of these firms are more heavily targeted at the fringes of the mainstream macro market.

During this second wave, a lot more brewers went down the Mountain Goat *gypsy* path, however—physically engaging in the brew process utilizing fellow craft brewers' equipment. For example, La Sirèné, Boatrocker and The Grifter Brewing Company (New South Wales, 2012) each spent several years with such arrangements before finally investing in their own breweries. Taking such an approach could

[25] This expansion was funded, in part, by an investment from four of the founders of Little Creatures. This consortium now owns a 33% stake in Boatrocker. This may reflect an emergent venture capital-type model in the Australian craft segment.

be thought of as taking a *real option* of sorts (Li et al. 2007). By taking an initial product to market without the considerable upfront investment in brew facilities, a brewing company has the opportunity to assess consumer response to their beers before exercising the option to build a brewery. The start-up costs of the gypsy model are limited—confined to registering the business, designing a brand, securing a licence and distribution. Much of this is can be thought of as *sweat equity* of the entrepreneur, which should make it easier to secure financing once there has been some proof of concept (Brush et al. 2001).[26]

Gypsy brewing can also be an ongoing business model. For example, Doctor's Orders (New South Wales, 2009) have brewed in at least four different breweries around Sydney over the past 6 years. As this brewing company specializes in one-off releases, there is less need for consistent throughput. Strategic flexibility is maintained in terms of being able to select the appropriate facilities (and partners) for different brews (Ghemawat and del Sol 1998).[27] With almost half (46%) of the new craft firms since 2014 commencing as brewing companies, it may be that this more permanent approach will prevail.

Variations on the model have also emerged. Several breweries have opened with the explicit strategy of leasing some of their facilities to fellow brewers and to new start-ups. Cavalier Brewery (Victoria 2011), Big Shed Brewing Concern (South Australia 2014) and Hawkers Beer (Victoria 2015) have all set up as landlords of sort. Some of the *tenants* have then moved on to their own facilities. Kaiju and Exit Brewing (Victoria 2014) started at Cavalier before themselves partnering up to co-own a brew facility. This co-ownership model has also been used by Feral and Nail (Western Australia, operating 2000–2004, 2006) who jointly invested in a 50 hectolitre brew house in 2012.[28] In a period of such opportunity, finding a means to get to market quickly seems imperative.

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[26] While gypsy brewers typically utilize existing excess brew capacity, they can also reduce the uncertainty for breweries looking to upgrade to larger facilities.

[27] The flexibility of the model can extend to location flexibility, as demonstrated by globetrotting gypsy brewers such Mikkeller, To Øl and Yeastie Boys (Maitland and Sammartino 2012).

[28] This ended a 6 year period of gypsy brewing by Nail, who had closed their brewery in 2004 after their founder had a serious injury.

15.7 Conclusion

After more than three decades, craft beer has reached an exciting position in Australia. With more than 350 craft beer firms up and running, and a new venture opening each week on average, there is clearly a great deal of optimism. It is possible to make an impact quickly. For example, Sydney brewery Modus Operandi opened in July 2014, and by year end had won four awards at the Craft Beer Industry Awards including the Best Beer and the Best Small Brewery. A year later, they were awarded Best Medium Brewery, indicating they already brew between 50,000 and 300,000 litres per annum.

This optimism extends to the scale and source of some new investments. The aforementioned Hawkers Beer spent A$3 m opening a brewery with an initial annual capacity of 600,000 litres, and scope to expand to 10 million litres. One of Hawkers' founders is serial entrepreneur Mazen Hajjar, who opened Lebanon's (and the Middle East's) first craft brewery. He sees the potential in the Australian market. So too does Italian Leonardo Di Vincenzo (founder of Birra del Borgo) who partnered with his Australian distributors to open Nomad Brewing in Sydney in 2014. Such exploitation strategies (as opposed to exploration) speak to a possible maturity in at least parts of the market (Lavie et al. 2010; Levinthal and March 1993) such that experienced entrepreneurs can see long-term profit potential.

As the various examples I have profiled show, there are now a variety of business models for new entrants to consider. The innovation of the brewing company modes, along with the ongoing evolution of more fine-grained product niches, suggests exploration may also still be a viable strategy (Lavie et al. 2010; March 1991). One avenue for future research would be assessing how the mid-to-large craft brewers manage to balance the efficiency (i.e. exploitation) requirements of their broader product segments with the creative and courageous experimentation expected in the more cutting edge niches of the market (i.e. exploration).

There also grounds for caution. However measured, craft is still a small segment within a large, stagnant Australian beer market. The new, much larger pool of craft competitors may prompt previously unseen battles for consumers and tap access. It seems unlikely that the macro rivals will stand by and let craft brewers capture greater market share. History points to more macro acquisitions of successful craft ventures. It is unlikely the market has reached bubble status or a shake-out phase. Incumbent firms and new ventures will continue to reimagine the boundaries of the segment and the industry. Lessons will be drawn from other more developed craft markets, and greater engagement with such markets may also ensue. Great opportunities exist for researchers to track and understand these entrepreneurial efforts.

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16

Government Regulations and Microbreweries in Japan

Mari Ninomiya and Makiko Omura

16.1 Introduction

After World War II, different types of alcoholic beverages were embraced by the domestic Japanese market. Beer became the most popular alcoholic beverage among Japanese people, and there was increasing demand for Western alcoholic beverages (such as wine), traditional beverages (such as *shochu*), and premixed cocktails (called *chu-hai*). The Japanese market generated large-scale brewing companies. Four brewing companies dominated the market: Kirin, Asahi, Sapporo, and Suntory.

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In 1994 (H6),[1] their combined consumption volume peaked at 73.2%, which corresponded to about 73.2 million hl of the total alcoholic beverages sold in that year (National Tax Agency (NTA), 2016a). This beer market oligopoly existed mainly because of the Japanese legal environment, which stipulated a large minimum annual output for obtaining a brewing license.

The USA experienced a concentration of its beer industry from 1958 to 2000 like Japan; however, the number of brewers there had increased from 43 brewing firms in 1983 to 1414 firms in 1999. The number of microbrewers, which are called “craft” brewers in the USA, also increased rapidly during this period, even though the market was dominated by large brewing companies (Carroll and Swaminathan 2000).

In 1994, Japan deregulated its brewing industry and reduced the restriction on the lower limit of annual beer production per brewery from 20,000 to 600 hl. Local small-sized brewing, called *ji-biiru* in Japanese, increased and over 300 microbreweries were established. Although the Japanese industry was expected to follow a similar path to that of the USA, Japanese microbreweries did not flourish. In contrast to the growth of small brewers in the USA, the Japanese microbrewing boom ended after years of deregulation. Microbrewers’ output represented less than 1% of total sales and 137 of the 394 microbreweries closed by 2015 (Kita Sangyo Co., Ltd.).

After 15 years of stagnation, some *ji-biiru* brewers have succeeded in creating new markets for their craft beer since 2014. In 2015 (H27), all four major brewing companies included “craft beer” in their product line, and they declared a significant emphasis on the craft beer market. Recently, craft beer, called *kurafuto biiru* in Japanese, became a common word. Although people recognize it as something different from existing

[1] The expressions of M# (1868–1912), T# (1912–1925), S# (1925–1989), and H# (1989–present) in parentheses signify the year according to the Japanese era name. All Japanese governmental systems use only this year–era expression; therefore, we use the Japanese era name with the Western calendar.

beer, few know what "craft" actually means. The Japanese microbrewing industry recently began to improve, although it has not yet become stable.

Why did the Japanese microbrewing industry not develop for a long time? Specific industries cannot be understood from only one perspective. Attempts to foster corporate competitiveness are strongly affected by the industrial structure, including policies such as taxation. The structural problems of the industry are affected in turn by various external or internal factors that we will explore in this chapter. In addition, product differentiation is a significant factor for microbreweries at an early stage. The key to survival for microbreweries is how they differentiate their products from those of the major brewers (Swinnen & Vandemoortele 2011).

This chapter provides an analysis and a brief historical overview of the Japanese beer industry, including not only microbreweries but also the major brewing companies that dominate the market. First, we discuss the growth of commercial Japanese breweries since the late nineteenth century. Second, we analyze how taxation in the brewing sector acted as a protective licensing system. Finally, we look at the growth and decline of microbreweries over the last two decades.

16.2 A Brief History of the Japanese Beer Industry and Taxation

The Japanese beer industry emerged during the Meiji era (1868–1912). In these early years of development, some ambitious Japanese entrepreneurs recognized beer brewing as an advanced modern Western industry with potential for the Japanese market, and established brewing companies such as the Japan Brewery Company (now Kirin Brewery Co.), Osaka Brewing Company (now Asahi Breweries), and Sapporo Beer Company (now Sapporo Breweries). German brewers had just started to produce pilsner on a large scale. Pilsner is a pale lager that is bottom fermented at a low temperature using cooling facilities. Japanese brewing companies chose to produce pilsner and devoted themselves to learning this leading-edge technology. They aimed to mass-produce pilsner in modern factories and sent their employees to study the craft in Germany.[2]

In 1871 (M1), a few years after the Meiji Restoration (1868: M1), the government passed a new law for the collection of a liquor production tax. During this early stage of economic development, income tax played only a minor role in tax revenue (1.5% in 1888) and the liquor tax became the most important source of revenue for the Japanese government to execute policies to industrialize the nation or to expand military forces (Japanese Law Translate 2006). The government frequently increased the liquor production tax when more revenue was needed. Liquor production tax rates were decided by the assumed tax-bearing ability of liquor consumers. Higher tax rates were applied to alcoholic beverages such as whiskey, which were considered high-priced "luxurious" beverages, while lower rates were applied to low-priced liquors such as *shochu*, which were mainly consumed by low-income laborers.[3]

The beer production tax law was established in 1901 (M34) and revised in 1904 (M37). The tax law defined beer as alcohol fermented from malt, hops, water, and brewing yeast. Beer was recognized as a luxury good because it is made from expensive ingredients, such as imported malt from Germany. Japan's liquor tax laws determined the tax rate for beer based on its malt content. Thus, higher tax rates by volume have been levied on beer than for other alcoholic beverages.

In the revised tax law of 1908 (M41), the minimum production for the beer production license was set at 1800 hl/year and the brewers' tax was to be paid during production before the goods were sold, which raised a certain amount of the required working capital. This legislative measure drove small-scale enterprises out of the market. The remaining

[2]See Asahi (1990) and Kirin Holdings Company (2015).

[3]The modern tax system in Japan was based on taxation defined according to consumers' tax-bearing ability. Luxury goods such as jewelry, cars, or fur, which were targeted to consumers with higher disposable income or accumulated wealth, had higher tax rates levied on them than for essential goods. This commodity tax for luxurious goods was maintained until the introduction of a consumption tax in 1989 (H1).

larger brewing companies invested actively and increased production, which caused over-production and price competition. The beer industry consolidated into several large brewing companies.

However, price competition still plagued the major brewing companies. Many liquor shops were able to launch their business easily at this time because their wholesaler gave them a long period of invoice settlement, customarily taking three to six months or more in order to expand their market. The increase in the number of liquor shops caused cut-throat price competition. Beer was regarded as a loss leader by the liquor shops and was often dumped by selling below the cost price.[4] Meanwhile, Japanese beer production continued to increase, although beer was a risky product for distributors during the 1920s and 1930s.

A sales license system for alcoholic beverages was created in 1938 (S13), just before the outbreak of World War II. Sales licenses were issued to wholesalers and retailers to eliminate excessive competition. A new license could not be issued when there was an existing shop within a 100–150 meters distance. In addition, new entrants who wished to open a liquor shop were required to possess a sizable property and to have at least three years of experience in selling alcohol at another liquor shop or distributor.

In 1940 (S15), an overall tax system reform was performed to meet the requirements of the wartime economy. A prewar liquor tax law (1940–1953) was enacted. This new legislation integrated tax law, and classified and set the tax rates for each alcoholic beverage category. Simultaneously, the minimum output required to obtain a brewing license was increased dramatically from 1800 to 18,000 hl (finishing at 20,000 hl in 1959), to lower the cost of tax collection.[5]

In 1953 (S28), after World War II, a new liquor tax law (1953–present) was enacted and then revised significantly in 1962 (S37). This legislature established the current tax structure, which classifies liquors into

[4]Generally, liquor shops used beer as a loss leader to attract their customers. Furthermore, beer was usually consumed only in summer; therefore, it was sold at a dramatically reduced price at the end of the season (Ninomiya 2016).

[5]It is comprehensible that collecting small amount of tax from small breweries involves cost and times.

four types: sparkling, fermented, distilled, and mixed alcoholic beverages. The general tendency of the liquor tax was such that higher tax rates were applied to expensive alcohols, following the concept of the previous tax law. A high tax rate for beer was maintained. From the late 1970s to the early 1980s, the beer tax rate more than doubled from ¥10,600 to ¥23,910/hl in nominal terms. The liquor tax comprised 18.4% of the total tax revenue shortly after World War II. Following the war, the liquor tax comprised 17.1% of the total tax revenue in 1955, 13.8% in 1960, and 10.8% in 1965. In 1984, it still comprised more than 5% of the total tax revenue, but declined to 2.7% in 2007.

16.3 Becoming a Beer-Drinking Nation

Only two brewing companies survived at the end of World War II: Kirin Brewery and Dai Nippon Beer. Dai Nippon Beer was divided into Nippon Breweries (now Sapporo Holdings) and Asahi Breweries (now Asahi Group Holdings) by the General Headquarters for the Allied Powers under the application of the Excessive Economic Power Decentralization law enacted in 1947 (S22). From the late 1950s to the 1970s, Japan experienced rapid economic growth and the expansion of the alcoholic beverage market, especially for beer.

The taxable volume of beer grew rapidly, from 4,060,000 hl in 1955 (S30) to 29,820,000 hl, accounting for 59% of total alcohol volume and 40% of total alcohol sales, in 1970 (S45).[6] Sales of beer overtook sake as early as 1959 (S34) and had the largest shipping volume of alcoholic beverages in Japan (Fig. 16.1).

Brewing companies' distribution and payment strategies were the cause of the high volume of beer sales. As discussed in the previous section, the prolonged period for the original invoice-settlement system led liquor retailers to engage in severe price competition by making beer a

[6]The taxable volume refers to the quantity of alcoholic beverages used as a basis for determining the amount of tax to be paid.

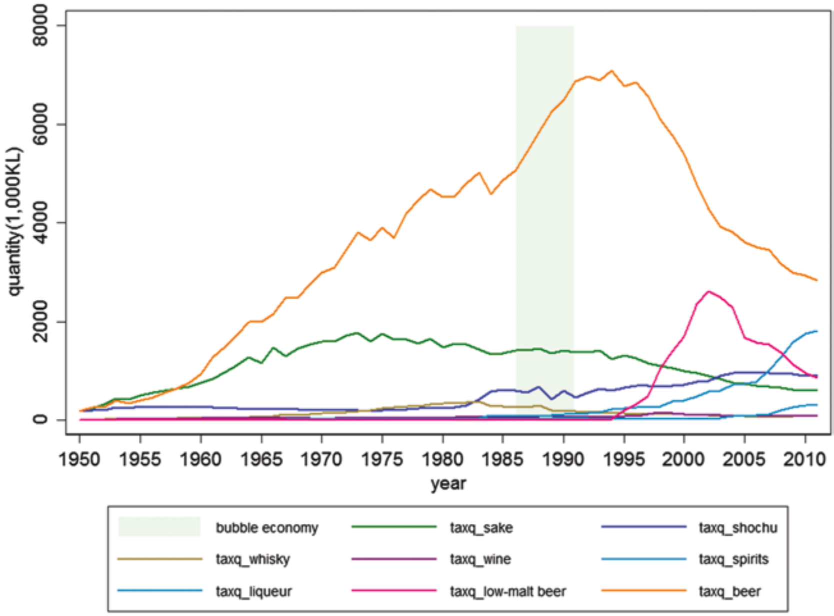

Fig. 16.1 Selected alcoholic beverage taxed quantity, 1950–2011. *Note* Alcohols are taxed on shipment. Data on wine, liqueur, and low-malt beer categories is available since 1963 and previous years' data is extrapolated using the aggregate data and corresponding categorical ratio data in 1963; liqueur includes various beverages made with alcohol, sugar, and extract of 2 degrees or more; liqueur and low-malt beer include different types of the third/new genre beer. *Source* Japan National Tax Agency (2013)

loss leader. Therefore, each brewer made exclusive contracts with dealers using a new monthly invoice-settlement system. By 1954 (S29), the new system had shortened the settlement period to 25 days. These procedures ended the cut-throat price competition among liquor shops, which were finally able to achieve financial stability by selling beer as a profitable product (Ninomiya 2016). In 1959 (S34), following the growth of the beer market, the minimum quantity for a beer-manufacturing license was increased from 18,000 to 20,000 hl.

Kirin established a perfectly exclusive distribution channel throughout Japan, in contrast to the imperfectly exclusive distribution channels of the other brewers, which gave Kirin a competitive advantage. Although the market shares of the three major companies were equally proportioned in 1959 (S34), Kirin had captured a half share of the beer market by 1966 (S23) and dominated the market with more than 60% of total sales until the 1980s (Jozo Sangyo Shimbunsha 1983). Its exclusive channel blocked the other new entrant, Takara (a *shochu* manufacturer), from the beer market. In 1963 (S38), the whisky manufacturer Suntory entered the brewing industry with an agreement to use Asahi's distribution channel. Because of this advantage, Suntory became one of the four major national brewing companies.

In 1967 (S42), technological progress in micro-filtering led to the invention of a new type of beer called *nama* (literally "fresh-raw"), made by non-pasteurization with aseptic filtration. Micro-filtering removes brewing yeast, tannins, and some large proteins during a non-heat-treated process, which produces a beer that can be stored at room temperature. Japanese people have a strong preference for raw food, such as sushi. Accordingly, *nama* beer, which is clear and lightly colored, quickly dominated the market. When dining in any type of restaurant in Japan, Japanese people habitually order *nama* beer as a toasting drink.[7]

16.4 Deregulation of Distribution Licenses for Alcoholic Beverages in Japan: 1989–2003

Despite the continuing expansion of the alcoholic beverages industry, the number of liquor shops remained stable with benefit of sales license system, at 143,047 in 1971 (S46) and 159,888 in 1986 (S61). In 1990 (H2), 83.3% of alcoholic beverages was sold by 161,523 small-scale liquor shops.[8] Liquor shops were typically family run,

[7]When Japanese order beer for toasting, they say, "firstly beer, please" or "*nama*, please." without specifying a brand.

[8]Statistically, the number of shops refers to the number of licensed sites.

with 3.3 employees on average and an average floor area of 31.4 m^2 (NTA 1991). Alcoholic beverages accounted for half of liquor shops' sales and the remainder came from items such as dried food, juices, soy sauce, or miso; therefore, the liquor shops were actually operating as grocery stores. At the same time, there were a few specialized liquor shops in Japan, but a substantial amount of alcohol was sold from these liquor shops. On the other hand, mass retailers such as supermarkets and convenience stores could not obtain a liquor sale license in the early 1990s.[9]

Every liquor shop had more than one vending machine on its premises. By 1983 (S58), there were 194, 940 beer/alcohol-vending machines, which were open 24 hours a day and dispensed beer automatically (JVMA 1983). There was virtually no price competition because of the production and distribution licensing system and the National Tax Agency's control of the market. Small liquor shops sold the same beer brands at the same price; therefore, their merchandising and sales did not require expertise.

The deregulation of sales licenses for alcoholic beverages began after 1989 (H1). National retailers such as supermarkets, discount stores, or convenience stores finally could obtain a sales license, and they began selling alcoholic beverages. Beer was sold as a loss leader at a bargain price, which affected sales. After the deregulation of distribution channels, small stores could not compete with the national large stores by selling goods cheaply. The number of liquor shops sharply decreased to 70,967 in 2001 (H13) (NTA 2002).

Consequently, the beer industry suffered from price competition and low profitability. Although the major brewers frequently introduced new products, there was not much difference between the products. Table 16.1 shows the homogeneity of the quality among beer companies in terms of color, bitterness, and ingredient content rates.

[9]Some convenience store franchises, such as Seven-Eleven Japan, incorporated liquor shops into franchisee holdings by including sales licenses for alcoholic beverages, which led to the early growth of these chains. The sales of franchisees with alcoholic beverages sales licenses were higher than for other convenience franchisees (Seven-Eleven Japan, 1991, pp. 50–53).

Table 16.1 Comparison of beers brewed by major companies

	Beer					Low-malt beer (*Happoshu*)		
Brewing company	A	B	C	D	E	F	G	H
Original extract (wt%)	11.0	11.1	11.2	11.7	11.8	12.0	12.1	12.4
Real extract (wt%)	3.4	3.4	3.3	3.9	3.6	3.9	3.8	4.2
Alcohol content (vol.%)	5.0	5.0	5.2	5.1	5.4	5.3	5.4	5.4
Color (EBC)	7.7	7.1	7.3	7.7	7.7	7.6	7.0	7.9
Bitterness (IBU)	24.8	21.0	19.0	21.0	22.7	19.9	18.2	20.2

Notes EBC European Brewery Convention, *IBU* International Bitterness Unit
Source Yoshizawa (2002)

16.5 The Appearance of Microbreweries in Japan After the Deregulation of Beer Production Licenses in 1994 (H6)

In 1994, Japan deregulated the restriction on the minimum required amount of annual beer production per brewery from 20,000 to 600 hl.[10] In the case of a low-malt beer, *happoshu*, which we describe later, the required amount was reduced substantially from 20,000 to 60 hl. Japanese microbreweries were defined by the liquor taxation system, which restricted their annual production to between 60 and 20,000 hl. From 1995 to 1999, 303 microbreweries entered the Japanese market (Fig. 16.2). The beer made by these microbreweries was called *ji-biiru* (local beer), to distinguish it from the beer that was mass-produced by the major firms, and it was very popular.

Japanese microbreweries are currently classified into four types according to their parent organization: (1) established by existing sake producers and wineries; (2) established and subsidized by local

[10] Concurrently, the government increased liquor taxes except whisky and *mirin* (traditional sweet cooking *sake*).

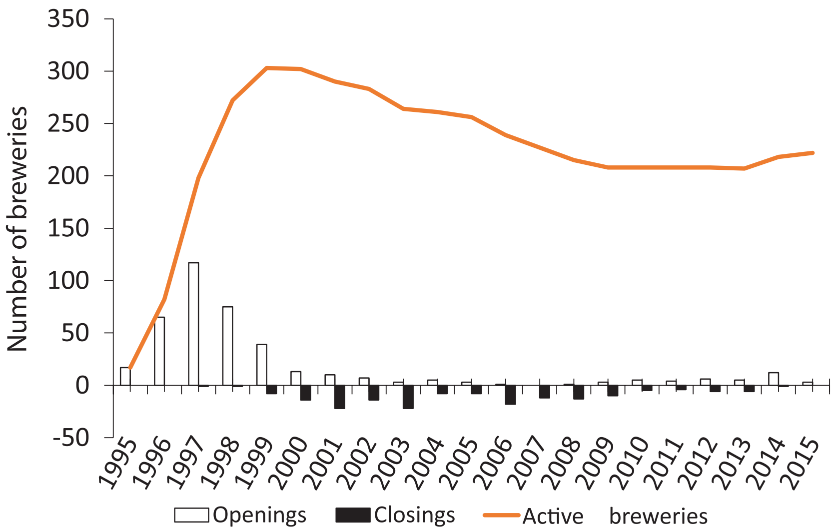

Fig. 16.2 Number of Japanese microbreweries, openings and closings, 1995–2015. *Notes* (a) Including restarting a business or temporary closure. (b) The number of breweries excludes the four major brewing companies, including *happoshu* breweries. (c) Data reproduced with permission from Kita Sangyo. *Source* Kita Sangyo corporation

government for regional development; (3) established and subsidized by private firms outside the industry; and (4) established by independent entrepreneurs.

The fourth type of microbreweries did not exist during the early days of the industry, because independent entrepreneurs lacked brewing knowledge in addition to facing significant start-up capital requirements. To obtain this knowledge, prospective brewers hoping to get a brewing license had to go to the USA or Germany, where training courses for breweries were provided. They then imported brewing machines and invited the brewmasters to visit Japan. Establishing a microbrewery required a substantial amount of early investment.

In 1996, type 1 microbreweries, especially local sake producers nationwide, accounted for 11 of the 20 microbreweries (Hozumi 1998).

While local sake producers had a long-standing history within their area, sake consumption had been declining since 1975 (S50). Local sake producers entered the microbrewing industry because they hoped that it would save their overall business. In addition, the microbrewing method was considered similar to that of sake production, particularly in terms of fermentation. The first local sake producers to enter the microbrewing sector were Uehara Shuzo, producing Echigo Beer in Niigata, Umenishiki-Yamakawa in Ehime, Kizakura Shuzo in Kyoto, Konishi Shuzo in Hyogo, Miyashita Shuzo in Okayama, Ginban Shuzo in Toyama, and Kotobuki Shuzo in Osaka.

Type 2 microbreweries were so-called third-sector organizations subsidized by local governments. Local private firms co-established these enterprises with local governments, which were the largest shareholders and were experiencing depopulation issues in their regions. Local governments hoped that these type 2 microbreweries would activate the local economy. Microbreweries built theme and farming parks for tourists, encompassing local food-processing businesses, farmers' markets, restaurants, accommodation, or spa facilities (Kawakami et al. 2001). About 60% of all microbreweries had a brewpub or restaurant that was luxuriously decorated to attract guests; on average, about ¥300 million was invested into these businesses. In addition, microbreweries introduced multiuse and expensive brewing equipment and offered five to six types of beer. Generally, a huge amount of initial investment in the microbrewing business was financed during the early stages of the industry in Japan. The price of *ji-biiru* was set to double or even triple in some cases that for the major beer brands due to the initial investment (Nikkei 1995).

Most microbreweries, especially of type 2, followed the examples of Germany and the UK. They relied on technical guidance from the major brewing companies.[11] Major domestic brewing companies provided guidance to 42% of 105 brewers, of whom 34% were guided by Asahi and 20% by Kirin (Tokuda et al. 2000). All ingredients were imported through the same large trading companies and produced with the same process, using the same type of machine. Although

[11]At that time, there were no technical books about brewing in public, and major breweries did not open the brewing technology.

microbreweries could produce any kind of beer, pilsner was the most common product, which is the same type of beer as the major breweries' mass-produced beer. Japanese people had become accustomed to the taste of pilsner, and they found it difficult to differentiate microbrewery products from those of the dominant firms. Consequently, many microbreweries produced beer with a similarly characterless taste and it was hard to differentiate between them.

Curious tourists flocked to the microbreweries during the first *ji-biiru* boom (1995–1998), which induced the microbreweries to increase their output. For instance, Okhotsk Beer Factory increased production by 20% in its second year of business. However, the first fad quickly ended in 1998 (H10). Confronted with dismal *ji-biiru* sales after the boom, microbreweries took measures to deal with the situation, such as increasing the volume of another product line to compensate for the low sales. They created new types of beer by adding the specialty of their district, such as wasabi, milk, apple, tea leaves, banana, and so on. This varietal product line not only blurred their brand, but also resulted in a secondary concern about the taste of their products. The microbrewers were not brewing professionals and were not as concerned about the taste of the beer itself, the quality of which did not exceed that of the local "souvenirs."[12] Microbreweries could not retain their customers by expanding their product lines.

With an annual output of 800–1000 hl, which is quite small, there was little difference in production size between type 1 and type 2 microbreweries. Despite their limited production scale, many microbreweries, especially of type 2, struggle because of their large initial investment costs, which subsequently become depreciation costs and loan interest. These costs cause immediate difficulties for microbreweries when their sales decrease.

Despite their best efforts, the microbrewing business alone was not profitable. In 2002 (H14), more than 50% of brewing enterprises were operating with deficits (Table 16.2). Most microbreweries started

[12]It was difficult to obtain clear evidence on this matter. However, many articles about *ji-biiru* suggest that microbrewers suffered from a consumer prejudice that their beer was just a low-quality product for purchase as a souvenir.

Table 16.2 Financial conditions of microbreweries (%), 2002–2012

Year		Beer				Low-malt beer (*happoshu*)			
		Total	Deficit	Low-profit-ability[1]	Other	Total	Deficit	Low-profit-ability[1]	Other
2002	H14	100.0	52.1	3.6	44.2	100.0	53.9	17.1	28.9
2003	H15	100.0	51.5	4.7	43.9	100.0	48.2	21.7	30.1
2004	H16	100.0	45.6	7.7	46.7	100.0	49.5	22.6	28.0
2005	H17	100.0	40.0	5.9	54.1	100.0	44.4	30.0	25.6
2006	H18	100.0	40.8	9.6	49.7	100.0	38.2	35.5	26.3
2007	H19	100.0	46.7	7.9	45.4	100.0	46.3	29.9	23.9
2008	H20	100.0	42.6	12.2	45.3	100.0	37.5	37.5	25.0
2009	H21	100.0	45.9	10.2	43.9	100.0	50.0	22.4	27.6
2010	H22	100.0	46.6	11.6	41.8	100.0	42.7	26.7	30.7
2011	H23	100.0	40.8	8.2	51.0	100.0	36.9	28.6	34.5
2012	H24	100.0	36.7	8.2	55.1	100.0	35.9	25.0	39.1

Note 1 Low profitability means that annual earnings before the deduction of interest, tax, and amortization expenses are under ¥500,000
Note 2 This data excludes the four major brewing companies in Japan
Some breweries have production licenses for both beer and *happoshu*
Source NTA (b), original Tables 6 & 17 in series

Table 16.3 Ratio of beer sales to total business in 2011

Beer			Low-malt beer (*Happoshu*)		
Ratio of beer business (%)	Number of licensed sites	%	Ratio of beer business (%)	Number of licensed sites	%
100	11	7	100	7	8
80–99	11	7	50–99	11	12
50–79	17	12	10–49	13	14
30–49	16	11	<10	61	66
10–29	32	22	Subtotal	92	100
<10	60	41			
Subtotal	147	100			

Note As Table 16.2
Source NTA (b), original Tables 2 & 12

producing beer not as an independent business, but as a subsidiary business that compensated for the shortfalls from the main business. The ratio of microbreweries with less than 10% of beer sales out of total sales was 41%; in the case of *happoshu* sales, the equivalent figure was 66% (Table 16.3). Type 2 microbreweries gradually left the industry.

Because of this environment, few independent microbreweries began operation. Microbreweries with low factory operating costs started to supply their products to restaurant chains, but they eventually came under pressure to discount their products. Microbrewers with restaurant chain deals experienced operating losses from 2006 (H18) to 2009 (H21) (NTA, b, Table 15 in series). Microbreweries were deprived of any profit due to all these efforts.

16.6 Evolution of Beer-like Beverages: 1994–Present

At around the same time as the deregulation of beer production licenses, breweries started to produce different types of beer. In 1994 (H6), Suntory launched the first successful *happoshu*. At that time, the liquor tax law defined beer as a brew with more than 67% malt by weight. If the proportion of malt was less than 67%, the product was not defined as beer, but as *happoshu*, which was taxed at a lower rate.[13] A 65% malt *happoshu* was released by Suntory, which it called *daini no biiru* (the second beer). This 65% malt *happoshu* was 25% less expensive than the regular 67% malt beer because of the preferential liquor tax rate.

In 1996 (H8), the Japanese government changed the definition of beer from 67% to 50% malt content. This meant a tax increase for *happoshu*. The major brewing companies began to take advantage of loopholes in the liquor tax law and introduced a series of beer-like beverages, called *daisan no biiru* (the third beer), which contained no malt, but instead used protein-decomposed products made from soya, pea, or corn, with added yeast produced by alcoholic fermentation. A beer-flavored compound was added to this third beer-like beverage, which was colored with caramel.

[13] By legal definition, various kinds of malts such as barley malt, wheat malt, rye malt, roasting malt, are included in the same category. Nonetheless, although German-style wheat beer is categorized as beer, Belgian-style wheat beer using flavorings such as coriander and orange peel is not categorized as "beer," but as *happoshu* by the Japanese liquor tax law.

Finally, this trend was followed by *daiyon no biiru* (the fourth beer), which was *happoshu* fortified with spirits made from barley that tasted remarkably like beer. In 1998 (H10), the liquor tax law categorized these new genre beverages as "other fermented alcoholic beverages" or "liqueur." The prices of these new products were typically around two-thirds to one-half of the price of beer, which reflected the lower tax rate. The third and fourth beers were collectively called"new-genre beer" despite being artificial beer-like beverages. The new genre of beer-like beverages expanded rapidly by capturing the beer market, especially for home consumption. In 2010 (H22), such beverages dominated the beer market in volume with a 32.8% market share (Jozo Sangyo Shimbunsha 2015). Therefore, the new-genre beers comprised a significant proportion of the beer market.

The major brewing companies frequently tried to adjust to the changing liquor tax and continued to seek new beer-like products, energetically releasing a series of new low-priced products. In 1994 (H6), the taxable quantity of beer reached a peak of 74 million hl. Since then, beer sales have been shrinking (Fig. 16.1). Retailers could not avoid selling low-priced beer-like beverages because of the price competition after deregulation.

Consumers found it difficult to tell the difference between beer and beer-like beverages, which could not be distinguished by either taste or appearance. Beer-like beverages were sold on the same shelf next to beer, with similar labels conventionally displaying the brewing company's logo in a long-standing brewing tradition (Fig. 16.3).

In the 2003 (H15) liquor tax revision, the nominal liquor tax for a typical canned beer (350 ml) is ¥77 for beer with a malt content of 50% or more, ¥62 for *happoshu* with 25–50% malt, ¥47 for *happoshu* with 0–25% malt, and ¥28 for new-genre beer-like alcoholic beverages (other carbonated beverages). Japanese consumers gradually accepted the beer-like beverages (Fig. 16.4) and recognized beer and beer-like alcoholic beverages as similar commodities.

On the other hand, the major brewing companies pre-empted the *ji-biiru* boom ahead of the deregulation of tax legislation. Kirin set up smaller-sized brewing factories, called "beer parks." In 1994 (H6), it opened a 170-seat restaurant in Kyoto where special beers, such as

Fig. 16.3 Examples of beer and beer-like beverages

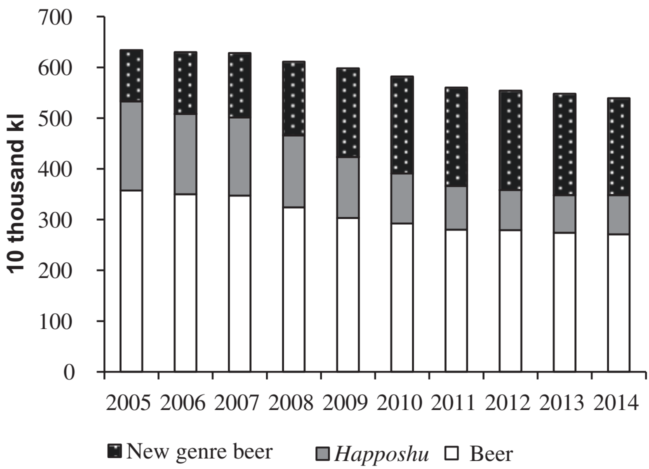

Fig. 16.4 Shipment volumes of beer and beer-like beverages. *Note* The data describes shipments by the five major brewing companies. *Source* Kirin Holdings Company, Ltd. (2015)

stout or ale, were released locally for a limited time. More than 200,000 people visited Kyoto Beer Park during its first year. Following this success, Hiroshima Beer Park was opened in 1998 (H8). Beer parks were designed for promotional activities to inform consumers about "beer culture." In 2001 (H13), Asahi also set up a subsidiary brewing company called Sumidagawa Brewing in Tokyo, which included several restaurants. However, the beer market was transformed by the advent of low-priced beer-like beverages. Consequently, Kirin had to close the beer parks in Kyoto in 2003 (H15) and in Hiroshima and Hokuriku in 2010 (H22). Even Kirin could not maintain its microbrewery business at its initial size.[14]

This change in the beer market severely affected microbreweries. Consumers felt that *ji-biiru* was quite expensive, with prices four to five times higher than for the new-genre beer-like beverages.

16.7 Struggles of Microbreweries

The distribution of the alcoholic beverage industry radically changed after the deregulation of sales licenses after 1998. Low-priced beer-like beverages caused price competition, which made consumers more price conscious. In these circumstances, microbreweries remained stagnant. Let us look at two cases.

16.7.1 Case Study 1: Ginga Kogen Beer

As part of a regional revitalization project in 1996 (H8), Ginga Kogen Beer, a type 3 microbrewery located in a small village in Iwate Prefecture (in northern mainland Japan), was established by Higashi Nihon House, a large house construction company. In 1998 (H10), Ginga Kogen Beer invested ¥3.6 billion in building a theme park with a 1200-seat restaurant next to its factory in Tochigi (near Tokyo, in the middle of mainland Japan).

Ginga Kogen Beer aimed to become a national brand by expanding the scale of its production. In 1999 (H11), the company invested about

[14] In Kyoto, Kirin produced 100 hl per batch (with an annual production of 55,000 hl), which was one-tenth of the capacity of their mother plant. Although product packaging was done in the mother plant, according to Kirin's estimations, the production cost in Kyoto was estimated to be twelvefold that of the mother plant, which had not achieved cost efficiency (Matzuzawa, 1995).

¥20 billion in an additional three factories across the country, where it was able to produce 630,000 hl, which was a mere 1% of the total Japanese beer volume produced that year (Nikkei Top Leader 2006). Ginga Kogen Beer attempted to sell high-quality beer to capture 5% of the future beer market (Nikkei MJ 1999).

Ginga Kogen Beer did not choose to produce pilsner at the beginning. It preferred to use a German *weizen*-style, non-filtered turbid beer production method in order to differentiate it clearly from mass products. Storing and transporting its beer required low temperatures (under 5 °C), in contrast to regular filtered beer, which can be stored at room temperature. Although the locations of its four factories were decided strategically to ensure a supply of good spring water, large transportation costs were an undesirable result. In addition, the product had an expiration date less than a month after production, which was a much shorter shelf-life than for regular beer. Thus, Ginga Kogen Beer chose to produce a potentially expensive product for its business.

In 1999 (H11), Ginga Kogen Beer succeeded in supplying heat-pasteurized beer to Seven-Eleven Japan (Seven & i Holdings), which is the largest convenience store chain in Japan. The price of Ginga Kogen Beer's beer was ¥248 per 350 ml and major breweries' beer was sold at ¥218 per 350 ml. This small price disparity between Ginga Kogen Beer's and major breweries' beer was sufficiently competitive, because other *ji-biiru* were sold at around ¥400 (Nikkei 1999a). However, Ginga Kogen Beer was expensive compared with *happoshu*, which was sold at ¥145. The company also decided to heat-pasteurize its beer, which was similar to mass-produced products.

By 2000 (H12), Ginga Kogen Beer's annual sales had increased to ¥5.2 billion. Its beer sales were lower than expected in 2001 and within a year, Seven-Eleven Japan stopped supplying Ginga Kogen Beer products. In 2000, Ginga Kogen Beer began selling a new pilsner beer at ¥218 (Nikkei Sangyo 2000), which did not increase sales.

In 2001 (H13), Ginga Kogen Beer's sales dropped to ¥4.7 billion, which induced a ¥2.7 billion deficit in its current account. The accumulated deficit reached ¥7 billion. To mitigate this deficit, Ginga Kogen Beer closed two factories and downsized the business. Finally, in 2005 (H17), its sales fell by ¥3.9 billion to a ¥7.7 billion deficit. It went into liquidation with a ¥12.6 billion debt and sold three of its factories, except for the smallest one in Iwate Prefecture.

The most significant problem that Ginga Kogen Beer faced was its marketing. It decided to expand its production in one step and sought to target people who preferred high-quality beer. Nonetheless, it usually takes time to build a good relationship with loyal customers. In addition, Ginga Kogen Beer set up an exclusive distribution channel with some companies that were completely new entrants to the liquor business (Nikkei MJ 1997). Moreover, it sold its goods through mass retailers or restaurant chains. It was not easy for mass retailers to sell special and expensive products to consumers who required an explanation for the expense of the product.

Ginga Kogen Beer originally sold the German *weizen*-style non-filtered beer, which is uncommon and unique, whereas filtered pilsner is common, but tastes almost the same as the major beer brands. It was difficult for the existing independent liquor shops to take counter-measures against the discount stores, because they had been indulged by the licensing system. A key to their salvation might be to sell specific goods such as *ji-biiru*; however, liquor shops simply did not know their target market for these “different” beers.

The case of Ginga Kogen Beer might be extreme. Even so, several companies followed a similar course. Consequently, by 2002, 60 out of 343 microbreweries had been forced out of business.

16.8 Transformation from *Ji-Biiru* Brewer to Craft Brewery

In 2003 (H15), an interim measure was introduced under the Act on Special Measures Concerning Taxation in the liquor tax law to ease the adjustment costs of small-scale breweries operating with an annual ceiling of 13,000 hl. Under this Act, which was initially set to expire in three years but was later extended to the present day, microbreweries were eligible for a 20% reduction in the liquor tax paid for the first 2000 hl of their beer output. Despite this special measure, the number of breweries continued to decline. After 2005, the *ji-biiru* brewing

Table 16.4 Microbrewery rankings in 2010

Ranking	Brewery	Location	Main brand	Shipping volume (hl)
1	Echigo beer	Niigata	Echigo beer	4850
2	Ginga Kogen beer	Iwate	Ginga Kogen beer	4490
3	Kiuchi brewery	Ibaraki	Hitachino Nest beer	1370
4	Gotemba Kogen beer	Shizuoka	Gotemba Kogen beer	1000
5	Baeren brewery	Iwate	Baeren classic	830

Source Tokyo Shoko Research (2010)

recession bottomed out, with a total annual production of approximately 290,000 hl by 2008 (H20); however, the number of *ji-biiru* brewers did not increase. The number of active *ji-biiru* brewers was 215, because 141 of the 356 original microbreweries had closed by 2008.

Tokyo Shoko Research (2010) found that 80% of *ji-biiru* was drunk in the summer. It was consumed mainly by tourists or purchased as gifts. Thus, the demand for *ji-biiru* was influenced by weather and tourism.[15] Weather changes every year and tourists are one-shot customers who may drink only during certain circumstances; therefore, demand for *ji-biiru* was seasonally limited and uncertain.

In 2010 (H22), *ji-biiru* brewers with a small production of under 10,000 hl annually were ranked from first to fifth (see Table 16.4; Tokyo Shoko Research 2010). The shipping volumes of the top two brewers, Echigo Beer and Ginga Kogen Beer, are significantly larger than that of the final three brewers.

Some *ji-biiru* brewers extricated themselves from the stagnated market by successfully repositioning their product as “craft” beer in their consumers’ perspective, which led customers to imagine they were consuming a special product made with care and artisanship.

The following case study of Kyodoshoji Corp. is a good example of the transformation from *ji-biiru* brewer to craft brewery.

[15] Tokyo Shoko Research (2010) received 90 valid responses from 120 *ji-biiru* makers.

16.8.1 Case Study 2: Kyodoshoji (COEDO Brewery)

In 1996 (H8), a type 3 microbrewery and restaurant was set up by Kyodoshoji Corp., which is primarily an organic vegetable wholesaler in Saitama Prefecture (in a northern suburb of Tokyo). Kyodoshoji invented a new way to use an irregular ingredient of beer, the Japanese sweet potato, which is a local agricultural product of Saitama.

In its second year of production, Kyodoshoji invested ¥800 million to establish a new plant with 33 tanks (each tank contains 60 hl, with a maximum output of around 20,000 hl annually; Nikkei 1999b). In accordance with this production upgrade, Kyodoshoji began selling low-priced *happoshu* at ¥138 per 350 ml in 1999 (H11), which reduced to ¥130 in 2002, and this was still lower than the price of major brewers' *happoshu*. Kyodoshoji aimed to sell its low-price *happoshu* by incorporating it into the private brands of its supermarket partners. Although Kyodoshoji expanded its production as much as possible, it could not supply national convenience stores because of its output limitations. Alternatively, its cheap *happoshu* was also sold at drugstores or discounters, where it became a loss leader.[16]

Kyodoshoji suffered from over-production after the end of the *ji-biiru* boom. To maintain its factory-operating rate, it considered licensing out its technology to other organizations' brands on assignment. In 2006 (H18), it contracted with about 100 organizations nationwide and produced beer or *happoshu* made from local agricultural products, such as apples, seaweed, or green tea (Nikkei 2005). To its chagrin, each contract quantity was individually small and varied from year to year. Kyodoshoji "had sought to offset declining interest by differentiating into multiple segments, with no clear strategy," as had other microbreweries (Edman 2011). This action had only a slight effect and Kyodoshoji's beer department was continuously in deficit.

In 2006, the newly inaugurated chief executive officer, Shigeharu Asagiri, made a crucial decision about its marketing strategy. Kyodoshoji decided to finish selling all of its existing products and then

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[16]From an interview with Mr. Shigeharu Asagiri on May 11, 2016.

introduced five new kinds of premium beer or *happoshu* with a new logo and brand, COEDO (Nikkei 2006). This process took two years of research and development. It inherently had confidence in its high-quality brews, which used good ingredients in a long German-style fermentation and aging process, guided by a German brewmaster for five years. Shigeharu Asagiri repositioned the product in the beer market and sought to remove the unacceptable brand image as being an expensive and bad *ji-biiru* product. Instead, he decided to strive to differentiate COEDO as a craft beer.

First, Kyodoshoji promoted its sales to department stores, superior supermarkets, and independent restaurants with an intelligible explanation, which was well received. Second, it sought to establish a reputation outside Japan by winning an international competition, such as the Superior Taste Award from the International Taste & Quality Institution, the World Beer Cup, the European Star Award, or Monde Selection (COEDO Brewery). In 2007, both Beniaka (made from Japanese sweet potato) and Ruri (pilsner) won grand gold medals at Monde Selection, which threw an international spotlight onto Kyodoshoji's beer. In 2008, its sales were one and a half times greater than in the previous year (Nikkei sangyo). This good international reputation led directly to an increase in domestic sales in Japan.[17] Third, the company strove to export its beer internationally, which also helped to establish a good reputation in the domestic market. Kyodoshoji sought to create a new craft beer market by differentiating its products from the *ji-biiru* market or mass-produced beer.

All its efforts bore fruit. In 2016, Kyodoshoji will relocate its factory to increase production capability by 20%. Other microbreweries, such as the Kiuchi brewery, also won prizes and promoted their export products internationally. As a result, a new craft beer market has opened in Japan.

[17]For example, the results of the International Wine Challenge (IWC) or International Wine & Spirits Competition (IWSC) attract attention in Japan, which leads directly to sales.

16.9 Craft Beer Boom Since 2014

At the end of 2013 (H25), the total annual production volume of craft beer was estimated to be 350,000 hl (Tokyo Shoko Research 2016). In 2014 (H26), craft beer became a boom product in Japan. According to the latest available figures, the number of microbreweries has increased, with up to 221 operating in 2015 (H27). Japanese microbreweries seemed to have begun to revive their businesses again.

The demand for craft beer varies from area to area. Half of the demand is in the Kanto (Tokyo) region. The Tohoku region accounts for 22.6% of consumption because many *ji-biiru* breweries are located in this area. However, the Kinki (Osaka) region comprises only 2.7% of the demand despite having 10.1% of the population of Japan (Table 16.5). Thus, the craft beer boom is considered to be increasing locally, but not nationwide at the moment.

Younger customers who entered the craft beer market at the drinking age of 20 years did not have a previous prejudice about *ji-biiru*, because

Table 16.5 Comparison of the ratio of the population 1 (thousand) 2014 with *ji-biiru* shipping volumes in 2015

District	Population1 (thousand) 2014	Population rate (%)	Shipping volume (hl) 2015	Shipping volume ratio (%)
Hokkaido	4541	2.5	3629	4.2
Tohoku	7501	4.1	19,638	22.6
Kanto (Tokyo)	35,585	19.3	43,595	50.1
Chubu	13,170	7.2	10,242	11.8
Hokuriku	4397	2.4	1094	1.3
Kinki (Osaka)	18,558	10.1	2337	2.7
Chugoku	6111	3.3	4069	4.7
Shikoku	3217	1.7	239	0.3
Kyushu	11,762	6.4	2092	2.4
	104,842	100.0	86,934	100.0

Note 1 This population is aged over 20 years
Source Statistics Bureau and Tokyo Shoko Research (2015)

craft beers were already available in the market when they came of age. This situation differs from that experienced by older generations, who could only have a pilsner when they became the legal age to drink. Most of the younger customers prefer flavorful craft beers and have several opportunities to taste them. About 121 beer festivals are held across Japan annually.[18] In addition, the number of craft beer pubs or restaurants serving food with craft beer has increased since 2005.[19] There are several easy opportunities for young customers to experience craft beer, which has changed their preferences.

Half of the *ji-biiru* brewers mainly use a direct channel of distribution by selling their beer directly to customers at their restaurants, hotels, or shops. Table 16.6 shows that the segment of "Others" in the beer market increased significantly from 2002 to 2012. "Others" refers to indirect channels of distribution. The number of restaurants or retailers that hope to sell craft beer is growing; therefore, brewers have started dealing with alcoholic beverage distributors. Distributors are expected to expand the craft beer market through their existing channels.

16.10 Conclusion

In this chapter we provided an overview of the history of beer in Japan. Although beer was taxed at a high rate, it became one of the most popular national drinks. Sales licenses for alcoholic beverages were deregulated from 1989 (H1) to 2001 (H13) in a phased manner. Discounters and large retailers started to sell alcoholic beverages; consequently, the industry suffered from severe price competition.

In 1994 (H6), beer production was deregulated and Japanese microbreweries began operating. After 1998 (H10), the major brewing companies launched a series of beer-like beverages at low prices under the

[18] This is the number of festivals listed on the BR navi website.

[19] Although accurate data for craft beer pubs was not available, we used an app called Craft Beer Japan and searched a list of pubs provided by the Japan Beer Times website.

Table 16.6 Average financial conditions by sales venue, 2002 and 2012 (in ¥ millions)[1]

Type of sales			Theme park, souvenir shop		Accompanying beer restaurant, brewpub		Supply to Chain restaurants		Others[2]	
Kind		Number of licensing sites	Sales revenue	Operating income	Sales revenue	Operating income	Sales revenue	Operating income	Sales revenue	Operating income
Beer	2002	165	52.2	6.8	52.2	−1.5	86.3	−6.8	68.2	−2.9
	2012	147	37.4	6.9	67.2	8.8	88.4	5.6	123.9	7.2
Happoshu	2002	76	5.7	1.3	8.7	−2.3	8.6	0.2	5.5	−0.1
	2012	92	3.1	1.2	18.1	1.6	11.9	1.1	29.4	1.2

Note 1 This data excludes the four major brewing companies in Japan. Some breweries have production licenses for both beer and *happoshu*
Note 2 "Others" mainly includes these who distribute alcoholic beverages directly
Source NTA (b), Table 5 in series

twisted liquor law; therefore, the beer market had to be converted radically to stay viable in the new competitive market. Unfortunately, microbrewing was not successful during this severe price competition.

In Japan, beer is legally defined for the sole purpose of taxation, which affected the major brewing companies and microbreweries in various ways. When we look at the craft beer market in the USA or other countries, we find that craft beer has generated social or grassroots movements. A group of American microbreweries organized themselves politically and provided definitions for their specific beers to differentiate themselves from mass-produced beer (Brewers Association website; Rao et al. 2000).

In 2015 (H27), all four major brewing companies in Japan included craft beer in their product line and opened brewpubs. Kirin formed a capital tie-up with the Yo-Ho Brewing Company, which held 34% common stock on September 24, 2014 (Kirin Holdings Company 2014). Kirin declared that it would create a new market for craft beer (Diamond 2014). At 2016, it acquired a 24.5% stake in the Brooklyn Brewery Corporation. Kirin and Brooklyn Brewery plan to implement joint development under the name Brooklyn Brewery in both Brazil and Japan (Kirin Holdings Company 2016). The situation is similar to the USA, where the American Brewers Association maintains that if a large brewer has a controlling share of a smaller producing brewery, the brewer is, by definition, not craft (Brewers Association 2012).

On the other hand, neither the Japan Brewers Association nor the Japan Craft Beer Association has defined craft beer to date. The phrase "craft beer," is becoming prevalently used in discourse, although what it actually means remains unclear. Since 1995, 394 microbreweries have opened, of which 173 have already closed. In the 2010s, regardless of the revival of microbreweries, the number of new entrants has not increased much. In the end of 2016, the government finally declared to make a start to unify beer tax rates for different categories over the next decade. The question remains: Will microbreweries succeed in establishing a specialty segment in the beer market in their own right? Japanese microbreweries are experiencing an unpredictable situation.

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17

Craft Beer in China

Fan Li, Yaojiang Shi, Matthew Boswell and Scott Rozelle

17.1 Introduction

China has a long history of alcohol production and consumption. Ancient Chinese people developed various alcoholic beverages using ingredients ranging from cereals and fruits to flowers (Luo and He 2001; Nelson 2005). Alcohol has traditionally represented happiness

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and auspiciousness (Hao et al. 2005; Bai et al. 2011). Both brewing techniques and drinking cultures spread with Confucian culture over the whole Asian continent (Bing et al. 2014). Although China had a long history of alcohol production, only recently has its alcohol industry become an important international player. This is particularly true with regard to beer.

China's first breweries were established by Russians, Germans, and Czechs in the nineteenth century (Bai et al. 2011; Ascher 2012). Until recently, the Chinese, who traditionally preferred to drink *baijiu*,[1] did not consider beer an important national alcoholic drink. However, as the country implemented economic reforms and the disposable incomes of both urban and rural residents increased during the 1990s, China's beer industry began to catch up to its Western counterparts (Chen 2009; Bai et al. 2011).

The market has grown fast, although the initial production level was rather low. For example, during the early 1990s China's beer market was only about 7.64 billion liters in volume, or about 30 percent of US beer production during the same period (Euromonitor 2014). However, by 2001 China's beer market had surpassed the US beer market in volume, and by 2013 it had surpassed the US beer market in value and become the biggest beer market in the world (Fig. 17.1, Euromonitor 2014).

Nevertheless, almost every stakeholder in the brewing industry believes that China's beer market has not achieved its full potential (Holliday 2014; Scipioni 2016). Per capita beer consumption in China is still fairly low. Data collected from Euromonitor shows that in 1999 China's annual per capita beer consumption was under 20 liters. This was only one-sixth of German per capita consumption, and one-quarter of US per capita consumption by then (Fig. 17.2). Although this figure has increased remarkably over the last decade, it is still low. For example, China's per capita beer consumption in 2013 was only 38 liters (South Korea had 46 liters per capita and Japan 43 liters per capita in 2013, according to Kirin Report 2014; the USA drank 74 liters per

[1] *Baijiu* is a type of highly distilled spirit with ingredients such as sorghum, rice, and even corn and wheat (McGovern et al. 2004; Hao et al. 2005; Zheng et al. 2011).

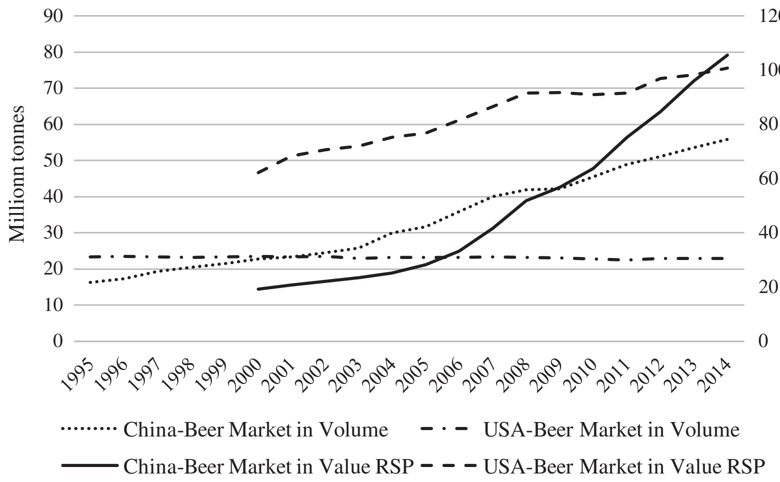

Fig. 17.1 Chinese and US beer market comparison, in volume and in value. *Note* Market value is calculated based on retail selling price (RSP) with year-to-year exchange rate. *Data Source* Euromonitor 2014

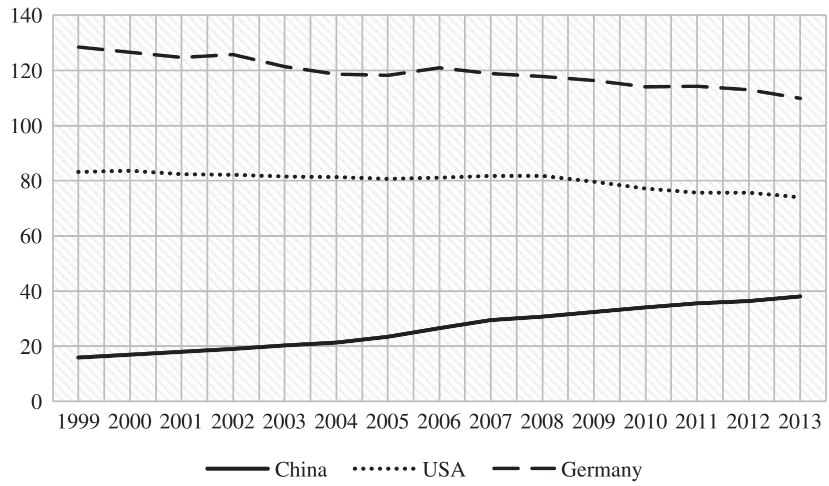

Fig. 17.2 Beer consumption in China, USA, and Germany (liters per capita). *Data Source* Euromonitor 2014

capita and in Germany the figure was 109 liters in 2013). As a result, almost every brewing company in the world is now exploring the Chinese beer market (Heracleous 2001; Taveekitikun 2007).

Though the fast growth of China's emerging beer market is quite alluring, competing in it has never been easy. China's beer market exhibits an elastic and fast-changing character. Co-operation and competition between domestic brewers such as Tsingtao, Snow, and Yanjing and international brewers like Anheuser-Busch InBev, SABMiller, and Heineken turned the Chinese beer market into a dynamic business environment. In the early 1990s, after the reform and opening, China's domestic mass brewers were fascinated by their international competitors' advanced brewing technology and business models. Reform and opening led to a significant increase in foreign investment in China's beer market. This significant increase in investment in the brewing industry brought in not only enormous capital for brewing beers, but also many new high-tech brewing techniques and more diverse drinking cultures (Heracleous 2001; Chung and Smith 2007).

Meanwhile, domestic brewers never stopped competing for China's market share and establishing their own brands. After China joined the World Trade Organization (WTO) in 2001, consolidation and acquisition among international and domestic mass brewers continuously reshaped its beer market (Bai et al. 2011).[2] The continuous expansion, mergers, and acquisitions of China's top five brewers (China Resources Enterprise, Tsingtao, AB InBev, Beijing Yanjing Brewery, and Henan Jinxing Brewery Group) squeezed the development of regional brewers. In 2009, Tsingtao accounted for a 13.7 percent share of the beer market in China by volume, making it the biggest beer brand in the country. However, in 2013 China Resources

[2]Before China joined the WTO, its domestic trade polices created a beer market in a highly fragmented manner. With support from local (and regional) government there were almost 1000 regional middle-sized brewers all around China brewing (local) beers. It was reported that almost every city in China had its own branded local beers, while beer from other regions or provinces was often imported with high taxes. Government market protection and direct investment, accompanied by the country's increasing purchasing power, led to a booming growth of middle-sized brewers during the 1990s (Gilley 2001).

Enterprise (CRE) took the leading position with a volume share of 23.9 percent (Euromonitor 2014). In terms of imported beers, although international competition is already formidable in China with almost all the traditional beer brewing countries selling their beer to Chinese consumers (USDA 2010; EU-SME 2015; Gale et al. 2015), Germany and Mexico together occupy nearly 56 percent of the imported total (Euromonitor 2014).

While mass producers compete through consolidation and acquisition in China's beer market, a new entity has begun to emerge—the craft brewery.[3] After years of watching mass-produced light lagers saturate China's market, craft brewers have begun catering to more sophisticated consumers by brewing authentic craft beers. Brewpubs (where beer is brewed with traditional European methods and served on-site) started growing and spreading out fast in the urban cities to serve their unique flavored beers after 2000 (Wickham 2013; Abkowitz and Tian 2014). This is not only happening in Beijing, but also in many other mega-cities in China like Shanghai and Guangzhou (McDonnell 2013; Flores 2014). For example, the number of craft breweries in Shanghai alone has doubled to ten since 2010 (Rate Beer 2016). In the smaller cities—such as Kunming, Nanjing, Chengdu, and Xi'an—the number of brewpubs has also grown exponentially over the last five years (Fig. 17.3, Kanthor 2014).

The goal of this chapter is to shed some light on China's recent craft beer market development. It is divided into four parts. We will first describe the current craft brewing growth trends in China's beer market. Second, we will analyze the driving forces behind China's craft brewery growth. In the third section, we discuss the biggest challenges that China's craft breweries face in this emerging market. Finally, we will discuss our conclusions.

[3]Throughout the chapter the term craft brewery (or microbrewery) is defined as a small-scale beer producer which strictly follows the traditional European brewing methods. Its products are generally labeled craft beer.

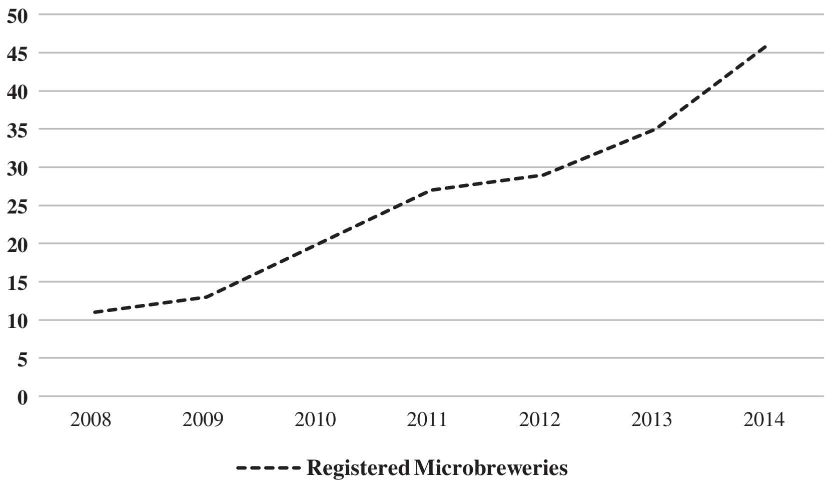

Fig. 17.3 Number of craft breweries in China. *Note* The number of craft breweries is collected from RateBeer. It includes brewpubs and microbreweries. Online retrieved from http://www.ratebeer.com/breweries/china/0/45/

17.2 The Growing Trend of Craft Brewing in China

Craft beer is the fundamental opposite of mass-produced industrial beer (Oliver 2011). The characteristics that distinguish craft breweries from mass producers are small production capacity and traditional European brewing methods (US Brewer Association, 2014). "Craft brewing" as a phrase was not commonly used until the twenty-first century; instead, small-scale beer producers were called microbreweries. In the USA, a microbrewery has been defined as producing fewer than 6 million barrels (about 700 million liters) annually. However, in Tremblay and Tremblay (2010), instead of microbrewery the term "craft brewery" was employed, so as to be comprehensive and include microbrewers, brewpubs, and regional craft brewers. This change in definition also reflected the evolving culture of craft brewing, where less attention was paid to the size of the brewery and more to authenticity in brewing methods and the uniqueness of the beers.

Table 17.1 China's beer market value by type from 2005 to 2015 (in millions USD)

Segment	2008	2010	2015	Growth Rate 2005–2010 (%)	Growth Rate 2010–2015 (%)
Standard lager	23,698.7	42,283.2	64,012.0	12.3	12.5
Premium lager	5629.9	9415.1	15,253.9	10.8	10.7
Low/no alcohol	77.4	147.7	266.3	13.8	13.6
Specialty beer	96.5	157.2	246.6	10.3	10.1
Ales, stouts, and bitters	70.1	128.7	229.4	12.9	12.7
Overall	29,572.6	52,131.9	79,995.6	12.0	12.2

Note Growth rate calculated with compound annual growth rate (CAGR)
Data Source Euromonitor 2014

The rising number of the craft breweries in the UK and USA was much more a direct reaction against the homogenization of beers (Eckhardt 1995; Choi and Stack 2005).[4] To some extent, China's beer market performs a similar pattern. In fact, China's beer market became much more homogeneous after the country joined the WTO in 2001. Standard lagers are prevalent, with more than 80 percent of market share (Table 17.1). People in many rural (and suburban) areas did not even know that there are other non-lager types of beer (Bai et al. 2011). Fierce competition among the mass producers over millions of people in an entire generation of new beer consumers led to marketing strategies focused on branding and advertising, instead of quality improvement (Heracleous 2001; Chung and Smith 2007; Bai et al. 2011). The beer industry in China has become a very capital-intensive industry where scale economies are the main driver of growth. For

[4]The national prohibition on traditional beer from January 1920 until April 1933 in the USA had washed away the nation's ability to discriminate over low-quality beer, which directly affected the later beer industry's marketing strategy and its product attributes (Schwartz and Laufer 1947). The inferior standard taste of mass-produced beer prevailed in the US beer market due to the Prohibition policy and fierce competition among mass producers.

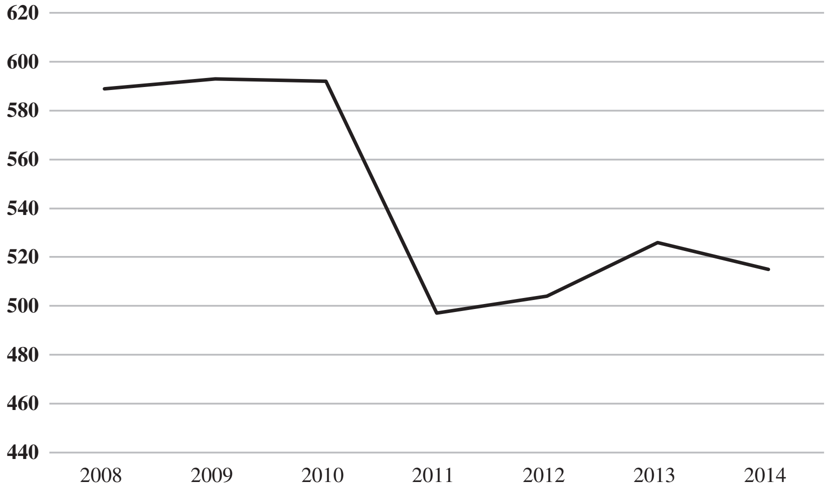

Fig. 17.4 Number of commercial breweries (mass producers) in China. *Data Source* China National Bureau of Statistics 2015

example, the total number of mass brewers decreased significantly due to consolidation and acquisition, particularly during 2010 and 2011 (Fig. 17.4), falling from 592 to 492. Zhejiang, Henan, and Shandong provinces were the leading provinces in acquisitions and mergers (CAS 2011). China Resources Enterprise bought six local mid-sized brewers in Zhejiang province in 2011 (China Daily 2016). Tsingtao scaled up its beer production in Henan through merging local mid-sized brewers (Lichtenberg 2012). Domestic mass producers are striving to improve their margins by enlarging their scale of operations and their market share to compete with other international mass producers.

Although China has never been considered a beer-brewing nation[5] at the level of the USA and the UK, the growth of craft brewing in China shares some features with the craft beer movements in those countries.

[5]By using the highest share in total alcohol consumption, Poelmans and Swinnen (2011) define countries such as Germany, Belgium, the Czech Republic, UK and USA the traditional beer drinking nation. Colen and Swinnen (2016) provide a detailed illustration about how China's beer market developed with its economic growth.

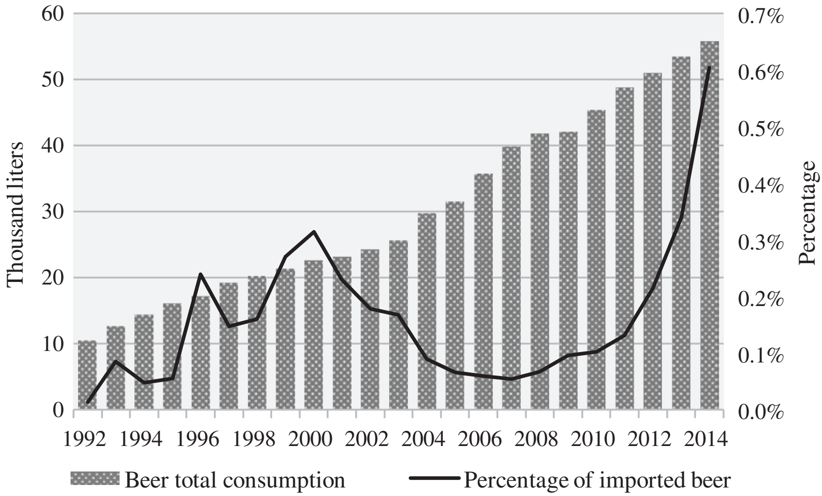

Fig. 17.5 China's beer consumption and percentage of imported beer. *Source* Data on total beer consumption collected from Euromonitor 2014. Data on imported beer collected from UNcommtrade, retrieved from http://comtrade.un.org/data/

As globalization and consolidation homogenized Chinese beer offerings, the cultivated urban beer drinker in China's first-tier cities (like Beijing, Shanghai, and Guangzhou) began to search for more diversified and higher value-added (more alcoholic) drinks. The same trend had been observed in the USA during the early 1990s (Choi and Stack 2005).

The increasing popularity of craft breweries in China directly reflects increased consumer demand for diverse, high-quality beers. After 30 years of opening up, China's market is deeply integrated into the world economy. The significant increase of the social mobility of people and goods expanded Chinese people's knowledge about "sophisticated" products like beer, wine, whisky, and chocolate. The striking increase in beer imports (in both quantity and diversity) directly reflects this change (Fig. 17.5). In fact, domestic mass-produced beers stepped into a rather slow growth path after 2008 (CAS 2011). China's growing numbers of pubs and bars indicated a fundamental change in life style where dining out and drinking beer became an essential part of daily life for millions of youngsters (Fig. 17.6).

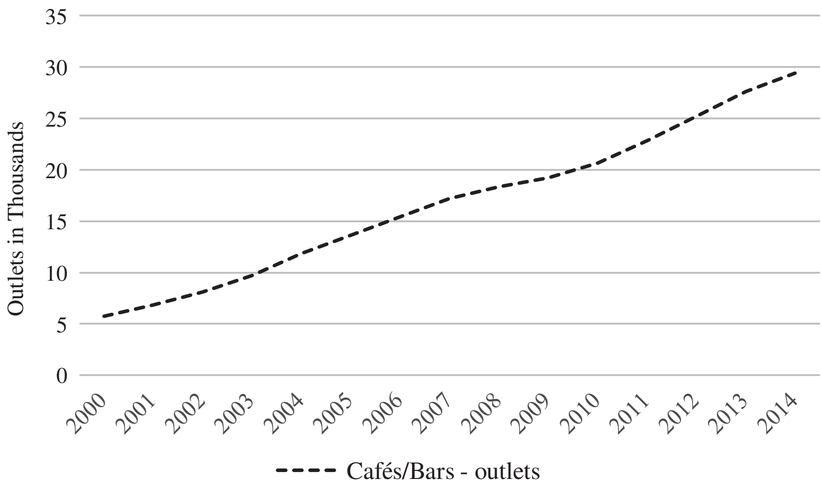

Fig. 17.6 Number of cafés/bars in China. *Note* The statistics do not distinguish between cafés and beer bars. Often an outlet serves coffee, beer, and many other alcoholic or non-alcoholic drinks. *Data Source* Euromonitor 2014

Craft breweries in urban cities are generally serving this fast-growing trend. However, to succeed on this frontier is not easy. Craft breweries are characterized by smaller scales of production and local distribution (e.g., they serve on-site or in collaboration with restaurants and beer pubs). In many cases, they are not even being factored into national beer statistics.[6] Data on craft beers is scarce and imperfect. It is hard to know when and where the first craft brewery was opened in China. Some unofficial reports claim that the first craft brewing pub was opened in Shanghai by a beer specialist from Texas in 2006 (Zhao 2014). Its special fruit beer became well known in Shanghai's local market, but still it went bankrupt a year after opening (Zhao 2014).

The number of craft breweries in China is increasing at an unprecedented rate (Fig. 17.3). This is, so far, just what has happened in Beijing, Shanghai, and Guangzhou. Craft brewers from the second-tier

[6]This is mainly due to China's incomplete regulations and laws on the micro-level beer industry. Under the present laws, there is no official title of craft breweries; see later in this chapter.

cities like Xiamen, Nanjing, Chengdu, and Xi'an are all catching up (Hite 2012; Abkowitz and Tian 2014; Green 2016). It is generally believed that this growth will continue for another decade.

17.3 The Driving Forces Behind China's Craft Brewing Trend

Several factors seem to have driven the growth of China's craft beer industry. First, growing purchasing power and urbanization created demand for craft beers. Second, the adventurous spirt of Chinese beer drinkers and craft brewers helped shape the craft brewing industry. Third, on the supply side entrepreneurship and increasing investments stimulated craft breweries. Last but not least, China's food safety concerns promoted the growing trend of craft brewing. There are certainly other driving forces behind this trend, but we believe that these are so far the most important factors.

17.3.1 Growing Purchasing Power and Urbanization

Over the past two decades, China has been characterized by remarkable urbanization and the growing purchasing power of its urban (and, to a lesser extent, rural) residents. Increased purchasing power enabled urban residents to afford such high-quality products as craft beer, and fast urbanization provided them with more opportunities to get access to such a diverse array of products. For example, in urban areas per capita disposable income has been growing at around 13 percent per year since 1978 (Fig. 17.7). After 1996, the level of growth of urban income further accelerated. The number of urban households earning more than 5000 US dollars per year is estimated to keep growing by 24 percent annually, creating tens of millions of new consumers for higher-value food (Wang et al. 2013). People from upper and middle income classes have already started to spend more on food and beverages (EU-SME 2015).

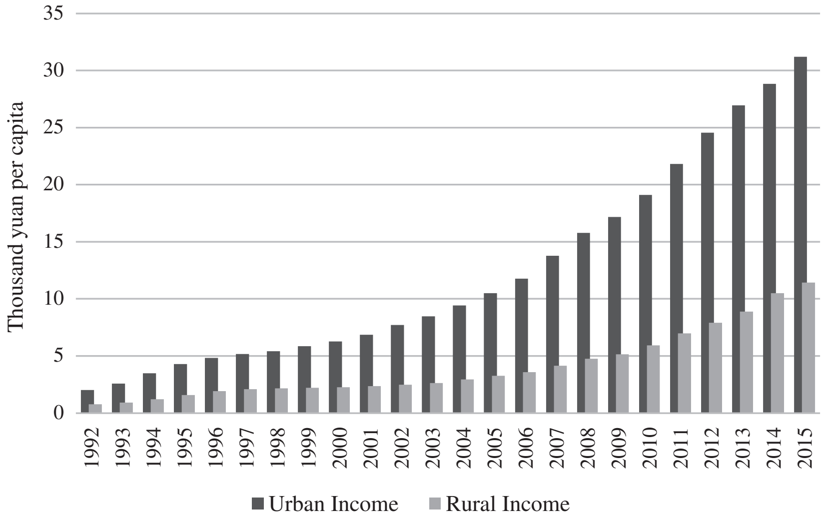

Fig. 17.7 Per capita annual disposable income in urban and rural China. *Note* The disposable income is calculated in Chinese Yuan per capita per year. *Data Source* Chinese National Bureau of Statistics, 2016

At the same time, rapid urbanization directly changed the life style of younger generations. Instead of staying at home after work, younger generations, who are growing up with much stronger purchasing power and a more open social environment, are interested in a more modern, "Western" lifestyle. Pubs, bars, and nightclubs in urban areas have become frequently visited places after work for many social activities (Fig. 17.6). Drinking specialty beer is also becoming popular among younger generations in China (Euromonitor 2014).

17.3.2 Adventurous Chinese Beer Drinkers and Craft Brewers

Craft breweries in China have benefited from the adventurous spirit of Chinese beer drinkers. The long isolation of the Chinese economy before the 1990s blocked almost every connection in people's life for getting to know about the outside world. The opening-up reform, for the first time, brought people back to the world with numerous exotic things. Being adventurous became necessary for people to adapt their life to fit into this new society. Changing food consumption became the first, and most obvious, way for this adaptation. It was reported that the growth in spending on annual discretionary categories (such as chocolate, wine, cheese, and craft beers) in China is forecast to exceed 7 percent between 2010 and 2020 (Towson and Woetzel 2015; Burkitt 2016). Chinese consumers are searching for new products all over the world. Beer drinkers and craft brewers are especially curious about experimenting with new flavors. For example, one of the major American craft beer distributors (Lakeshore Beverage, IL) claims that out of the 29 imported beer products his company carries in China, 14 of them are American craft beers.[7] Its bestselling item is Rogue Dead Guy, known for its distinctive taste, unique name, attractive logo, and convenient packaging for shopping (USDA 2010).

The adventurous spirit among Chinese craft brewers, meanwhile, is reflected in the development of unique Chinese craft beer recipes and marketing techniques. To meet consumers' demand for unusual new beers, local craft brewers develop their recipes with ingredients such as jasmine flowers, oolong tea, and sweet yam (Berg 2013). The unique flavors attract those beer drinkers consistently looking for new brews. At the same time, to market their beers in a local cultural way, craft brewers often name their beers with some historical hero's name (or some local well-known ingredients) to illustrate the beer's special characteristics. For example, Beijing's Great Leap Brewery (founded in 2008, an early and innovative actor in the city's craft brewery association) named one of its beers Little General and described it as follows:

> The Little General IPA is our unique Chinese-style IPA. Hoppy, but not irresponsibly so, the Little General is a balanced, full bodied IPA made with indigenous, unprocessed whole flower Qingdao Flower hops from Xinjiang province. Named after the only Patriotic hero to be recognized

[7] The percentage of craft beers in total beer exports from the USA to China increased significantly over the last five years (USDA 2010).

by both Mainland China and Taiwan, the Little General is an act of balanced beauty. (Great Leap Brewery)

Another important channel that brewers use to demonstrate authentic craftsmanship is invoking a sense of history and locating their brand in some specific place (O'Neill et al. 2014). For example, Slow Boat (founded in 2010, one of Beijing's first craft breweries) was named for the Frank Loesser song "Slow Boat to China." The lyric of this 1940s song tell the story of a long, enjoyable trip from the USA to China—and to the savvy beer drinker, they convey that Slow Boat uses a disciplined, old-fashioned brewing technique. This marketing strategy perfectly blends craft beer authenticity into traditional Chinese culture.

17.3.3 Entrepreneurs and Increasing Investments

The driving forces of China's craft brewery movement come not only from the demand side but the supply side as well. Increasing investments and more entrepreneurs have begun to join this growing trend (Surrey 2013; Green 2016). Most early craft breweries in China were started by foreigners. For example, the earliest craft brewery (Great Leap) in Beijing was opened in 2010 by two Americans who were working in the city and were frustrated by the narrow choice of beers available (Levine 2013). Indeed, the statistics show that from 2006 to 2012 there were about 25 craft breweries in China, the owners of more than 80 percent of which are from the USA, UK, or Germany (Rate Beer 2016). Probably this is due to insufficient knowledge about craft brewing among Chinese entrepreneurs, which prohibits most of them from stepping into the craft brewing industry, but also because the battles among beer's mass producers have left almost no margins to explore.

Nevertheless, Chinese entrepreneurs know that the country's craft brewing industry lags far behind the USA or the UK, and expect that it has great potential for growth (Berg 2013; Surrey 2013; Green 2016). In 2010, Chinese craft brewers got their first Chinese-language book on homebrewing, "Get Your Own Brew" (or [*He Zi Ji Niang De Pi Jiu*]), which allowed more Chinese beer enthusiasts to begin experimenting with new products. With good ideas and great products, foreign and domestic investments in the craft brewing industry both swelled instantly. The best example is the recently developed Panda Brew, which was opened by two Chinese students on their return from study abroad programs in the UK and Canada. After their initial fundraising in Beijing in 2015 topped 3.08 million US dollars, Panda Brew began operating in Beijing, and in Yiyang, Hunan province (China Daily 2016).

Other investors have focused on increasing the production of brewing equipment. An explosion of sellers providing brewing equipment on Taobao[8] facilitated craft brewers' access to basic equipment. China Brew and Beverage (CBB) organizes an international brew and beverage processing technology and equipment exhibition annually to facilitate both domestic and international breweries in sourcing equipment in China (CBB 2014). The fact that such equipment is now easily available will undoubtedly boost the growth of craft brewing in China.

17.3.4 Food Safety Concerns

Last but not least of the driving forces behind China's growing craft trend is the issue of food safety, which affects the country's entire food and beverage industry. Food safety is of the utmost concern to all consumers. The quest for "real and safe" food in China has never been met by its current market (Shi et al. 2011; Lam et al. 2013). Consecutive food scandals and the rising awareness of food safety caused almost every Chinese to be nervous about the food they consume. Beer has not been immune: after several media reports that mass producers (like Tsingtao, Yanjing, and Snow) were adding formaldehyde to beer, demand for "organic beer" rose dramatically (People's Daily 2005). Craft breweries that emphasize authenticity have an advantage over mass producers in fulfilling consumers' desire for a real, safe beer.[9]

[8]Taobao is an online marketplace/shopping platform not unlike Amazon or eBay. A search that we conducted while writing this chapter revealed more than 1000 sellers providing equipment that can be used for brewing beer. You can visit the website here: http://www.taobao.com/market/global/index_new.php.

[9]Indeed, no craft beers have been found to be associated with any food safety issues so far.

However, whether all craft breweries are adopting the same standards in brewing beers is questionable. We found that currently most craft brewers are brewing with imported ingredients, a fact that they broadcast to advertise their authenticity. These range from such basic ingredients as barley and yeast to some spices and other additives (Abkowitz and Tian 2014). However, as craft brewing "goes commercial"—that is, as demand for craft beer increases and barriers to entry lower—we might except a surge in the number of craft breweries, and with the risk of food safety problems. Ensuring that all new or growing brewers maintain a high standard of safety will be paramount as the craft beer sector grows.

17.4 Hurdles to Developing Craft Brewing in China

The increased demand for high-quality and diverse beers is a great reward for the craft brewers, who have invested heavily in cultivating their brewing techniques, selecting their ingredients, and marketing their products. However, keeping the craft brewing trend on the rise will require much more than just increasing demand. Brewing a high-quality craft beer depends not only on following traditional brewing techniques, but also a well-developed supply chain and skilled brewmasters. The supply chain stretches from brewers sourcing ingredients to affluent consumers drinking the final product. Besides managing a well-arranged supply chain, craft brewers also face competition among the incumbents, and from domestic mass producers and international brewing giants.

17.4.1 Regulations

To Chinese craft brewers, probably the most urgent hurdle lies in the current vague regulations pertaining to craft breweries. Although alcohol consumption has long been considered an integral part of China's traditions, government regulations have taken many forms. In general, there are two categories of regulations and laws that all brewers have to comply with: beer production regulations, which are mainly implemented through the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ); and general food safety laws, which are mainly implemented through regulations and laws from the Ministry of Health (MOH, as shown in Table 17.2).

Table 17.2 Beer regulations in China

Categories	Name of Regulations/Laws	Institutions
Beer production	Administrative Regulations on Food Production License	AQSIQ
Beer production	Administrative Regulations on Production License of Industrial Products of P. R. China	AQSIQ
Food safety	Administrative Measures on Food Safety National Standards	Ministry of Health, P. R. China
Food safety	Food Safety Law of the People's Republic of China	Ministry of Health, P. R. China
Food safety	Food Safety National Standards—Standard on Food Additives	Ministry of Health, P. R. China
Food safety	Food Safety National Standards—Maximum Levels of Mycotoxins in Foods	Ministry of Health, P. R. China
Food safety	Food Safety National Standards—Standard on Labelling of Prepackaged Foods	Ministry of Health, P. R. China
Food safety	Food Safety National Standards—Fermented Alcoholic Beverages and Their Integrated Alcoholic Beverages	Ministry of Health, P. R. China
Beer production	National Standards—Beer	SAC
Beer production	National Standards—Beer Bottles	SAC
Beer production	National Standards—Beer Analyzing Methods	SAC
Beer production	National Standards—Barley	SAC
Beer production	National Standards—Sanitation Requirements	SAC
Beer production	National Standards—Beer Kegs	SAC
Beer production	National Standards—Water	SAC
Beer production	National Standards—Hops	SAC
Beer production	National Standards—Emission Standards of Beer Industry	SAC

Notes AQSIQ, General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China
SAC, Standardization Administration of the People's Republic of China

To protect consumers against health risks, AQSIQ imposed various standards for brewers and brewing procedures. The regulations affect almost every aspect of the brewing industry, from sourcing to labeling, from brewing to bottling. The Standardization Administration of China (SAC) has compiled comprehensive national standards for the brewing industry to comply with, accompanied by detailed implementation procedures from AQSIQ.

However, under China's current regulatory system, there is no official definition of "craft brewery," nor is there a general guide for craft brewers to follow (Mullin 2014). The regulations and laws are all designed for mass beer producers. This gap in regulation significantly inhibits the growth of craft breweries in China. Without official regulations for craft breweries, both craft and industrial brewers have to comply by default with the same regulations, which are generally designed for mass producers. An example of a regulation that is appropriate for mass producers but not for craft brewers is that bottled and canned beer produced in China will not meet the quality control standards for distribution if it tests positive for yeast or any other microbiological bacteria (Berg 2013).[10] Bottled and canned beer must be filtered and pasteurized, thus removing yeast. However, these procedures will destabilize or remove flavors that the craft brewer intended for the finished beer. Strict bottling regulations leave craft brewers no channels to sell their products in conventional ways to compete with industrial beer (Mullin 2014). As a result, craft brewers choose to supply their craft beers to restaurants and brewpubs, where they need to comply with less strict food safety

[10]The regulations in the Food Safety National Standards—Fermented Alcoholic Beverages and Their Integrated Alcoholic Beverages (GB 2758–2012) and National Standards—Beer (GB 4927–1008) states that the amount of yeasts and microbiological bacteria varied over different countries. In fact, studies show that a low amount of microbiological bacteria did not pose any harm to health (Bokulich and Bamforth 2013), and some might bring health benefits (Blaszczak-Boxe 2014). However, due to their inability to distinguish the differences in these microbiological bacteria, Chinese officials by default implement much stricter standards, which completely ignore the role of craft breweries, since the market is still dominated by the mass producers.

regulations.[11] In the short run, serving new beers in restaurants might be a good strategy for craft brewers to increase customer familiarity with their brands, without violating the regulations. However, the lack of a specific and clear regulation for craft breweries in food safety law might cause an increase in misbehavior in the craft brewing industry. Since the concern over food safety in general is already pretty tense, this failure of regulation might cause the government to crack down on the whole craft brewing industry just as it begins commercializing. For example, after the milk scandal in China,[12] the government tightened food safety standards across all food industries, including the beer industry. The country's fledgling craft brewing community suffered as it tried to adhere to an even stricter structure and management code (Berg 2013), which are in fact designed for mass beer producers. Many craft breweries are in fact incapable of complying with these requirements simply because they are smaller scale and the new management code is too costly for them.

A national craft brewing association could interact with the government in setting up negotiations to improve the regulations. For example, the Craft Brewers Association (CBA) in the USA was established to provide updates, guidance, and statistics to help new craft brewers or customers to break into the industry or just gain more knowledge on beer brewing. China does not yet have such a nationwide association of craft breweries. Several regional craft brewing associations have been established, such as the Beijing Homebrewing Society (BHS),[13] to promote brewing knowledge and to co-organize

[11]The main difference in opening a craft brewery and serving at a restaurant is that breweries do not need to comply with AQSIQ's Food Safety National Standards with regard to beer. Since beer is served on-site, no commercial distribution or retailing is involved.

[12]In 2008 a serious milk powder contamination (melamine contamination) scandal caused an emergency review of China's food safety regulations. The central government has taken a series of actions to reduce the damage of this scandal on public trust, and its subsequent reform of food safety law imposed much stricter regulations on almost all of the food industry (Pei et al. 2011).

[13]The Beijing Homebrewery Society (BHS) is a non-profit organization established in 2012. It was founded by several local craft breweries. The aim of this brewing society is to advocate the culture of craft brewing, and to share the experience of brewing beer among small to medium-sized craft brewers. It currently has about 14 members. Detailed information can be found at: http://www.beijingbrewing.com/.

beer festivals. These societies are in their infancy, and it is still difficult for these fragmented, volunteer, non-profit organizations to be strong actors in regulatory discussions and guiding China's craft brewery development.

17.4.2 Sourcing Domestically or Internationally

Another challenge that craft breweries face is how to source ingredients. Ideally, craft brewers typically use better-quality barley (lower in protein and other minerals, but rich in starch) than large-scale, mass brewers and better ingredients (e.g., hops, yeast) in general. The techniques involved in brewing craft beer are more traditional and ecologically friendly than those associated with mass production (Goldammer 2008). However, Chinese craft breweries have difficulty in accessing high-quality ingredients locally. Importing all the ingredients is necessary and possible, but it has substantially increased craft brewers' variable costs (Berg 2013; Wickham 2013).

Barley production declined in China in the past decade from more than 900 thousand hectares of land in 2002 to only about 500 thousand hectares by the end of 2012 (Fig. 17.8). And from a quality perspective, most domestically produced barley is suitable for feeding animals, not for malting. Importing high-quality barley has become more expensive as the international barley price also keeps increasing. According to UN Commtrade data, China barley imports increased from about 1 million tons in 2007 to almost 6 million tons in 2014 (Fig. 17.9). Australia was the dominant supplier, accounting for 82 percent of China's imports by volume in 2012. Canada was a secondary supplier and accounted for 12 percent of imports in 2012. The imports of roasted malt also increased significantly. From 2007 to 2012, China's imports of roasted malt increased from 9924 million tons to 13,790 million tons. Belgium was the dominant supplier, accounting for 74 percent of China's imports by volume in 2012 (Euromonitor 2014).

Finding high-quality hops has also become difficult. Although China's hop production has increased steadily since 1983 (Fig. 17.10), hop production is still under-developed. On the one hand, the severely

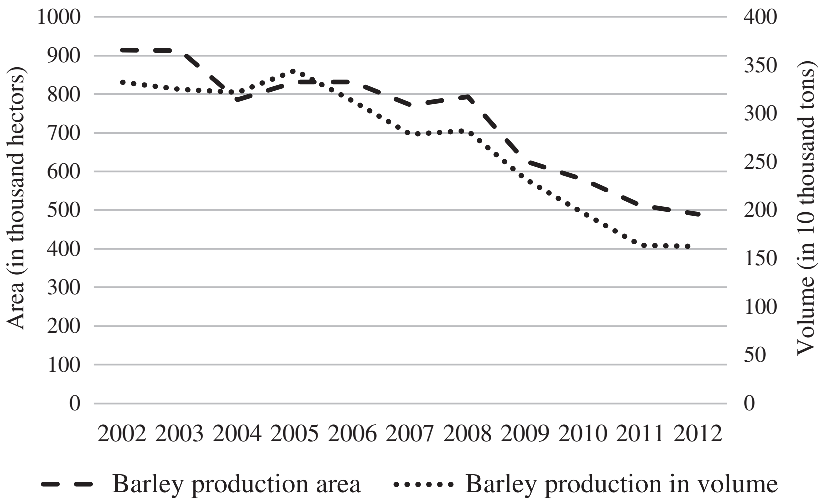

Fig. 17.8 China's barley production area and its volume, 2002–2012. *Data Source* China National Bureau of Statistics, retrieved from http://data.stats.gov.cn/workspace/index?m=hgnd

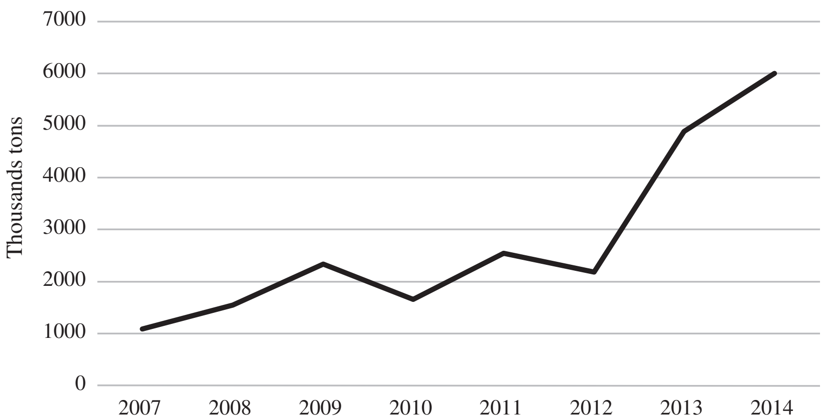

Fig. 17.9 China's barley imports by volume, 2007–2014. *Source* Data on imported beer collected from UNcommtrade, retrieved from http://comtrade.un.org/data/

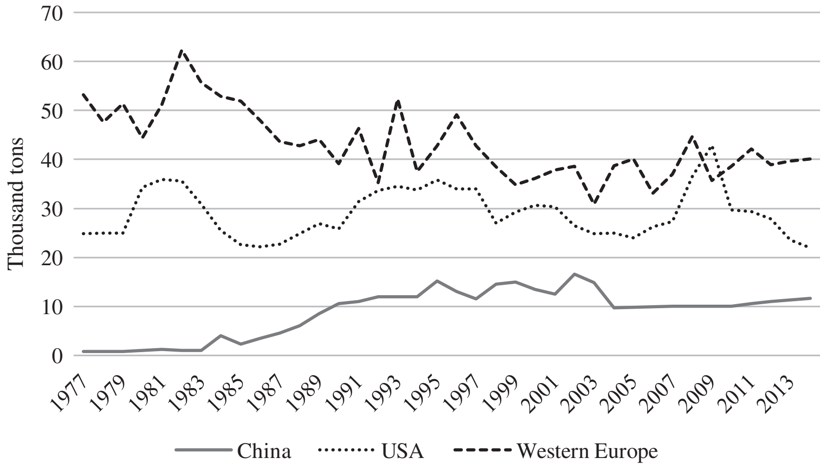

Fig. 17.10 Chinese, US, and Western European hop production, 1977–2013. *Note* Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the UK. *Data Source* Euromonitor 2014

under-developed infrastructure in western China has significantly inhibited the growth of hop production[14]; on the other, the isolated nature of the country's hop market has resulted in low prices and low quality. The industry's main product is a low-alpha Qingdao Flower (cluster-type) hop variety.[15] Many small independent farms cannot expand due to the lack of available farmland, insufficient financial resources, and rapidly increasing labor costs.

[14]Hop production is mainly concentrated in northwestern China. Province like Ningxia, Gansu, and Xinjiang are the main hop production areas; however, the agricultural infrastructure in these areas is under-developed because they are not large producers of staple grains like rice and wheat.

[15]The low-alpha hop is a kind of hop which contains the most important compound (alpha acids). Basically, it is responsible for the bitter taste of beer during the brewing process (De Keukeleire 2000).

17.4.3 Response from the Incumbents

Competition between mass producers and craft breweries also poses challenges to craft breweries. Diversity of products versus economies of scale is a trade-off that every brewery faces. Mass producers use their national distribution systems to dominate the market, while craft brewers corner niche parts of the market by means of their high quality standards and uniquely distinctive beer products. It seems that craft breweries are continuously meeting the diverse demands of the market.

However, with China's gradual removal of market barriers and trade restrictions, large numbers of foreign operators have already become deeply engaged in the Chinese beer market (Han 2010). As we have noted, imported premium lager has grown strongly, and imports will continue to increase for at least another five years (Euromonitor 2014). Competition from foreign craft breweries is becoming especially prominent in China's beer market. Under the US Agricultural Trade Office (ATO), US craft beers outsold a number of German, Dutch, and Belgian craft beers on China's market in 2013, even though breweries from those countries had a much more established presence there (Chen 2013). The US ATO in Guangzhou had also been promoting US craft beer since early 2011.

17.5 Conclusion

Craft breweries are still young, but are becoming more important in China's beer market. The large varieties and premium quality of craft beers play a role in this. The driving forces are continuously increasing purchasing power, fast urbanization, growing awareness of authenticity, and greater knowledge of craft beers. These factors provide Chinese craft breweries with excellent opportunities to establish themselves and to grow.

However, there are important challenges for craft beers in the country. Regulations continue to ignore the development of the craft breweries and need to be adjusted. Competition with both international craft beers and national industrial beer brands has increased. Establishing well-designed supply chains for sourcing quality ingredients will also be essential for China's craft brewing movement.

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