Brewing, Beer and Pubs

Ignazio Cabras
David Higgins
and
David Preece

A Global Perspective

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Edited by

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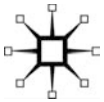

BREWING, BEER AND PUBS: A GLOBAL PERSPECTIVE

Softcover reprint of the hardcover 1st edition 2016 978-1-137-46617-4

First published 2016 by
PALGRAVE MACMILLAN

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Palgrave Macmillan in the US is a division of Nature America, Inc., One New York Plaza, Suite 4500 New York, NY 10004–1562.

Palgrave Macmillan is the global academic imprint of the above companies and has companies and representatives throughout the world.

ISBN: 978-1-349-69101-2
E-PDF ISBN: 978–1–137–46618–1
DOI: 10.1057/9781137466181

Distribution in the UK, Europe and the rest of the world is by Palgrave Macmillan®, a division of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Library of Congress Cataloging-in-Publication Data

Names: Cabras, Ignazio, editor. | Higgins, David Minden, 1974– editor. | Preece, David, 1948– editor.

Title: Brewing, beer and pubs : a global perspective / Ignazio Cabras, David Higgins, David Preece.

Description: Houndmills, Basingstoke, Hampshire; New York, NY : Palgrave Macmillan, 2016. | Includes index.

Identifiers: LCCN 2015039313

Subjects: LCSH: Brewing industry. | Beer industry. | Bars (drinking establishments)

Classification: LCC HD9397.A2 B74 2016 | DDC 338.4/766342 – dc23

LC record available at http://lccn.loc.gov/2015039313

A catalog record for this book is available from the Library of Congress

A catalogue record for this book is available from the British Library

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Acknowledgements

We first thought about writing this book in the immediate aftermath of the third Beeronomics Conference held at the University of York, UK, in September 2013. The event was attended by many academics and beer lovers from all over the world, who triggered many discussions and stimulating debates around the production, consumption and distribution of beer. The conference also featured several social events, including beer tastings and visits to breweries such as Hambleton Ales and York Brewery, where guests had the opportunity to meet and discuss with local brewers. Moreover, the conference had an official beer, Wallop, brewed by Brasscastle Brewery and kindly donated to all the invited keynote speakers. This fervent environment provided the editors with the impetus to embark on this project; it also provided us with the opportunity to engage with many friends and colleagues – from different continents and backgrounds – in a shared passion for this sublime drink.

Editing this book has been an honour and a pleasure. However, we are fully aware that this task would not have been accomplished without the support of those who helped organize the Beeronomics Conference. Particular thanks are due to Gavin Aitchison (York Press), Andrew Barker (York Brewery), Mike Benner (Campaign for Real Ale and the Society of Independent Brewers), Kiran Fernandes (Durham University Business School), John Longden (The Pub Is The Hub), Guy Newsman (Muntons Malts), Phil Saltonstall and Ian Goodall (Brasscastle Brewery), David Smith (Brewing Services & Consultancy Ltd), Nick Stafford (Hambleton Ales), Andrew Tighe (British Beer and Pubs Association) and Steve Toms (Leeds University Business School). We also thank Maddie Holder of Palgrave Macmillan for her incessant support.

Editors' personal dedications:

> Ignazio Cabras: a Nonna Chiara, ovunque tu sia non lascerai mai i miei pensieri…
> David Higgins: To Louise, Matilda and Caleb
> David Preece: To Mo, Jamie and Laura

In memory of Michael Moore 1981–2015

Mike Moore was a doctoral student in the Spatially Integrated Social Sciences (SISS) Program at the University of Toledo, US. He was in the second year of the program, and for his doctoral dissertation was examining the spatial dynamics of the American craft beer industry. On April 8, 2015 Mike was sitting on a bar stool enjoying a beer at the Maumee Bay Brewing Company in Toledo when he collapsed and fell to the floor. Paramedics were called and he was rushed to a nearby hospital. Both paramedics and doctors at the hospital worked on his heart but to no avail and Mike was pronounced dead. His academic work on the brewing industry was not coincidental given his love for craft beer. He was just as comfortable diving into deep conversation at a bar as he was diving into complex statistical analyses of the brewing industry. And oftentimes, these two things came together. Thus, it is very fitting that Mike passed in a local brewery. He was 34 years old.

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Managing for Bass (Routledge, 1999, co-authored with G. Steven and V. Steven).

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Introduction and Overview

Ignazio Cabras, David Higgins, and David Preece

Beer is widely defined as the result of the brewing process, the outcome of fermenting grains, which over time has been refined and improved across the world. Together with wine, beer is the alcoholic beverage that has experienced the most significant expansion in terms of historical production, consumption and diffusion. Beer, however, presents more versatile and flexible characteristics compared to wine, for which the main ingredient – grape vines – requires a particular climate and subsoil to grow productively. For this reason and others, beer has become the drink of the masses, while wine has acquired the status of an *elitist* drink in many societies, notwithstanding price convergence between the two beverages, especially in recent times. As for spirits and liquors, the high alcoholic content associated with these beverages makes any combination with food and meals a challenging task, although this may not hold so true in some countries and regions, e.g. Russia and Eastern Europe. The consumption of beer, on the other hand, most frequently transcends consumers' income, wealth, education or ethnic background – look at customers in any pub, inn or bar in the world. But why is beer so pervasive? What are the features of beer, bars and pubs that make them so special?

The discovery and development of brewing represents one of the most important technological achievements of humankind. A number of authors (Braidwood et al., 1953; Katz and Voight, 1986; Katz and Maytag, 1991; Joffe et al., 1998) even choose brewing as one of the main factors which characterize the transition from hunting and gathering societies to people living in more stable settlements. It was the appreciation of the alcohol contained in beer and its associated intoxicating effects, rather than the use of grain for other foodstuffs, that provided a key incentive for the domestication of various types of plants and

animals, encouraging the emergence of agriculture (Damerow, 2012). Rudimentary brewing technologies are thought to have made their first appearance at the beginning of the Neolithic period, about 12,000 BC. With the development of agriculture and more regular seeding and harvesting cycles, it appears that brewing became a common process for grain conservation and consumption (Damerow, 2012). This finds corroboration in various parts of the world – in Europe as well in North Africa and China (Nelson, 2005). In ancient times, however, there was notable variation in the ingredients, processes and procedures used to create beverages which resemble beer as we know it today across the world.

The first evidence of fermented beverages was from the village of Jihau in Northern China, where shards of pottery found during archaeological excavation revealed traces of alcoholic liquid dated between 9,000 and 7,000 years ago (McGovern et al., 2004). Other evidence of sustained beer brewing originates from ancient Mesopotamia, where archaeological fragments of potteries dating back to about 6,000 BC reveal the presence of systematic brewing activities (Hardwick, 1994). This region became the centre of Sumerian culture, with the development of large cities and primordial forms of societal stratification. Proto-cuneiform Sumerian texts dating from 3200 to 3000 BC document that "beer was no longer simply an agricultural product of the rural settlements, but rather belonged to the products subjected to the centralized economy of Sumerian states" (Damerow, 2012, p.3). Beer, then, was a commercialized product in early cities, subject to early forms of excise (firstly introduced by King Hammurabi around 4000 BC), and with disjointed patterns of production and consumption (Civil, 1964).

In Egypt, beer brewing became an established and common commercial activity from 5000 BC, together with bread baking. As reported by Brewer and Teeter (2007), wages were paid in grain which was used to make two staples of the Egyptian diet: bread and beer. Egyptians made a variety of beers of different strengths, and beer was sold in public drinking places and exported to other ports using the main commercial routes which started flourishing in the south Mediterranean Sea (Nelson, 2005). These routes may have first introduced and spread beer brewing to the Greeks; evidence of sustained beer production and consumption in ancient Greece dates back to 3600 BC Similarly, there is evidence of sustained brewing activity in different locations across Europe dating back to 3000 BC (Poelmans and Swinnen, 2011).

Beer brewing continued in Roman times, though wine supplanted beer as the upper-class beverage in most of these areas. The Romans

soon started to despise beer and its drinkers, referring to the latter as "uncivilised" or "barbarians" (Poelmans and Swinnen, 2011). With the Roman conquest of Europe, the diffusion of wine spread over the continent. For hundreds of years, until the collapse of the Roman Empire, wine continued to be considered a luxury item consumed only by the "upper classes"; beer was mostly brewed and consumed by the "lower classes." However, beer brewing remained popular among the Germanic and Celtic populations in the Northern and Western parts of Europe. Evidence of sustained brewing activity is documented in the regions now forming Germany, across the British Isles and in Scandinavia (Nelson, 2011). Widely diffused in these areas was *mead*, an alcoholic beverage obtained by fermenting honey with water, sometimes with various fruits, spices, grains or hops. Considered by many as a precursor of beer in Northern Europe, mead continued to be brewed in Scandinavia until the late Middle Ages.

The spread of the Holy Roman Empire from approximately AD 800 provided the impulse to build monasteries across Europe. While monasteries located in Southern Europe continued to grow grapes and produce wine, many monasteries located in Northern Europe became centres of brewing (Unger, 2004; Poelmans and Swinnen, 2011). The cooler climate made it easier to grow barley rather than grapes, and from the early Middle Ages there emerged "monastic brewing" which spread to the British Isles, Germany, Scandinavia and the Low Countries (Unger, 2011). Monks brewed beer predominantly for their own consumption or for guests and pilgrims. Later, in the thirteenth century, monks started to supply beers to noblemen and to sell their brew in so-called "monastery pubs," with brewing slowly emerging as a commercial venture (Unger, 2004). In addition, as water in the Middle Ages was often polluted, beer was healthier, giving a boost to its production and consumption (Horsney, 2003).

The introduction of hops to the brewing process in Germanic monasteries represented an important innovation. Hops were used mostly to preserve beer and to counterbalance the rather sweet flavour of the malt, the predominant ingredient in Germanic beer (Behre, 1999). The addition of hops to the brewing process eventually spread to other parts of Europe, but rather *slowly*, due mainly to the taxes levied by local authorities in many regions associated with its use (Poelmans and Swinnen, 2011).

The discovery of America in 1492 and the associated voyages of exploration, financially supported by several European crowns between the fifteenth and eighteenth centuries helped develop

new commercial routes which benefited beer exports. Moreover, these explorations provided evidence of brewing activities in cultures and communities which were previously unknown. The chronicles of explorers in South America mention the *chicha*, a beer brewed by the Inca from maize which contained a slight amount of alcohol (1–3%). Other evidence of beer brewing, although with different grains used as ingredients, can be found in Central America, West and South Africa, and Australasia (Nelson, 2011).

In the nineteenth century, technological innovations and developments, such as the introduction of refrigeration and the development of pasteurization, dramatically changed beer brewing. By controlling the brewing process, the environment, type of fermentation and yeast culture, brewers were able to achieve a standardized product, which had previously been impossible (Poelmans and Swinnen, 2011). In addition, the steam engine and the invention of the "chilled iron mould" enhanced opportunities for mass production and consumption as well as large-scale packaging and distribution. The development of transport infrastructure accelerated the diffusion of beer. Improved packaging and speedier transport improved the quantity and quality of distribution, enlarged markets and enhanced the importance of beer as a global product (Gourvish and Wilson, 1994).

During the interwar period, beer production and consumption were affected significantly. The war effort generated supply shortages for brewers who had to cope with rising prices of grain together with a general scarcity of raw materials. Many central governments passed laws to limit the distribution and consumption of alcoholic drinks, which encouraged brewers to diversify into alternative products, such as soft drinks. Particularly in the United States, the rise of the "Temperance Movement" and the introduction of Prohibition nearly wiped out the entire brewing industry in the country, with surviving breweries producing mostly alcohol-free beverages (Stack, 2009).

From post-World War II and until the early 1980s, the number of independent brewing companies across the world decreased steadily, while concentration in national markets resulted in the rise of major corporate players. Traditional *brewhouses* or *brewpubs* that brewed their own beer (mostly in an on-site brewery or nearby their premises) disappeared almost completely, either purchased by larger breweries or ceasing activity. The effects of concentration in the market became significant during the 1970s and 1980s. A number of global conglomerates emerged following a series of mergers and acquisitions (M&A). In the US, 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 these four companies in the early 1980s. In the UK, the market was dominated by six large national brewers (see Preece, this volume) which controlled the production and distribution of beer via their "tied-estates." In Europe, Heineken dominated the market together with Guinness (later Diageo) and Carlsberg. By 1999, four global leaders accounted for 60% of world beer production, with Anheuser-Busch having a quarter (25%), Interbrew (13%), Heineken (12%) and AmBev (later Inbev, 10%) in volume terms (Stone and McCall, 2004).

Consolidation continued after 2000, although more recently the number of micro- and craft breweries has grown significantly; for instance, the number of micro- and craft breweries in the UK was about 142 in 1980, while just over three decades later, in 2012, it had increased to 1,113. Significant growth was registered in the US during the same period, with the number of breweries rising from 92 to 2,751. Similar trends occurred in many other European countries, such as Germany and the Czech Republic, and even in traditional wine-drinking nations such as Italy and Spain (Cabras and Bamforth, 2015; Bamforth and Cabras, this volume).

There can be little doubt that brewers have figured prominently in the development of branding and advertising. One of the UK's leading breweries, Bass, established in 1777, registered the first trademark under the Trade Marks Act, 1875. Subsequently, the famous red triangle – an integral feature of their mark – featured prominently in the company's sales promotions. Traditionally, most beer was brewed and consumed within a limited geographical region. As rail networks expanded during the nineteenth and early twentieth centuries, brewers recognized that they could only expand the scale of their operations if they sought to satisfy regional, national and international markets. Branding and advertising were important components of the competitive strategy in responding to growing market share because the established relationship between *local* brewer and *local* consumer was weakened once beer sales extended beyond the immediate vicinity (Wilkins, 1992).

Conversely, it is well established that brewers in many European countries, including the UK, resorted to tied estates in an effort to protect their beer sales (see Deconinck and Swinnen, this volume). Tied houses can be considered to have undermined the need for branding and advertising; for example, prior to the Beer Orders in 1989, British brewers had a monopoly on the sale of draught ales in their tied houses. In the 1970s, the "on-trade," on average, accounted for approximately 90% of beer sales (Spicer et al., 2012, p.262). Viewed from this perspective,

the brewing industry appears to contain a paradox: on the one hand, the industry comprises brewers owning famous trademarks, but on the other hand its vertically integrated structure – especially the dominance of the tied estate – can be seen to have reduced the need to brand and advertise.

From another perspective, other brewers owning famous brands – Guinness and Newcastle Brown Ale, for example – did not own tied estates. Moreover, although US competition policy forbade tied houses, North America is equally famous for its own beer brands Budweiser, Coors, and Miller. In the European context, Heineken, Stella Artois and Kronenbourg entered commercial agreements which ensured that British brewers sold these continental lagers. The same applied to the Australian beer brands Fosters and Castlemaine. In other words, taken as a whole, the global brewing industry does not permit any simple generalizations about branding, advertising and market structure. The rapid growth of micro-brewers has generated a comparable growth in brands, but these brewers have marketing budgets that are infinitesimally small compared to those of the global brewing giants.

A clue to resolving this paradox may be that the emergence of global brewing giants, multinational in scale and scope, has altered the competitive mix: less reliance is placed on plant-level scale economies, but more attention is devoted to advertising global brands (see Madsen and Wu, this volume). The traditional affinity between beer drinkers and the geographical location of particular brewers (which helps determine the characteristics of beer) has been weakened by the growth of global brands which are ubiquitous, but which do not indicate trade origin. For example, many global beer brands are produced "under licence" in different countries. There are indications, though, that greater efforts are being made to re-establish or strengthen the link between beer brands and geographical location. Perhaps the best-known examples of this trend are the European Union PDO (Protected Designation of Origin) and PGI (Protected Geographical Indication) schemes, which specify the minimum requirements linking a product to its geographical location (using similar principles to those governing the relationship between terroir and wine). These indicia were introduced in 1992, and include Shepherd Neame's Kentish Ale and Kentish Strong Ale, and Budweiser Budvar (beer of Budweis).

Notwithstanding the importance of economic, technical and contextual issues affecting beer production and markets, it is equally important to appreciate beer distribution and consumption. Since beer is brewed to be consumed, the "demand" side of the equation deserves careful

consideration. After all, we would not have breweries and pubs if people were not drinking beer! There are a variety of locations where beer has been and is consumed, including private houses, inns, alehouses, public houses, membership clubs, restaurants, aircraft, ships and parks. These beer-drinking venues have changed over time in particular countries and have varied within countries. For example, in the UK, beer was originally brewed and consumed within the home. Subsequently, certain "home brews" gained a reputation in a local area and attracted visitors to the "brewhouse," resulting in signs being placed over the threshold. Inns, taverns and alehouses followed in time (see Preece, this volume), and it was only in the late seventeenth century that the phrase "public house" (*pub* being a shortened version) came into more general use (probably a contraction from "public alehouse"). There is a considerable overlap of terms, and today it is sometimes difficult, if not impossible, to decide whether a given establishment is a pub, restaurant or inn. Indeed, it is the case that many UK pubs have survived by turning themselves into de facto restaurants (with a bar at which one may or may not be able to sit or stand). In recent years "micro-pubs" and "mobile pubs" have emerged (see Markham and Bosworth, this volume). The venues in which beer is consumed vary across different countries and have a different "feel" or atmosphere to UK pubs. Consider the beer halls and beer gardens in Germany, bars in the Australian bush, cafes in South America, drinking dens in Africa (see Nyuur and Sobiesuo, this volume). As Jennings (2007, p.15) observed: "Charting the history of the pub [then] is a complex task. It is an institution which has always been evolving."

Licensing and legislation regimes governing drinking establishments have also varied over time and across countries (Jennings, 2007; Unger, 2011), with, currently for example, stricter arrangements operating in Sweden and Norway and certain states of Australia (Queensland). In the UK, while the hours of permitted opening have been extended in recent years, at the same time stricter regulations have been applied to the running of pubs and the appointment of publicans. The publican can be the owner of the pub (a "freehouse" in UK terms), a manager, a tenant or lessee (see Deconinck and Swinnen, this volume). Public houses take a variety of forms, such as "community pubs," "destination pubs" (e.g. with a garden, equipment and food for families), "real ale boozers," "sports" pubs and "rural pubs". A pub is a "third place" (Oldenburg, 1999), and

> is more than just a shop that sells beer; it's a social venue. You feel you have a little more ownership of the space, more of a right to be

> there, than you do in any other commercial establishment. The pub is comfortable, like home, and gives you a sense of security. And yet it's public as well. You can regularly spend time there with people whose company you quite enjoy over a few beers, but whom you would never dream of letting into your own house. There is a sense of freedom and excitement, and you don't worry about whether you're making a mess as much as you would at home. *(Brown, 2004, p.57)*

This book addresses and develops the many diverse aspects associated with brewing, beer and pubs. Some of the chapters included in this book were first presented to the third Beeronomics Conference, *The Economics of Beer and Brewing*, held at the University of York (United Kingdom) in September 2013. The conference featured a wide range of contributions, covering such contemporary matters as international approaches to brewing, diversification in beer supply chains and distribution, different taxation regimes, public house retailing and restructuring, and several other themes related to beer and brewing.

The opening chapter, by Charles Bamforth and Ignazio Cabras, discusses and illustrates the historical evolution of brewing, focusing on changes in brewing processes and techniques, consumer behaviour and educational issues. The authors provide a global overview of the different actors operating in the modern brewing industry and emphasize the dichotomy which currently exists between large multinational companies and small craft breweries.

The first part of the book focuses on globalization, marketing, trade and globalization related to the beer industry. Erik Madsen and Yanqing Wu analyse the globalization process which changed the structure of the world beer industry at the turn of the current century. The chapter places particular emphasis on high transportation costs and economies of scale in advertising and sales as the main determinants of global M&A. Similarly, Martin Stack, Myles Gartland and Tim Keane investigate the globalization of the brewing industry, exploring how efforts to internationalize the beer market needed to overcome deep cultural associations regarding the product, the producer and the consumer. Because many beer brands never crossed national borders, the authors argue that beer, more so than many other products, has become intertwined with notions of national identity and pride. Their analysis, based on a path-dependency model and consumers' behavioural lock-in, helps us to understand how, why and with what results the beer market has consolidated globally over the past 20 years. The intra-industry beer trade in Europe is explored by Imre Ferto and Szilárd Podruzsik

(such trade has become a widespread phenomenon in international trade). A wide selection of beers, domestic and non-EU, are available to consumers within the EU, and the chapter explains how intra-EU trade has developed. Beer excise duty has had a significant influence on market concentration. Simon Loretz and Harald Oberhofer show that this is not a new phenomenon, but is among the oldest sources of governmental revenue. Although other forms of taxation, such as income and consumption taxes, have significantly reduced the need to raise revenues via beer excise, the latter remain relatively high, due in part to health concerns.

The second part of the book explores the global beer and brewing industry by discussing issues related to economic growth and development within regional beer markets. In their chapter Chi Keung Lau, Zhibin Lin, David Boansi and Jie Ma assess the degree of market integration in the Chinese beer and wine markets using unit-root tests. Richard Nyuur and Pauline Sobiesuo examine the development of the brewing industry in Africa. With sustained economic growth across the continent, a constantly expanding population, increasing purchasing power and disposable incomes, the African beer market is substantial, though still largely untapped, and multinational brewing companies and local breweries are increasing their efforts to expand their operations in this region. The next chapter, by Luis Rivera Mena, Katia Villafán Vidales and José García García, provides a comprehensive overview of the South American beer industry. The authors illustrate the importance of this region to the global beer industry by investigating how large multinational companies acquired regional and national breweries and how this affected market concentration. Moving northwards, Michael Moore, Neil Reid and Ralph McLaughlin examine the rapid growth of the North American craft beer industry. Using regression models, the authors explain inter-metropolitan differences in the location of these brewers across the US. Eline Poelmans and Elena Piron discuss why beer became the most important alcoholic drink worldwide, both in volume and value, between 1960 and 2007. They place particular weight on the rationalization of the global beer market, the decline in the share of alcohol to total consumer expenditure, and the patterns of off-trade and on-trade sales.

Finally, the third part of this book focuses on those outlets where beer is served, commonly referred to as pubs, which provide consumers with both a physical space and a social environment in which to drink their beverages. Jo Swinnen and Koen Deconinck focus on exclusivity contracts and tied houses, which are common in several countries.

The authors identify credit constraints, moral hazard and risk aversion as the main factors which explain why beer prices are higher in tied houses compared to free houses. David Preece examines the key changes and developments which have occurred in UK public house retailing in recent years, the implications of these changes, and how pub companies, publicans and consumer associations and pressure groups have responded. The social role of pubs and their significance for local communities are investigated by Claire Markham and Gary Bosworth, and by Ignazio Cabras, in their respective chapters. Markham and Bosworth focus on the "village pub," a key institution for many rural communities in Britain and a place which enables and facilitates many communal and social initiatives at the local level. Cabras explores the importance of pubs to community cohesion and economic development in rural areas of the Republic of Ireland. The last chapter, by Alex Gillett, Kevin Tennent and Fred Hutchinson, addresses the famous – or infamous – association between beer and football. The authors present a case study of Middlesbrough Football and Athletic Company Limited (MFAC) to illustrate the relationships that developed and changed over time between MFAC and Camerons and Scottish & Newcastle breweries in the Northeast of England.

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Part I

Globalization, Marketing and Trade in the Brewing Industry

1
Interesting Times: Changes for Brewing

Charles W. Bamforth and Ignazio Cabras

1 Introduction

"*May you live in interesting times*" may have no authentic Chinese heritage, despite it being referred to as the Chinese Curse. Nonetheless it is a very apposite descriptor of the current state of the world's brewing industry. At one extreme we have the mergers of major brewing concerns to become truly global operators, led by Anheuser-Busch InBev and SAB-Miller. At the other pole there is a multiplicity of small brewing companies springing up, almost daily in some countries, rejoicing in the umbrella terms "craft" or micro-breweries.

Brewers of all scales would justifiably refer to themselves as "crafts persons," but the term craft is not easily defined. A recent attempt in the United States[1] (US hereafter) would have it that such a brewer is "small." For the Brewers Association, this represents less than 6 million US barrels (7.15 million hectolitres) – only a little less than the entire volume brewed per annum in Ireland. Such definitions appear to be arbitrary and politically driven.[2] What cannot be denied is, while the craft sector in many countries is the only component of the brewing industry wherein volumes are growing, the volumes of some long-standing brands from the large companies is in decline. These trends focus our attention not only on the nature of volume change in the world's beer markets but also on the factors that are impacting the beer business.

This chapter's main objective is to ignite a fruitful debate about the current state of the beer and brewing industry worldwide. By developing their argument from an economic perspective, the authors examine multiple issues related to consumption, perception, taxation, appreciation and education towards beer. Data and information are explored

in the light of possible future developments at a global level, with outcomes evaluated in relation to the type of contribution that different stakeholders operating in the beer industry may provide.

2 Beer volumes

Table 1.1 reports data gathered from the British Beer and Pub Association (BBPA, 2014) that describe levels of production in different countries. Whereas there is remarkable growth in the volume of beer being sold in counties such as China, Brazil and South Africa, the traditional beer markets, such as the United Kingdom (UK hereafter), Germany, Belgium, the Netherlands, Czech Republic, Ireland and Denmark, are in sharp decline. Interestingly, most countries reporting a downturn in beer consumption witness healthy growth in the sales of wine, although the opposite trend exists in a few counties, e.g. Spain, where beer is gaining the ascendancy over wine.

The data, however, disguises a shift in the dynamic within the brewing sectors of some nations. For instance, in the US and the UK, where beer sales are in overall decline, there is a healthy upturn in beers belonging to the so-called *craft* or *micro-brewing* sectors (Brewers Association, 2014; BBPA, 2014; SIBA, 2014). This positive trend in both countries has occurred in the past 30 years. As shown by Figure 1.1, the number of breweries in the UK was about 142 in 1980, increasing to 1,113 in 2012 (BBPA, 2014). An even larger growth was registered in the US within the same period, with the number of breweries passing from 92 to 2,751, although this figure comprises both craft/micro-breweries and brewpubs (1,149 and 1,155 respectively) alongside larger brewers (Brewers Association, 2014). Notwithstanding the space left to new entrants by the high concentration processes in the brewing industry, several other factors which deserve some consideration contributed to reviving micro-brewing in the two countries.

In the UK the growth occurred in three waves. The first wave, arriving between the late 1970s and mid-1980s, was mainly due to a general dissatisfaction about the decline in the variety of beers available to customers, which led to the creation of the Campaign for Real Ale (CAMRA), a movement of beer lovers who lobbied for the revival of "real-ale," viz. cask-conditioned ales brewed by traditional methods. CAMRA activities and campaigns increased awareness of traditional ales, creating a potential customer base for new breweries representing an alternative to mass producers (Mason and McNally, 1997). The second wave, which arrived in the early 1990s, was mainly characterized by the entrance to the industry

of new founders with little or no previous connection with breweries or brewing, such as retirees or beer lovers in search of a career change (Knowles and Egan, 2002). Two factors characterize this period: the rapid increase in the number of new businesses brought the development of specialized real-ale producers which enabled many new breweries to start with more efficient and more cost-effective brewing equipment (Mason and McNally, 1997), and the introduction of the Beer Orders in 1989 which forced the larger brewers to either sell or free a large number of their pubs from the tie (Preece et al., 1999; see also Preece, this volume). The latter enabled the formation of large retailing companies or "pubcos" purchasing the majority of pubs and selecting a very limited range of breweries as their suppliers, creating fewer opportunities for new breweries to expand their supply network (Pratten, 2007; see also Preece, this volume). The third and most recent wave arrived early in the 2000s which saw a further and sharper increase in the number of micro-breweries, fuelled by cheaper and easier-to-install equipment (Mason and McNally, 1997; Wyld et al., 2010), and by the introduction of the Progressive Beer Duty (PBD) to support smaller brewers, granting these businesses a lower tax levy than large brewers. The PBD boosted the growth of micro-brewing throughout the country, shaping the size of new businesses which tended to keep their production volumes low in order to take advantage of the tax break. Moreover, the most recent financial crisis hit large pubcos severely, forcing them to put large parts of their estates on the market and creating more opportunities for small breweries to acquire their own pubs (Preece, 2008; Andrews and Turner, 2012).

In the US just 20 micro-breweries were operative in 1972, located predominantly in the Northeast and Midwest areas (Flack, 1997). However, in the late 1970s changes in government regulations, cuts in federal taxes for smaller breweries, and the introduction of discounted excise rates for brewers selling less than two million barrels per year, all had a significant effect on the costs of small producers (Tremblay and Tremblay, 2005). In 1979, the Cranston Act legalized home-brewing for the first time since before Prohibition; the Act opened the market to many home-brewers and created a sharp upsurge in the number of breweries in the second part of the 1980s, which grew from 37 in 1985 to 192 in 1994, doubling to 405 in 2000 (Tremblay and Tremblay, 2005; Brewers Association, 2014).

Between the 1980s and 1990s, a growing number of US micro-brewers started to contract their production to larger breweries. By doing so, smaller brewers avoided building or enlarging new facilities, while large brewers could reduce their excess capacity (Tremblay and Tremblay, 2005; see also chapter by Moore et al., this volume). In the 2000s, micro-breweries 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. The Boston Beer Company, for example, developed from serving a specific regional market to expanding its production into other states through a series of acquisitions and mergers, becoming a major national brewing company while exporting to different markets worldwide.

The growth of micro-breweries and craft beers in the US and UK was rapid, with fostered trajectories mainly characterized by changes in tastes and legislation that altered the structure of the beer markets at different stages since the late 1970s. However, a similar growth has been registered in other countries in recent times, although with sharper and more rapid trajectories. In the Czech Republic the number of micro- and small breweries almost trebled from about 80 to more than 220 between 2003 and 2012 (Balach, 2013). Interestingly, this sharp growth has also been observed in non-traditional beer-drinking countries, such as Italy and Spain, where micro- and craft breweries grew from a few dozen breweries operating in their markets to 650 and 430 respectively in 2014 (Garavaglia and Pezzoni, 2013).

Table 1.1 Alcoholic drinks consumption, per capita, 2012

Country	Beer	Wine	Spirits
Belgium	74.0 (–25.0)	26.7 (+23.0)	–
Brazil	67.2 (+35.1)	–	2.0
China	32.8 (+85.3)	1.3	3.1 (+93.8)
Czech Republic	148.0 (–6.9)	18.5 (+15.6)	2.3 (–32.3)
Denmark	64.0 (–37.4)	29.3 (–5.2)	–
France	31.0 (–14.4)	46.1 (–17.7)	2.1 (–12.5)
Germany	107.6 (–14.3)	25.6 (+10.8)	2.1 (+10.5)
Ireland	86.0 (–32.8)	15.9 (+43.2)	1.8 (–18.2)
Japan	43.1 (–22.9)	1.9 (–13.6)	3.6 (+16.1)
Mexico	53.6 (+5.1)	–	–
Netherlands	72.0 (–13.0)	23.5 (+25)	–
Russia	68.8 (+81.5)	6.6 (+32)	5.6 (–13.8)
South Africa	60.3 (+12.1)	–	–
Spain	75.1 (+4.3)	20.4 (–37.0)	1.7 (–5.0)
United Kingdom	67.4 (–23.8)	20.8 (+20.9)	1.7 (+6.3)
United States of America	77.4 (–6.1)	9.7 (+35.6)	2.3 (+15)

Source: Statistical Handbook, British Beer and Pub Association, London, 2014. Values in brackets indicate growth or decline since 2000. Values are given as litres or, for spirits, as litres of pure alcohol.

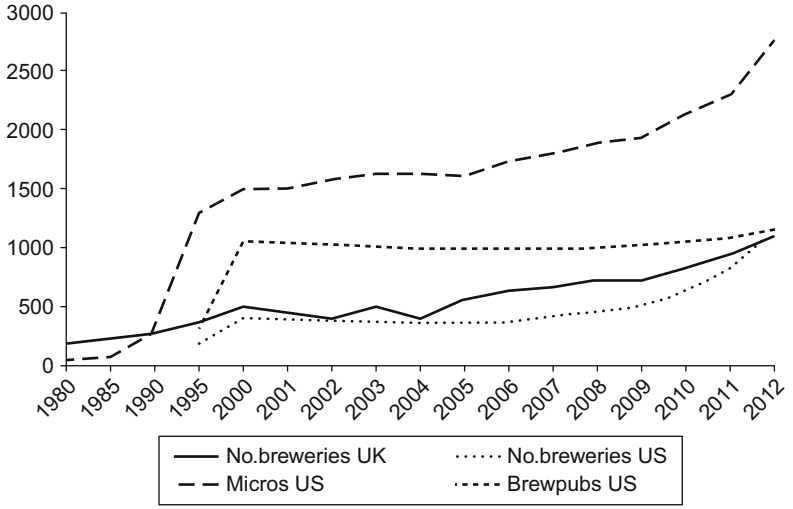

Figure 1.1 Number of breweries in the US and UK
Source: Cabras and Bamforth, 2015.

3 Drivers of beer consumption

The rise of micro-craft breweries in the US and UK, as well as in other countries, helped to diversify the beer market, expand the variety of beer styles and widened customer choice. However, it also generated the belief among consumers that, simply by turning to the products of smaller artisanal companies, especially from a nearby location, they were buying beers categorized by higher standards (Wells, 2004). In this way, too, wine is perceived as being "closer to the land" with the same perceived cachet of individual superiority (Bamforth, 2008). In contrast, the interpretation of the (often) blander beers of the larger brewing companies is that they are industrial, mass-produced, uninterestingly uniform and made from cheaper raw materials in inferior ways.

The reality may be very different: many craft brewers still have much to learn from the larger breweries regarding process control and quality delivery. The technical brewing staffs of *all* brewers retain a brotherhood and sisterhood, sharing the same goals and challenges, meeting regularly and exchanging dialogue on pertinent issues within organizations such as the Institute of Brewing and Distilling, the Master Brewers Association

of the Americas and the American Society of Brewing Chemists. It is really in the sales and marketing arena where battles are fought and goodwill is at a premium.

Irrespective of the scale on which beer is brewed, there are a range of drivers that impact the beer market. Wright et al. (2008a, b) demonstrated that customers are influenced first and foremost by the taste of the product. It is acknowledged that the perceived flavour is heavily impacted by parameters such as the package and the appearance of the liquid such as foam, colour, clarity (see Bamforth, 2000; Bamforth et al., 1988 Clark and Bamforth, 2007). Therefore, the achievement of consistency in product delivery should be a major priority for all brewers. In addition, Wright et al. (2008a, b) place consumers' segment/background and the provenance of beers (including whether the brewery is within spatial proximity) respectively in second and third place with regard to purchasing likelihood. Other factors that may have a significant role in the selection process, such as price and alcohol content, are not considered as important by the authors.

Equally striking is how consumers appear to be swayed least by issues involving the impact of beer on health. Although there is burgeoning evidence that beer is a healthier product than wine (Bamforth, 2004; Preedy, 2008), it seems that consumers are less inclined to consider the impact of beer on the body, but view it hedonistically or from a certain perspective. In the collective imagination beer is associated with fishing and mowing the lawn, and wine for culinary events.

Nevertheless, interest in beer as part of the dining experience is growing, and indeed it can be fairly claimed that perhaps there are even more food–beer pairing opportunities than exist for food and wine (Oliver, 2005). To take one example, the enormous respective diversities of cheeses and of beers surely allow for a greater chance of an "ideal" partnership than could possibly exist for the much more limited variety of wines (Fletcher, 2013).

The burgeoning number of breweries in many countries, with the UK and the US being notable examples of growth in diversity, means that there are ever-increasing purchasing opportunities for the customer in terms of brewing company and beer range. Customers are likely to become increasingly knowledgeable in their understanding of beer and there are already websites dedicated to the rating of beers (for example www.ratebeer.com and www.beeradvocate.com). While there will naturally be biases and prejudices when it comes to judging beer (e.g. the inherent suspicion of beers produced overtly or less transparently by the major global players) there is a growing tendency for customers to

compare and contrast brews. Those products that are perceived to fall short of preconceived ideals, including in terms of consistency, will not survive.

4 Extremes in brewing

There is a seemingly unceasing search for newer and newer beer styles with flavours and ingredients hitherto unexplored. These include developments out of long-standing themes – perhaps "hybrids" in respect of marrying characteristics from different beer types, such as the roast character of a stout melded with the hoppiness of an India Pale Ale to yield Black IPA. Other innovations are actually a take on historic brews, such as *pumpkin ales* in the US. However, how closely latter-day products deliver the characteristics of their predecessors is questionable. In the case of the first pumpkin ales, for example, the pumpkin was primarily a source of fermentable carbohydrate as a substitute for malted barley that was either unavailable or at best in short supply (Smith, 1998). Nowadays pumpkin ales are defined by their aroma characteristics which in fact usually owe more to the spices associated with pumpkin pie rather than with pumpkin per se.

Some brewers seek to explore the outer limits, for example beers incorporating Rocky Mountain Oysters[3] and beers of ludicrous alcohol contents presented in bizarre secondary packaging media such as stuffed animals (see the case of Brewdog provided by Smith et al., 2010). Such products derive from an urge of brewers to establish a point of difference from the perceived mainstream, to go beyond norms, almost to offer shock value. This should be contrasted with historic driving forces for the development of beer styles, which was more on a basis of what materials were available and how these materials could be processed in order to produce a palatable beverage. Harbster[4] refers to ingredients such as persimmon, molasses and Indian corn as sources of fermentable carbohydrate and to spruce, ivy and ginger as flavourings.

While the price of a beer was not the main determinant of a purchaser's decision making process (Wright et al., 2008a, b), production costs remain an important factor for the brewer per se and will have a profound effect on their operational decision-making. The relative contribution of different factors to the cost dynamic differs greatly among companies depending on their volume output. For a larger company, the cost of packaging (especially cans and bottles) and the cost of production generally (meaning primarily the cost of labour) are major elements. There is huge spending on sales and marketing and on taxation. On a major brewer scale, then, the cost of raw materials is proportionately low.

Of much more concern in this category (but equally for all brewers) is the ongoing availability of those raw materials. In the US there are painful memories of a recent crisis in the hop market.[5] The beer industry is by far the major consumer of hops, meaning that brewers have to a large extent been able to dictate hop prices. However, the decision of some growers to step away from the hop business coupled with a major fire in Yakima (Washington State) in 2006 that destroyed a substantial quantity of hops made for a shortfall in availability. Those brewers who were "forward contracted" on hops were able to weather the storm, although even some major brewing companies were in a position where they traded for hops on a short-term basis and as a result encountered challenges in satisfying their demand.

There are concerns at a global level about the future supply of good-quality malting barley, with the 2014 barley harvest illustrating the sensitivity of the crop to the vagaries of climate. High rainfall in North America led to pre-harvest sprouting of grain (premature germination of grain while still in the field), which jeopardizes the ability of the grain to malt properly after harvest. As a consequence there has been a serious shortfall in the availability of malt with attendant increases in the price of grain and beer (Maverick, 2014). Even if climatic calamity had not occurred, there is a growing reluctance of farmers to grow malting barley, as prices for other crops are increasingly higher (United States Department of Agriculture, 2014) and they present less risk of rejection, which can happen when barley does not meet a myriad of criteria placed upon it by maltsters and brewers.

For the smaller brewing companies, raw material expenditure becomes proportionately larger, while expenditure on packaging, people, and sales and marketing is much less than in the larger concerns. There are also tax breaks for smaller brewing companies. In the US, the federal tax on beer is $18 per US barrel (1.17 hectoliters), but production up to 60,000 barrels incurs $7 per barrel, but only for those companies that cumulatively produce less than 2 million barrels (Alcohol and Tobacco Trade Bureau, 2014). In the UK there is a Small Breweries Relief Scheme for those producing less than 60,000 hectolitres of beer (about 51,130 US barrels; HM Revenues and Custom, 2015).

5 Issues regarding taxation and environment

Notwithstanding such incentives for smaller concerns, all brewers are confronted by the issue of duty and this can vary enormously. It is remarkable how in the European Union alone there is such divergence

in the tax levied on alcoholic beverages (Table 1.2). Recent modest cuts in the taxation of beer in the UK are projected to lead to enhanced sales, although there is clearly a serious penalty on the drinker as compared to the rate of taxation in most other countries. Arguments are invariably made that relatively high taxation is an impediment to alcohol abuse, yet it has been argued that elevating taxation does not reduce excessive consumption of alcohol, drunk driving or consumption of alcohol by underage persons, but rather constitutes an unfair burden on consumers. Even in the US, where taxation on beer is rather more modest as compared to the UK, it has been argued that the summation of all taxes on the product throughout production, distribution and retailing amounts to more than 40% of the retail price, with a tax cull nearly 70% higher than for the average purchase made in the nation (Beer Institute, 2014).

Tax can be a major driving force in new product development. In the US the possible alternatives (such as alcopops) are produced by making a bland beer, decolourizing it and adding flavour additives such as lemon or watermelon for the simple reason that they are then taxed as beers rather than at the spirit rate, which would apply if they were made from a spirit base. In Japan, tax laws that dictate a much lower levy on products containing less than 25% malted barley (*Happoshu*) or 0% malted barley (*Third Category*) have made for a dramatic shift away from "traditional" beers to much cheaper alternatives (Priest and Stewart, 2006). Another glaring example of the impact of tax on the beer market is Russia, where beer shifted in January 2013 from being treated by the authorities as a soft drink to being considered as a product closer to wine and spirits, and taxed likewise (Deconinck and Swinnen, 2009). As a consequence, the last two years have seen a marked downturn in the sales of beer with attendant brewery closures.

Ironically, one driving force that would make it logical to make beers through an alternative paradigm of adding flavour and appearance enhancers to a bland alcoholic base (Heymann et al., 2010) is environmentally friendly. The carbon footprint for such ersatz products is far less than for beer made by conventional methods (Russell et al., 2008). Although no brewer (to the authors' knowledge) is realistically considering such a futuristic approach, there are many producers addressing environmental concerns, with particular emphasis on reducing water and energy consumption (United Nations, 1996; Galitsky et al., 2003; Bamforth, 2009). At least one brewer has published the carbon footprint for their beer[6] and another is publishing the carbon footprint for all of

their production on the beer label (McCurry, 2008). It seems that good citizenship is being turned into a marketing strategy.

The production of beer is extremely demanding in terms of unit processes occurring within the production facility, but no less so in the cultivation and processing of raw materials at one end and in the distribution and retail of the beer at the other. Substantially more water is used in the malting of barley than in brewing with the resultant malt, historically around four thousand litres per tonne of grain. In the growing of barley, usage of water might typically be some one million litres per hectare. Taking a figure of six tonnes yield per hectare, then the water usage for growing barley is clearly some 40 times greater than that used in the malting process. This should be compared with the use of water in a brewery, with the current global best standard being around three litres of water per litre of beer. Taking a relatively strong beer of, say, 6% alcohol by volume, signifies that five litres of beer would come from about one kilogram of malt. Hops, too, as well as adjunct materials such as corn, rice, wheat, sugar cane and beet, can also be analysed in a comparable way.

Table 1.2 Rates of excise duty and value-added tax in the European Union

Country	Beer (pence per pint at 5% abv)	Wine (pence per 75cl bottle at 12% abv)	Spirits (pounds per 70 cl bottle at 40% abv)	VAT %
Austria	10.8	0	2.22	20.0
Belgium	10.0	33.9	4.71	21.0
Denmark	16.9	87.9	4.47	25.0
Finland	72.3	201.8	10.12	24.0
France	16.5	2.2	3.82	20.0
Germany	4.3	0	2.90	19.0
Greece	14.1	0	9.5	23.0
Ireland	50.8	252.9	9.46	23.0
Italy	14.6	0	2.05	22.0
Netherlands	17.1	52.6	3.75	21.0
Portugal	8.5	0	2.78	23.0
Spain	4.5	0	2.03	21.0
Sweden	43.1	147.7	12.09	25.0
UK	53.2	205.0	7.90	20.0

Source: Statistical Handbook, British Beer and Pub Association, London 2014. Data is quoted in Pounds Sterling with exchange rates as at July 2014.

6 Shouting it out!

From recent experiences it appears that brewers have much to do to wrestle the moral high ground from vintners (Cabras and Bamforth, 2015). However, the brewing industry either directly or indirectly projects messages at variance with beer as a responsible part of a well-balanced lifestyle. Consider, for example, the extreme beers referred to earlier such as the ones containing animal parts or indeed inserted into animals.[7]

For instance, in the US there has been an undesirable tendency of one mega-brewing company to market their products by rubbishing those of the other major player (see, for instance, the Miller campaign against Budweiser with the "I Can't Taste my Beer" punchline broadcast on US TV channels). Who is the customer to trust? Equally, what is the customer to take from the campaign of those who would have it that the products of the major players are "yellow fizzy liquid"? These trends of marketing beers are very different from what happens in the wine industry, where no producer would dare to market and advertise its wines by "rubbishing" those supplied by competitors.

In the UK, major supermarket chains use their power to force ever lower wholesale prices on brewers, with the resultant canned beer being sold as loss-leaders situated at the entry to the store.[8] This type of behaviour has meant that significant amounts of this beer is purchased by younger consumers in order to "prime the pump" or "pre-load" at home prior to a night of increasingly loud and alcohol-fuelled (probably not beer) behaviour in city centres. The consequences are devastating in terms of shaping drinking attitudes and patterns of consumption, with two major impacts recognisable on both market and society.

First, regardless of the plethora of new craft breweries producing traditional ales, there has long been a shift towards (ever colder) lagers in the pub sector. Second, the increase of pre-loading and drinking at home, driven by more affordable prices in the off-trade market and other factors (e.g. lack of valid transport alternatives in remote areas), represent worrying trends which pose considerable threats in terms of health and well-being, e.g. individuals and families experiencing alcohol-related issues which remain mostly unreported; symptoms of depression and self-isolation becoming progressively more difficult to identify – even in the smallest communities – due to reduced opportunities for socialization and engagement (Mount and Cabras, 2015).

Aside from these issues, there are other aspects that influence how beer is perceived by consumers. For instance, too often beer features as

a focus of unreasoned behaviour (as in the case of *beer pong*, a drinking game in which players throw a ping-pong ball across a table with the intent of landing the ball in a cup of beer on the other end) rather than as an interesting, wholesome and inherently pleasurable fluid to be consumed as part of reasoned behaviour such as a dining experience, simple relaxation or conversation (Bamforth, 2010). Part of the problem, especially in the US, is the way beer is presented in advertising campaigns. Very often beer is marketed with clear messages of fun and raucous fulfilment as opposed to inherent satisfaction from the product per se. Advertisements that claim beer is good for you when consumed in moderation are at variance with such a portrayal of the values of the beverage.

7 Recovering the high ground: the role of education

In light of the analysis presented in the previous sections, the interpretation and perception of beer varies significantly with regard to different contexts and issues related to both markets and societies. In the majority of cases, beer may not inspire the same type of appreciation and feelings in relation to average quality standards that other types of alcoholic drinks, wine and whiskies in particular, do. In such a context, the role of education in addressing different stakeholders appears to be crucial to restore beer to a position of prominence in several areas. There are a number of points related to beer and brewing which, in our view, deserve urgent consideration.

First, some of the issues discussed in this chapter are directly or indirectly related to the education of brewers. Today, a significant number of brewers, mostly operating in the craft and micro-brewing sector, have little or no formal training, and enter the market without the necessary knowledge to increase their chances of survival in the market, irrespective of the quality of their beer. It is certainly possible for talented individuals to develop world-class operations with no formal credentials.[9] However, the achievement of a product with consistent character demands a thorough understanding of the complexities of malting and brewing allied to genuine practical experience gained "on the job." There is an ever-burgeoning number of universities and colleges seeking to train brewers, to join long-standing and successful programs such as those offered at Heriot-Watt University in Scotland and Sunderland University in England, the Technical University of Munich (which includes the Weihenstephan Brewery, the world's oldest brewery still in activity) and the VLB (Berlin) in Germany, the University of Leuven

in Belgium and the University of California at Davis in the US. Training as well as a comprehensive slate of examinations is also offered outside academia, as in the case of the Institute of Brewing and Distilling based in the UK (but operating globally).

Second, something should be done to educate consumers. Aside from the glaring lack of understanding of what goes into making beer (Smythe and Bamforth, 2009), there is a compelling necessity for beer's inherent values to be appreciated and respected. This requires strengthening and tightening the relationship between brewers and consumers: the drinker needs to trust the brewer and have a clear appreciation of what actually happens in companies – whether large or small – without being distracted by the nonsense of some common beliefs. In particular, consumers should understand what to look for in a beer and its presentation, how to appreciate different beer styles, what food might be genuinely paired with beer and, not least, the health implications of beer as shown in Table 1.3. Fortunately there are organizations addressing these issues, e.g. the Beer Academy,[10] but more can be done in order to increase awareness.

Third, many retailers, both in the on-trade and off-trade markets, need to be educated too. The types of representations of beers offered within advertising campaigns, particularly in the US, are often deceptive and counterproductive for the product itself. Retailers must recognize how to optimize the way in which beer is furnished to the customer, in the same way winemakers constantly try to do with their consumers. For instance, more can be done in terms of highlighting and developing a culture towards dispensation and storage of beers for enhanced shelf life, glass cleanliness, putting beer in a receptacle with the correct name on the glass or at least not the wrong name, stock rotation, etc. Such reverence for beer is taught inter alia by organizations like the Beer Academy and other initiatives such as the Cicerone program[11] and the Beer Steward program.[12]

Finally, educative processes must involve governments and governing bodies at different levels. There is a clear tendency for government and regulatory agencies to be swayed by powerful anti-alcohol lobbies and antagonists (Chase, 2014). Despite the far-reaching assessment that beer in moderation can be a wholesome and beneficial component of a responsible lifestyle, it appears that those opposing this view gain greater traction than those who would advocate for the beverage. There are agencies addressing the merits of beer in this context, such as Beer and Health in Europe or the Beer Institute in the US. However, more should be done in order to increase awareness about the positive effects related

to beer consumption in society. Enhancing the dialogue among governments, industry organizations and consumers' representative bodies might restore beer to a status where President Thomas Jefferson declared "*I wish to see this beverage become common.*" Brewers and industry organizations are perceived as having more than an incentive in spreading these messages, which need to come from credible and independent entities, notably the medical profession.

Table 1.3 Health benefits from beer drinking

Issue	Discussion/Theme	Reference
Atherosclerosis	Beer is as effective as wine in countering	Matsumoto et al. (2014)
Beer belly	There is no such thing – alcohol is the main calorie contributor in any alcoholic beverage and those calories need to be counted.	Wannamethee et al. (2005)
Cancer	There are many reports linking alcohol consumption to the risk of various cancers.[13] However there are studies registering the opposite, demonstrating also that beer contains anti-mutagens.	Arimoto-Kobayashi et al. (2006) Gunzerath et al. (2004)
Type 2 diabetes	Moderate beer consumption protects against	Koppes et al. (2005)
Coronary/Heart Diseases	Moderate beer consumption protects against	Keil et al. (1997)
Rheumatoid arthritis	Moderate beer consumption protects against	Lu et al. (2014)
Kidney stones	Moderate beer consumption protects against	Ferraro et al. (2013)
Parkinson's disease	Moderate beer consumption protects against	Liu et al. (2013)
Cognitive function	Beer improves, in the elderly	Ganguli et al. (2005)
Nutritive value	Beer is a significant source of silicate (counters osteoporosis), folic acid, antioxidants, soluble fiber	Casey and Bamforth (2010), Owens et al. (2007), Bourne et al. (2000), Diaz-Rubio and Saura-Calixto (2009)

8 Conclusions

This chapter has explored and analysed the current state of the beer and brewing industry by discussing several social and economic issues related to beer such as distribution, consumption, perception and taxation. The outcomes gathered from the investigation were then examined in relation to the type of contribution that different stakeholders operating in the beer industry may provide.

While beer volumes are in decline in many countries, a burgeoning "craft" sector appears to be rising almost everywhere in the world. There is remarkable growth in the volume of beer brewed by such brewers who are perceived as artisans and somehow as being producers of beer from superior raw materials and using more caring, less industrialized approaches. The elaboration provided in this chapter, however, appears to indicate a different reality, with all brewers pursuing the same excellent technical standards regardless of their size. Quality to a brewer comprises delivering the same product with the same characteristics time after time, rather than falling on vintage and terroir, as in wine.

Similar misleading thoughts appear to affect drivers of consumption. The general perception presents wine as a superior choice when considered on the basis of quality, craftsmanship, pairing with food and the impact on health. This perception tends to differ in relation to beer: although much has to be done to convince consumers that beer should be an accompanying beverage, it is still perceived by many as a lower-class drink compared to wine.

The analysis proposed in this chapter identifies several issues that need to be improved in relation to how beer is perceived and represented, indicating some possible solutions with regard to marketing and education. In particular, education seems to be the key aspect to consider in order to elevate quality perception among consumers. Efforts made in this direction, however, must aim to bring together a wide range of stakeholders, from brewers to consumers, from policymakers to organizations, from medical associations to government. Improving the way in which beer is perceived and increasing knowledge about the positive and negative effects of this product is likely to bring several positive economic benefits to the industry worldwide, and to generate multiple advantages to society in general.

Acknowledgement

This work was supported by the USDA National Institute of Food and Agriculture, Hatch project 1004485.

Notes

1. As reported by the Brewers Association website: http://www.brewersassociation.org/statistics/craft-brewer-defined.
2. One possible reason for such arbitrariness is probably due to the effort of keeping a limited number of craft brewers (e.g. the Boston Brewing Company in the US) that have grown very large in the sector.
3. www.wynkoop.com/blog/wynkoop-releases-first-cans-of-rocky-mountain-oyster-stout.
4. http://blogs.loc.gov/inside_adams/2014/09/early-american-beer.
5. For an extensive description, see: https://byo.com/stories/issue/item/1476-the-bitter-end-the-great-2008-hop-shortage.
6. See the report prepared by Climate Conservancy in 2008, available at www.newbelgium.com/Files/the-carbon-footprint-of-fat-tire-amber-ale-2008-public-dist-rfs.pdf.
7. Specifically, "The End of History" brewed by Brewdog whose bottle is stuffed into the body of a dead squirrel.
8. As claimed by Peter Brown in his blog: http://petebrown.blogspot.com/2011/02/some-facts-about-cheap-supermarket-beer.html.
9. For example, Ken Grossman and Sierra Nevada.
10. See www.beeracademy.co.uk.
11. As reported by www.cicerone.org.
12. See www.mbaa.com/education/beersteward.
13. See the 14th Report on Carcinogens presented by the US Department of Health and Human Services, available at: http://www.cancer.gov/cancertopics/factsheet/Risk/alcohol.

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2
Marketing and Globalization of the Brewing Industry

Erik Strøjer Madsen and Yanqing Wu

1 Introduction

Many analyzes have been made of globalization in the brewing industry that occurred at the start of the 21st century in which mergers and acquisitions (M&A) feature prominently (Euromonitor, 2010; Pedersen et al., 2013). But the motivations of the key players behind globalization in the beer market remain unclear. The largest breweries played the key role in the restructuring of the industry and doubled their share of the world beer market, but seemingly without any short-term payoffs (Madsen et al., 2012). In this chapter we focus on the nature of the product and discuss the methods of distribution and product branding as important explanations why the brewing industry moved from a regional to a global industry.

Economies of scale at the plant level have been identified as one of the main factors driving the restructuring of national brewing industries before the turn of the last century (Tremblay et al., 2005; Nelson, 2005). However, the distribution of beer is expensive compared to other consumer goods, and international trade in beer is quite limited compared to the home production of beer (except for a few small countries). Due to high trade costs, the breweries could not extend economies of scale at the plant level by adding more demand through international trade. If the large number of cross-border M&A that made the industry more global were motivated by synergy, one has to consider economies of scale at the multi-plant level where management skills, advertising and the transfer of know-how or technology are indispensable.

Marketing and sales costs have always been important in the brewing industry and today they account for 16% of the net revenue of the largest brewing groups. The industry is ranked among the highest for

advertising. This chapter focuses on the role of advertising in building brand loyalty and investigates how advertising creates 'premium brands'. From industrial economics it is well known that the structure of advertising costs translates into significant scale advantages. As observed by Tremblay et al. (2005), the industry has passed through several stages of development, each with its own characteristics. Currently the brewing industry has reached a semi-global stage (Porter, 1986).

The objective of this chapter is to analyze the importance of product branding and advertising in the global brewing industry. The next section focuses on the high costs of beer distribution and how these costs create a natural barrier to international trade that encouraged M&A as a strategy for globalization. Section 3 addresses advertising behaviour in the brewing industry, the large price premium of high-value beers and explores economies of scale in global marketing. Section 4 presents empirical evidence for economies of scale in marketing and distribution among the largest brewing groups (see Stack et al., this volume). Section 5 discusses some motives behind the globalization of the beer industry, and the last section presents conclusions.

2 The distribution of beer and globalization

The structure of the beer market has always been driven by the challenge of distribution, which remains a major barrier for new entrants and for growth of incumbents. Beer is not a weightless commodity and compared to other groceries it takes up considerable space in retail shops. A large quantity of beer is consumed directly in restaurants and bars for which a separate distribution system has evolved – often controlled by the breweries. The exclusion of other brands from their distribution networks represents another barrier to new entrants.

Economies of scale in distribution and the heavy investments in new technology after the Second World War dramatically increased the minimum efficient scale of production (m.e.s.). Plant automation increased the speed of canning and bottling and the reduction in transportation costs increased plant-level scale economics. These developments fostered a dramatic restructuring of national beer markets for mass-produced beer. In the US, the market share of the four largest breweries increased from 22 to 95% in the period between 1950 and 2000. Simultaneously, the number of independent breweries declined from more than 350 to just 24. Anheuser-Busch's market share jumped from 6 to 54% in the period (Tremblay et al., 2005; Nelson, 2005).

New communication channels made strong brands even stronger and reduced the demand for small, local brands. This is forcefully documented by George (2009) who looked at the penetration of television in local US markets between 1945 and 1960. She found that the number of local breweries was negatively correlated with the fraction of the population having access to a television signal and that the opportunity for national advertising through broadcasting accounted for 27% of the total decline in the market share of local breweries. This trend was intensified by developments in printed media: local newspapers and magazines also lost market share.

Developments in technology and communication in the second part of the 20th century also increased concentration in many other national beer markets. However, the German market lagged because of political forces that delayed the restructuring of the industry. Best known are the 'purity' rules which ban preservatives in beers. This regulation from the guilds was first challenged by the European Court of Justice in 1987 when Germany had to open its borders to beer produced legally in other European Union countries (see Adams, 2006).

Increasing concentration in national beer markets also reduced the number of global competitors. However, this did not change cross-border competition in any significant way, because cross-border ownership was low. While the internationalization of most consumer markets increased foreign competition, the beer market remained relatively closed with limited competition from imports (Table 2.1).

The average import share for all countries shown in Table 2.1, is about 5%, and it does not seem to increase much over time (see Colen et al., 2011, for a similar result). Import duties and other trade barriers may explain the low import penetration in the developing countries; for Asia, it is below 2%. Developed countries are more vulnerable to imports, especially small countries where cross-border trade increases the import share significantly (see Ferto et al., this volume). Further, one has to recognize that these figures reflect quantities, but as imported beer is mainly a premium product, these market shares underestimate *value* shares by some margin. Export shares may vary considerably because some of the large breweries have large production facilities in smaller countries, e.g. Heineken and AB Inbev in the Netherlands and Belgium.

Cross-border M&A at the turn of the 21st century made some breweries real world players (Pedersen et al., 2013). Figure 2.1 shows the increased concentration in the global brewing industry between 2002 and 2013. The four largest firms (using a four-firm concentration ratio, CR^4), increased their market share from 25 to 47% in the period

Table 2.1 Import share of beer in percentages

COUNTRYS & REGIONS	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	11.88	10.36	9.06	9.40	11.93	10.64	8.83	9.57	12.46	13.97
Brazil	0.05	0.04	0.04	0.04	0.07	0.12	0.19	0.16	0.17	0.34
China	0.89	0.75	0.58	0.51	0.44	0.18	0.19	0.22	0.45	0.51
Czech Republic	0.98	1.00	0.87	0.90	0.96	1.31	1.60	2.36	4.39	3.40
Germany	3.24	2.78	3.20	4.11	5.71	5.77	6.43	6.32	7.77	8.54
Ghana	0.48	0.31	0.00	1.67	0.00	0.87	1.22	2.53	3.51	2.33
Mexico	1.37	1.45	1.38	1.55	1.65	1.76	1.81	1.60	1.60	1.55
Netherlands	5.37	8.11	13.77	13.98	13.84	14.98	11.06	10.11	8.87	10.19
Republic of Korea	1.10	1.16	1.18	1.31	1.54	1.97	2.27	2.20	2.51	2.90
South Africa	0.08	0.71	0.54	0.27	0.36	4.61	4.84	5.86	0.95	1.01
United Kingdom	11.30	10.97	12.39	13.36	14.80	16.18	17.77	17.14	17.90	18.36
USA	11.51	12.07	12.04	12.98	14.83	14.97	14.53	13.15	13.98	14.16
Americas	6.54	6.70	6.49	6.96	7.67	7.75	7.44	6.87	6.89	7.12
Europe	7.04	7.20	7.91	8.24	9.02	9.42	9.35	9.22	10.26	10.71
Asia	1.71	1.71	1.55	1.60	1.56	1.44	1.50	1.16	1.23	1.40
Oceania	2.84	3.35	4.76	4.68	5.25	6.98	2.27	8.82	2.52	8.99
World	5.18	5.26	5.30	5.56	6.00	6.14	5.94	5.64	5.70	5.93

Note: The import share is calculated as the share of the local production on the basis of the volume.

Source: Food and Agriculture Organization of the United Nations (FAO).

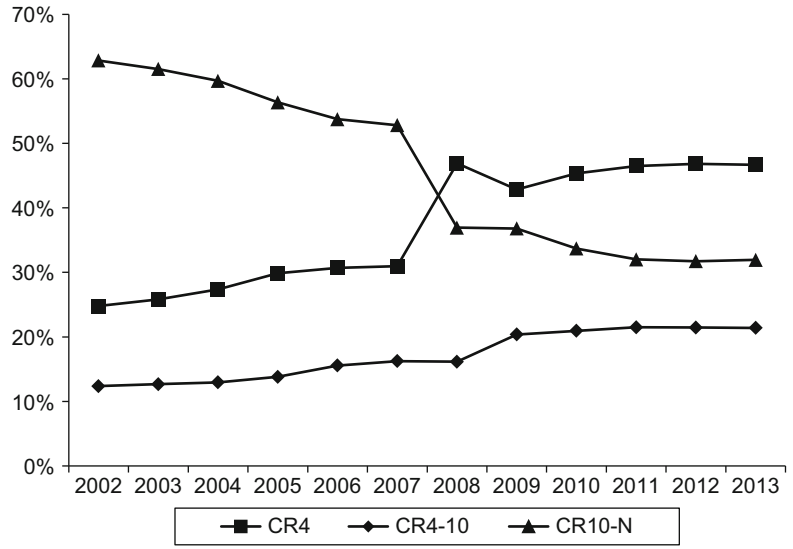

Figure 2.1 Concentration ratios in the global brewing industry

Note: CR^4 and $CR^{4–10}$ measure the market shares by volume of the four largest and the six next largest companies in the worldwide brewing industry. $CR^{10\text{-}N}$ shows the market share of the rest.

Source: Market Lines' database: Market Data Analytics.

considered. Other large breweries (using a five- to ten-firm concentration ratio, CR^5 – CR^{10}) increased their share to control nearly 20% of the market. Naturally, these dramatic increases in market shares for the large breweries happened at the expense of smaller breweries whose global market share fell to about 30%. The restructuring of the industry was primarily led by a few large breweries. The large jump in CR^4 in 2008 is the result of InBevs' acquisition of Anheuser-Busch. This was a mega-takeover amounting to 57 billion euro and it made the new company AB Inbev the industry's global leader. It was about twice the size of the second largest company, SAB Miller.

Distribution challenges have played an important role in the development of the brewing industry. High transportation costs make it impossible for breweries to pursue a globalization strategy based on exports. The establishment of a distribution system in a foreign country is not an easy task: it entails the establishment of many transportation hubs, and because overseas investment in greenfield sites is not a viable option, acquisition of local breweries is more attractive.

Although cross-border M&A may be the only feasible way to become globalized, the question remains: why did the major brewers choose this strategy? We argue that firm-level scale economies involving, especially, branding and advertising, were crucial in the pursuit of globalization.

3 Globalization and the marketing of beer

Large price differences for beers are well known. Shoppers often have to pay between two or five times more for a special beer compared to the cheapest. Table 2.2 lists the average price for different types of beers in regional markets according to Market Data Analytics in 2010 (they cover 96% of total world consumption of beer as reported by FAOstat, 2014). There are no precise definitions of the different types of beers. Table 2.2 lists beer types as categorized by Market Lines. Premium lagers usually have higher alcohol strength than standard lagers. Advertisement of the former usually involves emphasizing superior quality. Specialty beers are normally produced by small-scale breweries – so-called micro-breweries, and are frequently local beers. Low-alcohol beers define themselves.

As expected, beer prices are higher in developed countries, and higher on average in the European market compared to the Asian market. As the beer prices are market prices, part of these differences is a result of the higher consumption taxes in the developed countries. However, as there is almost no international trade in beer, the price differences between the countries can persist as a result of differences in production costs among countries. But within these regions, large price differences

Table 2.2 Beer prices for different types of beer on the global market

	World market	**European market**	**American market**	**Asian market**	**African market**
Average price	3.14	4.61	2.94	2.44	2.22
Standard lager	2.54	3.81	2.42	2.13	2.14
Premium lager	4.83	5.84	3.84	4.58	2.61
Ales and stouts	4.30	4.75	3.11	7.03	2.20
Specialty beers	5.22	6.02	4.77	5.31	2.50
Low alcohol beers	3.46	4.17	2.75	3.15	2.27

Note: The prices are in USD per litre in 2013 and calculated as market value devided by market volume. The European market includes Eastern Europe and Russia, American market includes North and South America, Asian market includes the Pacific countries and African market includes the Middle East.

Source: Market Lines' Database: Market Data Analytics.

Table 2.3 Price premiums for branded beer using an index with standard lager set at 100

	World market	European market	American market	Asian market	African market
Standard lager	100	100	100	100	100
Premium lager	190	153	158	215	122
Ales and stouts	169	125	129	330	103
Specialty beers	205	158	197	249	117
Low-alcohol beers	136	109	113	148	106

Note: The price-premium index is calculated from the prices in USD per litre in 2013 and is based on the market value divided by market volume. The European market includes Eastern Europe and Russia, American market includes North and South America, Asian market includes the Pacific countries and African market includes the Middle East.

Source: Market Lines' Database: Market Data Analytics.

exist among the different types of beers with special beers being the most expensive. Table 2.3 shows these price premia within the regions for premium and special beers using a price index = 100 for the price of a standard lager.

The price premiums are significantly larger in Asia compared to the European and American markets. The premia for imported ales and stouts are probably the result of high import duties in many Asian countries, whereas the high price premiums for premium lager cannot be the result of import duties as they are mainly produced locally. The large price premiums across different types of beers raise the question: do they reflect differences in quality?

Actual differences in product quality are probably lower than the average consumer thinks. Production processes for beer are quite old and have not developed much over time. The technology is therefore well known and brewing only includes a few raw materials – water, barley, hops and yeast. Most breweries brew different types of beer, such as pilsner and lager, for which production costs do not vary significantly. Even for ales and stouts the ingredients are the same, though the market segment is smaller. While the breweries have their own prescriptions for brewing different types of beer, they normally do not manage and develop the technology of the brewing process; these tasks are outsourced to special companies. Therefore technology in the industry is available to all players and does not act as an entry barrier.

Some horizontal product differentiation does exist due to different strains of barley and hops used in the brewing process. This is particularly

true for ales, stouts and specialty beers from micro-breweries. However, within the same category of beer, differences in taste can be very moderate and the recognition of brands is therefore often not significant in blind tests (Alison et al., 1964; Almenberg et al., 2014). In one study, beer drinkers were strongly inclined to their preferred brand, but when the beers were unlabelled, the participants showed no preference for certain beers (Valenzi et.al., 1973). Almenberg et al. (2014) used a triangle test: subjects are given three blind samples; two are identical and one contains a different beer. After testing all three samples, the test subjects are asked to point out the different one and this should happen in more than 33% of the cases if taste differences actually exist. They use the method to test whether the test subjects can differentiate different brands of beer within the same category of beer. The experiment used three well-known European lager beers: *Czechvar* from the Czech Republic, *Heineken* from the Netherlands and *Stella Artois* from Belgium. Their main conclusion is that beer drinkers are unable to distinguish among different European lager brands.

While real product differences are quite small within the lager segment, differences in perceived product quality by beer drinkers is very large. This perception is probably copied from other consumer goods where the consumer learns that they 'get what they pay for'. This is particularly true in the car market where there are huge differences in quality and prices, and also within the furniture and consumer electronics markets.

Consumers' price-quality perception in relation to beers is most forcefully illustrated by McConnell (1968a, b) for the American beer market. He made 24 home deliveries of six-packs of beer over two months to a large sample of beer drinkers. All the beer was identical so there were no quality differences at all, but the beer drinkers did not know this as the regular labels were replaced by new labels with three different prices corresponding to the average price of a popular, premium and super-premium beer at that time. When assessing the quality of the beers, the panel ranked the high-priced beer higher in quality with a large margin compared to the low-priced beer. One drinker even said about the brand he thought was cheap, 'It would poison me – make me ill. I couldn't finish the bottle'.

When consumers determine the quality of beers by price signals, the implication for the breweries is obvious: by segmenting the beer market into premium and standard categories by labelling and setting a price premium for the high-quality branded beer, and they then turn to marketing management in their business strategy. Over time, the breweries have learned to optimize this price premium by branding their products and by advertising and brand

promotion. Today the beer industry has one of the highest expenditures on marketing and sales promotion. It is ranked above the fast-food and sportswear industries.

Table 2.3 indicates premium lager as the most prominent 'cash cow' in mass-produced beer with a high market share in both Europe and America and a price premium twice that of premium ales and stouts. Along with increasing brand promotion, the market shares of the premium brands and special beers have increased and now account for 40% in Europe and 30% of the American market, as shown by Table 2.4. The largest price premium for lager is earned in the European market at USD 2.03 per litre, the total premium amounting to USD 24.6 billion. The price premium earned in the Asian market is now larger than on the American market with USD 16.2 billion against USD 13.3 billion. While the share of premium lager is relatively high in the African market, the price premium is quite low so the total premium is only USD 0.31 billion.

Specialty beers from micro-breweries that emerged in the 1990s now account for about 5% of the world market. This segment of the beer market seems to have matured in the US by the 1990s when their number peaked and today they have about 10% of the American market in value terms (see Bamforth and Cabras this volume). However, micro-breweries do not change the concentration ratios for mass-produced beer in any significant way. Also, the price premium for speciality beers is to a large extent caused by higher production costs due to small-scale plants. The micro-breweries therefore only earn a modest profit as entry barriers are quite low to the local unbranded market.

New means of communication have decreased the cost of advertising, making it more attractive. This is especially true with the emergence of electronic media. Radio and television cover a larger audience compared to newspapers. This results in lower costs when using the former. Even if the price per viewer is the same for small and large firms, the latter have advantages as they are present in more markets and therefore do not waste advertising on viewers who cannot buy their product. This is the case for local breweries or small national brands which are only present in local shops or bars.

These developments have become global following the invention of the Internet which established the infrastructure for fast individual communication; new mobile gadgets make it easier to extract information in all locations. This development has moved consumers' awareness from newspapers and television to the Internet and advertising and brand promotion have followed. Figure 2.2 lists the different media shares of advertising. There has been a dramatic increase in Internet

advertising after 2002 and it now amounts to USD 88 billion or 20% of the global advertising in 2011, according to Warc.com. This increase has been at the expense of advertising in the printed media such as newspapers and magazines that have seen their share reduced to half from about 50% to 25%.

The Internet facilitates the streaming of movies and television on demand; it has shifted consumers' awareness in a global direction and has made global branding a natural choice for the breweries. These developments enlarge the potential audience exposed to advertising via the Internet and extend the competitive advantages of global breweries.

As young males are the heaviest beer drinkers and also engage in sports activities, a large part of beer advertising is related to sports and a brewery is often the main sponsor of big sports events like the World Cup in Brazil where The Federation of International Football Associations (FIFA) signed 20 major sponsorships amounting to USD 1.4 billion. Other examples are football clubs like Manchester United and Real Madrid where breweries are also present.

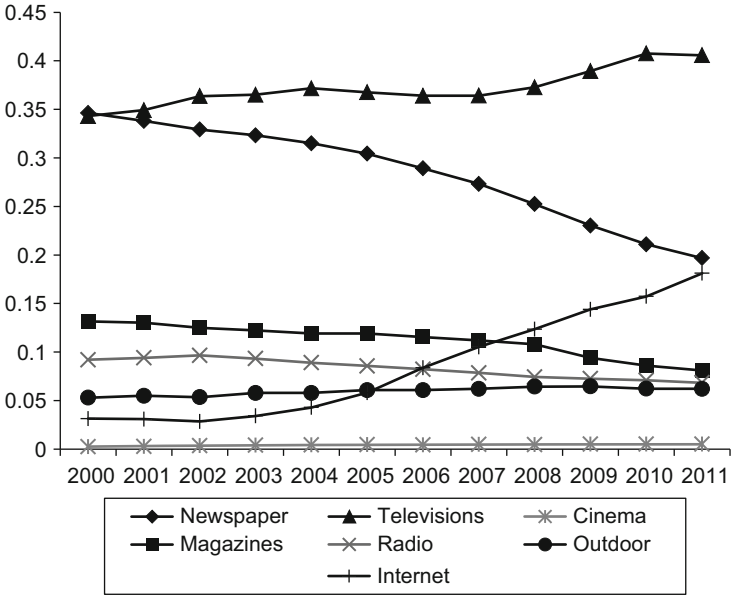

Figure 2.2 Different media's share of the global expenses on advertising

Note: Shares of total global spending on advertising.

Source: Warc's database, Warc.com, US.

Table 2.4 Global consumption of different types of beer, 2013

	World market	European market	American market	Asian market	African market
Consumption of beer (million hl.)	1,728	442	519	718	53
Market shares in %					
Standard lager	72.2	54.3	67.8	86.4	72.4
Premium lager	16.7	27.5	18.1	9.2	12.3
Ales and stouts	3.1	6.9	2.5	0.7	11.4
Specialty beers	5.2	7.2	10.4	0.5	1.3
Low-alcohol beers	2.8	4.1	1.2	3.1	2.5

Note: European market includes Eastern Europe and Russia, American market includes North and South America, Asian market includes the Pacific countries and African market includes the Middle East.

Source: Market Lines' Database: Market Data Analytics.

The globalization of beer brands facilitates the realization of economies of scale in global marketing and explains why breweries introduce their global brands in national markets alongside national or regional brands which they often keep when acquiring national breweries. The breweries have even taken some highly reputed local brands to other markets and produced them in their local brewery plants (see Stack et al., this volume). However, some European brands are safeguarded by Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) legislation which limits the possibility of globalizing the brand because of legal restrictions. This is the case for brands such as *Budweisser Budvar* and Shepherd Name's *Kentish Ale*.

4 Economies of scale in global brewing

Increases in marketing and sales promotion in the brewing industry generate the question: can these scale advantages cross national borders as a result of the globalization in electronic media? If so, scale advantages could be tapped by multinational breweries and the large wave of M&A within the brewing industry over the last 15 years could be a response to these cost advantages. To address this question we examine the eight largest breweries in the world in 2013. Table 2.5 shows relevant descriptive statistics for the period 2002 to 2013.

World market shares are obtained from Market Data Analytics Database and cost shares are collected from the breweries' annual reports and

Table 2.5 Descriptive statistics

	Mean	Standard deviation	Observations
World market share	0.0638	0.0464	92
Production cost share	0.5485	0.0718	68
Distribution cost share	0.0725	0.0394	55
Marketing cost share	0.1740	0.0603	68
EBIT share	0.2150	0.0851	56

Note: Share of marketing and sales costs of net revenue. EBIT is calculated as net revenue minus cost of production, distribution and marketing. No information on marketing expenses in the annual rapport from SAB Miller and for Kirin from 2006.

Source: Cost share from companies' annual reports and world market share from Market Data Analytics Database.

reported as share of net revenue. The costs of marketing also include sales expenses as the different types of sales and marketing costs are collapsed in the annual reports. However, a large part of sales expenses in the beer industry can be considered to consist of advertising, including: expenses for sales agents and equipment for shops and bars such as drinking glasses. Different breweries use the same terms for the cost categories in their annual reports, but of course, the methods of calculation could vary. To control for heterogeneity in cost accounting, the estimations below use a method with fixed effects. The EBIT has been calculated as the difference between the net revenue and the three cost components: production, distribution and marketing. EBIT thereby includes some administrative costs not allocated to the three cost components mentioned above.

The large breweries have many different brands and advertising campaigns are often targeted to a specific brand. Wilcox (2001) studied beer brand advertising and market shares in the US from 1977 to 1998. Of the 11 brands studied, the author found a significant relation between advertising and market share for eight brands. However, even if the total costs of advertising can be allocated to the different brands, the individual brand effects may correlate with other brands of the same brewery, e.g. an advertising campaign for Bud Light may also affect the sales of Budweiser. Therefore the total cost of sales and marketing activities for a brewery is a more precise measure to validate the amounts and effects of these activities.

In the period between 2002 and 2013, concentration in the global market for mass-produced beer more than doubled (Figure 2.1). This was mainly driven by high growth among the largest breweries which more

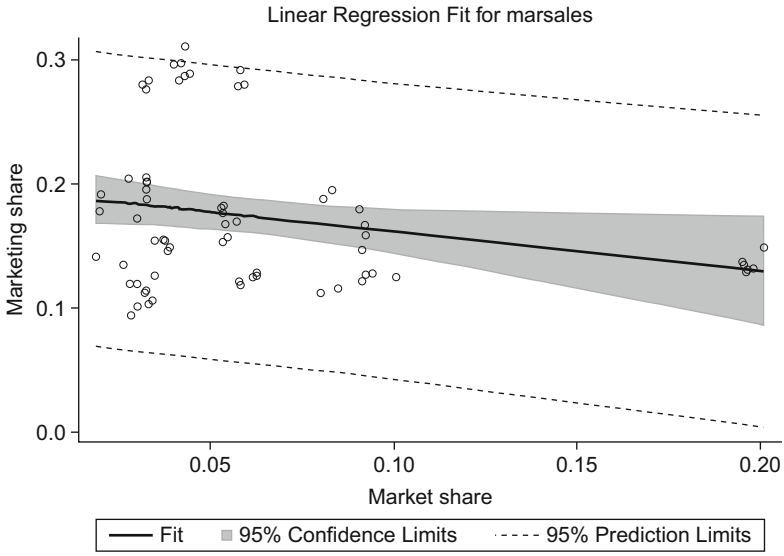

Figure 2.3 Regression plot of marketing share to world market share for seven large breweries

Note: Share of marketing and sales costs in net turnover. No information of marketing expenses in the annual report from SAB Miller and not until 2006 for Kirin.

Source: Cost share from companies' annual reports.

than doubled their size. To study the size effects equation (2.1) has been estimated where (A/R) is the share of marketing in net revenue and WS is the world market share.

$$(A/R) = \alpha + \beta\,(WS) \tag{2.1}$$

Figure 2.3 shows a simple OLS regression of equation (2.1) for the period from 2002 to 2013. Overall there is a negative correlation with lower marketing shares (measured as the ratio between advertising and revenues) for breweries with a high share of the world market. The estimated regression coefficient is –0.3174 and significantly negative at a level of 4%.

However, the regression plot also shows a large variation in marketing expenses at the same level of market share, so obviously other factors affect the share of marketing expenses. The variation is to a large extent a result of different strategies by the breweries concerning marketing and

Table 2.6 World market shares and cost shares for the breweries in 2013

Company	World market share	Production costs sales share	Distribution costs sales share	Marketing costs sales share (A/R)	EBIT Sales share
AB Inbev	0.195	0.407	0.094	0.134	0.361
SAB Miller	0.117	–	–	–	–
Heineken	0.101	–	0.054	0.126	–
Carlsberg	0.054	0.505	0.113	0.168	0.214
Molson Coors	0.041	0.605	–	0.284	0.111
Kirin	0.032	0.583	0.031	0.114	0.272
Tsing Tao	0.038	0.599	0.047	0.155	0.199
Yanjing	0.034	0.606	0.021	0.106	0.266
Average	0.076	0.551	0.060	0.159	0.237
Observations	8	6	6	7	6

Note: Share of marketing and sales costs in net turnover. No information of marketing expenses in the annual rapport from SAB Miller and not until 2006 for Kirin.

Source: Cost share from companies' annual reports and world market share from Market Data Analytics Database.

branding (Table 2.6). On average, the seven breweries that report their marketing expenses use 16% of their net revenue on marketing and sales, but with a high variation between breweries. For example, Molson Coors spends close to three times more than Yanjing. The high level of marketing and branding costs in 2013 shows how much the leading breweries of mass-produced beers focus on branding their products.

Table 2.6 also reveals substantial variation in production and distribution costs across the different breweries. Of course, these differences in cost efficiency among the breweries are also reflected in their EBIT share of net revenue and it seems that AB InBev, the brewery with the most aggressive M&A strategy, also has the best performance in cost saving and EBIT earnings.

The size effects can also be estimated directly by regressing the cost components on net revenue. Equation (2.2) shows the estimated model with a log transformation of the variables. C_j is the cost component j, R is the net revenue, β_j is the estimated scale elasticity of the cost type j with respect to net revenue, and δ_i is a fixed effect for company i that picks up differences in cost efficiency and accounting practice for the individual brewery.

$$\text{Log}\,(C_j) = \alpha + \beta_j\,\text{Log}\,(R) + \delta_i \qquad (2.2)$$

The parameter of interest is scale elasticity. If it is equal to 1, there is full proportionality between costs and revenue with constant returns to scale in the production. Only if the scale elasticity is less than 1 do economies of scale exist in the production for this cost component, as its increase is less than proportional to turnover.

Table 2.7 presents the results of the estimations and the estimated scale coefficient is not statistically significant less than 1 for production costs which therefore rise almost proportionally with the increase in net sales. This verifies that economies of scale in production have been exhausted and further economies of scale in this period have to be harvested by multi-plant operations. Economies of scale in marketing and distribution are quite large as the scale elasticity is significantly below 1 for both cost types. The largest economies of scale are earned in marketing, where the elasticity indicates that marketing costs only increase by 78% for a revenue increase of 100%, whereas distribution cost increase by 90%. As the marketing and sales costs have high cost shares, they also return a large gain in cost savings by company growth. If all the cost savings from the size effects are passed on to the consumer in the form of a reduction in beer prices, the EBIT margin would not be affected at all. However, this has not been the case as the size effect for the EBIT is quite large with an increase of 134% when the breweries double their size.

As the fixed effect estimation corrects for firm heterogeneity, it will also correct for firm size and the coefficients are therefore based on the within brewery effects of market size. Figure 2.4 presents the size relationship for seven large breweries. For most of the breweries there has been a fall in the share of marketing costs over the period and it is also correlated with an increase in their world market share as indicated

Table 2.7 Fixed effect estimation of the size effects in marketing and distribution costs

Dependent variable	**Production costs**	**Distribution costs**	**Marketing costs**	**EBIT**
Net sales	0.987	0.904**	0.782**	1.335**
(log)	(0.016)	(0.054)	(0.028)	(0.071)
R-square	0.999	0.993	0.998	0.993
Observations	68	55	68	56

Note: One and two stars indicate where the coefficients are different from one at a significant level of 5 and 1%, respectively.

Source: Net sales and costs from the companies' annual reports.

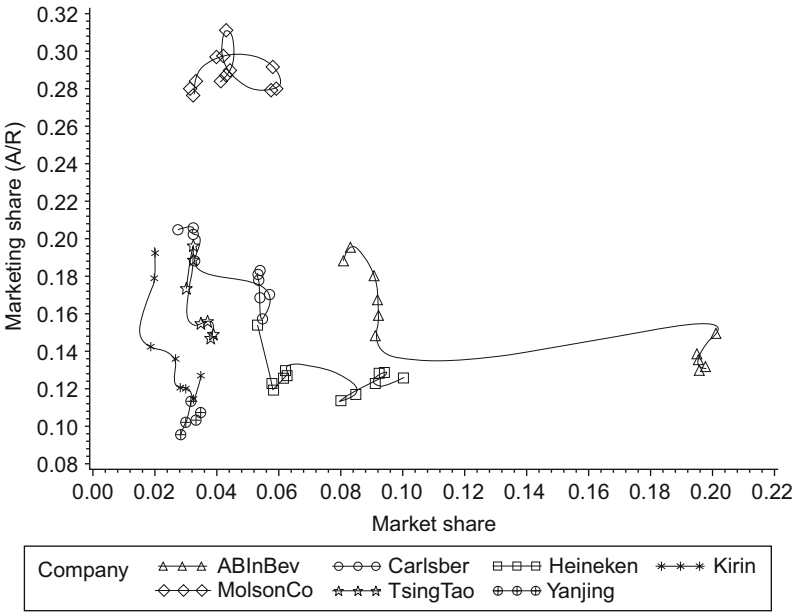

Figure 2.4 The within-breweries correlation between the share of marketing and sales costs and the world market share for seven large breweries

by the estimations. However, Molson Coors and Yanjing seem to be outliers in this respect with no 'within size' effect on their marketing share. Further, the regression equations only include the market share as an explanatory variable and therefore do not correct for other correlations with the marketing share in the period. One possibility is that the breweries use M&A to move to countries with a lower level of marketing and advertising expenses. However, as Table 2.6 reveals, there does not seem to be any significant regional difference in the level of marketing costs among the companies and Figure 2.4 also shows that the large acquisition of Anheuser-Busch by InBev seems to be followed by a significant reduction in marketing costs in subsequent years.

These estimations only pick up the size of the correlation and tell us nothing about the causality between market share and the share of marketing costs. Even if M&A have been the main driver behind the increase in market share for this group of breweries, it is likely that marketing and branding have affected their revenues as well. If this is the case and a positive relationship exists, the estimated parameter is

not a central predictor of the causal relationship from market share to marketing share. It may have an upward bias as the estimates also cover the reverse causality of the relationship. However, we are not interested in the causal relationship, but whether there exist some economies of scale for these cost components, whatever the reason behind the growth of the breweries may be.

5 Motivation for pursuing globalization

One of the main reasons for M&A that is often mentioned in the bid announcement by management are the cost synergies of running a joint business. The large economies of scale in marketing and distribution enjoyed by large multinational breweries indicate that these synergies were important and explain the wave of M&A during our period. With an average share of marketing costs at 15.9% and a size elasticity for cost savings of 0.218 (1 – 0.782), the total cost saving as a share of net revenue is 3.5% (0.159 × 21.8%) with an increase in net revenue. Calculated in the same way, the saving in distribution as a share of net revenue is 0.6% and the total cost saving in distribution and marketing is then 4.04% point of the net revenue. This amounts to significant cost advantages for the large breweries. Market conditions have not forced them to hand these savings over to consumers through price reductions because EBIT has also increased.

Another factor justifying M&A is the market power hypothesis which states that the merger will reduce competition and benefit the remaining companies. However, the market power effect will benefit *all* breweries, and this has to some extent also been the case in the latest wave of M&A in the brewing industry. Recent work indicates small positive effects on the EBIT margin for smaller breweries in the industry during the wave of M&A (Madsen et al. 2012).

However, even if price competition only changed modestly as a result of M&A, the multinational breweries could still gain advantages by introducing their premium brands onto local markets. This is probably what happened as the EBIT margin increased by 7.93 (0.335 × 0.237) percentage points of the net revenue and therefore earnings increased a lot more than can be explained by the cost savings in marketing and distribution. These investments in branding by the multinational breweries also represent a sunk cost that creates an entry barrier as discussed above and thereby a first-mover advantage in the world market for beers. The rather abrupt opening up of the global beer market started a competitive race between the large breweries during the 1990s to take

advantage of first-mover opportunities and that may have been a leading motivation behind the merger and acquisition wave.

While these first-mover advantages may have led to an increasing EBIT margin, they have not materialized in a superior return to the shareholders of the largest breweries compared with the 100 next largest breweries (Madsen et al., 2012). The reason for this is still unclear, but one possible explanation is that they have had to pay a premium for the acquired breweries during the restructuring process with most of the synergies being paid to shareholders of the acquired brewery. The acquirer has simply been left with larger capital costs. There is some evidence for this as the large breweries finance their acquisition strategy by incurring new debts and by substantially increasing their leverage.

However, in a longer perspective, the first-mover strategy in this period can still pay off and materialize on the bottom line of the multinational breweries in the future. First, the cost of a merger has to be paid immediately and therefore it may take some time before the benefit shows. Second and more important, the cultivation of the premium segment of the beer market in Eastern Europe, East Asia and Africa has just begun. If economic growth in these areas continues the trend from the last 10 years, the first movers can look forward to a large market for their premium beers and a high price premium to cash in on in the future.

So far we have looked at the performance of the breweries and therefore of their owners. However, it is well known from the corporate governance literature that the interest of managers can be different from the interest of shareholders of publicly owned companies. This is especially true if managers are compensated according to the growth of the company, which probably is the case for the large breweries, and that opens up other motives for the merger and acquisition wave. Also the managers of the acquired breweries can have self-interest in a merger, and in addition they will often get a special remuneration package including a top position in the new joint company. However, there is a systematic evidence of the managers' self-interest in the different mergers within the brewing industry.

6 Conclusions

After the turn of the 21st century, globalization changed the structure of the beer industry through a large wave of M&A. This chapter discusses the nature of the beer market and points to its heavy weight per value as a trade barrier for the internationalization process. The high transportation costs of beer compared to other consumer goods made cross-border

M&A the best option for large firms in this industry. We argue that the motivation for M&A was predicated on high returns from globalization of beer brands and large savings in marketing and distribution costs due to economies of scale.

Demand for beers with different tastes has increased in recent years. This has benefited emerging micro-breweries. However, within the same categories of beer the difference in tastes is very moderate and the recognition of brands is therefore often not significant in blind tests. On the other hand, the blind test also shows that consumers have a strong perception of brand differences even though they cannot taste any differences among the brands. This consumer perception of taste for the premium brand within mass-produced lager beer has been supported by the breweries in their marketing campaigns and has led to a high price premiums for these beers.

Using firm-level data from the largest breweries, the analysis verifies significant economies of scale in marketing and distribution costs. Based on information from the annual reports of the eight largest breweries in the world, the estimation indicated a reduction in these costs of close to 20% when the size of the brewing groups doubles. This finding verifies that the restructuring of the brewing industry has created significant scale benefits to be shared among the merging partners as marketing and distribution costs are very high in this industry.

These scale advantages in the brewery industry created a playing field on the world market for the breweries after the opening of the new markets in the East and Southeast where the first movers earn competitive advantages. As entry barriers for mass-produced premium beers are high in the world market and the threats from new innovation are low due to the nature of the product, these new and dominating brewing groups can probably look forward to a long life, as the threats of takeovers are also reduced due to their large market share.

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3

Path Dependency, Behavioral Lock-in and the International Market for Beer

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> "We don't want Bud at our World Cup. I'm not anti-American. This is just the worst beer you could imagine." (German student quoted in the *Wall Street Journal*, 2006)
>
> "You can't be a real country unless you have a beer and an airline. It helps if you have some kind of a football team, or some nuclear weapons, but at the very least you need a beer." (Frank Zappa)

1 Introduction

Although beer is an ancient beverage, brewing as an industry was not historically one of the driving forces of globalization. Certainly there are instances during the past century of specific brands being made available in other countries, but for the most part beer brands have not crossed national boarders. In many countries, beer, more than many products, has become intertwined with notions of national identity and pride. As a result, efforts to internationalize in this market have to overcome deep cultural associations regarding the product, the producer and the consumer. A recent *Wall Street Journal* article discussed how unhappy many Germans were that Anheuser-Busch had acquired the exclusive rights to sell beer at the 2006 World Cup. To diffuse the situation, Anheuser-Busch agreed to allow Bitburger – a German brewery – to sell beer at some of the matches. Upon learning of this, one German fan commented, "That's great. Now I'll surely stick to the country and have a Bitburger." This anecdote raises important questions about consumer preferences and company expansion strategy: while Germans do not

have any difficulty buying many American brands, from McDonald's to Coco-Cola, attitudes about beer seem quite different. In 2006, Anheuser-Busch was one of the largest breweries in the world and Germany was the third largest beer market, so why was this brewery having such problems in a large, potentially profitable market? From the company's perspective, it needed to understand what exactly it was about its product, and how it was perceived, that generated such an uproar. The answers to these fundamental questions about product and market play a crucial role in helping to explain how and why the beer market has consolidated globally over the past 20 years.

In 1990, calculating a global five- or ten-firm concentration ratio for the global beer industry was not very meaningful: production was still split over many breweries, and nearly all of the largest breweries focused their energies on their domestic markets. This has changed rapidly. By 2012, the global five-firm concentration ratio was nearly 50%, and the ten-firm concentration ratio was 60–65%. Of these top ten firms, only the three based in China derived the vast majority of their sales from their home market (Ascher, 2012); the other seven large breweries relied very significantly on diverse geographic sales. The key issue, though, is that this diversification has been at the level of the brewery, not the brand, a result that is in direct contrast to many consumer product markets, including alcoholic spirits.[1] Global consolidation in brewing is not being driven by a handful of brands gaining larger numbers of fans in more and more markets but by a few very large breweries converging on an integrated strategy: a) to sell lots of unconnected beer brands in a multitude of geographic markets and b) to develop a portfolio of brands that the brewery coordinates in each market consisting of dominant local brands along with a global brand (or two if lucky) that has high profit margins but not great total sales.

To help explain these developments, this paper draws upon a theoretical framework more commonly associated with technology and extends it to the market for beer. The chapter begins with a discussion of the path dependency and lock-in literature, and examines how it can be extended, in general, to consumer behaviour. It then develops a detailed case study that links behavioural lock-in in a specific market – the international brewing industry – to efforts by firms in this market to develop the most effective expansion strategies.

2 Path dependency and lock-in

Paul David (1985) and Brian Arthur (1989, 1990) published several papers that serve as the foundation of the path dependency literature: the

basic assertion in these and related essays is that suboptimal or inefficient technologies can be become locked in as industry standards and, in instances where there are significant network effects, these inefficiencies may persist for extended periods of time (Garud et al., 2003; Stack and Gartland, 2003).

David's best-known work in this area is his discussion of the layout of the typewriter keyboard, in which he shows how the familiar top row "QWERTY" became the industry standard despite the fact that it is an inefficient organization of keys (David, 1985). Arthur's most popular example concerns the struggle for supremacy over VCR format, and the market's choice of VHS over Beta (Arthur, 1990). Critics of path dependency have attacked the validity of these two well-known cases, and have concluded that this thesis is without merit (David, 2000). The issue of course is not that simple: in a sense, it does not really matter whether QWERTY was or was not a good example of path dependency. The real issue is whether market processes can lock in any inefficient or suboptimal technologies, production processes or products.

Robin Cowan has published several detailed examples of suboptimal technology path dependency (1990, 1996). In his 1990 essay, he puts forward a detailed overview of the development of nuclear power reactors in which he argues light water reactors emerged as the dominant technology despite the fact that it was "not the best technology, either economically or technically" (Cowan,1990, p.541). Drawing upon Arthur, he asserts that when there are competing technologies and strong increasing returns, "one technology will [come to] dominate the market, and it is not possible to predict [ex ante] which of the technologies will do so. It is likely, however, that the technology which first makes large advances along its learning curve will emerge dominant." (Cowan, 1990, p.566). Cowan's work is important for showing examples of suboptimal technology lock-in.

There is, however, another dimension to lock-in that does not depend on technological networks, but it is not as thoroughly discussed. We refer to this category as *behavioural lock-in*. Once a product has become established as an industry standard, and once consumers or users have invested time or money in learning a particular system or becoming comfortable with a traditional practice, they will be less likely to try a rival process, even if over time it proves superior. This is not necessarily a new concept. In his 1985 essay, David asserts that path dependencies may arise "in the presence of strong technical interrelatedness, scale economies, and irreversibilities due to learning and habituation."

However, nearly all path dependent essays have focused on technological lock-in; the term *behavioural lock-in* is meant to stress and develop David's concept of "irreversibility due to learning and habituation." Behavioural lock-in occurs when the behaviour of the agent (consumer or producer) is "stuck" in some sort of inefficiency or suboptimality due to habit, organizational learning or culture. Behavioural lock-in occurs when a process, product or service is "stuck" on a suboptimal path when an actor's habit, organizational learning or culture is preventing the change. While economists have not given this form of lock-in much attention, it is important to note that political scientists, sociologists and organizational scientists have written on this topic. Our notion of behavioral lock-in is consistent with, but distinct from network-based lock-in stories.

Customers switching costs can lead to "behavioral lock-in" (Stack and Gartland, 2003). Historians and sociologists of food have argued that people develop deep-seated roots to the foods they grow up with as culturally defined standards of what specific foods and drinks should be take hold over time (Hess and Hess, 1977; Levenstein, 1993). As a particular food or beverage takes root in a culture, it can become very difficult to alter common perceptions about what this product is and what it could or should be. This leads to high switching costs for consumers who may not feel the need to try new products, especially when these products look, smell and taste different from more familiar offerings (Krugman, 1998).

Choi and Stack (2005) developed a similar argument to illustrate how US consumers became locked into a generic style of beer despite the prevalence of more flavourful alternatives, and they highlighted the active role breweries played in helping to create and foster a demand for this particular type of beer. The next step is to explain why this idea is important to internationally minded breweries as they develop their expansion strategies.

3 The evolution of the world brewing industry: how national affects international

Most brewing markets have evolved over the past century from local to regional to national markets. Although there are differences in terms of the pace of this process, nearly every beer-producing country has seen a handful of big breweries gain larger and larger shares of the national market. While Germany and China are the least concentrated of the major beer markets, consolidation is increasing in these countries as well.

As a result, nearly every country has seen the creation of a national culture regarding its beer style (or, in a few cases, beer styles). This differentiates beer from beverages, such as soda, that did not have historic and cultural roots across a wide range of countries, and this has contributed to the creation of unique product styles across countries and to strong domestic beer brand loyalties in many countries.

Let us briefly consider the case of the US. Over the past century, mass market beer in the United States evolved from a heterogenous product with many different styles and attributes in the early 1900s to an increasingly homogenous product by the 1980s (Choi and Stack, 2005). The net result of this process, according to F.M. Scherer (1996), is that "Carefully structured double-blind studies…have revealed repeatedly that consumers, or at least 90% of all consumers, cannot tell one conventional lager beer from another…" Relating this development to the concept of path dependency and lock-in, we see that what has emerged in the US is a two-staged example of behavioural lock-in. At the broad, industry level, American beer consumers have become used to a particularly American style of beer: while they may not be able to differentiate one mass market American brand from another, they are able to differentiate among styles of beer.

Let us first examine the lock-in at the industry level. One way to explain how mass market American beers differ from many craft and foreign beers is to review how these beers differ in terms of their ingredients. Choi and Stack (2005) illustrated how the industry overall has used progressively fewer and fewer raw materials per barrel of beer.

By steadily decreasing the amount of raw materials per barrel of beer, mass market American breweries began to produce a steadily lighter and less flavourful product.

Stack and Gale (2007) developed a product map for the US that organizes beer styles by their colour and their level of hops. There are four principal groupings: a) lighter colour, low hops; b) lighter colour, high hops; c) darker colour, low hops; and d) darker colour, high hops. According to this mapping, mass market American beers – those that define the "American style" of beer – have very low levels of hops and very little colour. It is this combination that F.M. Scherer is referring to when he asserts that "the leading US premium brewers have deliberately chosen formulas sufficiently bland to win a mass following among relatively inexperienced consumers and (through repeat purchase) consumers acculturated to bland beers (Scherer, 1996).

The second level of behavioural lock-in occurs at the level of the individual brewery and concerns brand loyalty. While these consumers may

not be able to differentiate among brands in blind taste tests, they have become very brand loyal in many circumstances through extensive and expensive branding and advertising campaigns.

These two dimensions of behavioural lock-in have greatly influenced the evolution of competition for American and foreign breweries. They have made it hard for foreign brands to compete in the mainstream US market, and they have also made it equally difficult for US breweries to compete with their specific beer style outside of the US. While this discussion has highlighted the US, it is apparent that this lock-in of national beer brands and consumer loyalty has occurred in beer-consuming nation after beer-consuming nation. Even as individual brewing industries continued to consolidate, consumers in these countries continued to hold their regional and national brands and styles in the highest esteem: *this mix of culture and chauvinism continues to set beer apart from many other markets and it shapes how the market internationalizes*.

4 Why, where and how do breweries internationalize?

Having explored in general, and with reference to the specific example of the United States, why most brewing markets have evolved along distinct national lines, the next step is to examine how and why key breweries have tried to internationalize.

Until 1950, brewing remained principally a national business. However, over the next 50 years brewing began to transform from a domestic to an international market. This development raises three fundamental questions: why did breweries look abroad, what new markets did they expand into, and what strategies did they implement? In answering these questions, we draw on a path dependency and behavioural lock-in framework to explain the converging expansion strategies of the most prominent internationally oriented breweries.

Breweries begin overseas expansion, typically, from a desire for additional sales. Once the home market has matured and consolidated, breweries have often concluded that it is easier to find additional sales abroad rather than to continue to fight it out with the remaining brewery or two at home. In addition, if total beer sales in a country begin to stagnate or decline, this leads breweries to expand overseas. Finally, expansion-minded breweries with smaller domestic markets will normally go overseas earlier than breweries in larger domestic markets since the smaller markets offer fewer opportunities for absolute scale economies. The specific timing of these variables, however, has affected different breweries at different dates.

Three breweries that were early to embrace international expansion were Guinness from Ireland, Heineken from Holland and Carlsberg from Denmark. Not coincidentally, these breweries were from small countries with low projections for population growth and total beer consumption. After emerging as the market leaders at home, these three firms had all realized by 1950 (if not before) that future growth depended on some type of international expansion. By contrast, rising domestic beer consumption and continuing market consolidation in many markets, including the UK, the US and Canada, delayed the need for international expansion until at least the 1980s. But by the end of the 1980s, as total consumption growth began to slow down (if not decline), breweries in many mature markets also began to realize that future growth depended on cross-border expansion.

Once breweries determined that international expansion was imperative, the next question was to determine where. In a series of interviews the authors conducted with senior executives at several of the world's largest breweries, company officials consistently explained that they each used a proprietary market expansion model to rank order their geographic expansions.[2] From our interviews, it became clear that several of the leading variables were: proximity to the company's home market, the size of the target beer market, the expected future growth rate of the target market, the size of a region containing several target beer markets, and the expected growth rate in the overall region.

Geography has long played an important role in determining a firm's first foray abroad. Often nearby countries will share a similar language or culture, and, if there has been significant immigration among the countries, this may extend to a cross-border appreciation of a "foreign" beer (Ghemawat, 1987). Thus, Guinness first expanded into England, Anheuser-Busch first expanded into Canada and Grupo Modelo of Mexico first expanded into the US: in all three instances there were large numbers of potential consumers who were very familiar with the imported brand.

A second important variable is the size of the national beer market.

Table 3.1 details the ten largest beer-consuming markets in 2012: together they account for nearly 70% of the world's beer consumption. These data illustrate several important trends. First, China has quickly grown into the world's largest beer-consuming country, and we can expect its importance to increase in the years to come. Second, many developed countries – led by the USA, Germany, Japan and the

Table 3.1 Top ten beer-consuming countries (Ascher, 2012)

Country	2012 (megaliters)
China	44,201
United States	24,186
Brazil	12,800
Russia	10,560
Germany	8,630
Mexico	6,890
Japan	5,547
United Kingdom	4,319
Poland	3,790
Spain	3,220

Table 3.2 Regional beer consumption (Ascher, 2012)

Region	2012 Consumption (megaliters)	2012 Share of Global Consumption	% Change in Consumption: 2003–2012
Asia	62,115	33%	50%
Europe	52,301	28%	2–5%
Latin America	31,422	17%	50%
North America	26,486	14%	0%
Africa	11,362	6%	100%
Oceania	2,245	1%	n.a.
Middle East	1,436	1%	n.a.

UK – have stagnating if not declining overall beer markets. Third, the fastest growth among the largest beer-consuming countries is in the developing markets – China, Brazil, Russia, and Mexico.

While it is important to analyse the single most important markets, it is equally important to examine more broadly which overall regions are growing and declining, as breweries often look to expand into several countries in a specific region. Table 3.2 details the absolute size of the world's beer regions.

Since the largest breweries and most famous beer brands are from Western Europe and the US, it is often not recognized that by the late 1990s Asia was already the largest beer-consuming region. Its overall

importance continues to grow, since its consumption rate is increasing while sales in North America and Western Europe are either stagnating or declining, despite pockets such as Spain where the outlook is more positive. From 2003 to 2012, Asia, already the largest beer-consuming region, saw its beer consumption grow by 50%. During this period, other developing markets also grew quite rapidly: Latin America by 50% and Africa by 100% (Ascher, 2012).

After breweries decide that they need to go abroad, and after they evaluate market attractivness, they then need to consider how to expand. From 1950 to the present, companies have pursued three basic strategies: a) to increase overseas sales of the brewery's core brand through exports and licensing, b) to acquire an equity position in a foreign brewery, and c) to acquire outright or through joint ventures brands and breweries in other countries. Together, these three strategies have greatly internationalized this traditionally national industry. However, while most attention has focused on the first strategy; the following analysis will show that the real driving force behind the industry's globalization has been acquisitions and joint ventures; to some extent, equity investments can be viewed as a subset of category (c) since both strategies value the importance of the local brand and brewery. We can divide the period from 1950 into two phases: 1950–1990, when the emphasis was on expansion of the core brand, and 1990–present when firms first began to use cross-border acquisitions and joint ventures on a significant scale.

1950–1990: global brands begin to emerge

Let us begin by reviewing the steps taken by four key national champions – Guinness, Heineken, Carlsberg, and South African Breweries – for it was these firms (along with a few others) that were the first to seriously look beyond their own borders. These breweries had all come to dominate their home markets by at least the middle of the 20th century, if not before, so they clearly had incentives to expand abroad. Technological and transportation advances meant that beer could be shipped greater distances and that its shelf life could be extended beyond the very short limits permitted by earlier technologies. Clearly, the need and means for expansion were there, so the question was how best to pursue this growth.

Guinness Breweries opened its second overseas facility in Nigeria in 1963, a reflection of the growing overseas popularity of its beer. It also entered into a series of licensing agreements during the 1960s, 1970s and 1980s that further widened its global reach. It merged with

United Distillery in the 1980s in an effort by both sides to capitalize on hoped-for synergies between spirits and beer. Yet, despite the high profile of its brand and the range of expansion modes it had pursued, by the mid 1980s Guinness ranked only 20th among the world's breweries (Jackson, 1989). Its performance illustrates the difficulty of a brewery trying to realize significant international presence through a single brand.

Heineken used international expansion to both increase the market for its core brand and to increase the size of its overall operations. By the 1960s, it had a strong position in parts of Africa along with foreign direct investments and equity investments in 24 breweries across the globe. In the 1970s and 1980s, it entered into an array of licensing and joint venture contracts. By the late 1980s, Heineken had grown into the world's third-largest brewery (Jackson, 1989), largely through international sales of its two core brands – Heineken and Amstel – which it supported through exports, licensing and joint venture agreements, and foreign brewery operations.

Carlsberg's path was similar to Heineken's. First, it set out to consolidate its home market. While high tariffs protected them from outside competition until their removal in the 1960s, in the years that followed Carlsberg benefited from perhaps an even more potent force, the "parochialism and patriotism" of Danish beer drinkers who came to identify strongly with their national brands ("Denmark," in *Alcohol and Temperance in Modern Society*, 2003). Carlsberg merged with domestic rival Tuborg in 1970 and then very aggressively targeted overseas sales of the Carlsberg brand. By the mid 1970s foreign sales exceeded domestic sales and by 1990 three-quarters of their beer was brewed outside Denmark. From the late 1960s through 1990, Carlsberg used exports, licensing agreements and foreign overseas breweries to grow into the world's 13th largest brewery and one of the most international.

South African Breweries (SAB) was a bit different from the three preceding European firms. After centralizing control in its domestic market in South Africa, it began to expand into other countries and to partner with other internationally minded breweries looking to develop new markets. It began by expanding production in neighbouring Rhodesia in 1951–1952 and in the 1970s it established additional breweries in Botswana, Angola and other southern African countries. In the 1960s Guinness licensed SAB to make its beer in South Africa, the first of a series of licensing agreements for SAB. So, by the end of the 1980s, we

can classify SAB as an international brewer, though all of its experience up to this time focused on southern African countries.

By the 1980s some of the other leading breweries began making their first tentative moves abroad. Anheuser-Busch of the US created its international division in 1981, and during this decade it undertook a series of licensing agreements, beginning in 1980 with Labatt's in Canada, and continuing in 1986 with Guinness in Ireland and Oriental Brewery in South Korea. Yet, despite these initial steps, by 1989 its international sales accounted for less than 3% of overall output; in 1989, international sales were 2.5 million hectolitres, out of total production of over 90 million hectolitres.

What is clear is that between 1950–1990 brewing remained much more national than international, with only a few brands deriving more than 10% of their sales outside of their home market. Yet, the world of national brewing was quickly to be transformed.

1990–present: global breweries but not global brands

By 1990 brewing was more global than it had been, but it was far from a global market: most production was still domestic and very few breweries had significant operations abroad. The thinking at the major breweries up to this time seems to have reflected the basic premise of Levitt (1983) who argued that there was a large and growing world market for standardized, branded goods. Supporters of Levitt's position asserted that the global firm should promote homogenous versions of the same product in all of its markets. Levitt cited the examples of Coca-Cola and Pepsi-Cola, "globally standardized products sold everywhere and welcomed by everyone ... they exemplify a general drift toward the homogenization of the world and how companies distribute, finance, and price products" (Levitt, 1983). In his view, companies that modified their products to better fit specific local tastes would lose out to multinationals that took advantage of the scale economies of global brands. The key question, from this perspective, was how best to deliver the international brand: exporting, licensing, joint venture or foreign direct investment?

However, Levitt's belief in globally standardized products has not been realized. While most of the leading breweries have continued to use exports and licensing agreements to support their core brands abroad, the total volume of these sales relative to world consumption is very small. In 2003, total world beer consumption was 1,444,087,000 hectolitres. While the top 20 world beer brands accounted for 25.6% of total consumption, *only 5.9% of these sales were international*.

Table 3.3 Top 20 world beer brands, 2003

Brand	Domestic	International	Total	International Share
Carlsberg	929	9181	10110	90.80%
Heineken	3682	18419	22101	83.30%
Guinness	1980	8381	10361	80.90%
Amstel	2141	8819	10960	80.50%
Foster's	2061	8046	10107	79.60%
Corona	17266	11010	28276	38.90%
Castle	6958	2856	9814	29.10%
Budweiser	37322	10268	47590	21.60%
Baltika	8252	1369	9621	14.20%
Coors Light	19301	1860	21161	8.80%
Miller Lite	18094	1424	19518	7.30%
Asahi Super Dry	18567	774	19341	4.00%
Tsingtao	12909	424	13333	3.20%
Brahma Chopp	18586	575	19161	3.00%
Yanjing	14578	451	15029	3.00%
Bud Light	43185	1241	44426	2.80%
Skol	24238	245	24483	1.00%
Natural	12160	56	12216	0.50%
Busch	13243	0	13243	0.00%
Antarctica	9580	0	9580	0.00%
Total	285032	85399	370431	

Source: Merrill Lynch (2004).

The vast majority of these brands continue to be consumed within the home country's borders. In 2003 only 5 of the top 20 brands derived more than 50% of their sales from abroad, while 11 of them registered less than 10% of their sales from overseas.

To get a more precise understanding of how these top 20 beers are distributed across regions, Table 3.4 divides the world beer market into four broad beer-consuming regions. While Table 3.3 shows that 80% of Amstel's sales are international, Table 3.4 shows more precisely that 70 to 75% of its sales are within Europe, with only 10% in both the Americas and Asia.

According to Table 3.4, three-fourths of the top beer brands were sold nearly entirely within one region. More recent data from 2011 reinforce this message. In 2011, the world's four largest brands (by volume) – Snow (China Resources), Bud Light (AB InBev), Tsingtao (Tsingtao) and Skol (AB InBev) – recorded very few sales outside their domestic markets. In fact, only one of the top 10 brands, Heineken, had over 50% of its sales from outside of the home country.

Table 3.4 Regional distribution of the top 20 beer brands, 2004

Brand	Americas	Europe	Asia Pacific	Africa
Budweiser	90%	6%	4%	0%
Bud Light	100%	0%	0%	0%
Corona	100%	0%	0%	0%
Skol	100%	0%	0%	0%
Heineken	25%	50%	12%	13%
Coors Light	100%	0%	0%	0%
Miller Lite	95%	5%	0%	0%
Asahi Super Dry	0%	0%	100%	0%
Brahma Chopp	100%	0%	0%	0%
Yanjing	0%	0%	100%	0%
Tsingtao	0%	0%	100%	0%
Busch	100%	0%	0%	0%
Natural	100%	0%	0%	0%
Amstel	5%	80%	4%	11%
Guinness	20%	50%	5%	25%
Carlsberg	5%	70%	22%	3%
Foster's	5%	60%	35%	0%
Castle	100%	0%	0%	0%
Baltika	0%	100%	0%	0%
Antarctica	100%	0%	0%	0%

Source: Merrill Lynch (2004).

Table 3.5 Top world brands, 2011 and home sales vs international sales, global prospects for beer companies, 2012

Brand	2011 Main Market (million litres)	2011 Rest of the World (million of litres)
Snow (China Resources	9,700	0
Bud Light (AB InBev)	4,900	100
Tsingtao (Tsingtao)	4,800	50
Skol (AB InBev)	4,100	0
Budweiser (AB InBev)	2,500	1,300
Yanjing (Beijing Yanjing)	2,450	0
Brahma (AB InBev)	2,200	200
Heineken (Heineken)	300	2,000
Corona Extra (Grupo Modelo)	1,100	1,150
Coors Lights (Molson Coors)	2,100	100

Source: Merrill Lynch (2004).

Table 3.6 Top breweries by geography, 2011 percentage of volume share by region

Brewery	Americas	Europe	Asia Pacific	Africa
AB-InBev	65%	20%	15%	0%
SABMiller	50%	20%	5%	25%
Heineken	40%	45%	5%	10%
Carlsberg	3%	77%	15%	5%
China Resources	0%	0%	100%	0%
Tsingtao Brewery	0%	0%	100%	0%
Grupo Modelo	95%	5%	0%	0%
Beijing Yanjing	0%	0%	100%	0%
Molson Coors	80%	17%	3%	0%
Kirin Holdings	45%	0%	55%	0%

Source: Global Prospects for Beer Companies (2012).

These findings led us to wonder whether brewing was in fact becoming more international.

To help answer this, we need to step back and view the market from a more general perspective. One key development is the very significant increase in concentration ratios. As noted in the Introduction, in 1990 the five-firm world concentration ratio was 17%; in 2013 it was 42%. In 1996, the 10-firm ratio was 36%; in 2013 it was 64%. These increases reflect two separate though related factors: a) increasing sales of a few core brands, mostly at home but also abroad, and b) a dramatic increase in cross-border mergers and joint ventures; *internationalization has occurred, but it has been at the level of the brewery, not the brand.*

Table 3.6 details the geographic distribution of the 10 largest breweries in 2011. While the three breweries on this list from China – China Resources, Tsingtao and Beijing Nanjing – continue to rely almost exclusively on their huge domestic market, the other seven breweries all have diversified significant shares of their production across at least three geographies.

The earlier path dependency and behavioural lock-in discussion of history, culture and taste helps explain why the brewing industry has not globalized at the level of the brand. The next step, then, is to explain why the industry has globalized at the level of the brewery.

By 1990 it was increasingly clear to a select group of breweries that international expansion was going to become important; the question was what the winning expansion strategy would be. Followers of Levitt (1983) believed that breweries should further support key global brands.

Others argued that national and regional differences were so significant that culture demanded more of a country-by-country approach. Still others argued for a hybrid strategy that would combine the benefits of both global brands and sensitivity to local brands. As we shall see, this set of quite distinct strategies has slowly but steadily converged.

During the 1990s and early 2000s, Anheuser-Busch pursued a global brand strategy reflected in its tagline "Budweiser: One World, One Beer." It entered into a series of licensing agreements and it set up foreign production operations in 1995 in London and in Wuhan China to produce its iconic brand. Colin Storm, the chief executive of Guinness in the late 1990s, asserted, "there will be a continuing emergence and gradual domination of global brands. There's still a long, long way to go, but increasingly we're being exposed to global issues, and global brands, global images and global aspirations" (Haddock, 1999). It is not surprising that Anheuser-Busch and Guinness officials advocated the importance of a global brand strategy, as they were associated with two of the most important brands in the beer industry; however, as we shall see, this strategy, by itself, was not sufficient.

During the 1990s, two additional developments emerged that, when combined with the importance of national culture and identity, came to support other expansion strategies. First, much of Eastern Europe and the former Soviet Union began to privatize state-run companies (including breweries) and to open up their economies to foreign direct investment. Second, significant parts of Asia and Latin America began to open up their markets to foreign investors. Together these changes contributed to a brewery expansion strategy that emphasized mergers and acquisitions of domestic breweries and brands; this step provided internationally oriented breweries access to *mass markets* rather than to the niche "import" market that Anheuser-Busch had been targeting.

The strongest counter-example to Anheuser-Busch's strategy came from the Belgian–Brazilian brewer InBev. InBev was formed in 2004 from a merger combining Interbrew from Belgium and AmBev from Brazil. Interbrew itself had only been formed in 1987 through a merger of Brasseries Artois and Brasseries Piedboeuf, the second- and third-largest breweries in Belgium. After acquiring several more small Belgian breweries during the late 1980s and early 1990s, Interbrew faced a key question: should it continue to gain market share in its relatively small home market or should it begin to explore options for expanding overseas?

Once Interbrew decided to expand beyond its national borders, it had to choose the proper approach. Interbrew decided to expand by acquiring breweries in select markets including Labatts from Canada in 1995, Bass from England in 2000, and Becks and Gilde Brauerei in 2001–2002 (Dombey 2002, 10).

InBev's internationalization strategy was considerably more complicated than Anheuser-Busch's. Rather than trying to promote one key global brand, it chose to buy or partner with local breweries possessing detailed knowledge of their home markets. It based this approach on its belief that the vast majority of beer consumers would continue to prefer local over global beer brands, a pattern that was certainly the case through the end of the 20th century. In a statement that directly challenges Levitt's thesis, Hugo Powell, Interbrew's past CEO, asserted, "Beer is inherently a local business. Ninety percent of the world's beer business is in local brands. The big brands of the world – the Budweisers and Coronas and Fosters and Heinekens – represent less than 10% of the world's business." In stark contrast to Budweiser's "One World, One Beer" approach, InBev was seeking to become the "World's Local Brewer," a phrase intended to convey the importance of local culture to the overwhelming majority of beer sales.

Another international brewery with a similar strategy during these years was SAB. In 1993 it acquired Dreher, Hungary's largest brewery. Over the next several years it undertook a series of joint ventures and acquisitions in China, Africa, Eastern Europe, Russia, and South and Central America. In 2002 it merged with Miller from the US to form SABMiller. According to Gram Mackay, the head of SABMiller during this expansion spree, "It's a question of whether international brands will become more dominant or whether a portfolio of unique and regionally interesting brands will dominate. I tend toward the latter" (Haddock, 1999). By the early 2000s, it ranked among the top three breweries in over 30 countries, and, like InBev, it was emphasizing its local beers while also using its growing portfolio of breweries to help promote a few key brands.

Heineken dithers from InBev and SABMiller in that it has two core international brands, Heineken and Amstel, which have over 80% of their sales outside the Netherlands. Yet, as important as these brands are, they account for only 30% of its total volume. During this period, Heineken, too, had acquired a series of local brands and breweries. It owned over 115 breweries in more than 65 countries and in 2005 it emphasized on its web page that it wants to "maintain a strong portfolio of beer brands, with Heineken as the leading international premium beer" and

to "maintain strong local market positions… by combining the sales and distribution of the International premium brand with that of strong local brands" (www.heinekeninternational.com accessed July 3, 2005).

Carlsberg's strategy seemed to parallel that of Heineken. In 2003, its Carlsberg beer was the most international of all beer brands, with more than 90% of its sales outside of Denmark. Yet, this well-known brand accounted for only 25% of Carlsberg's total sales. The rest of its sales came from breweries that it had either acquired or partnered with in joint ventures: "Carlsberg has a solid portfolio of global, regional, and local brands which enables it to provide individuals around the world with the beer that is right for them" (www.carlsberg.com accessed July 3, 2005). During the 1990s and 2000s, Carlsberg used a combination of joint ventures and acquisitions to develop a local portfolio that complemented its distribution efforts of its core global brand.

5 Conclusion

Essentially, InBev's acquisition of Anheuser-Busch in 2009 marked the end of the "global brand" strategy while also highlighting some of the weaknesses in the "world's local brewery" strategy as well. Since 2005, the largest breweries have converged on a common portfolio strategy that seeks to combine the profit margins of a global brand with the cultural nuance and stet of the local brewery. Today, with the exception of the largest Chinese breweries, which still have the luxury of focusing on the world's largest domestic market (and one which continues to grow), the other dominant breweries have all set up – with varying levels of success – a strategy that combines one or more global brands with local brands and a few niche, craft-oriented brands.

Given how important mergers and acquisitions have been in internationalizing this market, one may wonder why this process has not engendered more cultural backlash? If one theme of this chapter is that international brands face significant hurdles due to widespread public preference for their own breweries and brands, then why have international breweries been so successful at acquiring these national assets? It appears that several factors are at work. First, consumers in many countries are simply are unaware that their favorite local or national brand has been bought out. Second, the international breweries have been most successful in their acquisitions when they have not altered the beer or compromised on its quality or traditional taste attributes. There have certainly been instances when acquisitions have elicited negative press, but for the most part this process has not occasioned the backlash

some might have expected. From the acquiring firms' perspective, this approach has proved very successful as it allows the breweries to diversify their volume and to use their new assets to help promote their core and specialty international brands which are usually much more profitable on a per-unit basis.

This chapter has introduced a historical perspective to explain why various internationalization strategies have and have not worked in the brewing industry. The moral of this chapter is that markets in which culture and nationality become intertwined with specific goods often prove challenging for firms seeking to develop "international" brands. Such brands may succeed at the margins as more expensive niche options, but they are unlikely to win favour with the mass market which seems all too willing to continue to support national brands. A number of critics of Levitt's widely read 1983 article argue that the pendulum has swung against global brands and that greater emphasis must be given to local sensitivities.

Finally, while the emphasis of this chapter has been on the strategies and challenges facing the world's largest breweries, it is necessary to consider one other key development in the beer industry: the rise of craft beer. Driven by a combination of consumers and producers in the US and the UK, craft beer began to emerge as a social and industry force in the 1980s and 1990s. Reflecting the attitudes discussed earlier in this chapter, a 2013 BBC magazine article averred that "Not so very long ago, American beer was a joke. And a weak one at that." However, it goes on to argue that, during the past few years, the rise of craft breweries in the US has transformed the market for beer in the US and the reputation of its beer in countries such as the UK (Kelly, "US Craft Beer: How It Inspired British Brewers," *BBC News Magazine*, 2013). The craft beer movement in the US and UK has inspired craft beer producers and consumers in many other countries including Denmark, Australia, New Zealand, Italy, Switzerland and Spain. In all of these countries a small but growing percentage of the beer market has moved from more traditional, homogenous mass production lager to more flavourful craft ales and lagers. While in many of these countries craft beer represents less than 3% of total sales, in the US craft sales account for more than 10% of the overall market by volume and nearly 20% by value, and they are growing rapidly.

So, is craft beer a threat to the large international breweries? These breweries have responded in two primary ways. First, they have tried on several occasions to introduce their own craft-style brands. For the most part, these efforts have not been overly successful; however, MillerCoors, a joint venture between SABMiller and Molson Coors, has

had better luck with their Blue Moon label beers (interestingly they have come under some criticism for not stating explicitly on the label the link between Blue Moon and Molson Coors), and they will undoubtedly try to replicate this success. Second, they have acquired prominent craft breweries: in the UK, SABMiller bought one of the earliest and most successful London craft breweries. Meantime, while in the US, ABInBev has bought several US craft breweries, most famously Goose Island in Chicago.

The large international breweries of this chapter have overcome a series of challenges, domestic and international, on their way to creating a global oligopoly: whether craft beer represents one more factor to be absorbed or whether it represents a distinct threat to the dominant players is the question that will be played out in the years to come.

Notes

1. See Lopes (2007) for a detailed discussion of the role brands played for international expansion for some multinationals focusing on alcohol (beer, spirits and wine).
2. In the summer of 2004, the authors conducted a series of in-person, telephone and email interviews with executives and strategists at Anheuser-Busch, Interbrew, SAB-Miller and Heineken, the four largest breweries in the world. In the summers of 2005 and 2006, the authors met with key brewery officials in India and China.

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4

Intra-industry Trade in the Beer Industry within the Enlarged European Union

Imre Fertő and Szilárd Podruzsik

1 Introduction

In recent decades intra-industry trade (IIT) has become a widespread phenomenon, with its growing role in international trade providing strong incentives for theoretical and empirical research. The stronger economic ties among European countries arising from the creation and expansion of the European Union (EU) have contributed to an increase in IIT among EU Member States. There is a wealth of literature on IIT between a particular Member State and its partner (Jensen and Lüthje, 2009 Milgram-Baleix and Moro-Egido, 2010). However, many of these studies have focused on industrial products. In addition, recent studies (Leitão, 2011; Jámbor 2014a, 2014b; Fertő and Jámbor, 2015) suggest that the role of IIT has been increasing in agricultural trade between European Member States.

Interestingly, there is a paucity of industry-level studies, especially in the food industry (see Christodolou, 1992; Pieri et al., 1997; Bojnec and Fertő, 2014; Fertő et al., 2014 as exceptions). We choose beer for two reasons. First, IIT in the beer industry is a fact of everyday life. A wide selection of beers, including domestic and foreign, are available to consumers in almost all European countries. Second, beer is a differentiated product which makes it particularly suited to IIT analysis. The aim of this chapter is to examine the drivers of IIT in the beer industry within the EU. Such an approach aims to contribute to the literature in four ways: (1) focusing on beer trade; (2) employing a specific theoretical model developed by Cieślik (2005) instead of the usual eclectic approach; (3) analysing the impacts of EU enlargement

focusing on the period between 2000 and 2010; (4) employing a multilateral dataset instead of the bilateral framework that still predominates in recent empirical research.

2 Theoretical framework

The traditional Chamberlin-Heckscher-Ohlin model (C-H-O) assumes that goods are horizontally differentiated. Horizontal differentiation implies that many varieties of a product are available when varieties do not vary in 'quality'. Good examples of horizontal product differentiation are branded products, like beer. In many countries (Krugman, 1979; Lancaster, 1980; Helpman, 1981), IIT opens up monopolistically competitive markets, with increasing returns to scale on the supply side and diverse consumer preferences on the demand side. Helpman and Krugman (1985) add factor endowment differences to a model that explains the coexistence of intra- and inter-industry trade. Consider two countries (A and B), two factors (labour and capital) and two goods: a homogeneous commodity that is relatively labour intensive and a differentiated product that is relatively capital intensive. If country A is relatively labour abundant and country B is relatively capital abundant, Helpman and Krugman show how country A tends to export the homogeneous product and both countries import the differentiated good. This model predicts that IIT will decrease as the factor endowments of the countries diverge. Moreover, Bergstrand (1990) expanded earlier theoretical works by proposing a new framework that uses a gravity-like equation to explain the relationship between the share of IIT in total trade and factor endowments, as well as income. Important determinants of the share of IIT in total bilateral trade in the Bergstrand model are differences in income, average income and average capital–labour ratios as well as differences therein.

However, Cieślik (2005) argues that previous empirical studies fail to provide an exact link between the theory and the data. He shows that the Helpman and Krugman (1985) model does not predict any unique theoretical relationship between IIT and relative country size if we keep differences in capital-labour ratios unchanged. Thus Cieślik (2005) develops a formal model to eliminate this shortcoming by providing two complementary propositions. First, the share of IIT between two countries is larger the larger the sum of their capital–labour ratios, given the fixed difference in their capital–labour proportions. Second, the share of IIT between two countries is larger the smaller the difference in their capital–labour ratios given the constant sum of their capital–labour

ratios. His results indicate IIT theory finds support when we control for the sum of capital–labour ratios in the estimating equations instead of relative country-size variables.

The earlier empirical literature on IIT has typically assumed, sometimes implicitly, that product differentiation is horizontal although it can be vertical. Vertical differentiation implies that many varieties of a product are available, but they vary in 'quality' in a meaningful and significant way. Recent empirical studies show that vertical IIT is markedly more important than horizontal IIT (Fontagné et al., 2006; Jensen and Lüthje, 2009), highlighting the importance of respective theoretical models for empirical analysis. These theoretical models emphasise three factors in VIIT: the role of differences in factor endowments, the effect of income distribution, and production size. The first strand of models focuses on the comparative advantage explanation of VIIT, as in the C-H-O model. Falvey (1981) assumes a perfectly competitive market with two countries, two goods (a homogeneous product and a differentiated one) and two factors (labour and capital). He introduces technological differences between countries but only in the homogeneous product sector. In the differentiated sector it is assumed that more capital is used in producing higher quality varieties compared to lower quality. So, the higher income, relatively capital-abundant country specialises in exporting relatively high-quality varieties, while the lower income, relatively labour-abundant country specialises in exporting low-quality varieties. Falvey's model does not have an explicit demand side, but Falvey and Kierzkowski (1987) also elaborate this.

On the demand side, goods are distinguished by perceived quality. Although all consumers have the same preferences, each individual demands only one variety of the differentiated product, which is determined by their income. Given that aggregate income is not equally distributed, consumers with lower incomes will demand low-quality varieties and high-income consumers will demand high quality, regardless of their country of origin. Thus, it is possible to establish a marginal level of income in such a way that those consumers with higher earnings will purchase the varieties produced in the relatively capital-abundant country, while low-income consumers will purchase the varieties produced in the relatively labour-abundant country. In this framework, IIT exists because each variety of a differentiated good is produced in only one country but is consumed in both countries. In this two-country world, the country that is relatively labour abundant will tend to export the lower-quality/labour-intensive varieties of a differentiated good demanded abroad by low-income consumers and will tend to import the higher-quality/capital-intensive varieties demanded

by its high-income consumers. Thus, the greater IIT is, the greater the differences in relative factor endowments (which correspond to per capita income differences in the context of the model). The model also suggests that VIIT is positively correlated with differences in the pattern of income distribution between partner countries.

The second group of models turns to a more heterodox explanation in line with the neo-Ricardian and neo-factorial models (Gabszewicz et al., 1981; Shaked and Sutton, 1984). A similar model of IIT in vertically differentiated products to Flam and Helpman (1987) is created in which North–South trade is determined by differences in technology, income and income distribution. The results of this model are very similar to those of Falvey and Kierzkowski (1987). In the model of Flam and Helpman, there are two countries: a home country (North) and a foreign country (South), one factor (labour) and two goods. One of the goods is homogeneous and perfectly divisible, while the other is quality differentiated and indivisible. Both countries have the same unit labour requirements for producing the homogeneous good. The labour input per unit of output of the quality-differentiated products differs between the countries, where quality is a positive function of labour input. The home country has an absolute advantage in production of all qualities, while the foreign country may have a comparative advantage only in low quality. Note that the source of quality differentiation is not the amount of capital used in producing the good (Falvey and Kierzkowski, 1987), but the technology used.

The demand for variety stems from variations in income across consumers who buy a specific quality, reflecting their preferences and income constraints. Consumers with higher effective labour endowments (who are assumed to earn higher incomes) demand the higher quality, indivisible good. Therefore, the home country specialises completely in the differentiated good of high quality, while the foreign country exports the homogeneous good. Assuming an overlap in income distribution, IIT appears. The model predicts that higher bilateral differences in factor endowment lead to a higher share of IIT.

3 Measuring intra-industry trade

The basis for the various measures of IIT used in the present study is the Grubel–Lloyd (GL) index (Grubel and Lloyd, 1975), which is expressed formally as follows:

$$GL_i = 1 - \frac{|X_i - M_i|}{(X_i + M_i)} \tag{4.1}$$

where X_i and M_i are the values of exports and imports of product category *i* in a particular country.

Over the last decade unit values have been used for assessing product quality in trade data and they have become popular in the separation of horizontal and vertical IIT (Greenaway et al., 1994, 1995). The underlying assumption is that relative prices are likely to reflect relative qualities (Stiglitz, 1987). The unit value approach is usually criticised for at least two reasons (Silver, 2007). First, unit values of two bundles may also differ if the mix of products differs, so that one bundle may contain a higher proportion of high unit value items than the other. Second, in the short run, consumers may buy a more expensive product for reasons other than quality. In spite of such criticism, the unit value approach is widely used in the empirical IIT literature. Typically, trade flows are defined as horizontally differentiated where the spread of the unit value of exports (UV_x) relative to the unit value of imports (UV_m) is less than 15% at the highly disaggregated product group level. Where relative unit values are outside this range, products are considered as vertically differentiated. A formal derivation of the HIIT and the VIIT indices can be found in Appendix 4.1. The measurement of horizontal and vertical IIT is illustrated with a simple numerical example in Table 4.1.

We use trade data from the Eurostat COMEXT database using the HS6 system (six-digit level). The beer trade is defined as trade in product groups coded in HS-220300. Our analysis focuses on the period 2000–2010. In this context, the EU is defined as the Member States of the EU-27. The final sample includes 7,702 observations.

Appendix 4.2 presents three different specifications that are used to test the theoretical propositions of the Helpman-Krugman model and the modified versions developed by Cieślik (2005). GDP, GDP per capita and labour data come from the World Bank World Development Indicators (WDI) database. From capital–labour ratios physical capital was estimated by the perpetual inventory method using investment and GDP variables from the Penn World Table 7.0 (Heston et al., 2011). Distance data is obtained from the French research center in international

Table 4.1 Numerical example of IIT

Product	export	Import	UV_x	UV_m	UV_x/UV_m	Type of IIT	GL
A	30	20	90	100	0.9	HIIT	0.8
B	10	40	80	50	1.6	VIIT	0.4

Source: Own composition.

economics (CEPII). Moreover, we add a variable to extend our baseline models to each specification. After almost a decade, the question arises whether EU accession has had any impact on agri-food trade patterns and especially on IIT. It is generally accepted that economic integration increases IIT (Qasmi and Fausti, 2001, Jámbor, 2014a; Fertő and Jámbor, 2015). Moreover, we add two variables to extend our baseline models to each specification. Previous studies (Fertő and Soós, 2009; Bojnec and Fertő, 2012) show that the duration of trade in both manufacturing and agri-food products differs across EU10/12 and EU15 markets: for the majority of New Member States (NMS), the length of trade is greater in EU10/12 markets than in EU15 markets. In other words, Old Member States (OMS) markets have higher quality requirements, thus we can expect that their exports and imports exceed NMS. Table 4.2 provides an overview of the description of variables and related hypotheses.

Table 4.2 Description of independent variables

Variable	**Variable description**	**Data source**	**Sign**
lnDGDPC	The logarithm of per capita GDP absolute difference between trading partners measured in PPP in current international USD	WDI	–/+
lnGDPmin	The logarithm of minimum GDP measured in PPP in current international USD	WDI	+
lnGDPmax	The logarithm of maximum GDP measured in PPP in current international USD	WDI	–
lnGDPsum	The logarithm of sum of GDP of trading partners measured in PPP in current international USD	WDI	+
lndispersion	The logarithm of absolute difference between trading partners capital city measured in kilometres	WDI	+
lnDCAPLAB	The logarithm of absolute difference of capital-labour ratios between trading partners	Penn World Table 7.0., WDI	–/+
LnsumCAPLAB	The logarithm of sum of capital-labour ratios between trading partners	Penn World Table 7.0., WDI	+
lnDIST	The logarithm of absolute difference between trading partners capital city measured in kilometres	CEPII	–
OMS	Dummy variable for Old Member States		?
EU	Dummy variable for the EU enlargement in 2004		+

4 The nature of beer trade in the EU

4.1 The beer industry in the EU

The EU-27 beer trade has increased significantly in the internal EU market (Figure 4.1). The value of exports and imports more than doubled. We can also observe two important factors in this pattern. First, a rapid growth has occurred in beer trade after EU enlargement in 2004. Second, there was a considerable drop in 2009 due to global economic crises.

The largest beer-exporting countries are Germany, Belgium, UK and the Netherlands (Figure 4.2). The best performing New Member States are the Czech Republic and Poland. On the import side, the UK, Italy, France and Germany are the most important players. Hungary and Slovakia are the largest importers among New Member States.

One well-known problem in any research using empirical trade analysis, including IIT, is the accuracy of the data used. Most researchers study IIT bilaterally, that is, one country's trade with several others, using the data of the former. Usually this country is a member of the OECD, which has a good reputation for reporting accuracy. Consequently, an index measuring IIT between two countries should remain invariant if it is calculated from trade data reported by

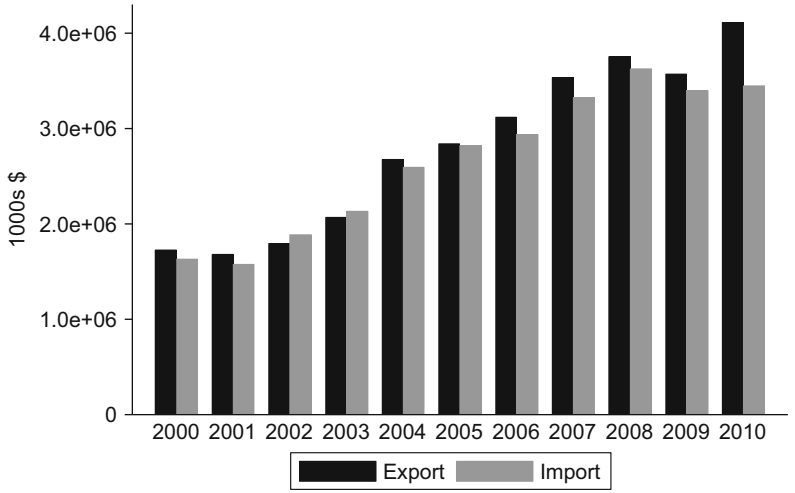

Figure 4.1 The beer trade in the EU

Source: Own calculations based on the Eurostat database, 2014.

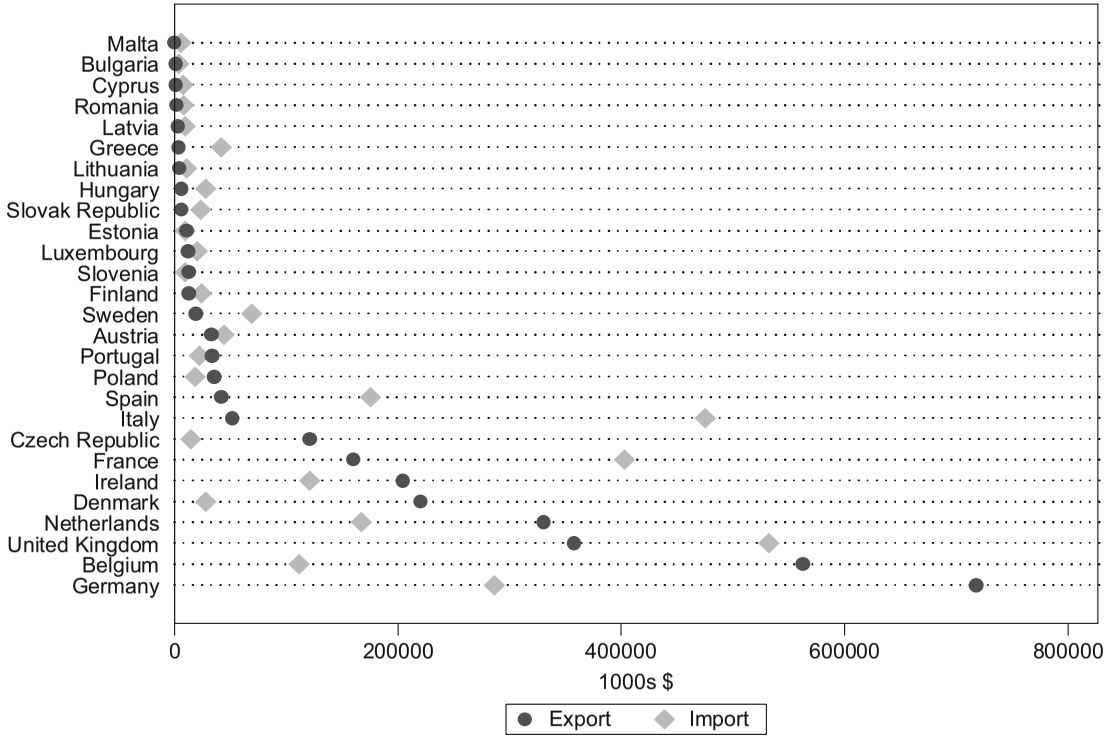

Figure 4.2 The mean values of beer exports and imports in the EU by Member States

Source: Own calculations based on the Eurostat database, 2014.

a certain country or by data reported from its trade partner due to the symmetry of the formulae. This is so obvious that articles often do not even mention the issue. However, investigation of multilateral trade between different combinations of OECD and non-OECD countries reveals serious inconsistencies in the accuracy of trade data (Fertő and Soós, 2009). Jensen and Lüthje (2009) provide some evidence that data accuracy is less severe for trade within Europe. To check whether this is the case, we calculated the correlations between IIT indices based on trade data reported by an EU Member State and data reported by its partner (Figure 4.3). The correlation indices ranged significantly across member states from –0.02 to 0.73. In terms of high correlation index for IIT, the best-performing Member States are Luxembourg, Latvia, Estonia, Czech Republic and Portugal, while the worst performers are Denmark, Malta, Hungary, Sweden and Slovakia. The correlation indices are consistently the highest for IIT followed by VIIT and HIIT values. Surprisingly for the HIIT some good-performing Member States show negative correlations, including Luxembourg, Bulgaria, Czech Republic and Netherlands. Advanced economic development does not necessarily imply higher accuracy of trade data (see, for example, Denmark and Sweden).

We divide the EU-27 Member States into two groups (the NMS and OMS) to check whether there is any difference regarding data accuracy. Further analysis on correlations indicates good performances of IIT indices and VIIT/HIIT measures, with the mean values of correlation indices close to each other in two groups. In addition, Kruskal-Wallis tests confirm that the mean values of correlation indices for all IIT measures do not differ significantly from one another. In short, in line with Fertő and Soós (2009), our analysis casts some doubt on the accuracy of the trade data.

The second issue is stability of classification of IIT types (Nielsen and Lüthje, 2002). The literature on the use of export/import unit values for assessing trade types and product qualities is mixed (Bojnec and Fertő, 2010). International export/import unit values may differ and be volatile due to product mix and short-run consumer preferences (e.g. Silver, 2007). On the other hand, there are no other available data to address these questions. The use of export/import unit values is widespread in the empirical trade literature (Greenaway et al., 1994) under the assumption that, even with imperfect information, prices tend to reflect quality (Stiglitz, 1987) and determine the direction of trade.

To verify the stability of classification in IIT types we employ the Markov transition probability matrix. We distinguish four different

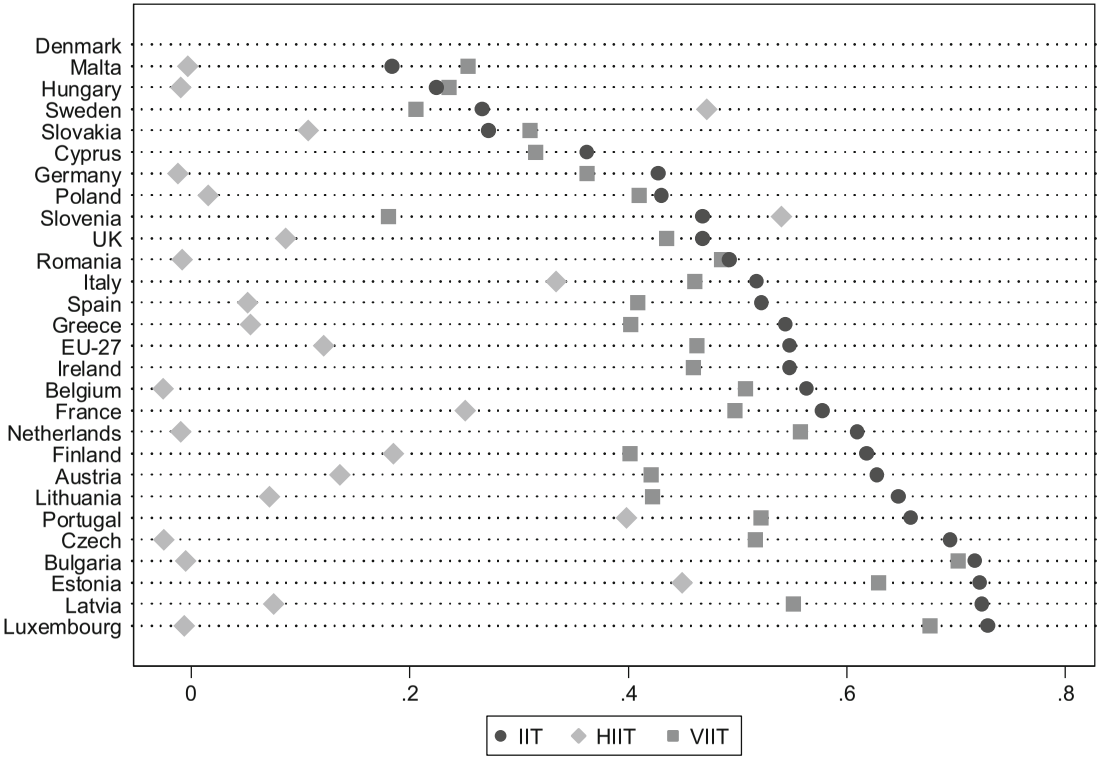

Figure 4.3 Correlation indices based on a report and partner EU Member State as report Member State

Source: Own calculations based on the Eurostat database, 2014.

Table 4.3 Markov transition probability matrix for classification of trade types

	Inter-industry trade	Low vertical IIT	Horizontal IIT	High vertical IIT	Total
Inter-industry trade	88.19	9.83	0.65	1.33	100.00
Low vertical IIT	25.97	57.41	9.48	7.14	100.00
Horizontal IIT	4.60	45.11	32.76	17.53	100.00
High vertical IIT	6.88	30.84	10.61	51.67	100.00
Total	**63.38**	**24.40**	**5.06**	**7.17**	**100.00**

Source: Own calculations based on the Eurostat database, 2014.

trade types: inter-industry trade, low vertical IIT, horizontal IIT and high vertical IIT. Table 4.3 presents the Markov transition probability matrix for the trade types for the probability of staying or passing from one state to another between the start year (1999) and the end year (2010). The diagonal elements of the Markov transition probability matrix indicate the probability of staying high persistently with inter-industry trade (88%) and less persistent for horizontal IIT (33%), vertical IITs are around 52–57%. Moreover, there is the highest probability that horizontal IITs move to low vertical IIT status (45%). In short, our estimations reinforce the findings of Nielsen and Lüthje (2002): the IIT classification is rather unstable.

Figure 4.4 shows that the mean values of the total IIT are low (below 0.2) with an increasing trend. The figures exhibit similar patterns independently of the sample. Further verification confirms the evidence of IIT in the sample. It is mainly of a vertical nature, suggesting the exchange of products of different quality. Surprisingly, low vertical IIT plays a dominant role, implying that IIT is concentrated on the lower-quality segment within the EU. The dominance of vertical- over horizontal-type trade accords with the general findings of recent empirical literature. The distribution of IIT types varies according to different samples, but the predominant role of low vertical IIT is confirmed in all samples. The share of horizontal IIT is the smallest in the full and partner samples. In particular, in the full sample the level of high vertical IIT and horizontal IIT is rather low, and low vertical IIT constitutes an important part of the beer trade at Member State level, as shown in Figure 4.5. However, considerable differences exist between Member States: the UK, France, Germany, Austria, Italy and Spain have the highest values of high vertical IIT indices.

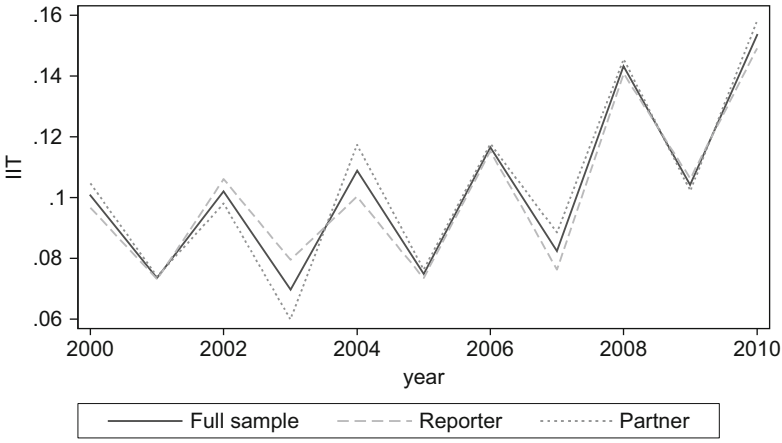

Figure 4.4 Development of beer IIT in the EU-27
Source: Own calculations based on the Eurostat database, 2014.

5 Regression results

In our empirical analysis we use the full sample for the following reasons. Taking into account the multilateral nature of our dataset, we wish to avoid the arbitrary selection of Member States. Before estimating the panel regression models, the main model variables are pre-tested for unit roots. In sum, we may conclude that the panel is stationary (see Appendix 4.3 – Table 4.4). We apply random effects to bit models to equations (4), (5) and (7) because IIT variables are truncated at 0 and 1 and a considerable part of the observation have zero values. To check the robustness of our results we estimate three different models for each IIT index. In addition, we estimate augmented models with policy variables including an EU enlargement dummy and an OMS dummy.

5.1 Baseline models

Instead of a traditional presentation of the results, namely tabulating regression coefficients, our estimations are presented using graphs,[1] as we feel these are often easier to read than tables (Jann, 2014). Figure 4.6 shows the results of the benchmark Helpman model (model 1 – equation 4.4 in the Appendix) plotting coefficients of variables with 95% confidence intervals. For clarity we omit the coefficients of constants. Relative factor endowments proxied by differences in GDP per capita do not have impact in all six models at the 5% level of significance.

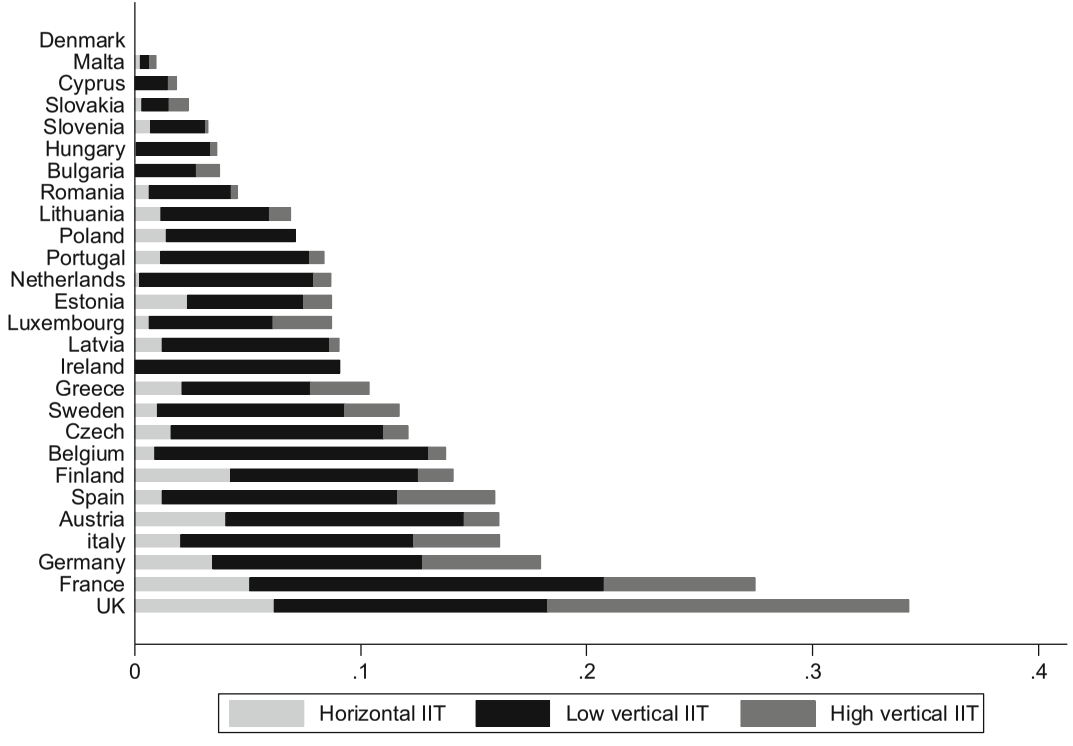

Figure 4.5 Beer IIT types in EU-27 by Member States

Source: Own calculations based on the Eurostat database.

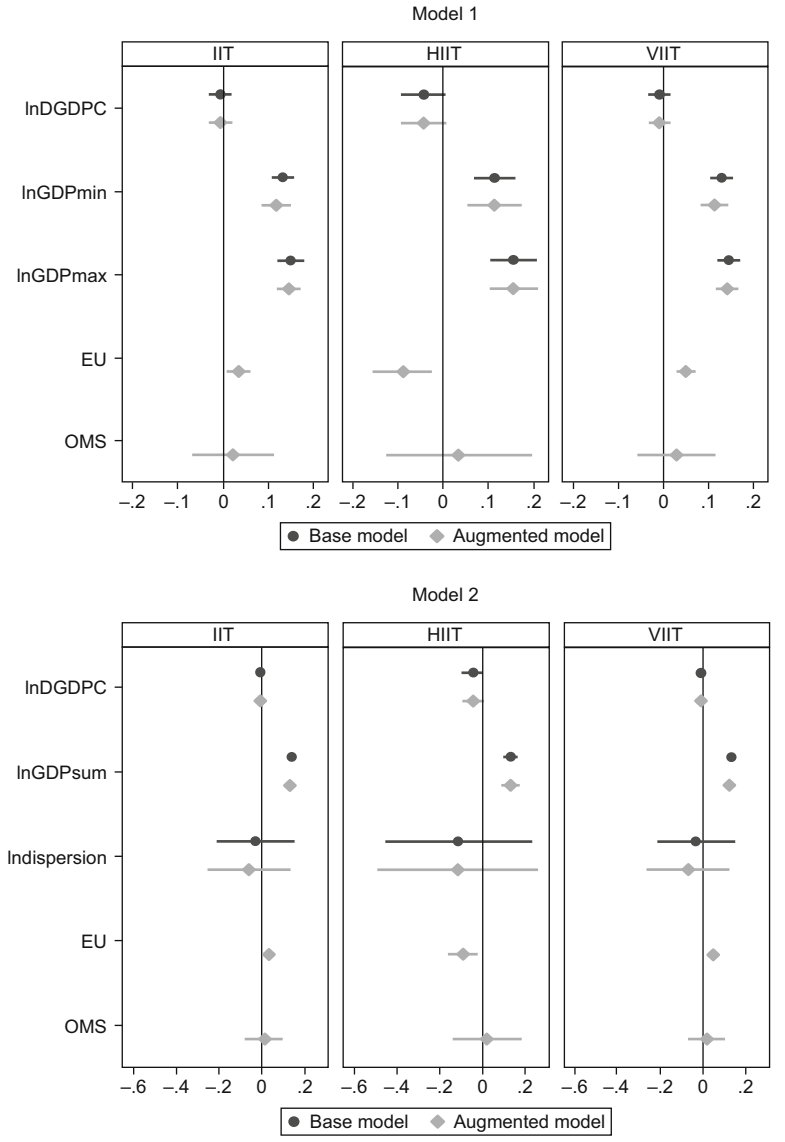

Figure 4.6 Baseline Helpman (models 1 and 2)

Member State size effects are strongly significant with expected signs for lnGDPmin variables. However, lnGDPmax variables have unexpected signs with strong significance. The EU accession dummies positively and significantly influence the various IIT indices. In other words, EU accession has had a positive impact on the beer trade. However, trading only among OMS has positive, but statistically insignificant, impact on the different types of IIT. In general, our results are fairly robust to different measures of IIT and specifications.

In the next step we consider an alternative specification of benchmark model to separate the effect of absolute country size from the impact of relative country size. Our results are rather mixed (model 2 – equation 4.5 in the Appendix). Similar to the previous model, difference in GDP per capita is not significant with expected sign for all cases. However, our estimations support the positive effect of absolute country size on all types IIT. The coefficients of relative country size are insignificant for all specifications. EU accession positively influences total and vertical IIT, while the opposite is true for HIIT. Similar to previous models, OMS do not have significant effects on IIT. Again, our estimations are robust to various IIT indices and specifications.

5.2 New evidence

It is well known that the use of GDP per capita as a proxy for relative factor endowments is problematic. Linder (1961) noted that inequality in per capita income may serve as a proxy for differences in preferences. In addition, Hummels and Levinsohn (1995) argued that this proxy is appropriate only when the number of factors is limited to two and all goods are traded, thus they proposed income per worker as a measure of differences in factor composition and used actual factor data on capital–labour and land–labour ratios. Interestingly, despite these limitations of the use of the GDP per capita, it became a popular and dominating proxy for factor endowments in the empirical literature.

As a first step, we present results focusing on the relationships between IIT and differences in capital–labour ratios and control for variation in the sum of capital–labour proportions predicted by Cieślik (2005). The estimated coefficients for sum of capital–labour ratios, shown in Figure 4.7, are highly significant and consistent with theoretical predictions, irrespective of alternative specifications. The absolute value of differences in capital–labour ratios has the negative and expected sign for HIIT, but not for the base VIIT models. The EU has significant positive impact on IIT and VIIT, while it influences HIIT negatively. The OMS variable is positive and significant for all cases.

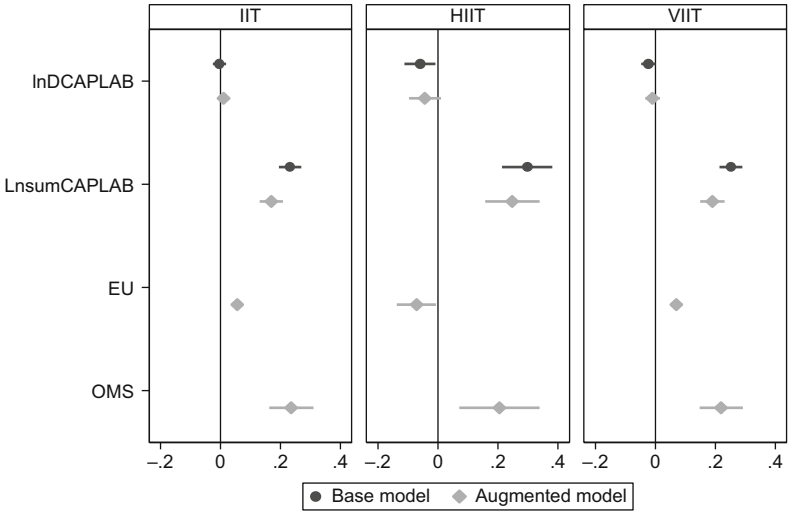

Figure 4.7 Cieślik model

5.3 Sensitivity analysis

In order to verify the robustness of our results, we estimate several alternative models including common control variables provided by the empirical literature. Bergstrand (1990) suggests distinguishing the demand-and-supply side to explain IIT. Because inequality in per capita incomes among countries seems to influence the share of intra-industry trade via two channels, both should be taken into account in econometric analysis. Thus we add the logs of minimum GDP per capita and logs of sum of GDP per capita of trading partners to control for divergences in tastes and the average level of development. The results remain qualitatively the same (Figure 4.8a). Estimations show that sum capital–labour variables are significant and they are in line with the theoretical expectations for the IIT and HIIT indices, but significant with unexpected sign for the baseline VIIT model. The difference in capital–labour ratios is positive and significant for all specifications. Both GDP per capita variables significantly influence IIT for all specifications, except for lnGDPmax in the augmented HIIT model. The EU accession and OMS variables have the same results as in earlier estimations.

Finally, we investigate the role of distance to explain IIT. Bergstrand (1990) provided a formal justification for the relationship between horizontal IIT and transport costs. Our results, shown in Figure 4.8b,

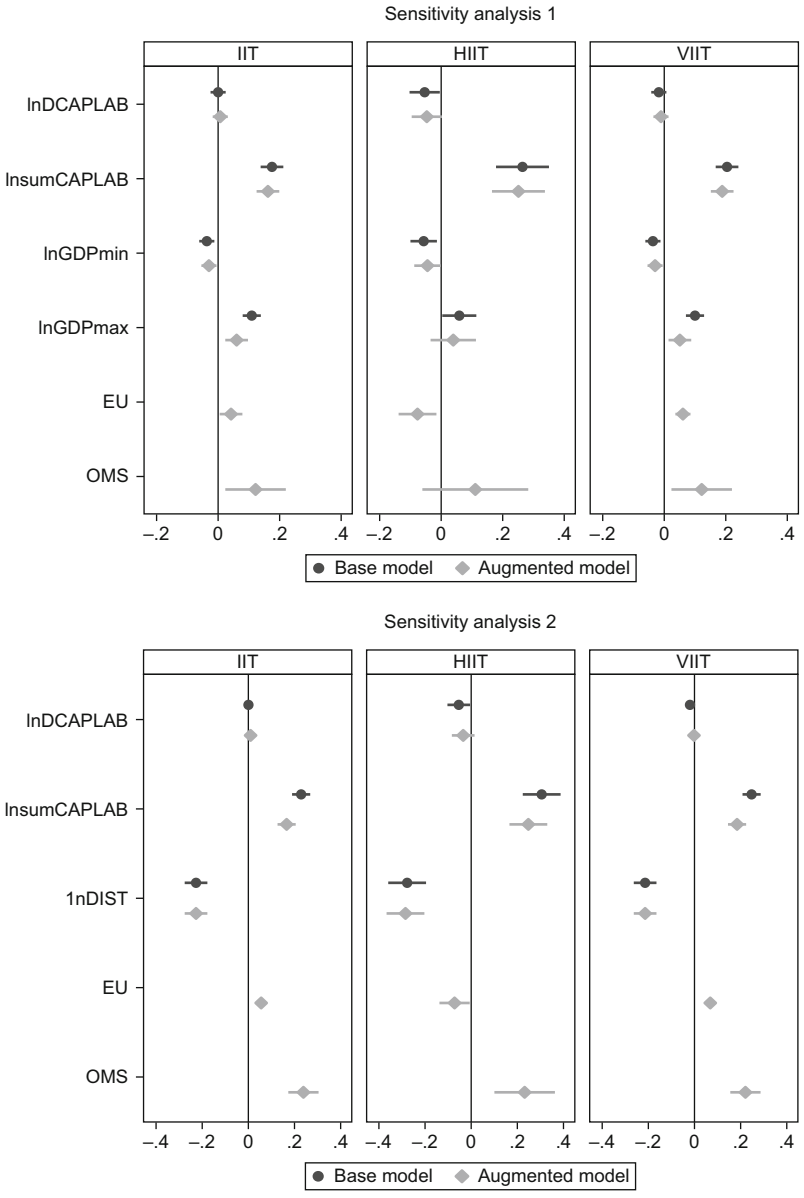

Figure 4.8 Sensitivity analysis

confirm that distance is significantly and negatively related to IIT in all specifications. The estimates of the coefficients on the sums of capital–labour ratios have the predicted sign and remain statistically significant at the 1% level. As with previous estimations, differences in capital–labour ratios have predicted signs and are significant only for HIIT in the base model. EU accession has a positive impact on IIT and VIIT, while its coefficient is negative for HIIT. OMS positively influences IIT in all estimations.

6 Conclusions

This paper analyses the pattern and driving forces of IIT in the beer industry using relative factor endowments and the integrated Helpman and Krugman model. This framework predicts a negative relationship between differences in capital–labour ratios and IIT. However, there exists conflicting evidence to support this theory. Previous empirical studies have failed to provide an exact link between theory and data. Thus, we employ a new empirical strategy developed by Cieślik (2005) to test the predictions of the Helpman and Krugman (1985) model.

Our results confirm the increasing role of IIT for beer products within the enlarged EU during the period considered. Estimations supporting the dominance of vertical- over horizontal-type trade accord with the general findings of recent empirical literature. At the Member State level, Austria, France, Germany, Italy and the UK report the highest levels of IIT within the enlarged EU.

Our empirical evidence indicates that the standard IIT theory is supported when we control for the sum of capital–labour ratios in the estimating equations instead of relative country-size variables. The empirical research based on the C-H-O framework usually neglects the distinction between horizontal and vertical IIT. Our results highlight that both the Helpman and Cieślik models perform better for horizontal IIT than for total IIT. In other words, measuring IIT does matter. The results confirm the negative impacts of distance on IIT. Policy variables suggest that the EU enlargement has had positive impacts on total and vertical IIT, and has negatively affected HIIT. OMS usually prefer to trade beer with one another. Finally, our estimations also present a considerably high level of instability in the IIT classifications which casts some doubt on the use of the unit value approach to distinguish horizontal and vertical IIT.

Acknowledgements

The authors gratefully acknowledge financial support from the COMPETE research project, supported by the European Commission's 7th Framework Programme, contract number 312029. The opinions expressed here are not necessarily those of the EC.

Appendix 4.1 Measuring horizontal and vertical IIT

Greenaway et al. (1995) developed the following approach to disentangling horizontal and vertical IIT: a product is horizontally differentiated if the unit value of export compared to the unit value of import lies within a 15% range, and otherwise they define vertically differentiated products. Formally, this is expressed for bilateral trade of horizontally differentiated products as follows:

$$1-\alpha \leq \frac{UV_i^X}{UV_i^M} \leq 1+\alpha \tag{4.2}$$

where UV means unit values, X and M means exports and imports for goods i and $\alpha = 0.15$. The choice of a 15% range is rather arbitrary, and Greenaway et al. (1994) proposed widening the spread to 25%. Interestingly, papers checking the possible impact of various thresholds confirm that results coming from the selection of the 15% range do not change significantly when the spread is widened to 25% (Jensen and Lüthje, 2009). Based on the logic above, the Greenaway-Hine-Milner (GHM) index becomes formally as follows:

$$GHM_k^p = \frac{\sum_j \left[\left(X_{j,k}^p + M_{j,k}^p\right) - \left|X_{j,k}^p - M_{j,k}^p\right| \right]}{\sum_j \left(X_{j,k} + M_{j,k}\right)} \tag{4.3}$$

where X and M denote export and import, respectively, while p distinguishes horizontal or vertical intra-industry trade, j is the number of product groups and k is the number of trading partners (j, k = 1, ... n). Blanes and Martín (2000) emphasize the distinction between high and low vertical IIT. They define low vertical IIT as when the relative unit value of a good is below the limit of 0.85, while a unit value above 1.15 indicates high vertical IIT.

Appendix 4.2 Econometric models for IIT

The early tests of Helpman-Krugman were based on the following specifications introduced by Helpman (1987).

$$\begin{aligned} nIIT_{ijt} = {} & \alpha_0 + \alpha_1 \ln DGDPC_{ijt} + \alpha_2 \min(\ln GDP_{it}, \ln GDP_{jt}) \\ & + \alpha_3 \max(\ln GDP_{it}, \ln GDP_{jt}) + \varepsilon_{ij} + {}_{ij} \end{aligned} \tag{4.4}$$

where IIT is the bilateral GL index. To separate the effect of absolute country size from the impact of relative country size, Helpman (1987) suggests the following modification:

$$\ln IIT_{ijt} = \alpha_0 + \alpha_1 \ln DGDPC_{ijt} + \alpha_2 \text{sum}(\ln GDP_{it}, \ln GDP_{jt}) + \alpha_3 \ln \text{dispersion}_{ijt} + v_{ij} + \varepsilon_{ij} \quad (4.5)$$

where dispersion can be expressed as follows:

$$dispersion = In\left[1 - \left(\frac{GDP_i}{GDP_i + GDP_j}\right)^2 - \left(\frac{GDP_j}{GDP_i + GDP_j}\right)^2\right] \quad (4.6)$$

To test two propositions by Cieślik (2005) we estimate following model:

$$\ln IIT_{ijt} = \alpha_0 + \alpha_1 \ln DCAPLAB_{ijt} + \alpha_2 \ln sumCAPLAB_{ijt} + v_{ij} + \varepsilon_{ij} \quad (4.7)$$

Appendix 4.3 Panel unit root tests

We employ the Levin, Lin and Chu (2002) method (common unit root process), the Im, Pesaran and Shin (2003) method (assuming individual unit root processes), ADF-Chi square and PP-Chi square. The lag length has been chosen according to the Modified Akaike Information Criterion (MAIC) proposed by Ng and Perron (2001).

Table 4.4 Panel unit root tests

	IIT	HIIT	ln DGDPC	ln GDPmin	ln GDPmax	ln DCAPLAB	ln sumCAPLAB
Levin, Lin & Chu t*	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Im, Pesaran and Shin W-stat	0.000	0.000	1.000	0.999	1.000	0.995	1.000
ADF-Fisher Chi-square	0.000	0.000	1.000	1.000	1.000	1.000	1.000
PP-Fisher Chi-square	0.000	0.000	0.000	1.000	1.000	0.154	1.000
with trend							
Levin, Lin & Chu t*	0.000	0.000	0.080	1.000	1.000	0.000	0.999
Im, Pesaran and Shin W-stat	0.008	0.000	1.000	1.000	1.000	1.000	1.000
ADF-Fisher Chi-square	0.000	0.000	1.000	1.000	1.000	1.000	1.000
PP-Fisher Chi-square	0.000	0.000	1.000	1.000	1.000	1.000	1.000

Source: Own estimations.

Notes

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1. We use the coefplot programme developed by Jann (2013).

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5

"When Helping the Small Hurts the Middle": Beer Excise Duties and Market Concentration

Simon Loretz and Harald Oberhofer

1 Introduction

During the last decade the beer market has been in the focus of the media, largely because of spectacular mergers among the big players. The formation of Anheuser-Busch InBev created the world's largest brewing company with a global market share of approximately 20%. This consolidation process in the beer market triggered substantial interest as to how concentrated the market will eventually become and its key driving forces.

In this chapter we argue that beer excise taxes have a significant influence on market concentration. Taxes and levies on beer are not a new phenomenon; they are among the oldest sources of central government revenue. The availability of other forms of taxation, most notably income consumption taxes, has significantly reduced the need to raise revenues via beer excise taxation. However, due to health concerns the taxation of alcoholic drinks has begun to increase. This is reflected in the decision of the European Union (EU) to introduce a minimum excise duty on beer. While the minimum tax is set low enough not to be binding for the vast majority of the Member States, this directive results in a comparable excise tax system. Variation in its implementation among the different Member States provides a neat framework to analyze the impact of beer excises on market structure (see Bamforth and Cabras, this volume).

Furthermore, the EU introduced a provision for a possible reduction of the beer excise for small and independent breweries (European Commission, 1992). If Member States decide to implement this there

should be a direct impact of excise taxes on market structure. The fact that smaller breweries can face up to 50% less excise taxes works like a subsidy and could significantly increase their competitive position, increase their market share and reduce market concentration. However, the way the reduction in the excise taxes has been implemented may well result in a more concentrated market, if medium-sized breweries decide to reduce their output to benefit from the lower excise burden. Similarly, the market can become more concentrated if increased competition from small and independent breweries drives the medium-sized breweries out of business, resulting in a polarized market structure only leaving very large and very small competitors in the market.

To test how beer taxation affects market structure we collect a unique dataset of beer excise rates and the corresponding provisions for reduced rates for small independent breweries, as well as information about market shares and data from mergers and acquisitions (M&A) in the 28 EU countries plus 11 other major beer-drinking nations. Empirically, we estimate the impact of the overall level of beer excises on the recent waves of (international) M&A and hence the indirect impact on the market structure (Madsen and Wu, this volume). We also assess the direct impact of a more progressive beer excise system on market concentration.

Our results confirm that large international mergers dominate changes in market structure. These in turn are influenced by the overall level of beer excise. Theoretically the influence of the level of beer excise on the attractiveness of a potential target company is indeterminate: on the one hand higher excise makes a company with a strong dependence on the home market less attractive. On the other hand, a high level of excise could reduce the competitiveness of local companies and make them takeover candidates. Evidence suggests that the latter effect dominates and that countries with higher levels of beer excises have larger share of the beer market controlled by big international brewers (Madsen and Wu, this volume). Concerning the direct effect of lower taxes for small breweries we find mixed results. While anecdotal evidence suggests that the rapidly increasing number of small breweries could be partially due to the lower tax burden, there is also evidence that overall concentration increases due to the largest breweries gaining market share.

The remainder of this chapter is organized as follows: Section 2 presents a short review of the literature on the market structure of the brewing industry. Section 3 discusses EU regulation on beer taxes and

presents some case study evidence on how the level and structure of excise has affected beer market structures. Section 4 discusses the main results of our empirical investigation, while Section 5 concludes.

2 Previous literature

The beer industry has attracted attention in the academic literature for a prolonged period of time and this short literature review primarily aims at embedding the current research within the literature, rather than providing an exhaustive literature review. Most of the early studies focused on the US brewing industry. In an early influential contribution Horowitz and Horowitz (1965) start from the observation that the beer market in the US was stagnating and experienced a dramatic increase in market concentration at the same time. Investigating the role of technological change they derive a minimum efficient size (m.e.s.) of 100 thousand barrels and conclude that economies of scale are the main driving force for the dramatic increase in market concentration. A number of authors, including Scherer (1973) and Tremblay (1987), also estimated m.e.s. in brewing. Tremblay et al. (2005) bring together a number of these estimates and show that the m.e.s. has increased substantially.

The reasons for economies of scale in the brewing industry have also been subject to extensive research. Greer (1971) emphasized the role of advertising and product differentiation as an important force in the US beer market. Sutton's (1991, 1999) model uses endogenous fixed costs as the key determinant for the industry's structure while Bresnahan (1992) discusses the role of advertising in this context. More recently Nelson (2005) and George (2009) investigate the role of advertising on the market structure of the US beer market.

Demand side factors that shape market structure in the beer market also have been subject to extensive research. Estimating the elasticity of demand for beer, Horowitz and Horowitz (1965) use excise taxes as proxy for the beer price, which indirectly (already) links beer excise to the market structure. Similarly, Hogarty and Elzinga (1972) estimate the demand for beer and find that excise significantly affects consumption behaviour.

Another strand of the literature specifically focused on M&A activities in the beer market. Again, early contributions are based on US experience. Tremblay and Tremblay (1988), for example, investigate the main determinants of acquisitions in the US beer market. More recently Pinkse and Slade (2004) also investigate M&A in the UK beer market. In

addition, the German market is also gaining attention. Gourvish (1994) compares the differences in market concentration in the US, the UK and Germany. While focusing on the role of technological change, Gourvish (1994) also notes differences in the taxation of beer. Similarly, Adams (2006) compares the market concentration in the beer market in the US and Germany and also discusses the effect of reduced excise on small breweries. However, he concludes that taxes are unlikely to be the most important driving force on market concentration, since the advent of a large number of micro-breweries is insufficient to reverse the trend in market concentration in the US.

The role of micro-breweries in the concentration of the US brewing industry is central to Tremblay et al. (2005). Accordingly, from 1977 until the mid-1990s one observes a substantial increase in market concentration in the macro-brewery sector while, at the same time, the micro-brewery sector also grew dramatically. The fast growth in the number of breweries was followed by a shakeout in the late 1990s. Horvath et al. (2001) specifically analyzed the industry shakeout in the US brewing industry and find that mass exits can be largely traced back to previous mass entries. The mass entries in turn are explained by a delay in the entry decision to gather more information. This empirical stylized fact is also consistent with the findings for many industries: the overall number of firms remains relatively constant despite high numbers of entry and exit (Geroski, 1995).

Finally, Pugh et al. (2001) investigate the impact of the introduction of reduced beer excise on small breweries in the UK. Specifically, they conclude that lower beer excise benefits small breweries mostly in the short run. In the longer run, they expect the number of small breweries to increase, but not their profits, due to a monopolistically competitive market structure.

3 Beer excise taxation and the beer market in Europe

This section discusses the legal regulations with regard to beer excise within the EU and its potential implications for the development of the European beer market. For this purpose we first present the main regulations on minimum beer excise (Section 3.1) as well as the possibility of reduced rates for small breweries (Section 3.2). Furthermore, we present data on the European beer markets and highlight structural differences in the demand for beer and provide two case studies on the potential effects of EU's beer excise regulations on the development of the Austrian and German beer markets (Section 3.3).

3.1 Minimum beer excise taxation

Excise duties on beer can take various forms and tend to be quite technical in nature. The first basic distinction is whether the excise is ad valorem or specific. For example, in the EU the minimum excise for beer is defined in a specific way, namely at EUR 0.748 per hectolitre/degree Plato or ECU 1.87 per hectolitre/degree of alcohol of the finished beer product. The minimum tax is defined with respect to the strength of beer; the EU encourages beer excises that are progressive according to the strength of beer. For the purpose of this chapter we need to define a typical beer in order to make the different tax systems comparable. Specifically, we use the value of 4.8% of alcohol, respectively 12 degree Plato, which corresponds to a minimum beer tax burden of EUR 8.976 per hectolitre. In terms of a pint, this translates into a minimum tax burden of about 5 euro cents.

Figure 5.1 displays the beer excise for a typical beer across all EU-28 Member States. It also compares the most recent figures for 2014 with beer

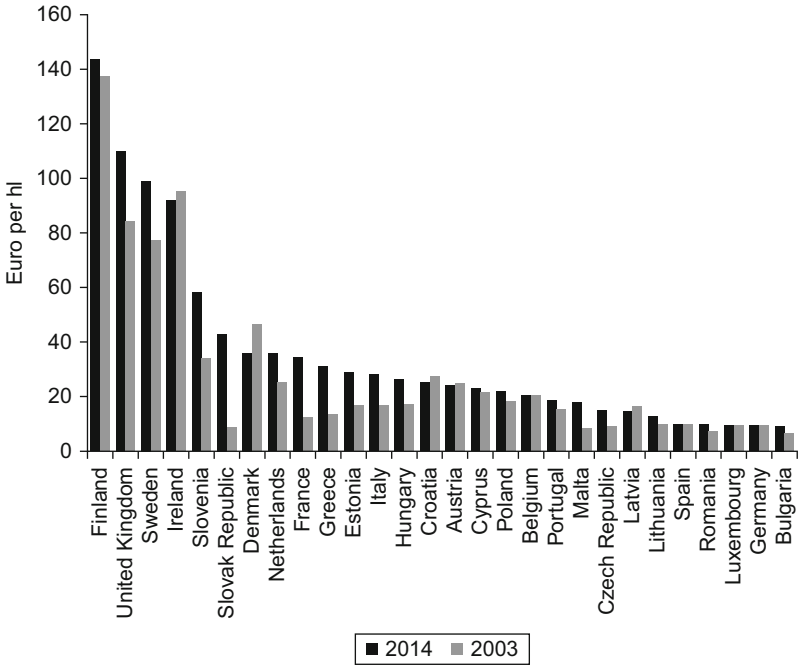

Figure 5.1 Beer excise tax burden in EU-28 for a typical beer with 4.8% of alcohol
Source: EU excise duty tables provided by the European Commission 2003, 2014.

excise in 2003. First of all, Figure 5.1 points to heterogeneous preferences on beer excise as one of the so-called *sin taxes*. The Scandinavian Member States collect the highest beer excises. They are joined by the UK and Ireland which rank among the top four in terms of the beer tax burden. With approximately EUR 140 per hectolitre beer that contains 4.8% of alcohol, Finland charges 15 times the minimum required beer excise.

At the other end of the distribution, countries such as Bulgaria (EUR 9.20) and Germany (EUR 9.44) only collect beer excise that are marginally above the minimum required by EU legislation. In 2014, Austria ranks fifteenth among 28 member states with a beer excise burden of EUR 24 per hectolitre of a typical beer. Comparing both sides of the distribution, for one pint of an average beer Finland charges an excise duty of 70 euro cent while Germany only charges 5 euro cent for the same.

Comparing 2014 with 2003 it turns out that five countries lowered the beer excise including, Ireland, Denmark, Croatia, Austria and Latvia. Another group of three countries did not change their beer excise burden (i.e. Belgium, Luxemburg and Germany). Spain only slightly increased its taxation by EUR 0.24 per hectolitre. The remaining 19 Member States all increased their beer excise over time. The largest increases (in absolute values) are observed for Slovakia, the UK and Slovenia, for which corresponding changes amount to EUR 34.37, EUR 25.58 and EUR 24.00, respectively.

3.2 Reduced rates for small breweries

The second aspect of EU legislation we are particularly interested in is the possibility of a reduced beer excise rate for small and independent breweries – those with a yearly output of less than 200,000 hectolitres of beer. The maximum allowed reduction is 50%. Consequently, we want to construct a measure which reflects the extent to which the Member States make use of the allowed reduction for small breweries. We define our measure of progressivity, θ_i, as follows: Denote the excise duty which is applicable in country *i* for a brewery with an output of x hectolitres as τ_{ix}, and the excise duty for a brewery with an output of 200,000 hectolitres or more as τ_i 200,000. Relating the excise that is applicable at the various output levels to the excise tax for large companies yields our progressivity measure:

$$\theta_i = 2\left(1 - \frac{\sum_{x=0}^{200000} \tau_i^x x}{\sum_{x=0}^{200000} \tau_i^{200000} x}\right) \tag{1}$$

If a country imposes the same excise rate for all breweries regardless of their output level, the value of θ will be unity and our measure for progressivity will be zero. At the other extreme, if a country lowered the excise burden by 50% for all companies below 200,000 hectolitres, the value of θ would take the value of 0.5 and θ_i equals 1. Hence our measure of progressivity can be interpreted as the percentage of the maximum allowed reduction granted to small and independent breweries.[1]

Figure 5.2 compares the resulting measure of progressivity for Austria and Germany with the maximum possible reduction and the case of no reduction. The solid line shows the case where there are no reduced rates for small breweries. This implies that the beer excise burden rises linearly with the excise tax rate τ. In 2014 seven EU countries did not apply lower beer excise (Croatia, Cyprus, Italy, Lithuania, Slovenia, Spain and Sweden). In contrast, the grey area illustrates the maximum possible reduction. In this case the beer excise burden rises with 0.5τ up to the output volume of 200,000 hectolitres. Currently five EU countries (Bulgaria, France, Greece, Malta and Portugal) are granting this maximum beer excise tax reduction. The dashed line in Figure 5.2 shows the progressivity of beer excise in Germany. For independent breweries below 200,000 hectolitres the excise burden is gradually reduced to 56% of the standard rate. In contrast the

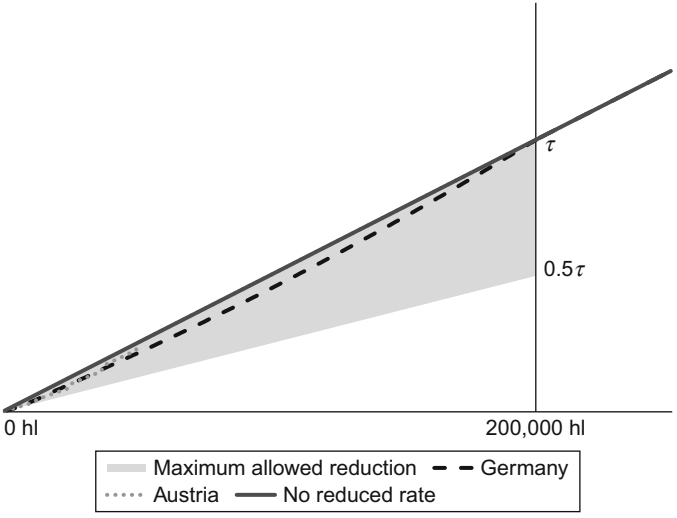

Figure 5.2 Illustration of the progressivity measure (Austria, Germany, maximum allowance)

Source: Own representation.

dashed line shows the beer excise schedule for Austria. Here the reduction only starts for breweries with less than 50,000 hectolitres output and increases stepwise to 60% of the standard rate. For some small output range the relative reduction in Austria is more generous than in Germany, but overall the reduction is more generous in Germany with 23% of the maximum allowed reduction compared to only 12% in Austria.

Table 5.1 summarizes the current beer excise tax systems in the 28 EU Member States. The first column lists our measure of progressivity. The second column reports the progressivity measure with the current level

Table 5.1 Beer excise tax systems in EU-28 Member States, 2013

Country	Progressivity measure	Implicit average tax saving (Euro/hl)	Largest threshold in hl	Tendency
Austria	12%	1.50	50,000	Constant
Belgium	8%	0.78	200,000	Constant
Bulgaria	100%	4.60	200,000	Increased
Croatia	0%	0	0	Constant
Cyprus	0%	0	0	Constant
Czech Republic	51%	3.82	200,000	Constant
Denmark	8%	1.46	200,000	Increased
Estonia	1%	0.21	3,000	Increased
Finland	19%	13.54	100,000	Increased
France	100%	17.28	200,000	Increased
Germany	23%	1.09	200,000	Reduced
Greece	100%	15.60	200,000	Constant
Hungary	4%	0.52	8,000	Increased
Ireland	10%	4.58	20,000	Increased
Italy	0%	0	0	Constant
Latvia	5%	0.37	10,000	Increased
Lithuania	0%	0	0	Reduced
Luxembourg	91%	4.31	200,000	Constant
Malta	100%	9.00	200,000	Constant
Netherlands	15%	2.69	200,000	Increased
Poland	30%	3.26	200,000	Increased
Portugal	100%	9.33	200,000	Constant
Romania	85%	4.20	200,000	Increased
Slovak Republic	52%	11.22	200,000	Reduced
Slovenia	0%	0	0	Constant
Spain	0%	0	0	Constant
Sweden	0%	0	0	Constant
United Kingdom	8%	4.36	60,000	Increased

Source: Euromonitor (2013).

of beer excise. This gives an indication of absolute savings. For the case where the progressivity measure is 100%, this absolute saving is the discrete jump in beer excise tax burden for a company at the threshold. For the intermediate cases it reflects an output weighted average. France and Greece grant the largest reductions since they make full use of the allowed reduction scheme. Finland and the UK only make little use of reduced beer excise. However, due to the high rate of the standard beer excise rate, the absolute savings are non-negligible. The fourth column gives further information about the largest breweries which will benefit from reduced taxation. Half of the EU Member States allow for some reduced excise burden up to the maximum allowed threshold of 200,000 hectolitre production per year. Some other countries only reduce the rate for medium-sized breweries, including the UK (with 60,000 hectolitre) and Austria (with 50,000 hectolitre). Hungary and Estonia only permit reduced beer excise for very small breweries with a maximum annual beer production of 8,000 and 3,000 hectolitres, respectively.

3.3 Beer markets in Europe: overview and two case studies

In this section we briefly present the main characteristics of the beer markets within the EU and offer two more in-depth case studies for the Austrian and German beer markets. According to Table 5.2, the largest beer-consuming country in Europe in absolute numbers is Germany with a beer market of almost 90 million hectolitres. A distant second is the UK which is approximately half as big. At the other end of the (absolute) size distribution are some of the small Baltic states like Estonia with only 1.3 million and Latvia with 1.5 million hectolitres, respectively.[2]

The ranking of beer markets changes substantially when one looks at consumption per capita. Now the Czech Republic tops the list with a per capita consumption of 147 litres of beer in 2013. Germany still ranks very high with a per capita consumption of 112 litres, followed closely by smaller countries such as Austria and Estonia. At the other end of the per capita consumption rank are traditionally wine-drinking countries: Greece (31 litres per capita), France (29 litres per capita) and Italy with 27 litres per capita.

The remainder of Table 5.2 gives a first impression about the structure of the beer markets by providing the names of the biggest brewing companies in each country and their corresponding market share. To give a more precise indication of the fragmentation of the beer market, the last two columns also report the biggest-selling beer brand and its

Table 5.2 Beer market characteristics in EU-28 Member States, 2013

	Beer consumption in 1000 hl	Beer consumption per capita	Biggest brewing company	Market share	Biggest beer brand	Market share
Austria	9216.11	109.60	Heineken NV	56.46%	Gösser	21.82%
Belgium	9231.40	85.05	Anheuser-Busch InBev NV	52.48%	Jupiler	35.13%
Bulgaria	5527.75	74.14	Heineken NV	34.26%	Ariana	17.00%
Croatia	3430.61	82.71	Molson Coors Brewing Co	34.16%	Ozujsko	29.93%
Czech Republic	15186.30	147.01	SABMiller Plc	43.22%	Gambrinus	13.81%
Denmark	3500.58	61.53	Carlsberg A/S	50.10%	Tuborg	30.38%
Estonia	1358.25	102.17	Carlsberg A/S	36.67%	Saku	30.12%
Finland	4287.44	80.13	Carlsberg A/S	36.74%	Karhu	19.21%
France	18787.38	28.90	Carlsberg A/S	26.24%	Kronenbourg	21.83%
Germany	89967.67	112.81	Oettinger Brauerei GmbH	6.21%	Oettinger	6.21%
Greece	3473.19	31.13	Heineken NV	47.48%	Amstel	26.67%
Hungary	7205.61	73.33	Molson Coors Brewing Co	17.49%	Borsodi	16.90%
Ireland	4334.23	95.26	Diageo PLC	25.61%	Guinness	21.22%
Italy	16172.13	26.97	SABMiller Plc	19.83%	Peroni	12.72%
Latvia	1552.76	77.61	Olvi Oyj	18.34%	Cesus	11.01%
Lithuania	2681.96	97.63	Carlsberg A/S	30.96%	Svyturys	13.94%
Netherlands	11068.82	67.26	Heineken NV	38.49%	Heineken	21.24%
Poland	38194.98	101.00	SABMiller Plc	36.86%	Tyskie	12.74%
Portugal	4695.65	45.92	Unicer – Bebidas de Portugal, SA	37.24%	Super Bock	34.98%
Romania	18159.60	91.11	SABMiller Plc	30.45%	Timisoreana	14.08%
Slovakia	3903.57	72.96	SABMiller Plc	42.09%	Saris	14.02%
Slovenia	1529.03	73.93	Pivovarna Laško dd	73.95%	Union	28.27%
Spain	33696.29	73.75	Grupo Mahou-San Miguel SA	28.91%	Mahou	28.91%
Sweden	4798.56	50.48	Spendrups Bryggeri AB	24.38%	Norrlands Guld	14.94%
United Kingdom	43642.61	70.47	Molson Coors Brewing Co	17.53%	Carling	14.18%

Note: Cyprus, Malta and Luxembourg are not covered in the dataset.

Source: Global market information database by Euromonitor. Information is for 2013, to calculate the per capita consumption; we use the population number from the world development indicators from the Worldbank.

corresponding market share. Starting with the major players in the various countries, a number of observations can be made. By far the biggest brewing group in the world, Anheuser-Bush InBev, is only the market leader in its home market, Belgium. The other big brewing companies, Heineken, Carlsberg and SABMiller, are market leaders in more European countries. Carlsberg is market leader in its home country, Denmark, and in a number of surrounding Northern and Baltic countries. In contrast, Heineken and SABMiller dominate some Central and Eastern European countries. In terms of absolute market power, Slovenia stands out with a market share of almost three-quarters for Pivovarna Laško dd. Other very concentrated markets are Austria, which is dominated by Heineken, and the home markets of Anheuser-Bush InBev in Belgium and Carlsberg in Denmark. In all of these countries the leading brewing group accounts for more than half of the beer market in 2013.

The two largest beer markets in absolute terms, the UK and Germany, constitute the opposite extreme. In both these countries the beer market is very fragmented with a market share for the biggest brewing company of only 6.21% in Germany and 17.53% in the UK. Finally, comparing the market shares of the biggest brand to the market shares of the biggest brewing companies, one can see that the variation is much larger for the brewing groups. This indicates that there are more market forces at play than just consumer preferences which should be reflected in the fragmentation of the beer markets in terms of brands. Differences in the number of brands owned by the brewing groups also reflect past M&A activity (Madsen and Wu, this volume).

Most of the available county data reported above only aggregate the overall number of breweries but do not make a distinction for size. The statistical offices of the Austrian and German brewery associations are notable exceptions and provide a breakdown of breweries by the respective output levels. Accordingly, these data are most suitable for case studies on the impact of EU beer excise regulation on the structure of the brewing industry.

Figure 5.3 shows the number of breweries in Austria according to their output level for the period 1984 to 2013. With respect to the taxation of alcohol in general and beer specifically, there are several important events over this period. Until the accession to the EU, the tax system for beer was relatively complicated. In addition to the specific beer excise (*Biersteuer*), there was an ad valorem general alcohol duty (*Alkoholabgabe*) and an additional ad valorem beverage tax (*Getränkesteuer*). All of these taxes added together and resulted in a relatively high tax burden on beers.

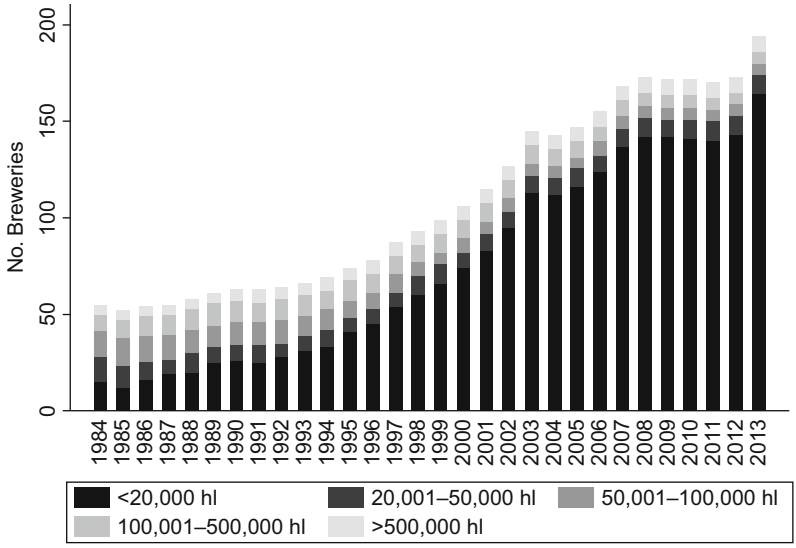

Figure 5.3 Number of breweries in Austria 1984–2010
Source: Austrian Brewery Association.

Over the period encompassed in Figure 5.3, the key changes in the taxation of beer can be linked to Austria's accession to the EU since they involved a restructuring of the tax system to comply with the acquis communautaire. In particular the beer tax law (*Biersteuergesetz*) of 1977, which imposed a beer excise of 83 Austrian Schillings per hectolitre, already included provisions for reduced beer excise for the first 14,000 hectolitres produced. Starting in 1992 the beer excise was raised to 20 Austrian Schillings per degree plateau to compensate for the abolition of the 10% alcohol duty. At the same time the provision for the reduced beer excise was changed to a 15% reduction for the first 10,000 hectolitres. Three years later, in 1995, Austria joined the EU and the beer tax law was finally aligned with the European Commission directive. This meant that the provision for small breweries was changed to a system where independent breweries with less than 50,000 hectolitres of yearly output are granted a 10% reduction. Further, this reduction is increased to 40% in 12,500 hectolitre steps, implying a reduction to 60% for those with a yearly output of less than 12,500 hectolitres. The last major change in the taxation of beer in Austria was the abolition of the beverage tax (*Getränkesteuer*) of 10% on alcoholic drinks in the year

2000 which was compensated by an increase of the beer excise from 20 to 28.7 Austrian Schillings (approximately EUR 2.08) per degree plateau hectolitre. The only subsequent change in the beer excise tax was the slight reduction to two euros per degree plateau hectolitre. This results in EUR 24 beer excise duties collected for a typical beer with 12 degrees plateau as mentioned above.

Comparing changes in beer taxation with the number of breweries of different sizes, a number of stylized facts can be identified. The most noticeable trend is the large increase of small breweries with output levels below 20,000 hectolitres. One cannot derive any causal relationship in a graph, but the timing of the large surge of small breweries coincides very much with the change in the taxation for small breweries in 1995. The second (less) stylized fact is the reduction in the number of medium-sized breweries. In particular, the group of beer producers with an output level between 50,001 and 100,000 hectolitres have experienced a constant decline since the early 1990s. A possible explanation is that medium-sized breweries came under pressure from two forces. The large breweries possess m.e.s of operation, while the small breweries outcompete them in the niche markets because of lower variable costs – a result of reduced beer excise.

The second country for which we have reliable information on the number of breweries by size is Germany (Figure 5.4). As a result of the reunification

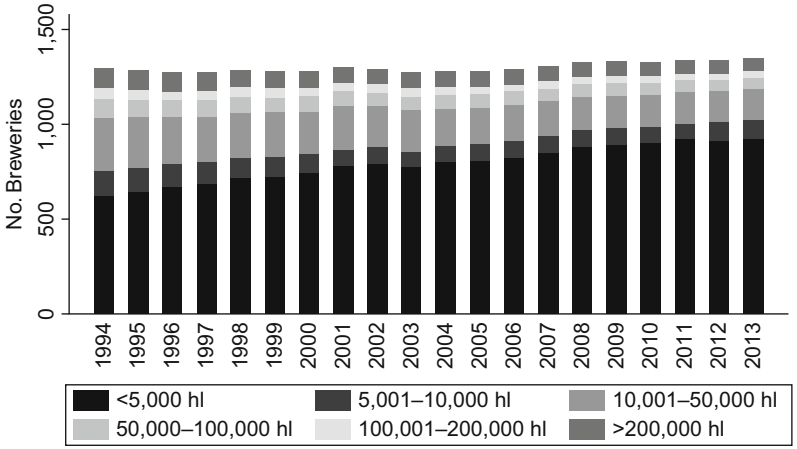

Figure 5.4 Number of breweries in Germany 1994–2010

Source: Statistics Germany.

of Germany, we are only able to show development between 1994 and 2010. Since this period is after the European directive on minimum beer excise, there are hardly any changes in the beer excise in Germany. Even more impressively, the taxation of beer in Germany remained unchanged between 1952 and 1992, when it was altered to fulfil the requirements of the EU. At the same time provisions for reduced rates for the first 120,000 hectolitres were replaced with a progressive reduction for small and independent breweries below a yearly output of 200,000 hectolitres. The reduction increased stepwise up to 50% for breweries with an output of 5,000 hectolitres or less. In comparison to the previous provisions this represents a more generous reduction which is now only applicable to the smaller breweries. The latest reform in 2004 decreased the progressiveness of the beer tax schedule by reducing the applicable beer excise for the smallest breweries to only 56% of the standard rate. Nevertheless, the German beer excise rate is comparably low and the provisions for the small breweries are more generous than those in Austria.

Comparing the number of breweries in Germany to those in Austria, one can find some striking similarities and differences. On the one hand, the number of the smallest breweries is trending upwards in Germany. Equally, this is accompanied by a clear reduction in the number of medium-sized breweries. However, the striking difference between Germany and Austria is that the overall number of breweries in Germany remains roughly constant, while those in Austria have more than doubled. One potential reason for this could be that the reduced beer excise has a stronger incentive for small breweries to enter in Austria. Beer excise in Austria is more than twice as large as in Germany, thus a reduction of up to 60% of the full duty increases the competitiveness for small Austrian breweries.

4 Empirical results on the impact of beer excise taxation

This section complements the case study evidence with a more systematic quantitative investigation. For this purpose we set up two empirical models that allow us to assess the (average) impact of excise on a) cross-border M&A activities in this industry (discussed in Section 4.1) and b) of reduced excise rates for overall market concentration observed in 39 national beer markets (Section 4.2).

4.1 Impact of excise taxation on cross-border M&A

Starting with a complete download from the Zephyr database provided by Bureau Van Dijk, which includes all ownership transactions, we

identify M&A in the beer industry via the 4-digit NACE classification of either the target or the acquiring firm. Further, we exclude all transactions where an acquiring firm already holds the majority of outstanding shares prior to the new deal or where only a minority shareholding is acquired during the transaction. We then cross-check and complement the resulting sample with Internet sources and previous studies of M&A in the beer market.[3] In total we identify 322 M&A over the period 1999 to 2011 that took place in the sample countries.

For the analysis of (cross-border) M&A activity in the brewing industry we rely on the large literature estimating trade and FDI flows. More precisely, we set up a model for bilateral cross-border M&A that accounts for both target and acquiring country characteristics. Specifically, we are interested in beer-market–related characteristics. For this purpose, the main country information captures the market size of beer (measured in terms of beer production) together with value-added taxation, beer excise and our progressivity measure.

The number of (cross-country) M&A in the beer industry is the dependent variable which can only take on positive integer values and as such we are confronted with so-called count data (Cameron and Trivedi, 2013). This violates the standard assumptions for simple linear regression models and would result in biased results of an ordinary least square estimator. Furthermore, for this level of bilateral aggregation we observe a large number of country pairs with no M&A. This is indeed the case for approximately 93% of all bilateral combinations including those where the acquiring and target countries are the same (i.e. for domestic M&A). Given such a large number of zeros, it is likely that there are different reasons determining whether at least one M&A takes place (e.g. are there any suitable takeover candidates at all) and many M&A transactions take place (how attractive are the targets). In order to tackle this issue appropriately in our empirical model, we account for this mass-point in the distribution by formulating the zero-inflated Poisson model (Lambert, 1992). This approach results in a model that first estimates the probability of observing at least one M&A between the bilateral combinations of countries and separately deals with all observations that are non-zero. The second part of this model is typically based on a (zero-truncated) Poisson distribution which allows the fitting of all integer values above zero. Formally, the resulting empirical model is given by:

$$MA_{ij} = F(X_i\beta_i + X_{ij}\beta_i + \in_{ij}) \tag{2}$$

where X_i and X_j denote vectors of host- and source-country characteristics with the corresponding vectors of parameters to be estimated, β_i and β_i MA_{ij} denotes the overall number of bilateral M&A transactions, F is a cumulative distribution function (cdf) to be specified (e.g. the Poisson distribution) and ε_{ij} represents the remainder error term.

We model the probability of observing any M&A activity with standard gravity variables, that is, the logarithm of target and acquirer country GDP per capita and the bilateral distance between the two countries. For GDP per capita, as a measure for economic wealth, we expect a negative impact on the number of M&A for the target country and a positive one for the acquiring countries. The overall difference in economic wealth might explain which country is more likely to be acquirer. For distance we expect a negative sign (of the marginal effect), since the number of M&A are assumed to decrease the further the target and acquirer countries are geographically apart.[4]

Starting our discussion on the probability of observing no (bilateral) M&A, the estimated average marginal effects (AMEs) reported in Table 5.3 are in line with expectations.[5] Accordingly, an increase in the distance between both countries increases the probability of observing no M&A and thus reduces the number of expected M&A. This finding indicates that brewing companies tend to increase their targeted markets by engaging in M&A activities in neighbouring countries. In a similar vein, for wealthier target countries we also observe a larger probability of zero M&A taking place. By contrast, breweries located in rich host countries tend to engage more extensively in M&A activities because they are more likely to be able to generate sufficient profits allowing them to invest abroad. Moreover, the Voung test statistics reported in Table 5.3 indicates that the zero-inflated model should be preferred. Given the large number of zeros in the data, this comes as not surprising.

When focusing on the results for the non-zero observations (provided at the top of Table 5.3) we also obtain interesting results. First, the estimated effects differ substantially across the model which includes all M&A (first two columns) and one that only includes cross-border M&A (columns 3 and 4). Accordingly, cross-border M&A motives differ substantially from those for domestic M&A. However, starting with their similarities, market size plays a role for all types of M&A in the brewing industry. In countries with larger beer production, more M&A activity takes place. This is indicated by the significant estimates for both the acquiring and target country level of beer production. By contrast, value-added taxation plays a role only for the acquiring country. Accordingly, we observe more M&A transactions in and from countries with higher

Table 5.3 Determinants of M&A, 1997–2011

	All M&A		only cross-border M&A	
		Average		Average
Independent variables	**Coefficient**	**marginal effect**	**Coefficient**	**marginal effect**
Target country variables				
log(Beer production)	0.462 ***	0.095 ***	0.155	0.013 *
	(0.061)	(0.015)	(0.090)	(0.008)
Value-added tax	0.871	0.179	–1.357	–0.12
	(1.312)	(0.268)	(2.156)	(0.187)
Beer excise tax	0.007 ***	0.001 ***	–0.001	–0.000
	(0.002)	(0.000)	(0.004)	(0.000)
Progressivity	–1.523 ***	–0.307 ***	–0.644	–0.06
	(0.383)	(0.090)	(0.478)	(0.044)
Acquirer country variables				
log(Beer production)	0.755 ***	0.155 ***	0.712 ***	0.061 ***
	(0.085)	(0.026)	(0.147)	(0.017)
Value-added tax	11.365 ***	2.333 ***	6.705 ***	0.576 **
	(1.659)	(0.464)	(2.446)	(0.228)
Beer excise tax	–0.001	–0.000	–0.009 ***	–0 **
	(0.002)	(0.000)	(0.003)	(0.000)
Progressivity	0.551	0.099	–4.767 ***	–0.41 ***
	(0.615)	(0.129)	(1.517)	(0.152)
Constant	–13.240		–8.598 ***	
	(1.112)		(1.848)	
Inflation				
Target country GDP per capita	0.349 **	–0.043 **	0.251	–0.01
	(0.174)	(0.078)	(0.209)	(0.011)
Acquirer country GDP per capita	–1.890 ***	0.231 ***	–2.603 ***	0.134 ***
	(0.336)	(0.045)	(0.542)	(0.031)
log(Distance)	0.798 ***	–0.098 ***	0.697 ***	–0.04 ***
	(0.102)	(0.014)	(0.155)	(0.008)
Constant	12.168 ***		20.493 ***	
	(3.283)		(5.917)	
Vuong statistic	4.55		3.57	
No. of non-zeros	98		70	
No. of observations	1,521		1,482	

The Vuong (1989) statistic refers to the test statistic between the Poisson and a zero-inflated Poisson. Average marginal effects are calculated according to Bartus (2005). ***, **, *denotes significance at the 1, 5 or 10% level.

value-added taxation. Finally, a larger number of domestic M&A tends to take place in countries with higher beer excise and with lower progressivity in this tax measure while cross-border M&A are carried out by countries with lower beer excise taxes (and also a lower progressivity measure). Taking these last two findings together, the country-specific regulations with regard to the taxation of beer production affects M&A behaviour in this market and thus shapes market concentration (see Madsen and Wu, this volume). In the next subsection we will shed more light on this issue.

4.2 Impact of reduced excise rates on market concentration

In this section we investigate the impact of excise reduction on small breweries and the effect of the resulting market concentration (see Bamforth and Cabras; Madsen and Wu, this volume). There are a number of widely used empirical measures of market concentration which differ substantially both with respect to what they primarily measure and also in terms of data requirements. For example, simple measures such as the concentration ratio only require information about the market share of the biggest companies. In contrast, measures like the Herfindahl index require information about the output level of all firms in the market.

Given the data restrictions already discussed, we draw on the Global Market Information Database provided by Euromonitor. This source provides market shares of the leading brewing groups in the most important economies (countries that have a comparable tax system and are covered in the Euromonitor dataset limits the sample to 39). One drawback of the Euromonitor data is that it only includes information on the largest brewing companies. For example, for Germany, which historically had the largest number of breweries and is currently home to 1,349 breweries (see Figure 5.3), the Euromonitor dataset only includes up to 30 companies. Therefore we use the three-firm concentration ratio as our preferred measure.

We set up an econometric model that explains variation in market concentration rates as a function of the beer excise regime in force and further controls. Beer excise is measured by its level for a typical beer together with the progressivity indicator defined above. In order to investigate potential non-linearities in the effects of progressivity, we also include an interaction. This is motivated by our case study evidence highlighting that progressivity might be more important for higher excise duties (see the comparison of Austria and Germany). Among the additional controls, we account for overall market size (measured by beer production), national wealth in terms of GDP per capita and

the value-added taxation which will be levied on top of the beer excise taxes. Similar to the discussion in Section 4.1, the outcome variable of interest again shows a specific property which violates the assumptions for applying linear regression models. Market concentration rates are, by definition, bounded between 0 and 100% and cannot take on negative values. In order to explicitly account for the bounded nature of market concentration rates we apply a quasi-maximum likelihood estimator (Papke and Wooldridge, 1996). This estimator is based on the logistic distribution and assures consistently estimated values between 0 and 100%. Formally, the resulting model reads as:

$$CR_{it} = G(Z_{it}\gamma + \eta_{it}) \tag{3}$$

where CR_{it} denotes the three-firm market concentration in country i at time t, G represents the cdf of the logistic distribution and Z_{it} refers to the full set of explanatory variables reported in Table 5.4 with the corresponding coefficients collected in γ. η_{it} is an error term with the usual assumptions.

Table 5.4 reports our results. The first two columns focus on the full sample and report the estimated parameters as well as the AMEs. In the

Table 5.4 Determinants of market concentration, 2002–2011

	All countries		**Excl. CYP, LUX and MLT**	
Independent variables	**Coefficient**	**Average marginal effect**	**Coefficient**	**Average marginal effect**
log(Beer production)	–0.175***	–0.131***	–0.088***	–0.065***
	(0.022)	(0.017)	(0.025)	(0.018)
log(GDP per capita)	–0.102***	–0.077***	–0.175***	–0.129***
	(0.034)	(0.025)	(0.032)	(0.025)
Value added tax	–2.642***	–1.988***	–1.898***	–1.390***
	(0.423)	(0.332)	(0.378)	(0.278)
Beer excise tax	0.137***	0.103***	0.188***	0.138***
	(0.040)	(0.031)	(0.035)	(0.029)
Progressivity	0.010	0.008	–0.260***	–0.192***
	(0.104)	(0.080)	(0.096)	(0.074)
Interaction	0.769	0.579	1.659**	1.223**
	(0.660)	(0.516)	(0.647)	(0.477)
No. of observations	358		337	

Estimated following the procedure of Papke and Wooldridge (1996). All regression include year fixed effects and a constant. The average marginal effects are calculated according to Bartus (2005). ***, **, *denotes significance at the 1, 5 or 10% level.

remaining two columns we exclude Cyprus, Luxembourg and Malta. In these countries the market concentration rate based on the three largest market participants (CR3) remains 100% during the whole ten-year time period.

Our estimates suggest that market concentration is lower in larger and richer markets. Accordingly, an increase in the overall production of beers allows more competitors to survive in the market, thus reducing market concentration. In a similar vein, in more wealthy countries, love-of-variety seems to be more pronounced. In addition, in countries with higher value-added taxation, beer producers find it more difficult to occupy a market-dominating position.

With regard to beer excise regulations across countries we find the following results. First, in countries with higher beer excise, the beer market is more concentrated. Higher excise increases variable costs and this results in a smaller number of active firms. If the less profitable and smaller firms are the ones driven out, then this results in a more concentrated market. When focusing on the full sample, including all 39 countries, we do not estimate significant effects for progressivity. However, when excluding the three countries with fully concentrated markets, we obtain strong and significantly negative parameter estimates and AMEs. This finding suggests that, on average, a more progressive excise system helps to reduce concentration in the beer market. This result points to the effectiveness of EU regulation. The significantly positive effect estimated for the interaction variable (in the restricted sample), however, indicates that progressivity in the excise system does not increase competition in the beer market under all circumstances. On the contrary, in countries with very high excise a more progressive system further increases market concentration. This finding is counter-intuitive but shows that regulating the beer market via excise is not sufficient to guarantee a competitive environment. In countries where beer is highly taxed, it seems to be difficult for new entrants to get access to the market.

5 Conclusion

Over the last few years the beer industry has experienced an intense consolidation process resulting in an ever-declining number of globally active brewing companies. At the same time, in some large beer markets, the number of micro-breweries steadily increased. While the former is often explained by prevailing economies of scale, the latter is often

associated with demand-side arguments including love-of-variety preferences. This chapter offers an additional explanation for these tendencies: taxation policy for beer might have a direct impact on market structure.

Our main finding supports the view that the EU's beer excise regulation that couples a minimum amount of beer excises with the possibility of reduced rates for small breweries has direct implications for market structure in the brewing industry. More precisely, this regulation tends to trigger a polarization of the market: a very small number of large and globally active brewing companies coexist with a large number of micro-breweries. Medium-sized beer producers tend to be forced out of the market by this regulation or choose to adjust their production level to a smaller amount. Some of the medium-scale beer producers have also been targets of M&A, which further fosters an increase in market concentration among the global beer producers.

Our overall finding confirms that specific tax rules might directly and indirectly affect market structures and in the medium run might have implications for customers. Especially, the very small number of globally active brewing companies might increase the likelihood of collusive behaviour; this calls for careful monitoring by competition authorities.

Notes

1. Note that since we analyse the minimum beer excise introduced by the EU, we concentrate our analysis on countries that have a comparable system for beer excises. This unfortunately rules out some important beer markets such as China, Mexico and Brazil which use an ad valorem beer tax.
2. The beer markets in the smallest European countries, Luxembourg, Malta and Cyprus, are too small to be covered in the Euromonitor dataset.
3. See, for example, Ebneth and Theuvsen (2007).
4. Note, in the full sample we also include domestic M&A. For these observations, the target and acquiring countries' characteristics are equal and bilateral information such as distance amounts to zero.
5. The marginal effects are calculated for the final outcome, which is the number of M&A while the parameter estimates refer to the impact of each variable for the probability to observe zero M&A.

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Part II

Developments in Regional Brewing and Beer Markets

6

The Lack of Market Integration in the Chinese Beer and Wine Markets: Evidence from Stationarity Test

Chi Keung Marco Lau, Zhibin Lin, David Boansi, and Jie (Kitt) Ma

1 Introduction

Prior to economic and market reforms, China was a relatively closed society in deep economic stagnation, mainly due to excessive centralized bureaucratic control, misallocation of both investments and outputs, and generally low factor productivity. The reforms introduced in the 1970s aimed at improving the country's economic situation through reducing (but not eliminating) centralized planning and direct control in order to correct the economic deficiencies (Perkins, 1988).

The Third Plenum of the National Party Congress's 11th Central Committee, in December 1978, was a turning point as the central government decided to undertake gradual economic reforms. At that time, Chinese households could afford barely sufficient food supplies and rationed clothing. Reforms began cautiously in 1979, initially addressing agricultural production in rural areas by enabling farmers to sell their surplus crops, and later addressing urban areas by creating special economic zones which favoured the establishment and development of Sino–foreign joint ventures within technology-intensive sectors (Fan, Wailes and Cramer, 1995). These changes boosted the Chinese agricultural and industrial levels of productivity, helping the country to gradually open its market to foreign investment, and to expand trade overseas.

In the early 1980s, reforms started to convert the Chinese command economy to a price-driven market economy. The influence of the state

with regard to resource allocations was reduced by introducing a dual-track pricing system in which some goods and services were allocated at state-controlled prices (such as energy products), while others (such as consumer goods) were allocated at market prices.[1] The country's Soviet-type, centrally planned system changed into a market-oriented one. Increasing liberalization, the rapid economic growth in many cities and coastal provinces, and joining the International Monetary Fund and World Bank supported the country's policies towards decentralization, privatization, free trade, free investment and deregulation (Su, 2011).

Between the 1990s and early 2000s, more market-oriented policies, improving tax concessions and labour mobility were granted to the coastal provinces to attract foreign investment. These policies increased international trade as well as subregional economic cooperation between coastal provinces and neighbouring countries. China maintained strong ties with international markets, entering the World Trade Organization (WTO) in 2001 and removing a number of remaining trading restrictions. Price protection on domestic industry and export subsidies on agricultural products were gradually eliminated. During the first decade of the 21st century, the governance infrastructure was also reformed. New agreements were signed with the Association of Southeast Asian Nations (ASEAN) and the ASEAN + 3 (China, Japan, South Korea) trade framework (CSIS, 2015).

Since the reformation process started, China has experienced an impressive economic growth. Today, the country is well integrated into the global capitalism system. Trade liberalization, and the restructuring of economic, social and geopolitical/regulatory environments increased the levels of production, imports, exports, consumption and, most importantly, retail prices. Over the last 30 years, China has witnessed growing patterns related to levels of supply in various subsectors; this has stimulated and increased the levels of national and per capita disposable incomes.

2 The development of the beer and wine industry in China

2.1 Reforms and liberalization process

Several drivers steered growth in the Chinese beer and wine markets: increased purchasing power in both urban and rural areas (Bouzdine-Chameeva et al., 2013; Swinnen, 2011), growing patterns of internal migration (Zhao, 2003; Huang and Rozelle, 1998; Huang and Bouis, 1996), stronger retail supply networks (Access Asia Limited, 2010),

decreasing prices for alcoholic beverages due to higher market competition (Cui et al., 2012), and perceived health benefits associated with the consumption of beer and wine compared to spirits (Stone, 2014). Both on-trade[2] and off-trade[3] consumption of beer and wine in China have been increasing since the 1980s (Cui et al., 2012). In 2003, China became the world's largest beer market (Swinnen, 2011), and the world's largest red wine market with regard to total volume consumption (Stone, 2014; Chow, 2014). The country now ranks fifth among the major wine-drinking nations; it is also the world's fifth-largest producer of wine (Stone, 2014), and approximately 83% of wine consumed in the country between the years 2007 and 2013 was domestically produced (Chow, 2014).

China has a rich history in relation to alcoholic beverages, especially considering spirits such as rice wine. The consumption of beer and grape wine in the past was relatively low (Jenster and Cheng, 2008). Both Chinese beer brewing and grape wine-making started in the late 1890s, when modern brewing technology was introduced (Liu and Murphy, 2007). The first Chinese breweries and wineries appeared in some eastern cities of the country to serve the colonial powers (Heracleous, 2001). These included the ChangYu Winery, opened in 1892; the Russian Ulubulevskij Brewery (later Harbin Brewery) opened in Harbin in 1900; the German and British joint-venture Germania-Brauerei Brewery and Winery (later Tsingtao Brewery) opened in Qindao in 1903; the Scandinavia Brewery opened in Shanghai in 1910, and the TongHua Winery opened in Jilin in 1912. Levels of production were modest and even close to nil between the two world wars (Li, 2011). Due to high prices, beer and wine were mainly produced to satisfy the demands of expats and the Chinese national bourgeoisie (Bledsoe, 2011).

In 1949, after the People's Republic of China (PRC) was founded, all breweries and wineries were confiscated and turned into state-owned enterprises, with beer and wine considered non-essential goods for the industry restructuring process. Despite the efforts made by the government to rehabilitate the industry in the late 1950s, levels of production remained small scale and underdeveloped (Jenster and Cheng, 2008) until the mid-1960s, when a few small breweries and wineries were opened. Production gradually increased but breweries and wineries remained state-owned, with prices controlled and set by the government. Since the 1980s, as a result of economic reforms, the food and drink industry developed at an impressive rate, and the production of both beer and wine experienced a sustained growth. Many state-owned

breweries, such as Harbin Brewery and Tsingtao Brewery, have been privatized and price controls lifted.

Today, in the Chinese beer and wine markets, we can expect to see price convergence across cities due to several reasons.[4] First, the entry of foreign brewers increased competition which brought more arbitrage activities and price convergence. Second, the liberalization of State Ownership Enterprise (SOE) increased the level of diversification in terms of enterprise ownership, facilitating the creation of joint ventures and private ownerships. Third, the introduction of the Labour Contract System in 1986 opened profit opportunities for breweries with regard to purchasing of raw materials, setting selling prices, recruiting employees and changing wages within the enterprise. For these reasons, a process of price convergence should result from a more efficient market across different cities. However, disparities in terms of interregional development and income, combined with persistent trade barriers across China, may inhibit such process.

2.2 The Chinese beer and wine markets

The total consumption of beer in China between 2003 and 2009 increased by two-thirds (Access Asia Ltd, 2009). This proportion represents an increase in absolute volume from 24.3 billion litres to approximately 42.3 billion litres, and reflects an annual percentage growth rate of about 7.6%[5]. China also witnessed a 6.7% annual growth in per capita beer consumption, which increased from 19.6 litres in 2003 to 30.8 litres in 2009 (57% growth between the two years).

Compared to less than one litre of beer consumed by the average Chinese consumer between 1979 and 1980 (Swinnen, 2011), per capita beer consumption in the country has increased by approximately a factor of 30 in 2009. This figure is well above the 2010 per capita beer consumption of less than 2 litres in India, although still significantly below the levels in the US and Western and Central Europe (e.g. 156 litres per capita in Czech Republic, 130 in Ireland and 116 in Germany [Swinnen, 2011]). The relatively lower per capita beer consumption in China, in spite of its role as the leading beer consumer in the world, presents a major growth potential in the country's beer market for both domestic and foreign producers (see Piron and Poelmans, this volume).

Total and per capita beer consumption in China between 2003 and 2009 triggered a 125% increase in total expenditure on beer in current values.[6] The total expenditure rose from RMB139bn to RMB312.8bn in current value[7] during the same period, while the total per capita beer

expenditure rose from about RMB108 to RMB228.7 in current values (Access Asia Ltd, 2010). Retail sales accounted for 66.5% of total volume consumed and 51.6% of total expenditure on beer. HoReCa (Hotel, Restaurant, and Catering/canteen) sales accounted for 33.5% of the total volume consumed and 48.4% of total beer expenditure.

Total and per capita wine consumption in China increased respectively at average annual growth rates of 18% between 2005 and 2012 (Access Asia Ltd, 2010). The total volume of wine consumed in China increased from 45.6 million (9-litre cases, equivalent to 0.55 billion bottles[8]) to 170.5 million (9-litre cases, equivalent to 2.05 billion bottles [Bouzdine-Chameeva et al., 2013]). This represents a 273.9% increase in the period considered, with per capita consumption increasing from 0.3 litres to 1.12 litres. Therefore, total and per capita wine consumption in 2012 were almost four times the 2005 levels.

A study conducted by Vinexpo and IWSR (International Wine and Spirits Research), as cited in Lodge (2012), reveals that per capita wine consumption in China is going to reach two litres by the end of the year 2015,[9] assuming a constant increase in consumer preferences for red wine over other alcoholic beverages. Levels of consumption for red wine almost tripled between the years 2007 and 2013, in contrast to a decline of 18% and 5.8% experienced in France and Italy respectively.[10]

Increases in both beer and wine consumption in China have attracted greater investment attention from domestic and foreign investors. However, besides seeking ways to please the consumers, new entrants in the Chinese beer and wine market need to better understand the complexities and relevant characteristics of such markets – most importantly regional prices – which vary considerably from region to region. Such information is vital for investors who have to make informed decisions on which markets have the potential to gain significant profits.

The primary objective of our study is to explore and examine the level of interregional integration within the Chinese beer and wine retail markets. The rise of the middle class and higher levels of disposable income enabled many Chinese consumers to afford foreign-made and foreign-branded alcoholic beverages. In this context, both domestic and foreign companies need to understand the marketization status of different cities with regard to the changing regulatory environment prior to investing. Hence, we aim to identify which cities are more competitive and integrated by looking into the beer and wine markets in China.

3 Theoretical background

We start from the assumption that, under restrictions on preferences and technologies, competitive market equilibrium exists (Ravallion, 1986). Generally this assumption holds for the spatial competitive equilibrium in an economy comprising a number of regions in which trade occurs at fixed transport costs. Such equilibrium ensures that, if trade takes place between any two regions, prices in the importing region equal prices in the exporting region plus the unit transport cost. In this case, the markets can be said to be *spatially integrated*. Market integration can then be defined as the extent to which changes in prices within one market lead to changes in prices in another. In other words, differences in prices for a given product across regional markets can be interpreted as a signal of the degree of market integration in a general equilibrium sense: a shortage in one regional market increases prices which attract suppliers from neighbouring markets (Gibson, 1995). Increases in supply in one receiving market, and increases in price in the source markets, continue until differences are eliminated, net of transport costs. In an integrated market, products flow away from locations where prices are low towards locations where prices are high.

Any factor affecting trade between markets, such as trade costs, trade barriers and price discrimination, affect market integration (Yu et al., 2013). Arbitrage plays an important role in determining the degree of market segmentation (Lutz, 2004). Zhou et al. (2000) suggest that access to price information and availability of transport are the most stressed exogenous factors affecting price behaviour. Related to transport is the distance between markets. In principle, distance should not be an obstacle to market integration, though it affects the speed of it. Within international markets, three major sources of price discrimination across national borders – demand elasticity, import quota and collusion – affect pricing (Verboven, 1996). Within a domestic market, regional differences in demand (income effect) and supply (competition effect) are the major factors affecting price integration (Yu et al., 2013).

The existing literature on market integration in China shows mixed and inconclusive results. Young (2000) argues that, although 20 years of economic reform have brought extraordinary economic growth and burgeoning international openness, they have also resulted in a fragmented internal market due to the rise of local protectionism. Based on five fairly aggregated sectors, Young found out that prices of goods diverged and resource allocation deviated from the principle of comparative advantage. Zhou et al. (2000) analysed the rice markets in

southern China using the monthly prices of indica rice from 35 major cities with a time series from February 1992 to May 1996. Their results indicate a general lack of integration among the indica rice markets in the country, suggesting poor transport facilities, government interventions and limited amounts of grain available for arbitrage as the major impediments to market integration. Poncet (2005) examined the industry-level trade flows between Chinese provinces to measure the level of domestic market integration between 1992 and 1997. Their results show that, while international trade barriers dropped, domestic trade barriers among provinces increased, indicating fragmentation in the Chinese domestic economy and a spread of local protectionism. Poncet concluded that China is a collection of separate regional economies protected by barriers, rather than a single market. These barriers include a variety of protectionist policies, such as regulatory, physical and judicial obstruction (Young, 2000).

The domestic trade protection in the provinces pursues a dual objective of socio-economic stability preservation and fiscal revenues maximization (Poncet, 2005). Gravier-Rymaszewska et al. (2010) analysed the effects of intra-provincial disparities on the development of the 28 mainland provinces in China. According to their findings, while the growth increases, distances in wage levels along with inequality in each sector are also rising, with prices not really reflecting the relative scarcity of goods.

In contrast, Chen et al. (2011) suggest that the past three decades have witnessed high levels of integration in Chinese markets, encompassing urban agglomeration, rural–urban migration, labour and capital markets. For Chen et al. (2011) there is emerging evidence, based on more refined data, of increasing integration in China's domestic goods and commodities markets, which indicates increasing regional specialization and product market integration over time, with distances in product prices closing up across regions.

Other studies support this view. Holz (2009) argues that China has seen an increasingly integrated domestic product market, which is well within the range of that of a normal, relatively integrated large economy. Huang et al. (2004) identify high degrees of integration between coastal and inland markets and between regional and village markets in China's agricultural sector since its accession to the World Trade Organization. Finally, Nagayasu and Liu (2008), examining relative prices and wages in the 29 provinces in China using annual data from 1995 to 2005, provide evidence of non-divergence in prices among provinces compared to Beijing.

In light of these mixed and inconclusive results, in the next section we investigate whether beer and wine prices have converged across Chinese regions. Allocative efficiency in the goods market is an important outcome of market liberalization. Although China has become one of the largest consumer markets for alcoholic beverages, its allocative efficiency has not been examined. Therefore we examine how well the beer and wine retail markets have integrated across the country.

Our economic theory of reference is the "Law of One Price." The concept was developed by Gustav Cassel in 1920; Cassel argued that identical goods should converge to one price across regions due to the force of "arbitrage activities." Similarly, Gibson and Smout (1995) indicate that reductions in price differential among regional markets represent an efficient condition when these reflect nothing more than transport cost differences. However, the presence of trade barriers (e.g. lack of infrastructure, ineffective policies at a local level) and imperfect market structures may result in price divergence across domestic markets.

4 Data and Results

In order to perform our analysis, we use data obtained from the Price Supervision Centre under the National Development and Reform Commission (NDRC) of the PRC.[11] Our data cover domestic beer and wine consumption in 10-day intervals, collected respectively at 5th, 15th and 25th of each month. These provide us with an average of 250 observations per city. First, we construct a set of relative price series towards the national average price, so that we have g as the series of interest for a particular alcoholic beverage in city i at time t, as shown in equation 6.1:

$$y_{i,t} = \ln\left(g_{i,t} \Big/ \bar{g}_t\right) \mathrm{t} = 1,\ldots\mathrm{T} \tag{6.1}$$

Where $y_{i,t}$ is the relative price series, $g_{i,t}$ is the price level and ḡt is the average price level across all cities at time t. Figure 6.3 illustrates prices and price differentials for beer and wine respectively. Wine became popular in China in the period considered: the average price for wine was RMB36.6 per bottle from January 2006 to November 2010, with an average price difference of –0.085 (Figures 6.1a). The price for wine in most cities is lower than the national average price (Figure 6.2a). The price for beer is about RMB2.98, with a price variation across cities lower than that found for wine (Figure 6.1b). The price for beer in most cities is lower than the national average price (Figure 6.2b).

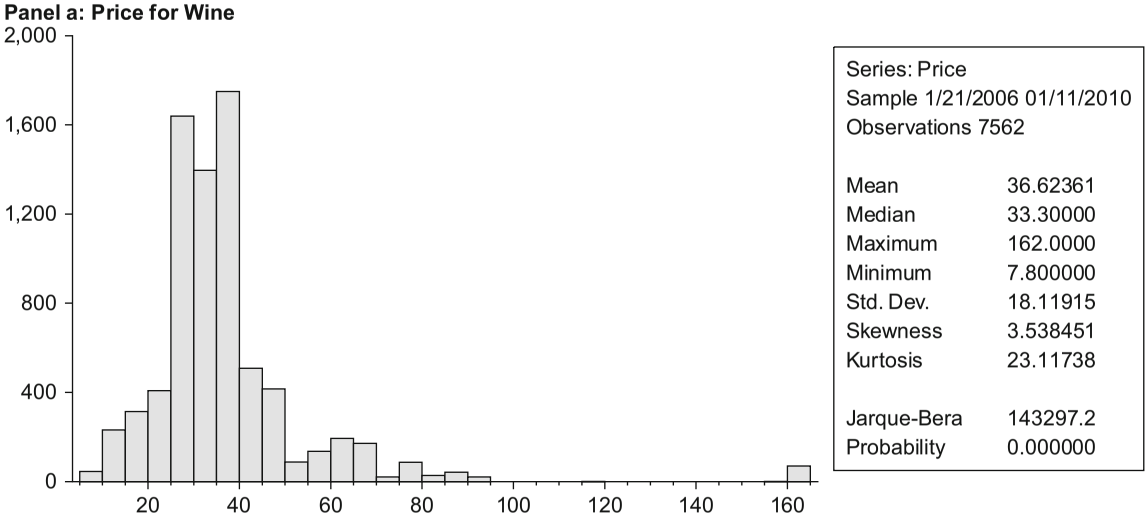

Figure 6.1a Prices and price differences for wine and beer

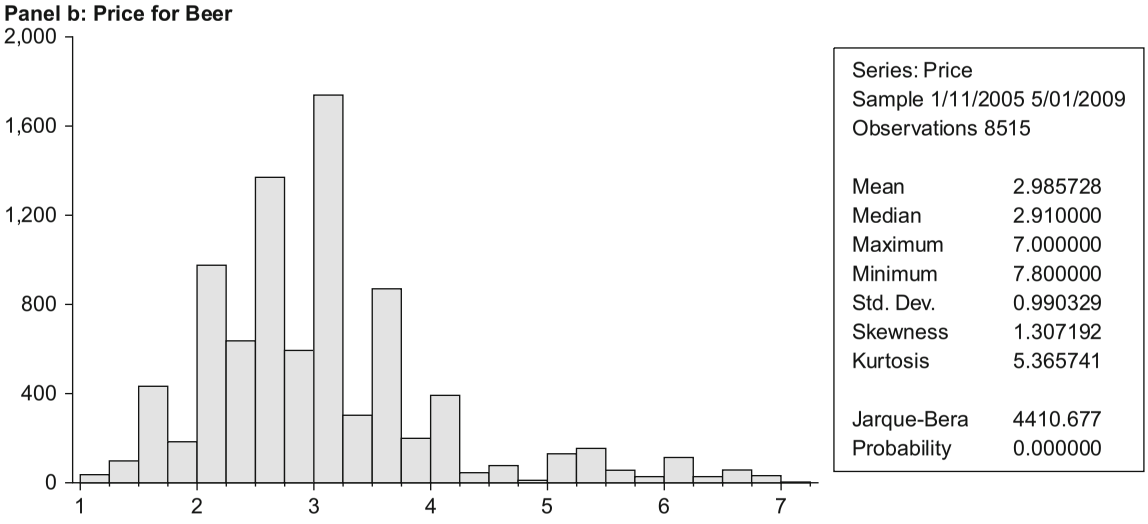

Figure 6.1b Continued

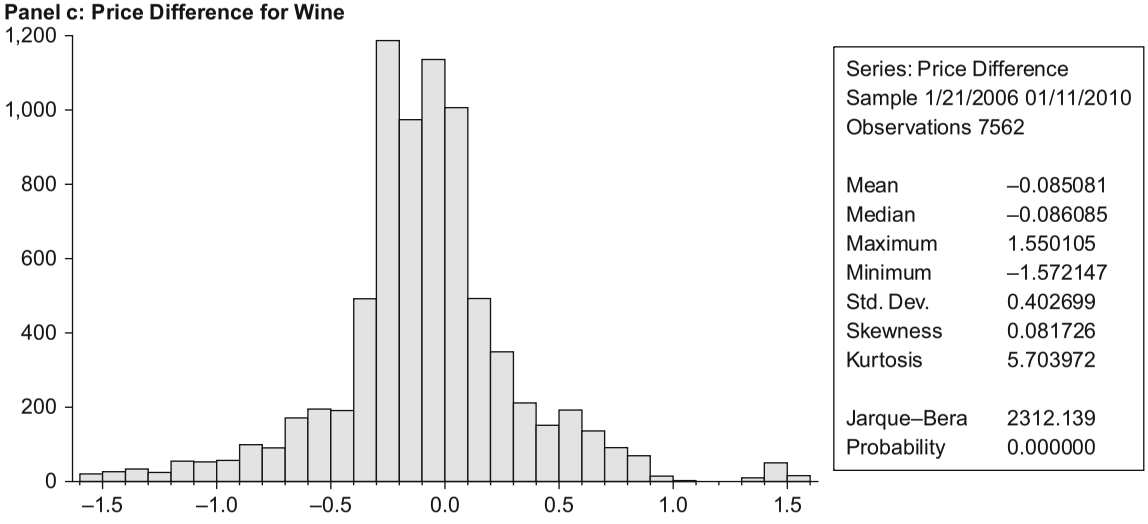

Figure 6.1c Continued

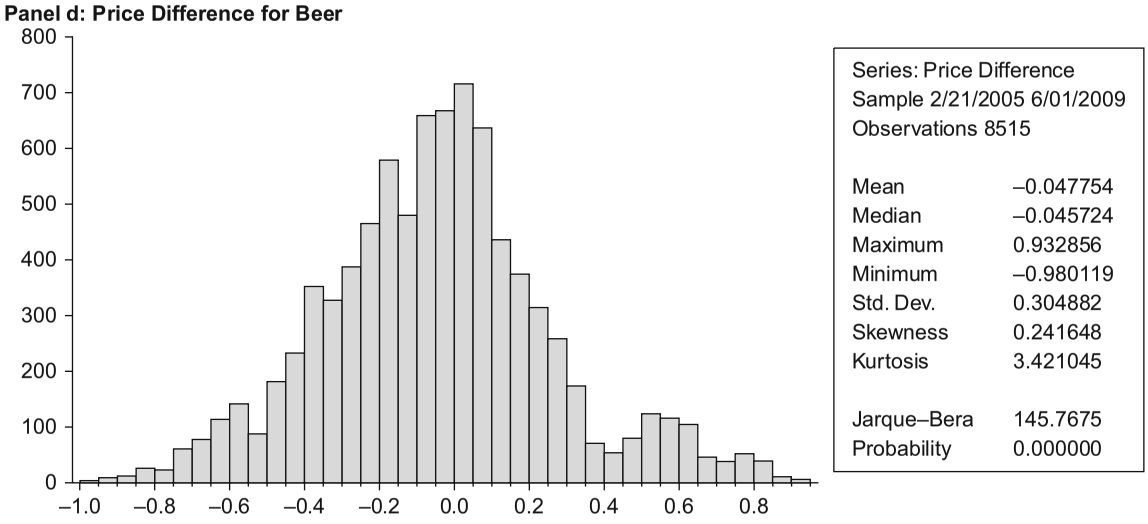

Figure 6.1d Continued

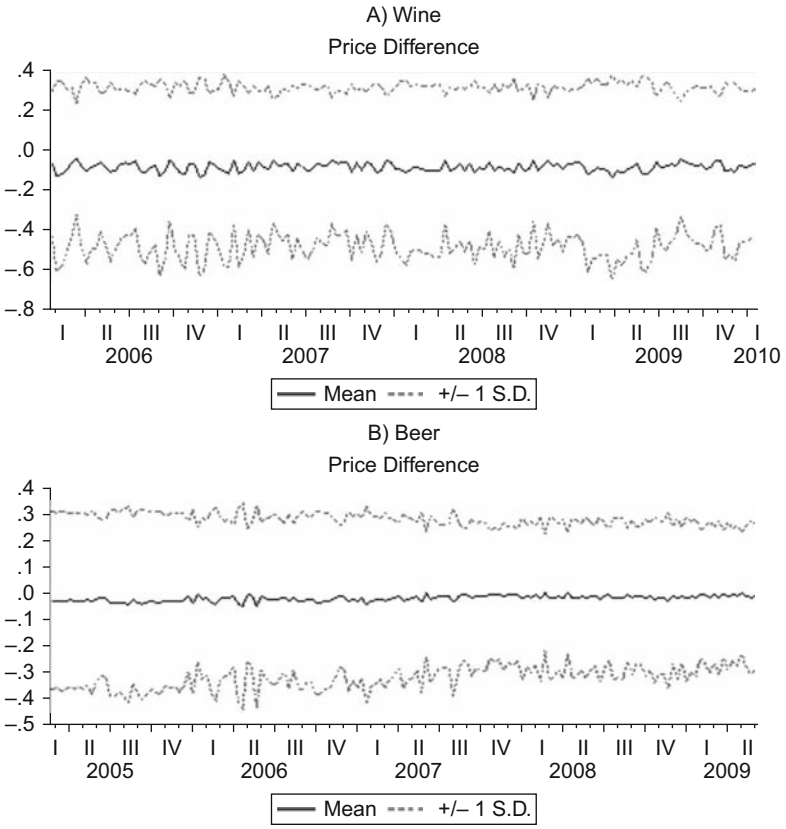

Figure 6.2 Mean and standard deviation of price difference for wine and beer

5 Univariate Unit Root test

The dataset used for this investigation covers 141 cities.[12] In order to conduct our analysis, we used "unit root test," an applied econometrics test developed by Dickey and Fuller (1979) .[13] Unit root test plays an important role in mainstream economics research, with numerous surveys and studies in the fields of economics and finance developed by using unit root test, encompassing topics such as purchasing power parity, unconditional income convergence hypothesis, and financial market bubbles, corporate profit persistence, financial leverage mean reversion, and price convergence (Perman, 1991; Campbell and Perron, 1991; Dolado et al., 1990).

Unit root test is used to verify the *stationarity* of a time series. For instance, the price of beer in a time series may fluctuate in the short run after an external shock due to increases in import tax, although fluctuation may stop at some point. We call the time series *stationary* if it exhibits these characteristics of stationarity, otherwise the dataset is said to contain a *unit root*. We can use this terminology to examine if two cities show evidence of price convergence by applying unit root test to their relative price. If the relative price exhibits stationarity behaviour, then price convergence is evident.

A rigorous assessment regarding price convergence across Chinese markets can be carried out through a univariate unit root test and panel unit root test.[14] Panel A of Table 6.1 presents unit root tests of relative price series for wine using evidence from 105 Chinese cities. Of these, only 11 cities (10.5% of the total number) show price convergence for wine. For beer, the convergence rate is much lower: only five cities (3.5%) show evidence of price convergence. Based on these results, we can therefore conclude that Chinese beer and wine markets are not well integrated, and there is no evidence of significant arbitrage activities in the two markets. It is possible that high transaction costs, internal trade barriers and imperfect market structure exist. Several panel unit root tests were performed to verify the robustness of our results. The outcomes of this exercise are presented in Table 6.2.

Overall, our findings suggest a general lack of evidence for price convergence for beer and wine markets, corroborating evidence provided by Fan and Wei (2006) indicating that non-perishable consumer goods have the lowest rate of convergence compared to other consumer goods in China.

The degree of local protectionism or market structure in other industries (e.g. the textiles, automobile and gasoline sectors) is probably another interesting aspect to consider. For instance, in the Russian textiles sector, there is strong evidence in favour of market integration, and so fewer hidden trade barriers in the domestic market (Lau and Akhmedjonov, 2012). This suggests that the textile market is efficient in Russia due to a better regulation and institutional arrangements made in anticipation of accessing the WTO. In addition, an investigation of the automotive market in the European Union (EU) between 1995 and 2005 identified exchange rate uncertainty as the main cause of price divergence across EU Member States, indicating trade liberalization as a key determinant for regional integration in the long run (Gil-Pareja and Sosvilla-Rivero, 2008). Finally, a study of price convergence mechanism in the Canadian retail gasoline market since 2000 indicated the internal

Table 6.1 Univariate unit root test of relative price

Panel A: Wine (evidence based on 105 cities)

City	Probability Value	Significance	Conclusion
Mianyang	0.0002	***	Converging to the national mean price
Yinchuan	0.0907	***	Converging to the national mean price
Yantai	0.0083	***	Converging to the national mean price
Jinzhou	0.0532	**	Converging to the national mean price
Beihai	0.011	***	Converging to the national mean price
Jilin	0.0196	***	Converging to the national mean price
Nanjing	0.0128	***	Converging to the national mean price
Luoyang	0.0511	**	Converging to the national mean price
Tai'an	0.0252	**	Converging to the national mean price
Tonghua	0.0076	***	Converging to the national mean price
Anshan	0.008	***	Converging to the national mean price
Number of instances of convergence	11 cities or 10.5%		

Panel B: Beer (evidence based on 141 cities)

City	Probability Value	Significance	Conclusion
Xiamen	0.0006	***	Converging to the national mean price
Shanghai	0.0152	***	Converging to the national mean price
Dalian	0.0452	***	Converging to the national mean price
Anqing	0.0142	**	Converging to the national mean price
Xingtai	0	***	Converging to the national mean price
Number of instances of convergence 5 cities or 3.5%			Converging to the national mean price

market as well integrated despite the introduction of fuel price regulations in Nova Scotia and New Brunswick which may potentially distort the market at a national level (Suvankulov et al., 2012).

The robust evidence of a lack of price convergence in the Chinese beer and wine markets indicates the two as a collection of separate regional

Table 6.2 Panel unit root tests of relative price series for China's 105 cities

	Wine		Beer	
Method	**Statistic**	**Prob.****	**Statistic**	**Prob.****
Null: Unit root (assumes common unit root process)				
Levin, Lin and Chu t	4.167	1	1.003	0.842
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.183	0.986	1.000	4.526
ADF – Fisher Chi-square	207.89	0.4891	215.66	0.918

markets, protected by barriers, rather than a single market. These empirical findings pose a question of whether new business ventures entering the domestic market could earn abnormal profit and capture market share. Therefore, further research is needed to examine the determinants of price convergence in the Chinese beer and wine markets.

6 Discussion and conclusions

This chapter has investigated the level of integration in the beer and wine markets across regions in China. From the findings gathered from our analysis, we can conclude that both the Chinese beer and wine markets are not well integrated, and that there is no evidence of significant arbitrage activities. After more than a decade of integration with the world economy following its economic reforms and entrance in the WTO, China remains a collection of separate regional markets protected by many barriers, rather than a single national market (Poncet, 2005).

Our analysis of beer and wine prices across different cities in the country tends to support the suggestion from Young (2000) and Poncet (2005) that China remains a fragmented market, with limited cross-regional price convergence that can be reflected in the test of the Law of One Price, in contrast with Holz's (2009) that indicates China has a relatively integrated economy.

As discussed in the literature review section, there are several factors that affect market integration. Speedy access to quality price information and availability of transport facilities are the most cited exogenous factors affecting price behaviour (Zhou et al., 2000). Given the fast diffusion of Internet, mobile technology and other Information and Communication Technologies (ICTs), and the significant improvement

of transport facilities (particularly with the development of high-speed railways in China), these factors might no longer pose barriers to interregional trade. Instead, interregional trade barriers may be fostered by forms of protectionism at a local level: although the central government has released control over prices, this function has been taken up by local governments (Young, 2000). Local protectionism represents a major barrier to market integration, given that local governments pursue a dual objective consisting of socio-economic stability preservation and fiscal revenues maximization (Poncet, 2005). Due to the growing interregional competition among substitute industries such as beer and wine production, local governments impose a variety of interregional barriers to trade which generate a significant fragmentation of the domestic market.

Other key factors that inhibit market integration are the historic differences among regions within China. In particular, the interregional income disparity in China is significantly prominent. Pedroni and Yao (2006) indicate that per capita incomes in the coastal provinces do not appear to be converging towards one another, revealing that the growth patterns among provinces with similar degrees of preferential open-door policies follow divergent paths. Likewise, the growth of interior provinces as a group do not show a converging pattern, but diverging instead. Lau (2010) further reports that the gap of income levels among Chinese provinces has been widening since the country's economic reforms. The growth patterns, along with other differential factors among regions in China are unlikely to become homogenous in the short run. Yet all these factors will continue to influence the economic performance of these regions as well as their differential consumer demand and subsequent prices.

The benefits of regional integration and the aggregate efficiencies associated with it are usually desirable (Baldwin and Venables, 1995). Moreover, internal integration may also have important redistributive effects, because the reductions in the costs of interregional transactions help to reduce interregional income differences and increase national growth rates (Martin, 1999). However, as suggested by Eberhardt et al. (2013), local protectionism prevents the efficient allocation of resources, reducing the benefits of scale economies and spatial spillovers. Such protective behaviour harms domestic market efficiency and offsets potential gains from a more liberal international trade policy regime.

Findings from this study seem to suggest that the Chinese central government needs to reduce local governments' protectionism in the

beer and wine markets and equally should promote market integration (and therefore market efficiency). Moreover, government policies should also encourage brewers in the country to specialize according to their comparative advantages. Obviously local traders who want to take advantage of price differentials among different cities will not be successful because of the lack of arbitrage opportunities and the unique market structure in these markets (e.g. allocative inefficiency).

Further reforms to reduce regional disparity are imperative. The Chinese government has already implemented policy initiatives such as the "Western Great Development" in 1998, the "Northeast Revival" in 2003 and the "Rise of Central China" in 2004 to narrow the gaps in terms of economic development among different regions. These policies provide excellent opportunities for both foreign and domestic investors. Relatively poor regions do show comparative advantages such as low prices of land and labour. Regional disparities still exist; therefore the Chinese government should focus on public investment improving infrastructures and the education system, increasing the efficiency of production and the rate of return on investment in the lagging regions. Continued financial reform is particularly needed to improve access to finance for investors in inland provinces and rural areas (Wang et al., 2014). Furthermore, both central and local governments should assume defined roles. For example, the central government should focus on equalizing regional disparities, while local governments should focus on public services and social development (Wang et al., 2014).

Foreign brewers entering the Chinese market should not consider the country as one single market, but as multiple subnational regional markets. Given that China is such a segmented market and the increasing purchasing power of a growing middle class in China's major cities, foreign beer brands should probably focus on highly developed cities such as Beijing and Shanghai. There are plenty of opportunities for foreign beer and wine brands to succeed in China, particularly with regard to premium beer because consumers' willingness to pay is higher for foreign brands.

The main limitation of our study is that we do not examine the determinants of price divergence. Future research should address this issue in more detail, in addition to investigating consumption convergence for beer and wine in China. There is a significant regional disparity in income and wealth across the country (Lau, 2010). Therefore, it may be useful to examine whether large cities generate higher demand (consumption per person) compared to small towns in the provinces.

Appendix 1

List of cities investigated in the study

Anqing	Guigang	Jiujiang	Qiandongnan Pref.	Tangshan	Yangzhou
Anshan	Guilin	Jiuquan	Qianjiang	Tianjin	Yantai
Anshun	Guiyang	Kongtong District	Qiannan Pref.	Tianmen	Yichang
Baoji	Haikou	Kunming	Qianxinan Pref.	Tieling	Yichun
Baotou	Hami Prefecture	Lanzhou	Qingdao	Tonghua	Yinchuan
Bayingolin Mongol Aut.Pref.	Hangzhou	Lhasa	Qinhuangdao	Tongling	Yiyang
Beihai	Hanzhong	Lishui	Quanzhou	Tongren	Yuncheng
Beijing	Harbin	Liupanshui	Qujing	Ürümqi	Zaozhuang
Bijie	Hefei	Liuzhou	Quzhou	Weinan	Zhangshu
Changchun	Hengshui	Mud,anjiang	Renshou County	Wenzhou	Zhangzhou
Changde	Heze	Nanchang	Sanming	Wuhai	Zhanjiang
Changsha	Hinggan League	Nanjing	Sanya	Wuhan	Zhengzhou
Changzhi	Hohhot	Nanning	Shanghai	Wuhu	Zhongwei Xian
Chengdu	Huangshi	Nanping	Shangqiu	Wuzhong	Zhoukou
Chenzhou	Hulunbuir	Nantong	Shantou	Xi'an	Zhoushan
Chongqing	Huzhou	Nanyang	Shaoguan	Xiamen	Zhuhai
Chuzhou	Ili Kazakh Aut. Pref.	Neijiang	Shaoxing	Xiangyang	Zunyi
Dalian	Jiamusi	Ningbo	Shenyang	Xianyang	
Daqing	Jiangmen	Ordos City	Shenzhen	Xingtai	
Datong	Jiaxing	Panjin	Shijiazhuang	Xining	
Fuzhou	Jilin	Panzhihua	Shizuishan	Xinxiang	
Ganzhou	Jinan	Pengxi County	Suzhou	Xuanhan County	
Golmud	Jincheng	Pingluo County	Tai'an	Xuzhou	
Guandu District	Jinhua	Pu'er City	Taiyuan	Yan'an	
Guangzhou	Jinzhou	Puyang	Taizhou	Yanbian Pref.	

Notes

1. Almost all goods were allocated at market prices by the early 1990s.
2. On-trade consumption of beer and wine refers to purchase and consumption of beer and wine sold in restaurants, bars, etc.
3. Off-trade consumption of beer and wine refers to purchase and consumption of beer and wine sold in retail stores.

4. The sign of price convergence across different geographical locations is a prerequisite for efficient resource allocation and hence proper functioning of free market economy.
5. Average percentage growth = 100*(final value/<initial value)^(1/number of years covered) – 100.
6. About 120% in constant terms with 2002 as base.
7. From RMB139.3bn to RMB307bn in constant terms with 2002 as base.
8. Computed by authors using a conversion factor of 83.35, thus number of bottles (billion) = total volume (million 9-litre cases)/83.35.
9. French and Italian consumers are expected to consume 50 litres per person per year, while consumers in the US are expected to consume 13 litres on average.
10. Per capita wine consumption in China increased from 1.12 litres to 1.5 litres between 2012 and 2013. However, this figure is still well below the 51.9 litre average recorded for France in the same year (Chow, 2014).
11. For details: http://www.chinaprice.com.cn/fgw/ProxyServlet?server=e450&urls_count=1&url=info/S_0_0_0_0.htm.
12. The list of cities included in this study is provided in Appendix.
13. The article received 4,322 citations from different social science disciplines since its publication. http://scholar.google.com/scholar?hl=zh-CN&q=Dickey+and+Fuller+%281979%29&btnG=&lr.
14. Literature on unit root test includes: Dicky and Fuller (1979), Campbell and Perron (1991), Maddala and Wu (1999), Levin et al. (2002), Im et al. (2003).

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7

The History and Development of Brewing and the Beer Industry in Africa

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1 Introduction

The brewing and beer industry in Africa dates back to ancient times and has gone through numerous changes over the centuries (Haggblade and Holzafel, 2004; Obot, 2013; Willis, 2006). The industry can be defined as the process, types and contexts of beer production, distribution and consumption. Van Wolputte and Fumanti (2010, p.12) noted that beer is not a single drink but implies many things serving as a "general denominator that covers a wide range of beverages, from nutritious gruels to industrial brews." Beer production and consumption have historically been integral to the fabric of the socio-economic lives of the people in the sub-Saharan Africa (SSA) region (Obot, 2006; WHO, 2014). It is also suggested to have played a vital role in the more recent political past of the African region (Van Wolputte and Fumanti, 2010). Accordingly, beer was produced by women mainly for the senior aged male groups to drink either at home, in groups or at special occasions (Haggblade and Holzafel, 2004; Willis, 2006).

Despite the integral nature of the beer industry in the lives of people in the region, substantial changes have taken place over centuries, including the commoditisation of indigenous beers which refers to the transformation of beer demand as desired commodities that could be bought, exchanged, traded or taxed (Van Wolputte and Fumanti, 2010). Other changes included the introduction of large-scale commercial production of new brands, and the penetration of the regional market by multinational breweries (Obot, 2013). Moreover, there are changes in drinking places/settings as well as an increasing patronisation of beer by women,

teenagers and young adults. Old cultures of beer drinking have been adapted to changing circumstances, and newer ones developed (Willis, 2006). Beer is currently a commodity that is in high demand across Africa and cannot be ignored (Van Wolputte and Fumanti, 2010).

Notwithstanding these developments, academic research has not kept pace with the changes and dynamism of the industry, resulting in substantial gaps in our knowledge of the African brewing and beer industry, as well as the current drinking cultures in Africa. Admittedly, it is difficult to generalise issues for such a large and diverse continent. The cultural, economic and geographical complexity of Africa implies that differences will exist in different parts of the region. In spite of these differences, there are useful general historical facts that can be unpacked and current dynamics discussed to illuminate our understanding of developments in the industry.

This chapter aims to cover this lacuna and to contribute to the limited literature by mapping out the genesis of the current brewing and beer industry in Africa, the changes that have taken place over centuries and the antecedents for these changes. Furthermore, the current nature and future prospects of the industry are discussed. Following this introduction, we turn our attention to understanding the historical nature of the brewing and beer industry in Africa. This is followed by discussions of the prominent changes that have occurred in the industry. The current state of the brewing and beer industry in Africa is then discussed. The future of the industry is then projected and the factors accounting for these projections discussed. Finally, a conclusion and limitations of the study bring the chapter to an end.

2 The indigenous African brewing and beer industry

Beer has been brewed, consumed and used for libation in Africa since ancient times (Heap, 2010). The brewing and beer industry thus existed in Africa long before European contact with people on the continent. For centuries the indigenous beer was an important part of the African social fabric and a prominent component of the African diet (Willis, 2006). These beers were brewed for consumption at ceremonies and social occasions such as funerals, weddings, festivals and other social gatherings (Haggblade and Holzafel, 2004). In addition, they were used for family consumption, entertaining guests or friends, as well as for ritual performances, religious rites and initiation ceremonies such as the rites of passage of an individual through certain stages in society (Willis,

2006). Beer drinking was also organised at the occasion of a circumcision or a returning migrant (Van Wolputte and Fumanti, 2010).

Beer played an important role in mobilising labour for cooperative work which was necessary for preparing fields, harvesting or building houses in the seasonal rounds of agricultural and domestic work (Haggblade and Holzafel, 2004). People exchanged their labour for beer (McAllister, 2010). The cooperative activities were purely reciprocal and beer drinking also facilitated discussions and understanding of arrangements for such cooperative work (McAllister, 2010). Thus, beer was supplied at different stages of the cooperative work to workers (neighbours and kin) who came together to cultivate the harvest or building houses (Willis, 2006). Arguably, both the nutritional and alcoholic content of beer served as a good energy source for continuing with the task until completion.

Furthermore, beer was used in initiating young men into warriors, and consumed by the young warriors as a key ingredient in their training for battle (McAllister, 1993). Leaders such as kings and chiefs were honoured with more beer as gifts in recognition for their political power than other elders in the community (McAllister, 2010). Moreover, the kings used beer as a political tool by distributing their supply of beer to young warriors who reciprocated with respect and supported their authority and power (Willis, 2002). Guests were also always welcomed by kings and leaders with beer (McAllister, 2010). The practice of drinking was encouraged by the kings who asserted their authority over everyone, including the elderly men (Bowdich, 2014). For instance, Willis (2006, p.4) revealed that "the king and other prominent men of the Asante drank extravagantly, letting the palm wine flow down their beards in a casual flaunting of excess; they plied their guests with drink; and on grand occasions they quite literally poured out drink for the populace, who were expected to become more drunk than their rulers."

The wide use of beer for rituals and libations to ancestors revolved around the notion that beer drinking was mainly for the older men and not for young men or women (Willis, 2006). Even in some cultures where women and young men did all the work, it was the older and wealthier men who drank first and drank the most (Willis, 2006). Speke (1967), however, argues that women and younger men also drank even if not as much as the older men. Notwithstanding, the historical practice of mainly older men drinking beer across communities in the region supported and sustained the practice of hierarchy and power in African societies (Landau, 1995).

Almost all the beer consumed then in Africa was home-brewed (Willis, 2006). These indigenous African beers are usually consumed in a state of continuing fermentation with a distinctly sour and yogurt-like taste (Haggblade and Holzafel, 2004). They were consumed immediately after brewing and could be stored only for a few days (Van Wolputte and Fumanti, 2010). The material used for the production and fermentation of beer came from a variety of sources such as sorghum, millet, maize, sugar cane, banana, honey, fruits and the sap of some palm trees (Haggblade and Holzafel, 2004; Roberts, 2010; Willis, 2006). These materials were locally cultivated and produced by communities across the continent. The process of home-brewing was relatively simple to the extent that almost anyone could make it (Willis, 2006). In fact, beer home-brewing was one of the main occupations of women, and as such it was a customary requirement for every young girl to learn how to brew local beer (Speke, 1967).

Today, the vast majority of traditional African beers are still home-brewed using a variety of grains (Van Wolputte and Fumanti, 2010). They are generally thicker, opaque and pinkish-brown in colour with an alcoholic content normally between 2% and 5% (Haggblade and Holzafel, 2004; Van Wolputte and Fumanti, 2010). The low alcoholic content levels, coupled with the thickness of the African indigenous beer, contributed to observers as well as consumers considering them to be as much a food as a beverage. The wide assortment of recipes as well as many possible combinations of malt and starch used in the brewing process of the indigenous beer across countries and regions on the continent, resulted in a wide variety of tastes and local names (Haggblade and Holzafel, 2004). Some of the names of the locally brewed beer in African countries include *pito* (in Ghana and Nigeria), *dolo* (in Ivory Coast, Burkina Faso, Mali, Niger, Togo), *chapalo* (in Benin), *walwa* (in Angola), *amgba* (Cameroon), *pombe* (in Kenya and Tanzania), *busaa* (in Uganda and Kenya), and *mqomboti* (South Africa).

3 The monetisation of indigenous beer and importation of bottled beer

As time went on, the African home-brewing and drinking practices underwent dramatic changes (Van Wolputte and Fumanti, 2010). Between 1850 and 1930, beer was imported into African economies for the limited European population (Heap, 2010; Roberts, 2010). The importation of beer disrupted the home-brewing and beer-drinking practices by changing the manner in which indigenous beers were produced and

consumed (Heap, 2010). The introduction of money in the exchange of goods and services in African economies during this period further contributed to the home-brew beer becoming a commercial product (Van Wolputte and Fumanti, 2010). Women began to produce and distribute these beers for sale (Haggblade and Holzafel, 2004). Home-brewing was therefore no longer for the limited purpose of social and ritual practices but extended to commercial purposes. Urbanisation and labour migration further motivated many into brewing for sale as a substitute for agriculture and cash cropping (Van Wolputte and Fumanti, 2010).

The sale of home-brewed beer by women was further facilitated by the ability of young men to earn money by selling their crops or earning a wage by labouring (Akyeampong, 1996; Wilson, 1977). The home-brewing of beer for sale in exchange for money became a source of independent income for women (Willis, 2006). This, together with the increased earning ability of young adults, challenged the established social restrictions on young adults and women and initiated the change of the beer-drinking culture. This trend led to the setting up of drinking spots (pubs) known in some countries as 'dolotieres', 'dolo bars', 'shebeen queens', or 'pito bars' (Haggblade and Holzafel, 2004). The stage for commercial beer production and consumption was set. These drinking spots were usually set up informally and operated predominantly by women (Van Wolputte and Fumanti, 2010).

Dobler (2010) refers to shebeens, dolotieres, dolo bars or pito bars as small bars usually in a shed made of wood or corrugated sheets where home-brewed beers are mainly served. The clientele of these drinking spots usually consists of people who live in the area or know the owner. Single passers-by may enter such drinking spots to quench their thirst but rarely stay long. They serve as places 'where memories are told and retold, hopes and ambitions expressed', and where issues and systems are evaluated in endless process of excitement (Van Wolputte and Fumanti, 2010). Beers sold in these spots are normally not taxed as they are outside the formal channels of government control (Jernigan et al., 2006; WHO, 2014). Other types of drinking spots also exist and are similar to the British pubs, as they are more formal with tables and chairs, pool tables, gambling machines and provide a larger variety of bottled drinks than the shebeens or dolotieres (Dobler, 2010). The excitement associated with these formal settings present them as a centre for state supervision and government control (Van Wolputte and Fumanti, 2010).

As demand kept increasing, business-conscious people in some regions established breweries to produce large quantities of the indigenous beer for sales in bottles to keep pace with demand. An example is the

'Chibuku beer' that is produced by breweries in eastern and southern African countries such as Kenya, Tanzania, Botswana, Malawi, Zambia and Zimbabwe (Haggblade and Holzafel, 2004). In addition to the breweries, the home-brewing of beer increased and became more commercialised to the extent that over 90% of current production in both rural and urban areas were cash sales. The increased earning ability of women and young adults further contributed to the erosion of social restrictions such as social pressures and protocols placed on them in the past. This correspondingly triggered an increased consumption of indigenous beers by young adults and women. Today, the indigenous beer, both home- and factory-brewed, is mainly consumed away from home in retailing outlets and pubs.

4 Imported bottled beer and spirits

European contact with Africa witnessed the importation of bottled beer and distilled spirits which were exchanged for African slaves (Obot, 2013; Odejide, 2006; Pan, 1975; Willis, 2006). Bottled beer, gin, rum, whisky, other distilled spirits and beverages, together with ammunition and firearms, were the essential trading items of the commerce between Europe and Africa in the infamous barter system of trade (Pan, 1975; Siiskonen, 1994). These were seen as prestigious goods and were in high demand by the kings and rulers who exchanged their slaves for them. In some instances these drinks were used by traders to pay chiefs and community rulers for passage through their villages with captured slaves on their way to the ships at the coastal areas (Hill, 2009). Drinking of these imported bottled drinks alongside the indigenous beer eventually became popular. Roberts (2010) reveals that Africans began to consume imported beers as a way of associating themselves with the lifestyles and values of Europeans. Yet in West Africa it was only the United African Company that was importing bottled beer for the limited demand by the Europeans (Roberts, 2010).

However, with colonisation, a set of restrictions on the drinking of imported bottled beer and spirits by Africans were put in place by the colonial administrators. Accordingly, there was an imposition on women and young people less than 18 years from drinking bottled beer. There was also a distinction between the types of beer Africans were allowed to drink. During this colonial period, Africans were allowed to drink only the traditionally brewed beers. Willis (2006, p. 8) recounts that: "In South Africa, and in most other parts of Anglophone Africa, African subjects of the colonial state who rejected locally made grain

beer, palm wine or other such beverages could find no legal alternative: all kinds of 'European' liquor – even bottled beer – were forbidden by law to Africans in these territories through most of the colonial period." Even in a few territories with a less restrictive drinking policy, only a tiny minority of Africans could legally buy and consume limited imported bottled beer and wine. Many of the sub-Saharan Africa countries were also forbidden from producing beer for European consumption. The policy further dictated where and when the imported bottled beer could be sold and consumed (Willis, 2006). Notwithstanding, demand for the imported beer continued to increase as cities along the coast also grew (Roberts, 2010). In 1933, the United Africa Company (UAC) established the Accra Breweries Limited in the then Gold Coast as the first West African brewery (Roberts, 2010). Based on the increasing demand, the Nigerian Brewery Limited was also established in 1949 (Roberts, 2010).

Thus, while the market and demand for bottled beer was expanding, another layer of restrictions impacted on the overall profitability potential of the industry. Arguably this was another type of power mechanism instituted using the brewing and beer industry. It again enforced distance between ruler and subject (Willis, 2006). Willis (2002), however, notes that this restriction was also born out of the concern that beer drinking made people unfit for work and disrupted the labour supply. However, these attempts at controls turned imported bottled beers further into high-status consumption products, and fuelled people's desire for such drinks as well as a steady growth in their sales (Willis, 2006). With time, people quickly learned the techniques of how to illegally produce bottled beer and the practice eventually became common, particularly in the West African region (Akyeampong, 1996).

The sweeping attainment of independence by many African countries in the 1950s heralded the removal of these restrictive laws, making bottled beer legally available to most Africans (Willis, 2006). A number of the newly independent nations established national breweries, including Ghana Brewery Limited, Nigeria Brewery plc, Swaziland Breweries, Lesotho Brewing Company, Kenya Breweries Limited and Tanzania Breweries Limited (Jernigan et al., 2006; Willis, 2003). Consumption of imported European bottled beer was then encouraged. Per capita consumption of recorded beer sales increased rapidly from 1970 to 1980. The SSA region was seen as an untapped and lucrative market by bottled beer producers in search of new and expanding markets to compensate for the declining consumption in the mature markets of North America and Europe (Jernigan et al., 2006). Many alliances were

formed between international beer companies and the new independent African states. Although a wave of nationalisation in the 1970s threatened these alliances, the economic structural adjustment and liberalisation programmes in many of these independent states consolidated these companies' interests in the African brewing and beer industry and their relationships with the new independent African states (Bryceson, 2002). With the emergence of a middle class and a large population, the demand prospects of Westernised beer consumption was estimated to be positive as the trend was set to continue.

However, instead of increasing or flattening, recorded beer consumption in Africa began to fall steadily from 1980 to 1999. This sudden change of consumption trend was facilitated by the 1980s' global recession, military conflicts, corruption and HIV prevalence across the length and breadth of Africa during that period which together depressed economic growth rates in the region (Jernigan et al., 2006). Economic growth rates from 1980 to 2002 fluctuated between negative 1.5% and positive 1%, while the rest of the world recorded growth rates of almost 2% during this entire period (Artadi and Sala-i-Martin, 2003). Many global beer brewers therefore turned their attention to China and Eastern European markets which were more promising during that period than Africa. South African Breweries (SAB) took advantage of that and made inroads into the rest of SSA (Jernigan et al., 2006). It acquired competitors such as Ohlsson Breweries, Chandlers Union Breweries, Swaziland Breweries and Lesotho Brewing Company. It also went into alliances with major multinational brewers such as Guinness, Heineken and Carling breweries; and built new breweries in countries such as Angola and Botswana (Jernigan et al., 2006). These measures consolidated the company's dominant position in Africa.

Positive economic growth and increasing affluence coupled with the consumption pattern of beer from 2005 presented a positive market potential to investors once again (Willis, 2006). The increasing population perceived as potential consumers, the falling poverty levels on the continent, and the comparatively low consumption rates per capita, all painted a substantial market potential in Africa (Jernigan et al., 2006). Beer consumption in Africa was never attached to the intense patriotic feelings as in other parts of the world, particularly in Asia (Slocum et al., 2006). Since then, a number of global multinational breweries and distilleries such as Heineken and Diageo entered the African market by acquiring and controlling many of the national breweries (Obot, 2013). They have since consistently and actively engaged in the African beer and brewery industry by producing and distributing their drinks (Willis, 2006).

5 Current and future state of the African beer industry

The limited scholarship on brewing and beer in Africa has noted the fluctuations in production, distribution and consumption of beer over the past four decades (Odejide, 2006). Following a period of depressed consumption (Jernigan et al., 2006), recorded adult per capita consumption between 2001 and 2005 increased by 25% (WHO, 2011). The increase in the rate of beer production and consumption since the early 2000s has therefore been acknowledged (Siiskonen, 1994; Willis, 2006). Arguably, this increasing trend is occasioned by liberalisation and deregulation of the industry and African economies in general, free trade, globalisation of markets and improved transportation systems in African countries (Jernigan et al., 2006; WHO, 2014). Moreover, the erosion of traditional control measures on beer consumption, and the introduction of new drinking customs and institutions that allow equal access of beer to women and adolescents may equally be a contributing factor (Odejide, 2006; WHO, 2014). A new variety of beer products with fruity and sweet tastes, as well as drinking in pubs, are also increasingly presented, particularly to young people as good experiences, concepts and lifestyles (Odejide, 2006). The brewing and beer industry is one of the thriving industries on the African continent (Van Wolputte and Fumanti, 2010).

Beer drinking in Africa is no longer defined by age or gender, but overwhelmingly by income (Bryceson, 2002; Willis, 2006). Although the influence of tradition still remains, the patronisation of Western beers has penetrated into the remote villages as they have become the preferred drink choice for anyone who can afford it (Jernigan et al., 2006; Obot, 2006). There has also been a surge in the brewing and bottling of local beer for commercial purposes (Obot, 2006). These products are drunk at different places and times by different sorts of people who cannot afford the imported or nationally recognised bottled beers. Nonetheless, the traditional fermented beers such as *burukutu, dolo, chapalo, pito and palm wine* or gin-like (sometimes illicit) drinks like *kachasu* in Zambia, *ogogoro* in Nigeria, *akpeteshie* in Ghana and *gongo* in Tanzania are consumed mostly in the rural areas and among the urban poor (Obot, 2006, p.18). These, however, remain unrecorded as they are not taxed but are produced, distributed and sold outside the formal channels of government control (Jernigan et al., 2006; WHO, 2014).

Notwithstanding, the beer market in Africa is not fully tapped and has substantial growth potential (Jernigan et al., 2006). Currently the brewing and beer industry is still more in the sub-Sahara region as

alcohol consumption is discouraged in the North African region in line with the values of the Islamic religion which is predominant in that part of Africa. Although limited wine is produced in Tunisia for export, beer production, distribution and consumption is limited in the North African region. Table 7.1 below depicts the general drinking levels among males and females of more than 15 years of age in different regions.

Table 7.1 reveals that only 40.2% of males and 19.6% of females of ages 15 years and above drink in the African region. This consumption level is below the world average of 47.7% male and 28.9% female consumption levels. The consumption level in SSA also translates into an unserved market of 59.2% males and 80.4% females in the region aged 15 years and above. The last column of Table 7.1 refers to the proportion of male drinkers as compared to female drinkers in all the regions. The ratio of male to female consumption in the SSA region is 2:1 suggesting that as many as twice the number of males as compared with females drink in Africa. This confirms the view that many women in Africa tend to abstain from alcohol and for that matter beer for life (Martinez et al., 2011). The high level of females' abstinence from beer consumption may arguably be due to the influence of cultural, religious and social factors.

Figure 7.1 below further highlights that only 40% of the recorded alcoholic beverages consumed in Africa are beer, followed by wine at 37%, spirits at 12% and other alcoholic drinks at 11%. Table 7.2 below presents the percentage of beer consumption in 2010 among 15-year-olds and above in all African countries. The measure is in litres of beer consumption. Table 7.2 reveals that in some countries, such as South Sudan and Mauritania, the beer industry is very much untapped. Moreover, consumption levels in many countries in the region are

Table 7.1 Proportion of current drinkers among all 15+ years

WHO Region	Males (%)	Females (%)	Males/ Females (%)
African Region	**40.2**	**19.6**	**2.1**
Americas Region	70.7	52.8	1.3
Eastern Mediterranean Region	7.4	3.3	2.2
European Region	73.4	59.9	1.2
Southeast Asia Region	21.7	5.0	4.3
Western Pacific Region	58.9	32.2	1.8
World	**47.7**	**28.9**	**1.6**

Source: WHO (2014).

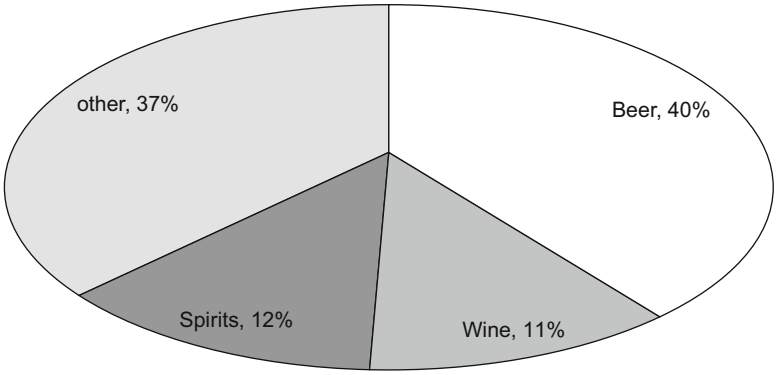

Figure 7.1 Recorded alcohol consumption by type, 2010
Source: WHO (2014).

Table 7.2 Beer consumption levels in sub-Sahara African countries, 2010

Consumption level (%)	**Country consumption levels of beer (%)**
Below 10%	South Sudan, Mauritania (0%); Sierra Leone (6%); Gambia (6%); Nigeria (8%); Malawi (9%); Uganda (9%)
10–19%	Burkina Faso (10%); Tanzania, Rwanda, Liberia (11%); Mali (13%); Côte d'Ivoire, Central African Republic (16%)
20–29%	Guinea-Bissau (20%); Comoros (23%); Zambia (23%); DR Congo (24%); Sao Tome and Principe (24%); Zimbabwe (24%); Burundi (25%); Equatorial Guinea (28%)
30–39%	Ghana (30%); Swaziland (33%)
40–49%	Cameroon (45%); Niger (46%); South Africa (48%); Togo (49%)
50–59%	Ethiopia (50%); Lesotho (51%); Benin (55%); Senegal (55%); Botswana (56%); Madagascar (56%); Kenya (56%)
60–69%	Algeria (63%); Mozambique (63%); Angola (64%); Eritrea (64%); Cape Verde (64%); Chad (66%); Mauritius (66%); Seychelles (67%); Gabon (68%)
70–79%	Congo (78%); Guinea (79%)
80–89%	None
90–100%	Namibia (97%)

Source: WHO (2014).

below 30%. Nigeria, which has the largest market in the African region, records only 9% consumption level of beer as of 2010. South Africa, with a substantial market, also has only 48% beer consumption level. It is only in Congo, Guinea and Namibia where consumption levels are above 70% (see Table 7.2). Figure 7.1, however, confirms the view that beer remains the most preferred beverage across the African continent (Obot, 2013).

Arguably, positive economic development of a society has a positive influence on beer consumption levels. A greater economic wealth is broadly associated with higher levels of consumption and lower abstention rates (WHO, 2014). The sustained positive economic growth rates of many African countries signal an increasing level of disposable incomes and purchasing power of people and hence a favourable market potential (Obot, 2013). Additionally, there is an increase in population in Africa which could eventually lead to high levels of consumption; however, there is also a large pool of abstainers (WHO, 2014). Moreover, there are limited or no restrictions on marketing and promotional activities and the enforcement mechanisms of these limited restrictions are at best ineffective (Obot, 2013). Based on the above factors, an increase in brewing and beer consumption in the region is projected up until 2025 (WHO, 2014). Accordingly, the number of potential consumers and the total amount of beer consumed in the region during this period might substantially increase because of the high growth rate and potential increase of the adolescent and adult population (WHO, 2014).

6 Marketing, health impact and regulations

The largely untapped African beer market has been described as a 'jewel' and companies such as Heineken, Diageo and SABMiller are investing heavily in building new breweries, expanding to other countries and advertising their products (Obot, 2013). As local products are increasingly capturing some of the market share of the established firms, competition is even becoming more intense in recent times. Both established industrial giants and local players are escalating their marketing and promotional activities across the SSA region as the competition heats up (Obot, 2013). The fragmented nature of the African market, coupled with infrastructural problems, is however posing a challenge to the effective promotion and distribution of beer and beer products. Arguably the poor transportation and communication systems, particularly in the rural areas, complicate distribution and other operational issues. Additionally, the economic, institutional, cultural and geographical

differences across the continent have also had a profound impact on the marketing of beer products by companies.

As a result, television and radio commercials, billboards, newspapers, magazines and the Internet are used as marketing channels for beer and beer drinking places in African countries (Anderson et al., 2009; De Bruijn et al., 2014). Also, events that attract people, particularly the young ones, are usually targeted as good places to advertise beer by companies and distributors. Some of these events include beauty contests, sports events, carnivals, fashion shows, music segments on radio and other sponsored programmes (Jernigan et al., 2006). Advertising at such events has been found to be associated with young people's subsequent intention to drink (De Bruijin et al., 2014; Kwate and Mayer, 2009). The movie, music and sports industries are being used equally to promote beer products (Obot, 2013). Scholars have suggested that beer advertising has a stronger influence on people in this context to drink more than in Western cultures (De Bruijn et al., 2014). It has also been found to influence and enhance the likelihood of people who abstain from beer to initiate beer drinking (Anderson et al., 2009; Henriksen et al., 2008).

The trend of beer marketing and increasing consumption in the region has also attracted an increasing body of research on the health-related impact of beer drinking (Obot, 2013; WHO, 2014). Accordingly, beer drinking is, in excess over a long period of time, injurious to people's health as it contributes to morbidity, disability and mortality. Some of the health-associated effects of beer drinking are suggested to include cancers, diabetes, disorders, infectious diseases, unintentional and intentional injuries, and neonatal conditions (WHO, 2014). According to WHO (2014), about 5.9% (3.3 million) of all global deaths in 2012 were attributable to beer and alcohol drinking. The African region, however, recorded the lowest number of deaths. Nevertheless, it is suggested that developing countries such as those in Africa are affected disproportionately by a large burden of beer- and alcohol-related problems (De Bruijin et al., 2014; Rehm et al., 2009). Obot (2013) thus noted that in 2010 beer and alcohol drinking constituted the leading risk factor for diseases in the sub-Saharan African region.

The potential burden on economies has also been articulated (Obot, 2013; WHO, 2014). While excessive alcohol consumption can be harmful, there is substantial medical literature suggesting that moderate alcohol consumption is beneficial for health and well-being (Baum-Baicker, 1985; Stampfer et al., 2005; see also Chapter 1 in this book). Accordingly, moderate consumption of alcohol effectively reduces stress, tension and depression. It is also found to increase overall affective expression,

happiness and certain types of cognitive performances such as problem-solving ability and short-term memory (Baum-Baicker, 1985).

Notwithstanding, the increasing attention on both the economic and health burden of beer drinking is triggering the development of policies by countries in the region to regulate beer drinking as well as its marketing (Obot, 2013; WHO, 2014). Many countries are using increasing taxation and excise duties in controlling the marketing of beer and alcohol in general (WHO, 2014). In some countries, such as Gambia, advertising beer on television, radio or through sport sponsorship is prohibited (De Bruijn et al., 2014). In other countries, such as Ghana, Uganda and Nigeria, the brewing- and beer-related policies and regulations developed so far are not very strict (De Bruijn, 2011). In fact, Uganda and Ghana both rely on self-regulation by the brewing and beer industry (De Bruijn, 2011; De Bruijn et al., 2014). Madagascar, on the other hand, has legislation that prevents beer advertising as well as sale anywhere near public institutions such as religious buildings, hospitals and schools (De Bruijn et al., 2014). Because of religious reasons, countries in North Africa also have restrictive policies on beer drinking and marketing. Notwithstanding, the general regulatory framework in the SSA region is still comparatively favourable, and both local as well as multinational firms are taking advantage of that to expand their products in this underserved market.

7 Conclusion

This chapter has examined the development of the brewing and beer industry in Africa since pre-colonial times to the present. The paper uncovered that beer drinking and the industry in general is rooted in the socio-economic fabric of countries in the region. Beer can be considered as the most social lubricant in African culture as it is used for a variety of social, religious and political settings. Furthermore, the paper highlights that the industry has gone through a number of changes over centuries. Urbanisation, labour migration, market liberalisation and structural adjustment programmes have contributed to changes in the brewing and beer industry. Young adults and women challenged the established social restrictions on them as they earned wages for their labour. This trend led to the setting up of drinking spots across many communities in Africa. New technologies and ingredients further resulted in the bottling of home-brewed beer for commercial sale.

The study further underscored that the beer market is largely untapped and the industry for brewing and beer has a substantial growth potential.

This stands in stark contrast to the matured developed markets where sales have stagnated and in some cases declined for a number of years (Roberts, 2010). Both multinational companies and local companies are meticulously investing and expanding their operations, as well as marketing and promoting their products. These efforts are meant to enable them make more inroads into this underserved market. Local brewers are also producing and bottling new types of beers for this market. The situation therefore projects an intense rivalry among industry players in the long term.

The present study suffers from some limitations. First, the brewing and beer industry is under-researched. Thus, there have been limited sources of published work that could be used in producing this chapter. Much of this published body of literature covers the wider alcoholic beverages and not only beer. Thus obtaining reported data specific to the beer-brewing industry for this work became difficult. Notwithstanding, this chapter contributes to enhancing our knowledge of the development of the brewing and beer industry in Africa.

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8

South of the Border: The Beer and Brewing Industry in South America

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1 Introduction

This chapter presents the history of beer brewing from its beginnings in South America, analysing how the beer and brewing industry developed as part of the industrialization process that developed in the region from the late sixteenth century until the early twenty-first century.

The chapter comprises five sections, including this brief introduction. The second section presents a chronological account of beer brewing in the main regional economies of South America. The third section examines data about beer production and trade to illustrate the importance of South America in the global beer industry. The fourth section discusses the most important mergers and acquisitions (M&A) in the South American brewing industry, investigating how large multinational companies bought regional and national breweries which accelerated the resulting industrial concentration in these economies. Finally, the penultimate section presents some reflections on how domestic capital turned the traditional South American brewing companies into multinational actors. Conclusions are presented in Section 6.

2 A brief history of beer and breweries in South America

In South America, various fermented alcoholic beverages were the precursors of beer during the pre-colonization era. The sustained production and consumption of fermented beverages among ancient indigenous populations provide evidence of millenarian traditions, based on extensive knowledge and skills about plant cultivation, harvesting and processing.

Fermented beverages were mainly consumed during religious ceremonies. The *tesgüino*, obtained from corn grains or cane, was brewed also in many other parts of South America. This beverage is still very popular in the north of Mexico, and regularly consumed by local tribes including the Opata, Pimas bajos del sur, Taraumaras, Yaqui, Tepehuanes del Norte, and the Huicholes. Traditionally, the consumption of *tesgüino* accompanied ceremonial purposes, for example, the Tarahumaras drink it to venerate "Father Sun" and "Mother Moon" in order to provide them with rain (Fournier and Mondragon, 2012).

Another beverage, *pulque,* was obtained from the *maguey* or agave, known as the "wonderland tree," a very important plant for Mesoamerican civilizations (Fournier and Mondragon, 2012). According to sixteenth-century chronicles, but before the Spanish Conquest, the consumption of pulque was restricted to the elderly or sick, to postpartum women and to hard workers. Other individuals were authorized to drink *pulque* only during the celebration of the tenth month, which was dedicated to death. Those who were born on the day dedicated to one of the two god patrons of the beverage, Ometochl or Conejo, were cursed to get drunk the rest of their lives (Fournier and Mondragon, 2012).

The chronicles reveal also that, when Christopher Columbus discovered the "New World," indigenous people brewed fermented beverages that tasted similar to English beers (Contreras and Ortega, 2005). The Spanish conquistadors preferred wine to beer, but there were no optimal conditions in the newly founded lands to produce wine, though ideal conditions existed for the production of beer which needed the Crown's approval. In June 1542, Alfonso Herrera became the first to obtain a license authorized by King Charles V to brew beer in the colonies, and established the very first beer brewery in Amecameca, México State. However, the natives did not readily accept beer and continued to drink their own traditional fermented beverages (Contreras and Ortega, 2005).

The production of beer in South America remained limited for three centuries. National brewing industries and markets started to develop only at the end of the nineteenth century. In the five main regional economies of South America – Argentina, Brazil, Colombia, Chile and Mexico – this was one result of the Industrial Revolution, which also brought significant growth in transport and communications infrastructure. Brewing activities were very diverse among countries, and were mostly dependent on imported raw materials and technologies. Chile developed a strong domestic wine industry, while Argentina, Brazil,

Colombia and Mexico were first oriented towards commercializing liquors and spirits. All converted to beer brewing as a second stage.

In Chile, 46 breweries and distilleries operated in Santiago in 1867, and 73 breweries were in operation in 1884, mostly located in the provinces of Santiago, Valparaíso and Quillota. Of these breweries, 50 were owned by German immigrants (Fernández Labbé, 2006). Despite production difficulties, the rapid growth of breweries benefited from the high costs of transport which favoured small, local brewers. With the expansion of the national railway network, competition among small breweries became fierce, leading to M&A in the Chilean beer industry. Between 1916 and 1930, La Compañia de las Cerverías Unidas (CCU) became Chile's leading brewery (Couyoumdijan, 2004).

CCU began the construction of workers' housing projects in Limache in 1937. In 1959, the company started producing soft drinks for Pepsi Cola. In 1986, the Luksic Group, through Quiñenco S.A., and the German group Schörghuber, via Paulaner-Salvator AG, formed a joint venture with the company Rentas S.A. which eventually became the major shareholder in CCU. During the 1990s, CCU began to produce and distribute Paulaner in Chile. CCU acquired control of Karlovacja Pivovara (Croatia) and entered the Argentine and Peruvian beer markets. In 2003, Heineken formed a joint venture with BHI that included partial ownership of CCU, and signed several agreements with AB-InBev for the production and distribution of many beer brands in Argentina, Chile and Uruguay (CCU SA, 2015; Wehring, 2014).

In Brazil, tastes for alcoholic beverages were influenced by Portuguese colonizers. Between the nineteenth and twentieth centuries, a liqueur obtained from sugar cane, *cachaça*, became the biggest selling alcoholic beverage. Imported wines from Portugal, France and Italy were frequently available in the hotels and restaurants of São Paulo and other main cities. Imported beers from Germany were also available, but their consumption was marginal. However, local breweries started to emerge in minor towns, such as Juiz de Fora, where three local breweries opened between 1880 and 1886 (Luiz de Souza, 2004). Small regional breweries dominated the beer market until the 1930s, when the Brahma and the Antarctica breweries increased their production and acquired large sections of the Brazilian market.

Brazil was the first country in South America to experience a merger between a national brewer and a multinational brewing company. In 1999, AmBev was formed through the merger of Companhia Antarctica and Cervejaria Brahma, which subsequently merged with the Belgian company Interbrew to form InBev in 2004 (Howard, 2014). This company

became AB-InBev in 2008 (Leonard, 2012). In 2003, AmBev acquired Cervecería y Maltería Quilmes, the largest Argentine brewer with subsidiaries in Bolivia, Paraguay and Uruguay. In the same year, AmBev also acquired 80% ownership of the Ecuadorian Cervecería Suramericana, renaming the company Compañía Cervecera Ambev Ecuador. In 2004, AmBev acquired a 66% stake in Embotelladora Dominicana from the Dominican Republic and renamed it AmBev Dominicana. In 2007, AmBev acquired Goldensand Comércio e Serviços Lda., the controlling shareholder of Cervejarias Cintra Indústria e Comércio Ltd., a local brewer present in the Southeast of Brazil. (AMBEV, 2015). Today, AmBev is the operative arm of AB-InBev in South America, and covers business agreements with Pepsi in Argentina, Bolivia, Uruguay, Peru and the Dominican Republic (AMBEV, 2015).

In Colombia, the first breweries developed with the fast industrialization processes that occurred at the end of the nineteenth century. These breweries were horizontally integrated with companies producing other goods, such as soft drinks. During the first decades of the twentieth century, the beer industry became one of the most important industries in the country. The 1930s were characterized by M&A in the Colombian beer market. Of particular interest is the case of Consorcio de Cervería Bavaria, S.A., also known as Bavaria. This company originated from the merger of Bavaria de Bogotá and Continental de Medellín, and with the acquisition of Consorcio las Cervecerías Unidas de Colombia de Cali. This operation was financed by Industrie Maatschappij, a joint venture funded by Dutch and German families with interests in the country. It took seven years for Bavaria to become the largest brewing company in Colombia (Martinéz Rey, 2006). During World War II, the Colombian government confiscated and nationalized German-owned property in the country, and Bavaria was acquired by local investors. The new managers started an aggressive campaign of expansion, building new breweries in commercially remote areas and promoting horizontal integration. Between 1943 and 1975, M&A gave Bavaria a complete monopoly of the Colombian beer market (Martinéz Rey, 2006; Plano Danais, 2015). This monopoly lasted until 1995 when new companies, such as Cervecería Leona and the Venezuelan Polar, entered the market. In 2005, Bavaria merged with SABMiller (Plano Danais, 2015).

Between 1880 and the early 1900s the largest share of beer consumed in Mexico was imported from the United States, Great Britain and Germany. Beer was a very expensive beverage compared to traditional alcoholic drinks like pulque or mezcal. Being up to 30 times more expensive, beer was rarely accessible to the masses (Recio, 2007). The modern

brewing industry in Mexico gained momentum after the 1910 revolution. Companies in the north and centre of the country, with a privileged access to import of raw materials, dominated domestic production.

In the 1940s, Mexico adopted import-substituting policies.[1] However, the Mexican beer industry remained characterized by several medium-sized producers until the early 1980s, when three large companies, Grupo Modelo, Cervecería Cuahutemoc and Cervecería Moctezuma, started to progressively substitute locally produced for imported barley. The three companies began to act as brokers for barley farmers, supporting them with advanced technology to produce barley. The Mexican brewing industry remained vertically integrated and highly concentrated in the hands of a few national companies (Salomón, 2005; Medellin, 1980).

The Mexican brewing industry changed significantly after Mexico signed the General Agreement Trade and Tariffs (GATT)[2] in 1986 and the NAFTA (North America Free Trade Agreement)[3] in 1994. In 1988, Cervecería Cuahutemoc acquired Cervecería Moctezuma and later became FEMSA Cerveza, establishing a duopoly[4] with Grupo Modelo in the domestic market. While production by both brewing groups still targeted the domestic market, commercial alliances with large international breweries opened the way to export markets. As a result, Mexico became the first Latin American exporter of beer to the United States.

Beer brewing in Argentina has existed for more than two and a half centuries, and, as in most Latin American countries, it was first introduced by European immigrants who came to the New World. Towards the second half of the eighteenth century, small breweries founded by immigrants began to emerge (Oliver and Colicchio, 2012; Krebs, 2015). The nascent Argentinean brewing industry operated almost exclusively with imported raw materials. Local breweries differed significantly because of poor communications and the absence of ice to cool the beer during transport (CCU Argentina, 2012).

Between 1860 and 1880, the Alsatian immigrant Emilio Bieckert started brewing in Buenos Aires. Another brewery began its operation in 1888 under the direction of German immigrant Otto Bemberg. The legacy of these two brewery companies live on in the "Bieckert" and "Quilmes" brands that are currently produced by AB-InBev. In 1863, the German immigrant communities started to celebrate the Oktoberfest in San Carlos and Esperanza. The Brewery Isenbeck opened in 1893 and continued to operate independently until 1990 when it was taken over by SABMiller (Oliver and Colicchio, 2012; Krebs, 2015). In 1912, another German immigrant, Otto Schneider, founded the Santa Fe Brewery in the town with the same name; this brewery eventually became part of

CCU Argentina. In 1917, CCU implemented the production of malt in Hudson, Argentina. Since 1998, Cargill malt processes in Bahia Blanca (south west of Buenos Aires) have been marketed under the Malta Premium brand (Oliver and Colicchio, 2012; Krebs, 2015).

During the 1990s the neoliberal policies of President Carlos Menem opened the market to investment by Brahma, and Isembeck and Warsteiner (Krebs, 2015). Currently the Brazilian brand has been owned by AB-InBev since 1999, while German brands have belonged to SABMiller since 2010 (Sainz, 2010; Bidegaray, 2010). Since 2010, four large companies: Cervecería Quilmes Industrial S.A., Brewing Company (CICSA), Inversora SA Brewing (ICSA) and Isenbeck are totally responsible for domestic production. The Quilmes Company, controlled by the Belgian–Brazilian company InBev, has 71% of the market share, followed by a Chilean company, Compañia de la Cervecerías Unidas (CCU, United Breweries Company) with a 16% share of consumption. The third ranking ICSA corresponds to 7% of the market. The remaining 6% is supplied by Isenbeck (Ablin, 2011). In recent years Argentina's regional and national trademarks have been absorbed by leader companies which extended their trademark portfolio and maintained their traditional beers by using niche or segment strategies or secondary trademarks to avoid dilution of their first-class trademarks in price wars (Bullard, 2004). In 2002, AmBev obtained authorization to acquire 230.92 million shares that represented 36.05% of the voting shares and 37.5% of the value of Quilmes Industrial, a company that controlled Cervecería y Maltería Quilmes (Bullard, 2004).

Argentinean exports between 2000 and 2011 increased both in value and volume, particularly from 2005. Paraguay, Chile, Brazil and Uruguay were the major buyers of Argentinean beer. In terms of beer imports, the country has reflected recent trends by acquiring prestigious brands. Since 2005, this phenomenon has given great impetus to imports, both in value and volume (Ablin, 2011). Beer consumption in Argentina was traditionally – and largely – consumed in summer. However, seasonality trends in the country have progressively diminished from 2000s onwards, with Argentinian beer now making around 40% of annual domestic sales (Ablin, 2014).

3 Beer production and trade in South America

Beer production and trade varied significantly among South American countries during the period between 1960 and 2011, when considerable M&A occurred. Overall, South America has lower per capita beer

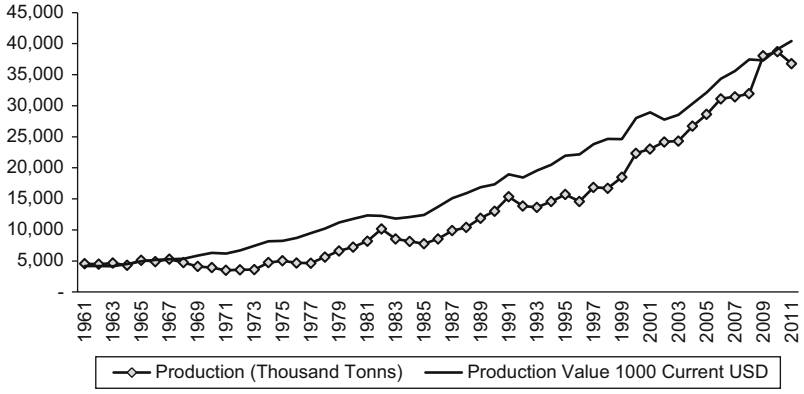

Figure 8.1 South America's beer production (tons) and value (US$ millions) 1961–2013

Source: Elaborated by the authors with data from FAOSTAT. http://faostat3.fao.org/browse/Q/QD/E Date: Wed Feb 11 02:36:22 CET 2015.

consumption compared to Europe, North America or Oceania (Colen, 2010).[5] South American beer production has grown at an average rate between 4 and 4.5% (Figure 8.1). About 30 large multinational companies operate in the region, including Kirin, Heineken, SABMiller and Anheuser-Busch Imbev Global, the last integrated by Brazil in partnership with *Anheuser-Busch Intergroup* (Ablin, 2014).

Between 2001 and 2011, South America accounted for about 17% of global beer supply. Beer production is concentrated in just a few countries, with the first five regional economies generating almost 80% of beer brewed in the region. As shown in Table 8.1, Brazil and Mexico account for more than two-thirds (41 and 26% respectively) of the total production in 2011, followed by Venezuela (8.16%), Colombia (6.38) and Argentina (5.57). In 40 years (1961–2011), the share of global beer volume produced in South America doubled, passing from 7.3 to about 14.9%.

Figure 8.2 shows aggregate values of beer imports and exports in South America, measured in USD. Exports started to increase in the 1970s, and hence the region became a net beer exporter for the first time in 1976. Almost all South American countries dealt with a variety of structural problems between the 1970s and 1980s. Argentina experienced substantial currency devaluations. Similarly, Chile experienced devaluation and a significant deficit on its national trade balance. Brazil promoted

Table 8.1 South America's beer production value (US$ million) and regional share, by country, 2001–2011

Year	Brazil	Mexico	Venezuela	Colombia	Argentina	Peru	Chile	Dominican Republic	Rest of South America
2001	7,274	4,906	1,658	1,071	986	420	269	253	1,293
Share	40.1%	27.1%	9.1%	5.9%	5.4%	2.3%	1.5%	1.4%	7.1%
2011	12,109	7,793	1,795	1,736	1,548	1,047	543	445	1,948
Share	41.8%	26.9%	6.2%	6.0%	5.3%	3.6%	1.9%	1.5%	6.7%

Source: Elaborated by the authors with data from FAOSTAT. http://faostat3.fao.org/browse/Q/QD/E Date: Wed Feb 11 02:36:22 CET 2015.

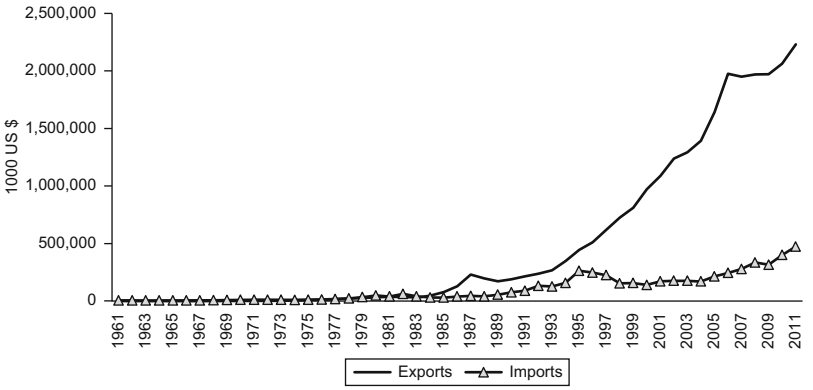

Figure 8.2 South America's beer trade 1961–2011 (US$ million)

Source: Elaborated by the authors with data from FAOSTAT http://faostat3.fao.org/browse/Q/QD/E Date: Wed Feb 11 02:36:22 CET 2015.

export-oriented policies with significant subsidies given to domestic industries, while Colombia and Mexico diminished their exports significantly, tightening controls on imports and increasing tariffs, with their respective currencies becoming increasingly overvalued (Hoffman, 2000). During this period it is estimated that beer exports were about half the level of imports.

Negotiations between 1985 and 1995 culminated in accession to NAFTA and MERCOSUR[6] (Southern Common Market). This period represented a phase of transition and adjustment for South American countries, and was characterized by liberal reforms that promoted commercial exchange within the region and overseas (Howard, 2014). During this

phase, the beer industry in South America consolidated its role as a net exporter, with the largest shares of exports being from Mexico to the US. M&A increased concentration levels in many national industries (Amézquita, 2008; Bullard, 2004; Flores Paredes, 2007; Romero, 2003). The period between 1996 and 2011 was characterized by intense M&A activity involving AB InBev, SABMiller, Heineken International, Carlsberg and Kirin. Domestic oligopolies in Brazil, Chile and Mexico financed new, technologically advanced plants that reduced costs and increased product diversification in the industry. National markets presented a small number of global/national brands, aside from many custom-made local brands and a few premium imported brands (Howard, 2014). At this time, it is estimated that the beer exports were about 5.94 times higher than imports.

In 2011, beer from South America represented about 18.5% of total world exports. However, as shown by Figure 8.3, exports were mainly concentrated on one country, with Mexico accounting for 91.3% of the total beer exports, quantifiable in value to 17.3 billion USD, dwarfing all the other countries in terms of quantity exported and revenues. As shown in Figure 8.4, in 2011 Mexico was ranked first in terms of beer imports, which trebled compared to 2001. Paraguay, Chile and Brazil experienced significant rises in the levels of imports between 2001 and 2011. More than 60% of all South American beer imports were concentrated in these four countries in the period considered.

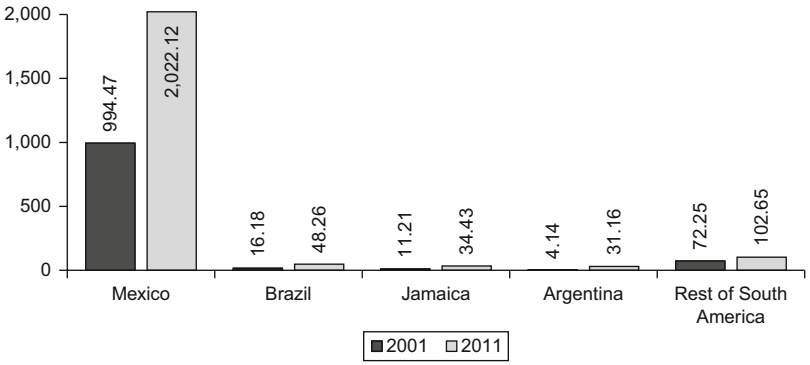

Figure 8.3 South America's beer exports (millions of current US$) 2001 and 2011, by country

Source: Elaborated by the authors with data from FAOSTAT http://faostat3.fao.org/browse/Q/QD/E Date: Wed Feb 11 02:36:22 CET 2015.

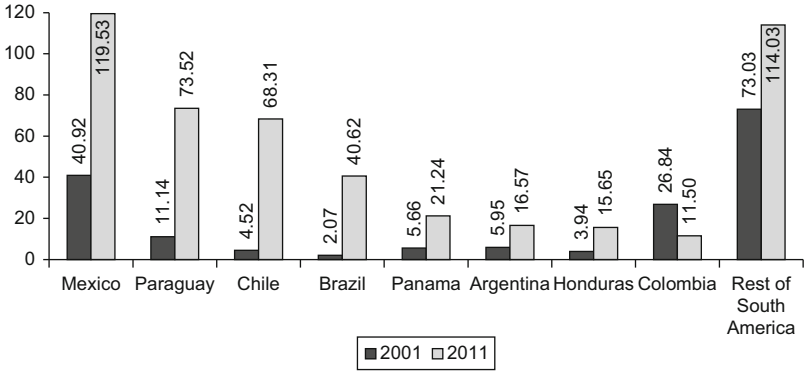

Figure 8.4 South America's beer imports (millions of US current $) 2001–2011, by country

Source: Elaborated by the authors with data from FAOSTAT http://faostat3.fao.org/browse/Q/QD/E Date: Wed Feb 11 02:36:22 CET 2015.

4 M&A and micro-breweries

Since 1950, several brewing companies in South America acquired control of their respective domestic markets while expanding and establishing their presence abroad. These include the Bavaria Group in Colombia, AmBev Group in Brazil and Grupo Modelo in Mexico. Large national breweries merged or allied with multinational companies, with domestic markets heavily penetrated by important global brewing companies, such as AB InBev, SabMiller, Heineken International, Carlsberg and Kirin. As a result, in 2014, 85% of the total South American market was controlled by eight large brewing companies.

Concentration in the South American beer industry occurred in three major phases. The first was characterized by increasing economies of scale at the local and national level which had prepared the ground for acquisitions and mergers occurring in the industry since 1968 when Heineken adquired Amstel (Heineken, 2015).[7]

The second was characterized by liberalization processes that started and consolidated during the Uruguay Round, probably the most significant reform affecting the international trading system since the creation of the General Agreement on Tariffs and Trade (GATT). The Uruguay Round also considered international financial cooperation, services trading and competition between developed and developing countries.[8] Before the Uruguay Round, local and national breweries in South

America were largely unaffected by prices, costs and pressures associated with international competition, partly because their respective national markets were not attractive for foreign companies. The signing of other multilateral free trade agreements, such as NAFTA and MERCOSUR, satisfied the need to create new markets. These agreements allowed large national companies to enter and consolidate their position in foreign markets, primarily in North America. This situation initially enabled companies to become dominant in the region, though they later became attractive prey for European and North American companies.

The third phase was characterized by regional interaction and market dynamics occurring within South America during a period of economic liberalization which favoured the development of beer industries in many countries. A substantial increase in beer production and M&A led to higher levels of concentration in the regional brewing industry (Table 8.2). However, the opening processes in terms of international

Table 8.2 Mergers and acquisitions in the brewing industry in Argentina, Brazil, Colombia, Chile and Mexico

Year	Origin companies	Operation	Resulting company	Operation Value (millions of current US dollars)
2000	Companhia Antarctica Paulista (Brazil) & Bramha (Brazil)	Merge	AmBev	7,000
2004	Interbrew (Belgium) & AmBev (Brazil)	Merge	InBeV	11,200
2005	SABMiller (UK) acquires Bavaria (Colombia)	Acquisition	Bavaria	7,800
2006	FEMSA Cerveza (Mexico) acquires Cervejarias Kaiser (Brazil)	Acquisition	FEMSA Cerveja Brasil	68,000
2008	InBev (Belgium-Brazil) acquire Anheuser-Busch (U.S.A.) they form *AB InBev*	Acquisition	AB InBev	52,000
2010	Heineken (Netherland) acquires FEMSA Cerveza (Mexico)	Acquisition	FEMSA Cerveza	7,347
2013	*AB InBev* acquires *Grupo Modelo* (Mexico)	Acquisition	Grupo Modelo	20,103

Source: Romero (2000), Bloomberg (2004), Saigol (2005), López (2006), De la Merced (2008), Saavedra (2010), Notimex (2013).

trade pursued by national governments were accompanied by tax policies that favoured large regional companies, and equally by policies that encouraged direct foreign investments. Alarcón *et al.*, (2001) and Arashiro (2011) indicate that a lack of coordination among national economic policies had impacted the economic performance of the region during the Uruguay Round. This lack of coordination benefited breweries indirectly, as it created the conditions for strengthening domestic investments in the brewing industry and promoted the internationalization of its products.

At the end of 2014, many national beer markets were characterized by high levels of concentration (Figure 8.5). In Argentina, AB InBev controls 70% of the Argentinian market share and SABMiller controls about 23% (Ablin, 2011, 2014). AB InBev also controls about 63% of the Brazilian beer market, aside from Kirin's 11.2% market share; Petropolis, a Brazilian company that produces beer, soft drinks and vodka, controls about 10.6% market share, with Heineken accounting for 8.2% of market share (Moreira, 2014). In Colombia, SABMiller controls about 98% of the market, with the remaining 2% controlled by different micro-breweries like Bogotá Beer Company, Cervecería Colón, Tres Cordilleras and San Tomás (Oliveros, 2015). In Chile the CCU, partly owned by Heineken, controls about 80% of the market, with AB-InBev controlling between

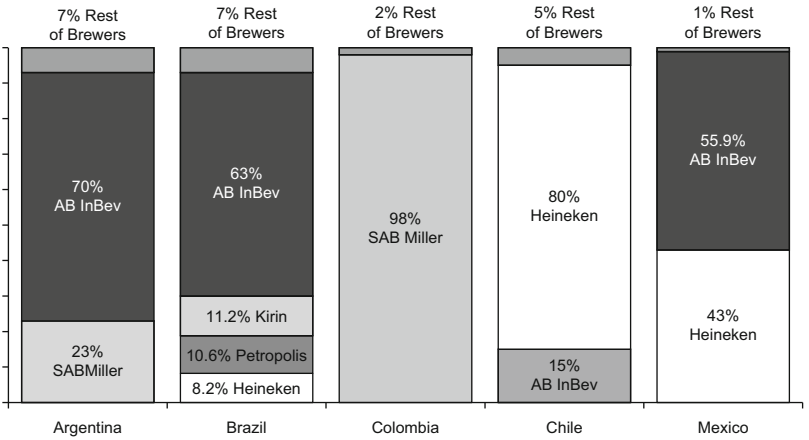

Figure 8.5 Beer market composition in Argentina, Brazil, Colombia, Chile and Mexico 2014

Source: Elaborated by the authors on data provided by Ablin, 2011; Ablin, 2014; Moreira, 2014; Oliveros, 2015; Fiscalía Nacional Económica, 2013; and Pallares, 2014.

10 and 15%[9] (Marticorena, 2014; Fiscalía Nacional Económica, 2013).[10] Finally, in Mexico, ABInBev and Heineken control, respectively, 55.9 and 43.0% of the Mexican beer market (Pallares, 2014).

In recent years, the beer industry in South America has witnessed the rise of small and micro-breweries (see Bamforth and Cabras, this volume). This rise is partly associated with specific features related to beer industries in each country. For example, Mexico has a relatively constant consumer demand for beer during the whole year. However, beer demand in Argentina and Chile is mainly concentrated during the spring/summer months. Similarly, Brazilian consumer demand for beer is mostly concentrated in summer during *Carnaval* season. This seasonality opens opportunities for small brewing companies in different parts of the region.

In Argentina, the first craft brewery company, Cervecería El Bolsón, started in 1984 (Cervecería El Bolsón, 2015). Since then, the number of craft breweries in the country increased at an impressive rate, reaching 300 in 2014. With a production of about 134,000 hectolitres, these breweries represent only 0.6% of the total market, although their share is set to grow further (Grimaldi, 2014; Samela, 2015).

In Brazil, the first micro-brewery, Baden Baden of Campos de Jordao, emerged at the beginning of the twenty-first century (Yenne, 2014). Nowadays, there are about 200 micro-breweries mainly concentrated in the south and southeast areas of the country. Micro-breweries represent less than 1% of the national beer industry, but it is estimated that they will double their size of the market during the next decade (G1, 2015).

In Chile, the first micro-brewery company, Cervecería Kunstmann, was established in Valdivia by the German-Chilean Kunstmann family in 1997 (Yenne, 2014). In this country, small and micro-breweries have grown with an annual 20% rate since 1994, reaching 200 units in 2012 (Romo, 2014). However, with their average annual production estimated at 10 million litres, micro-brewers account for less than 0.05% of Chilean beer production (Muscatelli, 2013).

The first micro-brewery in Colombia opened in Cali in 1997; the second opened in Bogotá three years later (ProChile, 2011). Since 2007, the number of Colombian micro-breweries began to increase. Although annual production remains low (about 30,000 hectolitres a year [Lozano, 2013]), estimates indicate more than the five million bottles sold in 2012 (Gallo Machado, 2012). The top brands in Colombia are Palos de Moguer (by Cervecería Colón) and Bogota Beer Company (BBC).

The Mexican micro-brewing sector experienced an even stronger pattern of growth compared to the other countries in the region since

1997. During that year the first modern brewpub named Beer Factory opened in Mexico. In 2014, there were 293 micro-brewers operating all over the country, with the number set to increase.[11] Although no official data exists that relates to beer production, the Asociación Cervecera de la República Mexicana (Acermex) estimates that, in 2014, 105 thousand hectolitres were produced, with sales growing between 10 and 20% on annual basis (Rivas, 2014).

5 Conclusions

This chapter has discussed the development of the beer industry in South America. The industry emerged as part of the Industrial Revolution which occurred in the late nineteenth century, although it remained fragmented in many national and sub-national markets for the first part of the twentieth century. Only in the second part of the twentieth century did foreign investments change South American brewing companies with M&A which involved larger international brewers, these operations frequently blessed by national governments. Up to this point, South America's beer production had always been traditionally dependent on European and North American imports with regard to ingredients and raw materials.

Economic reforms and trade liberalization increased exports in almost all South American countries. A clear example was the signing of NAFTA, which boosted exports of Mexican beer towards North America. South American brewing companies used exports as one of the main ways to enter international markets. In the second decade of the twenty-first century, this option has changed from the late-twentieth-century strategy because the costs involved became too high and revenues did not offset the investments. Large breweries in South America are presently focusing their strategies towards seeking mergers and acquisitions that would grant access to more markets, in order to achieve economies of scale by minimizing their costs. Even with a highly concentrated industry and global beer markets driven by local and regional trade, there are differentiated trade patterns for national and regional beer trade.

Foreign investments in the South American brewing industry have been relatively recent. Local brewers are still in the process of fully absorbing these investments to optimize production and innovation processes. However, the small but growing number of micro-brewers almost everywhere in the region, mainly encouraged by immigrants, is slowly increasing its weight in terms of market share. The growth

of micro- and craft brewers around the world has attracted the interest of global brewing companies, which started to acquire micro-breweries and/or their distribution channels. This is happening in South America: in 2015, AB-InBev acquired an indirect control over craft brewer BBC in Colombia, while marketing premium beer brands and craft brews in Mexico through the beerhouse.mx website belonging to Grupo Modelo (Granados, 2015).

A number of insights gathered from this study can stimulate further research. For instance, the transnational nature of M&A in the South American beer industry has implications for our understanding of increasing concentration at the national level. In addition, foreign direct investments have not really produced any significant effect on regional brewing industries in the twenty-first century. This observation raises the question: what is the critical level of investment and demand required to trigger M&A?

In addition, it would be interesting to verify whether M&A in the South American beer market has been affected by consumer tastes and preferences for domestic brands (see Bamforth and Cabras, and Piron and Poelmans, this volume). Such investigation would help to explain the low level of beer imports, the declining number of new domestic brands, and may help to explain whether breweries prefer to acquire national beer brands rather than buying brewing companies.

Finally, while Mexico experienced an impressive growth in beer exports, the same growth was not experienced by other national beer industries in South America. This situation raises questions as to whether MERCOSUR has had an effect on beer exports and capital flows in brewing within the Southern Cone. In this context, it would be interesting to examine the role of export subsidies, intra-firm trade and lobbying as result of the many mergers and acquisitions which occurred in the South American brewing industry. Exploring the setting of intra-industry trade of perfectly homogeneous as well as differentiated products may require the of use disaggregated data for prices and production factors – such as labour and transportation cost – to measure industry growth.

Notes

1. The *import substitution model* (1940–1982) was driven by high public investment in infrastructure and education that fueled private investment. In 1982, this model began to dismantle and was replaced by low state control of the economy and export promotion (Romero, 2003).

2. The worldwide organization overseeing the multilateral trading system since 1947. The governments that had signed GATT were officially known as "GATT contracting parties." On 1st January 1995, the World Trade Organization (WTO) replaced GATT. At the end of 1994, there were 128 GATT signatories.
3. Trade agreement between México, Canada and United States operating since January 1st, 1994.
4. The duopoly eventually attracted the attention of the Mexican National Authority in 2000, although all allegations made against FEMSA and Grupo Modelo regarding monopolistic practices and price agreement were dismissed (Flores Paredes, 2007).
5. Information and data regarding beer consumption in South America are discussed by Piron and Poelmans, this volume.
6. MERCOSUR is a common market established based on the Treaty of Asunción signed by the four countries of Argentina, Brazil, Paraguay and Uruguay on March 26, 1991. It aims at promoting free trade of goods, services and production inputs. Venezuela and Bolivia have also signed the agreement (Mercosur, 2015).
7. In 1954 Cervecería Cuauhtémoc – now part of FEMSA Cerveza – acquired Cervecería Tecate (Fomento Económico de México, 2015).
8. The Uruguay Round was negotiated between 1986 and 1994 by 123 countries, and resulted in the creation of the World Trade Agreement (WTO) that replaced GATT. The objectives of the Uruguay Round included the elimination of international restrictions on free trade, such as administrative fees, import licensing, technical requirements and clearly discriminatory origin trade practices. The Round aimed to eliminate the constraints that existed on the free movement of capital, technology and knowledge. It led to non-discriminatory rules in regulating foreign investment, intellectual property and access to financial services and non-financial foreign capital (WTO, 2015).
9. There are discrepancies on the sources about exact beer market shares in Chile.
10. *CCU* is set to expand further in the Colombian beer market after signing a joint-venture deal with the private conglomerate *Postobón*, the largest producer of soft drinks maker in Colombia (Wilmore, 2014).
11. More information about Mexican micro-craft breweries is availabe at www.beerfactory.com and www.beerectorio.mx.

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9

The Locational Determinants of Micro-breweries and Brewpubs in the United States

Michael S. Moore, Neil Reid, and Ralph B. McLaughlin

1 Introduction

In recent decades the American craft beer industry has experienced impressive growth. Between 1980 and 2013, the number of craft breweries in the US increased from 8 to 2,768. This growth is reflected in increased market share. In terms of production volume, in 2013 craft brewers had a 7.8% share of the US beer market as compared with only 2.6% in 1998. The craft segment's penetration of the US beer market is even more impressive when viewed in terms of dollar sales. In 2005, craft breweries accounted for 5.4% of US beer sales. By 2013, this share stood at 14.3%. From the perspective of economic impact it has been estimated that the craft-brewing industry contributed $33.9 billion to the US economy in 2012 and was responsible for more than 360,000 jobs (Brewers Association, 2014c). Some communities are hoping to capitalize on growing consumer interest in craft beer by incorporating micro-breweries and brewpubs into their plans for community and neighbourhood revitalization (Weiler, 2000) while the potential economic benefits of beer tourism are being increasingly recognized (Plummer et al., 2005).

Growth of the craft beer industry has not been evenly distributed across either time or space. Following several decades of growth, the industry experienced a decline in the number of breweries between 2000 and 2005. Since 2005, however, growth has been impressive, particularly in 2012 and 2013 when the country experienced a net increase of 773 new craft breweries (Figure 9.1). Likewise, growth of the industry has not been evenly distributed across space, and while there are craft

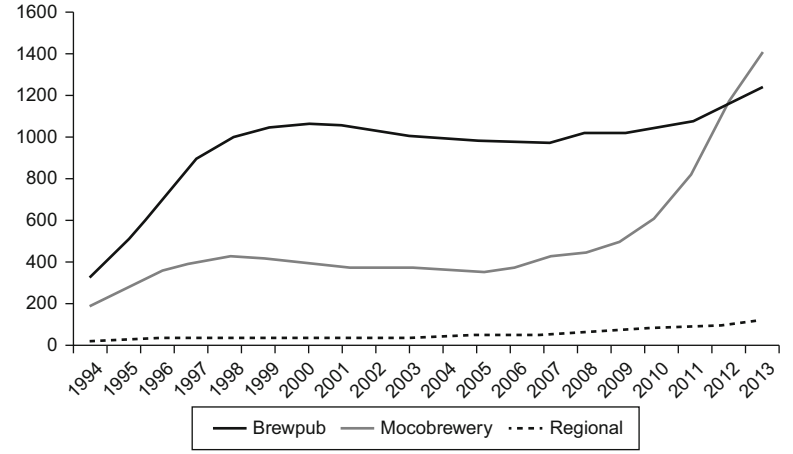

Figure 9.1 Growth of brewpubs and micro-breweries in the US, 1994–2013
Source: Compiled from data accessed at www.brewersassociation.org.

breweries in all 50 states the industry has grown faster in some places than in others. Some states and metropolitan areas have been more successful than others in fostering the growth of the industry (Baginski and Bell, 2011; McLaughlin et al., 2014; Reid et al., 2014). With that in mind, the primary purpose of this chapter is to describe and explain geographic variation in the location of micro-breweries and brewpubs across the US metropolitan system. In doing so we hypothesize that brewpubs and micro-breweries respond to different locational criteria and as such we consider them independently and construct separate regression models for each one. Brewpubs depend, to a large extent, on customers coming to their brewery not only to consume their beer but also to eat food available at their on-site restaurant. As such, brewpubs are akin to a retail/restaurant facility. In contrast, micro-breweries may have a tasting room but do not have prepared food available for sale. Their primary focus is on brewing and packaging beer for distribution to off-site retailers, bars and restaurants. As such, micro-breweries can be thought of as being similar to a light manufacturing facility.

The remainder of this chapter is divided into eight sections. In the next section we explain the emergence and subsequent popularity of craft beer. We do so by invoking the theories of resource partitioning and niche formation. In the third section we briefly describe the current geographical distribution of the craft brewing industry in the US and

review the small number of studies that have attempted to explain these spatial variations. In Section 4 we outline some of the key differences in the business models of brewpubs and micro-breweries. In the fifth section we describe our analytical methodology and data. In Section 6 we outline the results of our analyses. This is followed by, in Section 7, a discussion and interpretation of our analysis. In the eighth and final section we make some concluding remarks and observations.

2 The emergence of craft beer

A craft brewery is defined in terms of production volume, ownership structure and brewing ingredients. According to the Brewers Association,[1] a "craft" brewery must produce no more than 6 million barrels[2] of beer on an annual basis, have an ownership structure in which less than 25% is owned or controlled by an alcoholic beverage industry member who is not a craft brewer, and must utilize traditional or innovative ingredients in its fermentation process. The American craft beer industry comprises three major segments:

i. Micro-brewery – produces less than 15,000 barrels of beer a year of which at least 75% is sold off-site. The beer that is sold off-site is made available to customers in retail stores and in bars and restaurants. In 2013 there were 1,406 micro-breweries in the US (Figure 9.1).
ii. Regional Craft Brewery – produces between 15,000 and 6,000,000 barrels of beer per year. The large volume of beer produced means that the vast majority is sold off-site, in retail stores, bars and restaurants. In 2013 there were 119 regional breweries in the US (Figure 9.1).[3]
iii. Brewpub – produces less than 15,000 barrels of beer a year and sells at least 25% on-site. The beer that is sold on-site is often dispensed directly to the customers from the storage tanks and is sold in the brewpub's restaurant and bar. In 2013 there were 1,243 brewpubs in the US (Figure 9.1).

Two theories are regularly invoked to explain the growth of the craft beer industry in the United States – resource partitioning and niche formation. Resource partitioning theory suggests that, as an industry evolves and matures, it increasingly takes on an oligopolistic structure in which a small number of firms control an increasing share of the market. This has occurred in the US where the market for beer became

concentrated in the hands of a small number of companies. By 2002, three companies (Anheuser-Busch, Miller and Coors) enjoyed 88.9% of the US beer market (Tremblay and Tremblay, 2009), while the number of large brewery establishments was 20.[4]

This had not always been the case. As recently as 1941 there were 857 breweries in the US (The Beer Institute, 2014). Over time, however, changes in the minimum efficient scale of production and the emergence of television as a medium to reach larger audiences (both of which favoured larger breweries) altered the brewing landscape. Television was a particularly important medium for the larger breweries to grow and consolidate their market share. By 1955 50% of American households owned a television set. By 1962 this percentage had increased to 75% (Bowden and Offer, 1994). Mergers, acquisitions and closings resulted and the industry became increasingly oligopolistic in structure (Tremblay and Tremblay, 2009).

A mass market is most efficiently served and economies of scale most effectively realized when members of an oligopoly can produce a homogeneous product. In the case of the American beer industry, this was a rather bland-tasting American-style pale lager. Indeed, such was the homogeneity of the product that consumers were generally unable to distinguish among the beers produced by the different breweries (Allison and Uhl, 1964; Jacoby et al., 1971). Choi and Stack (2005) suggest that Prohibition (1920–1933) also had an impact on the American beer palate. They argue that 13 years without beer meant that many Americans forgot what good beer tasted like. Also, the increased consumption of soft drinks during this period changed the American palate with the result that many post-Prohibition breweries produced beer that was more carbonated and less bitter. In addition, the appearance of refrigerators as a standard household appliance meant that many Americans developed a taste for colder beer, the chilling of which meant that many of the nuances of flavour were lost. Finally, Americans were increasingly demanding convenience and uniformity (in terms of taste and quality) in their food and drink products. This was most effectively delivered by the development of national brands, which in the case of breweries meant a homogeneous beer that would appeal to the broadest possible consumer base. While these bland-tasting beers satisfied the palates of the vast majority of American beer drinkers, there was a small segment of the market who desired greater variety in terms of style, flavour and strength. Thus a niche market (niche formation theory) emerges that can be exploited by willing entrepreneurs. This niche market exists in what has been referred to as the "competitive fringe" (Caves and Porter,

1977; Swaminathan, 1998) and, constrained by structural inertia, the large-scale producers were unable to respond to this market opportunity (Hannan and Freeman, 1984).

A key demographic driving the demand for craft beer is the millennial cohort, those born after 1980 (Eisenberg, 2014; Watson, 2013; Clarke, 2012). Millennials have been described as "confident, self-expressive, liberal, upbeat and open to change" (Pew Research Center, 2010, p.1). Openness to change is important because "the US market has become locked in a suboptimal equilibrium in which most consumers are no longer familiar with the full range of what beer is and can be" (Choi and Stack, 2005, p.85). Changing from bland-tasting to more flavourful beer involves "switching costs" that are just too high for many older Americans who have been raised on a diet of Budweiser and Miller Lite. Millennials, in contrast, are open to change and are willing to try new things, including beer. One study of millennial craft beer drinkers found that 94% had tried a new beer during the previous month, 87% had drunk a craft beer during the last week, and 25% said that the availability of craft beer influences which restaurants they choose to patronize (Granese, 2012). Thus, the importance of this demographic to the industry cannot be overemphasized. The importance of craft beer has also been recognized by the National Restaurant Association. A survey of nearly 1,300 chefs ranked locally produced wine/beer/spirits second among the 49 top trends in alcoholic beverages. Furthermore, these products were considered "hot" by 70% of the chefs surveyed (National Restaurant Association, 2014).

Some craft brewers view themselves as rebels and renegades who are at the forefront of a taste revolution – a revolution that is challenging the status quo with an emphasis on innovation, uniqueness and quality. They also often establish a personal connection with the customer – many started out as home brewers and are, at heart, craft beer lovers who now brew on a commercial scale. In other words, they are both producer and consumer who "make beer for people like us." This is abundantly apparent in the way in which many craft brewers describe themselves, their brewery, and their beer on company websites.[5]

Another factor that has generated demand for craft beer is the rise of neolocalism. Neolocalism is "the deliberate seeking out of regional lore and local attachment by residents as a delayed reaction to the destruction in modern America of traditional bonds to community and family" (Shortridge, 1996, p.10) and has manifested itself in a number of different ways including the growing popularity of farmers' markets,

community-supported agriculture and broad-based "buy-local" movements across the US (Brown and Miller, 2008; Hardesty, 2008). It has been argued that the growing popularity of craft beer is partly a response to the "smothering homogeneity of popular national culture" (Schnell and Reese, 2003, p.47) and the "rejection of national, or even regional culture, in favour of something more local" (Flack, 1997, p.49). Neolocalism and the desire to establish a clear connection with the local community has influenced the labels and beer names chosen by many craft breweries (see Flack, 1997; Schnell and Reese, 2003; Reid et al., 2014; Cabras and Bamforth, 2015).

Not only do many craft brewers choose names for their brews that reflect a local landmark, historical event, historical figure, and so forth; they are also connected to their local community through charitable and philanthropic work (Kirchenbauer, 2014). For example, Hardywood Park Brewery in Richmond, Virginia's philanthropy focuses primarily on environmental, humanitarian and educational issues. They host fundraisers and provide meeting space for groups working in those areas. In January 2013, the brewery began donating two dollars for every barrel of beer produced to non-profit organizations in the communities where their beer is sold (Hardywood Park Craft Brewery, 2014).

3 The geography of commercial craft beer production

While micro-breweries and brewpubs can be found in all 50 states, there are some distinct geographic concentrations that can be identified. At a broad regional level the main concentrations can be found in the Pacific Northwest (Washington and Oregon), northern and southern California, Colorado, eastern Texas, the Great Lakes region, New England and North Carolina (Figures 9.2 and 9.3). The leading metropolitan area in terms of the number of micro-breweries is Seattle, Washington (67 micro-breweries), followed by San Diego, California (48) and Portland, Oregon (47; see Table 9.1). With respect to brewpubs, the top three metropolitan areas are Portland, Oregon (45 brewpubs), Chicago, Illinois (35) and Los Angeles, California (30; see Table 9.1). The lists of top 10 metropolitan areas in terms of the number of micro-breweries and brewpubs are almost identical, with the eight MSAs[6] appearing on both lists. The exceptions are Minneapolis, Minnesota and Boston, Massachusetts which appear on the top 10 micro-brewery list but not the top 10 brewpub list, and Philadelphia, Pennsylvania and Washington, DC which appear on the top 10 brewpub list but not on the top 10 micro-brewery list. The top 10 MSAs contain 296 micro-breweries which represents 19.4% of

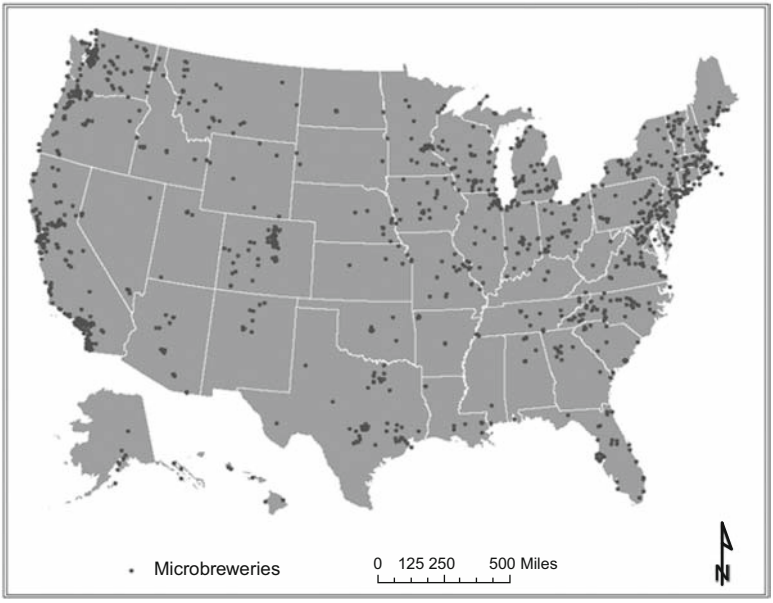

Figure 9.2 Spatial distribution of micro-breweries in the US, 2013

Source: Compiled from data obtained from the May/June 2013 edition of The New Brewer, Brewers Association, 2014a.

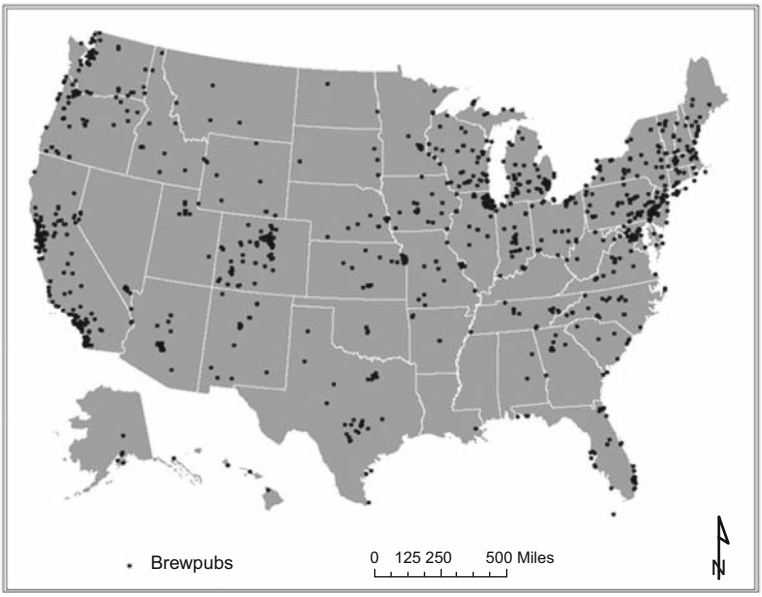

Figure 9.3 Spatial distribution of brewpubs in the US, 2013

Source: Compiled from data obtained from the May/June 2013 edition of The New Brewer, Brewers Association, 2014a.

Table 9.1 Top 10 MSAs for micro-breweries and brewpubs, 2013

Micro-breweries		Brewpubs	
MSA	**Number**	**MSA**	**Number**
Portland, OR	45	Seattle, WA	67
Chicago, IL	35	San Diego, CA	48
Los Angeles, CA	30	Portland, OR	47
San Francisco, CA	29	Denver, CO	33
San Diego, CA	29	New York, NY	33
Philadelphia, PA	28	Los Angeles, CA	30
Denver, CO	28	Chicago, IL	30
Seattle, WA	26	San Francisco, CA	27
Washington, DC	25	Minneapolis, MN	24
New York, NY	21	Boston, MA	23

Source: Compiled from data obtained from the May/June 2013 edition of The New Brewer, Brewers Association 2014a.

all micro-breweries in the US. In contrast, the top 10 MSAs contain 362 brewpubs which represent 29.1% of all brewpubs in the US.

Despite their fast growth, there have been a relatively small number of analytical studies that have attempted to identify the locational determinants and explain the geographic distribution of craft breweries within the US. Using Metropolitan Statistical Areas (MSAs) as their unit of analysis, Baginski and Bell (2011) found that the penetration of craft breweries (number per 100,000 population) was greater in MSAs with higher costs of living, more wealthy elites, higher quality educational and healthcare facilities, stronger cultures of social tolerance and a higher quality of life. At the interstate level, Florida (2012a) found the extent of craft brewery penetration to be greater in states with higher levels of education, happiness and well-being, and lower in states where the population was politically more conservative, religious, smoked more and had higher levels of obesity. In a more descriptive paper, Reid et al. (2014), using the absolute number of craft breweries and the number of craft breweries per capita, identified six states that appear to be leaders in the craft beer movement – Colorado, Oregon, Washington, California, Michigan and Wisconsin. In explaining the success of commercial craft brewing in these states they note, for example, that California was the birthplace of the post-Prohibition craft-brewing movement in the US while the states of Wisconsin and Michigan have well-established brewing cultures as a result of being home for large numbers of German immigrants during the 19th century. They

also invoke the work of Cortright (2002, p.4) who suggested that the growth of the craft beer industry in Portland, Oregon was a response to "distinctive local tastes" driven and supported by a thriving home-brewing culture, a higher-than-average preference for imported beer, a spirit of eclectic entrepreneurialism and the example provided by a dynamic boutique wine industry. In sharp contrast, they identified the Southern US to be a "craft brewing desert" due to the small number of craft breweries. Here, they note the influence of conservative Protestantism, as well as the fact that Southern states were slower than their Northern counterparts to legalize home brewing as major reasons for the region lagging behind the rest of the country in the count of craft beer establishments. A vibrant home-brewing culture is important as it is here that many commercial craft brewers learned the basics of brewing and made the decision to commercialize their hobby. In other words, basements and garages across America served, and continue to serve, as an incubator for the commercial craft beer industry. Examining brewpubs and micro-breweries as separate entities, Swaminathan (1998) found evidence, at the interstate level, that niche formation was a stronger driver of the emergence of both brewpubs and micro-breweries than resource partitioning.

Given the paucity of studies, plus the fact that there has been a net gain of 773 new craft breweries (608 micro-breweries and 165 brewpubs) in 2012 and 2013, it seems that there is space in the literature for some additional analysis to try to understand the geographic distribution of this fast-growing industry. To a large extent we build on the work of Baginski and Bell (2011) with one significant difference being that we conduct two separate analyses – one for micro-breweries and one for brewpubs.

4 Business models: micro-breweries versus brewpubs

Though they both offer the same type and quality of products in the form of craft beer, micro-breweries and brewpubs are distinctly different in day-to-day operations. Range of services, distribution channels, quality control and marketing vary between the two and makes each subcategory uniquely different from the others. Some businesses start as either a micro-brewery or a brewpub and remain in that subcategory for years. Some breweries change from one to the other as production levels and means of delivery change. Some businesses act as both, with one facility serving as a micro-brewery and another serving as a brewpub. Micro-breweries and brewpubs have different business models

and require different sets of goals and priorities in order to thrive within their segments.

The business model of the micro-brewery is more similar to that of light manufacturing operations – brewing, bottling and packaging beer for distribution throughout a given market area (Brewers Association, 2014b, Brewery Reviewery, 2010). Some micro-breweries have an on-site tap room, but usually minimal amounts of food are served, if at all. Location decisions for micro-breweries are based more on site size and transportation accessibility, as volume and distribution are the two major keys to operation (Brewers Association, 2014b; Brewery Reviewery, 2010). Because the final product is shipped to downstream retailers, micro-breweries can locate in non-retail-centric areas, with distribution costs and size requirements taking precedent over population density (Brewers Association, 2014b; Weber, 1929). Micro-breweries tend to produce beer at greater volumes compared to brewpubs, and therefore require more space (Brewers Association, 2014b).

The brewpub business model, on the other hand, is more akin to that of a restaurant (Brewers Association, 2014b). The location of brewpubs must adhere to concepts of population thresholds and consumer ranges, 20 to 30 miles, as customers come to a single location for consumption (Brewery Reviewery, 2010; Wieland, 2013). This subjects brewpubs to the bid-rent theory, in which the optimal location is a highly centralized area with high levels of retail foot traffic (Brewery Reviewery, 2010; Alonso, 1964). By default, property rents will be priced at a premium. There is usually a variety of food options ranging from light pub fare to full-course meals, with beer pairings to accompany a meal. This is an added layer of cost and labour requirements as brewpub owners need to operate a kitchen, manage a wait staff and provide the desired ambience in order to remain solvent (Brewery Reviewery, 2010). The cost of running a kitchen is somewhat offset by the fact that the beer goes through minimal post-brewing processing.

With micro-breweries, product is shipped to market by means of either three-tier distribution (producer-distributor-retailer), two-tier distribution (producer-retailer) or directly to customer through on-site taprooms (Brewers Association, 2014b; Wieland, 2013). Going through intermediaries, such as in the case of the three-tier distribution system, micro-breweries are subject to costs, truck space availability and loss of quality control once the product is in the hands of distributors. Beer distribution channels are highly monopolized by the states, meaning that costs are artificially set high in order to get product to market (Crowell, 2013). Getting product on distribution

trucks may be difficult for micro-breweries, as most of the space is consumed by commercial beer products. With brewpubs, the beer, in most cases, comes straight from on-site storage tanks to the glass (Brewers Association, 2014b). A majority of what is brewed at a brewpub does not go through the bottling/packaging process though most brewpubs will sell beer in limited quantities for consumption off-site. This is packaged in the form of four-packs, six-packs, bombers, growlers and sometimes kegs, but will not exceed 75% of a company's beer sales. On-site sales laws prohibit brewpubs from selling certain items for off-site consumption and sometimes limit a brewpub from brewing over a certain volume annually (Thurston, 2014). Direct to customer sales levels vary between brewpubs, but it is a vital distribution channel. Many states, such as Indiana, have reconsidered such on-site sale restrictions to accommodate growth within the brewpub sub-category.[7]

Once the product is in the hands of downstream retailers, product rotation and handling is out of the control of micro-brewers. Quality of product is important for craft beer establishments and the proper handling and rotation of product is vital for success (Sparhawk, 2014). Not having complete control over this aspect of business can be troublesome for micro-breweries. Quality control for brewpubs is far more in their control. If products become outdated, management simply pulls the product from the menu. There is minimal transport of the product within brewpubs, leaving little opportunity for beer-spoiling elements (oxygen, light and bacteria [Lewis, 1997] to pollute the product. Beer is much fresher from the storage tank in comparison to a bottle which has sat on a shelf for any given amount of time, unless the beer is meant to be bottle-conditioned.

Marketing is important for both micro-breweries and brewpubs, with techniques and approaches varying between the two craft beer subcategories. Product placement and promotion within retail establishments is crucial for successful competition within a burgeoning market like the craft beer industry (Armstrong and Kotler, 2013). As with quality control, micro-breweries are at the mercy of distributors and retailers for marketing success. Depending on market size, some micro-breweries may need to utilize regional or national advertising channels to increase awareness of their products. This can be a high cost for some micro-breweries. Marketing of brewpubs takes place on a larger geographic scale compared to micro-breweries. People usually travel up to 30 miles to a brewpub, so, by theory, marketing should extend to just over 30 miles of the brewpub location (Brewery Reviewery, 2010). Advertising

comes in the form of billboards, local television and radio ads, word of mouth and social media.

While this analysis is somewhat exploratory we do anticipate that, given the differing business models of brewpubs and micro-breweries, each may have different sensitivities to different locational determinants. Indeed our results bear out this expectation and these differences are highlighted and discussed below.

5 Methodology and Data

To test whether the locational determinants of micro-brewery location are different from brewpubs at the metropolitan level, we utilize a variety of econometric techniques to estimate the impact of these factors while controlling for the effects of other exogenous characteristics. Our selection of independent variables follows that of Baginski and Bell (2011), and we conduct our analysis for all metropolitan counties in the US, with the number of breweries in 2013 as our dependent variable.

Our empirical analysis consists of two separate models where we test separately for the locational determinants of the counts of micro-breweries and brewpubs in US metropolitan areas. Although we base our models on Baginski and Bell's (2011) analysis of brewery location in the Southern US, we depart from their specification in three ways. First, instead of using a population standardized dependent variable (breweries per 100000 persons), we choose to use the count of either micro-breweries or brewpubs as the dependent variable and control for metropolitan population by including it as an independent variable. We choose a non-standardized dependent variable so that we can estimate the relative effect of population size on micro-brewery/brewery counts compared to other explanatory variables. Second, and following our use of counts as our dependent variables, we use alternative estimation techniques (Poisson regression) to control for the non-normal distribution of micro-breweries and brewpubs across metropolitan areas. And third, we extend Baginski and Bell's model by testing for the effect of metropolitan variation in creative class culture and innovation.

Our models appear as equations (9.1) and (9.2) below:

$$\begin{aligned} microbreweries_i = {} & \alpha + \beta_1 creativeindex_i + \beta_2 innovationindex_i + \\ & \beta_3 farmermarket_i + \beta_4 age_i + \beta_5 pop_i + \beta_6 popden_i + \\ & \beta_7 income_i + \beta_8 education_i + \beta_9 white_i + \Theta regdummy_r + \varepsilon_i \end{aligned} \tag{9.1}$$

$$brewpubs_i = \alpha + \beta_1 creativeindex_i + \beta_2 innovationindex_i + \beta_3 farmermarket_i + \beta_4 age_i + \beta_5 pop_i + \beta_6 popden_i + \beta_7 income_i + \beta_8 education_i + \beta_9 white_i + \Theta regdummy_r + \varepsilon_i \quad (9.2)$$

where $microreweies_i$ and $brewpubs_i$ is the number of micro-brewery and brewpub establishments in metropolitan area *i* in 2013; $creativeindex_i$ is the Richard Florida's creativity index for 2010; $innovationindex_i$ is the 2012 innovation index, developed by Indiana University; $farmermarket_i$ is the number of farmers' markets; age_i is the proportion of the population aged 25 – 44; pop_i is the 2010 population; $income_i$ is the median income; $education_i$ is the proportion with a college degree; $white_i$ is the proportion of non-Hispanic whites; $regdummy_i$ is a vector of dummy variables for census regions;[8] and α, β, Θ, and ε_i are intercept, the coefficients for the independent variables, a vector of coefficients for the regional dummy variables, and the stochastic error term, respectively. All terms except the regional dummies are logged.

Our data exhibit two issues that we must account for in our estimation procedure. As shown in Figure 9.4, the distribution of our dependent variables, $microbreweries_i$ and $brewpubs_i$, is non-normal. Both figures show these variables exhibit a rare-occurrence distribution, where between a quarter and a third of MSAs do not have a micro-brewery or brewpub registered with the Brewers Association. Furthermore, our dependent variables are count data, and thus lie between the interval $[0, \infty]$. As a result of these two issues, use of OLS would provide inconsistent estimates of the predicted values of our dependent variables. Thus we estimate equation (9.1) using a Poisson regression, whereby a log transformation is applied to the dependent variable. Because we also log our independent variables, we can interpret their coefficients as true elasticities, whereby a 1% change in an independent variable is associated with a percentage change in the number of either micro-breweries or brewpubs.

We obtained our data from a variety of sources. First, we gathered locational information on all craft brewing establishments in the US in 2013 (both micro-breweries and brewpubs) from the Brewers Association national database (Brewers Association, 2013). We then aggregated these data to the 361 metropolitan statistical areas (MSA). Second, we sourced the creativity index for each MSA from Florida's (2012b) second edition of *The Rise of the Creative Class*. The innovation index was obtained from

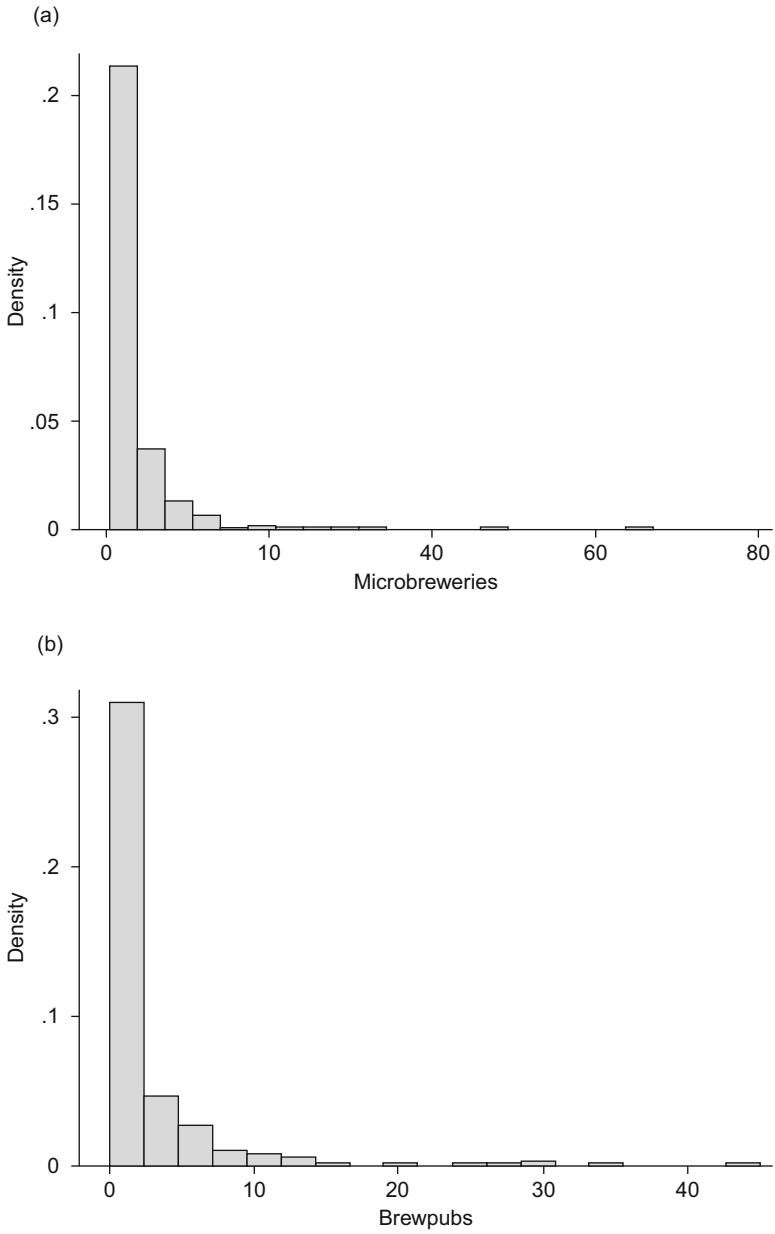

Figure 9.4 Frequency distribution of micro-breweries (a) and brewpubs (b) across US metropolitan areas, 2013

Source: Compiled from data obtained from the May/June 2013 edition of *The New Brewer.*

Table 9.2 Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Micro-breweries	361.00	3.31	6.90	0.00	67.00
Brewpubs	361.00	2.75	5.48	0.00	45.00
Innovation Index	361.00	84.88	8.58	72.00	128.50
Creative Class Index	361.00	0.50	0.24	0.05	0.98
Farmers' Markets	361.00	15.29	29.04	0.00	332.00
Age 25–44	361.00	0.26	0.02	0.16	0.32
Pop	361.00	713,855.40	1,588,969.00	55,274.00	18,900,000.00
Population Density	361.00	2,386.75	2,242.14	523.00	31,251.00
Income	361.00	47,567.96	8,734.56	15,743.00	86,680.00
Education	361.00	0.21	0.07	0.08	0.49
White	361.00	0.71	0.17	0.03	0.96

the Innovation in American Regions Project, a collaboration between Purdue University's Center for Regional Development and the Indiana Business Research Center at Indiana University's Kelley School of Business (Stats America, 2014). We gathered data on age, population, income, education and percent non-Hispanic whites from the 2010 US Census (United States Census Bureau, 2010). Data on the number of farmers' markets were obtained from the US Department of Agriculture (US Department of Agriculture, 2014). We present the descriptive statistics for all of our variables in Table 9.2.

6 Results

Table 9.3 provides our estimates for all three of our models. Our micro-brewery model explains approximately 65% of the inter-metropolitan variation in the number of micro-breweries, while our brewpub model explains approximately 60%. All but two of our independent variables – innovation index and population density – are significant at below the 5% confidence level. Both of these results suggest that the general explanatory power of our two models is quite strong. Percent of population between the ages of 25 and 44 has the greatest impact in both models, with a coefficient of 2.03 for micro-breweries and 2.49 for brewpubs. This suggests that a 1% increase in the proportion of persons aged 25 to 44 is associated with a 2% increase in micro-breweries and a 2.5% increase in brewpubs. The percent of non-Hispanic whites has the second-highest effect, where a 1% increase is correlated with a 1.8%

increase in micro-breweries and a 0.97% increase in brewpubs. Third, a 1% increase in median income is surprisingly negative, and is correlated with a 0.89% decrease in micro-breweries and a 0.90% decrease in brewpubs. Fourth in magnitude is the coefficient on education, where a 1% increase in the proportion of college graduates is correlated with a 0.69% increase in micro-breweries and 0.7% increase in brewpubs. From this point in the coefficient interpretation, the relative magnitudes of our independent variables diverge between the two models. A 1% increase in population is associated with a 0.54% increase in the number of micro-breweries and a 0.38% increase in brewpubs; a 1% increase in the creativity index is correlated with a 0.5% increase in micro-breweries and a 0.59% increase in brewpubs; and last, a 1% increase in the number of farmers' markets is associated with a 0.4% increase in the number of micro-breweries and a 0.43% increase in the number of brewpubs. All of our regional dummy variables except Mountain West in the brewpub model are significantly negative, which suggests that metropolitan areas in these regions all have significantly fewer breweries relative to the excluded dummy, which in our case are metro areas in the Pacific regional division. Generally, the regional dummy variables behave as anticipated given the large number of brewpubs and micro-breweries in the states of California, Oregon and Washington (Figures 9.2 and 9.3, Table 9.1).

7 Discussion

So what do these results tell us about the different locational determinants between micro-breweries and brewpubs in the US? First, our results essentially corroborate the findings of Baginski and Bell (2011) and Florida (2012a). Craft breweries – both in the form of independently owned micro-breweries and brewpubs – are most likely to exist in metropolitan areas that have a larger proportion of their population between the ages of 25 and 44. However, the difference in coefficient magnitudes for this age demographic is of primary interest: the impact of the percent of population between ages 25–44 is 25% larger for brewpubs than for micro-breweries. This could be because the brewpub business model focuses more on customers who go out for meals and drinks than micro-breweries (where customers are more likely to buy from retail outlets and consume at home), and the 25–44 age demographic is probably more likely to do so.

Table 9.3 Regression results predicting number of micro-breweries and brewpubs

	Micro-breweries		Brewpubs	
Variable	**Coeff.**	**Std. Err.**	**Coeff.**	**Std. Err.**
Innovation Index	0.091	0.456	–0.279	0.497
Creative Index	0.502***	0.156	0.594***	0.170
Farmers' Markets	0.409***	0.077	0.438***	0.085
Age 25–44	2.029***	0.590	2.492***	0.661
Population	0.541***	0.074	0.380***	0.079
Population Density	–0.106	0.086	–0.014	0.091
Income	–0.890***	0.199	–0.901***	0.222
Education	0.687***	0.179	0.698***	0.198
Non-Hispanic White	1.811***	0.174	0.977***	0.183
Mountain	–0.513***	0.114	–0.158	0.127
W. N. Central	–1.303***	0.140	–0.660***	0.151
E. N. Central	–1.165***	0.112	–0.396***	0.118
Mid Atlantic	–1.155***	0.138	–0.623***	0.152
New England	–1.230***	0.154	–1.039***	0.188
South Atlantic	–1.182***	0.115	–0.886***	0.128
E. S. Central	–1.456***	0.201	–1.237***	0.238
W. S. Central	–0.947***	0.160	–1.009***	0.193
Constant	8.504**	3.792	11.510***	4.241
Obs.	361	–	361	–
Pseudo R^2	0.65	–	0.60	–

***is 99% significance level and **is 95% significance level.

Second, the effect of population is 42% larger for micro-breweries than brewpubs. Again, this difference may be due to the varying business models between micro-breweries and brewpubs: micro-breweries are more oriented towards packaging and distribution of beer to their market than brewpubs, and thus may have better success in larger markets than brewpubs. Additionally, larger markets may provide better access to raw material inputs for packaging and distribution, such as bottling components, keg servicing, and beverage distribution and dispensing services.

Third, the proportion of non-Hispanic whites and the creative class index exhibits markedly different effects on micro-breweries than brewpubs. The former is 86% greater for micro-breweries, and the latter is 18% greater for brewpubs. General interpretation of these two coefficients and their differentials is difficult. However, one possible angle

is that brewpubs offer a customer experience more akin to restaurants and bars than micro-breweries, and thus they may be more successful in metropolitan areas that are have more innovation and tolerance (more of the "creative class") as well as more diversity (fewer non-Hispanic whites).

Last, our results indicate that education is positively correlated and that income is negatively correlated with the number of craft breweries. The former correlation suggests more highly educated individuals may be more knowledgeable and appreciative of craft beer, and may have greater capacity to be entrepreneurial and open new breweries. While our finding that income is negatively associated with the number of craft breweries in a metropolitan area may appear – at face value – to be counter-intuitive, exploring both the cost and competition effects of high-income areas may help rationalize the finding: high-income areas are also likely to have expensive real estate markets, and since breweries tend to be space-intensive (that is, the inputs for production require a relatively large parcel of real estate for holding brewing equipment), there are economic disincentives for breweries to locate in high-income areas because of greater competition with other land uses. In addition, beer (even craft beer!) may be an inferior good to high-income individuals. That is, as income increases, the preferences for high-income consumers may switch from craft beer to high-quality wine and spirits. However, the coefficients magnitudes for both education and income suggest there is no difference in effect between micro-breweries and brewpubs.

8 Conclusions

In this chapter we have explored the growth of commercial craft beer production in the US. This is a growing segment in an otherwise stagnant market. We invoked two main ideas to explain the growth of the industry and the increasing popularity of craft beer among American beer drinkers – resource partitioning and niche formation. We also demonstrated that growth of commercial craft beer production has been rather uneven across space and trying to understand this spatial variation was our main purpose in this chapter. Recognizing that the industry comprises two distinct segments – micro-breweries and brewpubs – that operate under two different business models, we constructed two regression models. Our regression models focused on understanding the role of socio-economic factors in explaining inter-metropolitan differences in the number of micro-breweries and brewpubs. Our results suggest

that, while the same socio-economic factors tend to explain both micro-breweries and brewpubs, the total population size of an MSA as well as the size on an MSA's non-Hispanic white population appear to have a stronger influence on the geographic distribution of micro-breweries, while the existence of the millennial cohort and a high creativity index score have a stronger influence on the location of brewpubs. This suggests that while the growth of micro-breweries may be more driven by agglomeration economies (total population size), the growth of brewpubs is somewhat more nuanced and is more sensitive to the existence of diverse, creative populations who are within the millennial cohort. A number of variables – median income, education and farmers' markets – appear to be equally important in influencing the inter-metropolitan distribution of both micro-breweries and brewpubs.

The popularity of craft beer is likely to grow for the foreseeable future. This means that we can expect to see more micro-breweries and brewpubs appear in the cities of America. There are a number of projections surrounding the continued growth of the industry. One projection suggests that by 2020 the craft segment may comprise 15% by volume, up from the 7.8% share that it enjoyed in 2013 (Demeter Group Investment Bank, 2013). As of June 2014, there were 4,526 active beer permits[9] in the US and only 2,822 active breweries (including the large-scale mass producers). The difference between these two numbers (1,704) represent breweries that may be just starting to brew or may be brewing but are falling under everyone's radar (National Beer Wholesalers Association, 2014). The question of how many micro-breweries and brewpubs the market can bear is uncertain. The fact that brewpubs are akin to restaurants, are small-scale in nature, and depend upon food sales for a part of their revenue suggests that this particular segment may have the greatest growth potential. While competition may be fierce in the restaurant industry, with quality food and beer and a dedication to customer service, the opportunity does exist for brewpubs to displace many non-brewpub restaurants. Yet, in 2012 the number of micro-breweries exceeded the number of brewpubs in the US for the first time since 1988 (Brewers Association, 2014d). In 2012 and 2013, the US experienced a net gain of 608 micro-breweries and 165 brewpubs. Given their almost exclusive focus on beer, the continued growth of micro-breweries is probably a lot more dependent upon being able to woo new customers – either first-time beer drinkers reaching the legal age for alcohol consumption or existing consumers of Budweiser, Miller Lite or one of the more popular imports such as Stella Artois, Heineken or Corona.

Whatever the future holds, it promises to be interesting. One issue not touched upon in this chapter is the strategies of Anheuser-Busch and MillerCoors as they seek to come to terms with this new competition. This brings in the counter-movement deployed by the commercial brewers in the form of "crafty" beers; beers of the same flavours and diversification as offered by craft brewers, but sold by commercial brewers. This topic is one that lends itself to future investigation within the craft beer literature.

Notes

1. The Brewers Association is a trade association that represents the interests of American craft brewers. Its website is www.brewersassociation.org.
2. A barrel is equal to 31 US gallons.
3. In Figure 1 and in our subsequent analysis we combine micro-breweries and regional craft brewers and include them in the same category of "micro-breweries." While the Brewers Association does distinguish between micro-breweries and regional craft brewers, our logic for including them in the same category is that the latter are simply large micro-breweries.
4. Thanks mainly to the growth of the craft beer segment, the share of the US market controlled by Anheuser-Busch and MillerCoors (Miller and Coors formed a joint venture in 2008) was only 65% of the US market in 2013 (Bookman, 2013).
5. Good examples are introduction web pages displayed on the websites of Rogue Brewery in Ashland (Oregon) and of Founders Brewery Company in Grand Rapids (Michigan). More details provided by Rogue (2015) and Founders Brewery Company (2015).
6. Metropolitan Statistical Areas (MSAs) are geographic entities delineated by the federal government. As defined by the US Census Bureau (2015), "each MSA consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core."
7. Guys Drinking Beer.com, 2012.
8. A map of the nine US Census Regions can be viewed at https://www.census.gov/geo/maps-data/maps/pdfs/reference/us_regdiv.pdf.
9. To operate a commercial brewpub or micro-brewery in the US it is necessary to acquire a legal permit to do so. These are obtained from the US Department of Treasury's Alcohol and Tobacco Tax and Trade Bureau.

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10

Beer, the Preferred Alcoholic Drink of All? Changes in the Global and National Beer Consumption Since 1960 and Convergence and Trends Since the 1990s

Elena Piron and Eline Poelmans

1 Introduction

Levels of beer consumption worldwide have mostly been unstable after World War II. A sustained growth occurred in Europe and the US in the period 1950–1980, mainly associated with technological innovations and increasing incomes which lowered real prices and increased demand. However, since then beer consumption has shown markedly different patterns across countries. Per capita consumption declined in all major beer-producing countries, with consumers switching to other beverages due to wider choice and higher incomes (Poelmans and Swinnen, 2011a, b). In contrast, per capita consumption grew tremendously in emerging countries such as China, Russia, Brazil and India (Arora et al., 2011; Bai et al., 2011; Deconinck and Swinnen, 2011).

Several factors have an impact on beer consumption (Colen and Swinnen, 2011, pp.124–125): first, product(ion) characteristics such as flavour, price, colour, smell, alcohol content, quality, production method, marketing aspects and packaging; second, consumer characteristics such as age, gender, income, health issues and addiction influences; third, economic conditions such as exposure to international trade, the diffusion of technology, economic growth and substitute prices; fourth, cultural backgrounds – possibly associated with religious restrictions – and climatic conditions; lastly, new situations often induced by technological innovations and industry, or consumer responses to

shortages, or changes in regulations and/or taxes. All these factors affect not only the total level of consumption, but also consumers' preferences. For instance, in recent years the sustained strong growth of specialty and craft beers in the US and Europe is shaping consumer demand towards diversification (Tremblay and Tremblay, 2005). In contrast, Chinese beer consumers typically prefer large quantities of undifferentiated, low-alcoholic and low-priced beer – 'cheaper than water' (Bai et al., 2011).

The literature on beer consumption can be divided into two broad categories. A first group of studies focus on global convergence in beverage preferences[1] and on regional drinking patterns (Clements and Selvanathan, 1991; Greenfield and Rogers, 1999; Simpura and Karlsson, 2001; Bloomfield et al., 2002), mostly addressing differences in per capita consumption, and a second group of studies that investigate the impact of multiple factors on beer production or consumption. The latter group include studies that explored changing economic conditions, different cultural background and contexts, and new types of products (Allison and Uhl, 1964; Jacoby et al., 1971; Gallet and List, 1998; Guinard et al., 2001; Caporale and Monteleone, 2004; Tremblay and Tremblay, 2005; Lee et al., 2006; Fogarty, 2009; Colen and Swinnen, 2011 and 2015). However, there are not many studies addressing the interaction of all these characteristics in different geographical regions.[2] This chapter intends to contribute to further fill this gap.

By presenting an overview of regional beer consumption patterns since 1960, and with particular emphasis on the 1990s and 2000s, we explore the reasons behind differences and underlying trends in the different areas of the world. We address variation in absolute and per capita beer consumption, patterns of expenditure and location of consumption, and levels of appreciation for different types of beers. Our analysis is based on a large dataset encompassing consumption volumes, values and preferences (from 1961 to 2007), consumer expenditure (from 1990 to 2011), off-trade sales (1997–2007) and off-trade product categories (1997–2015). The dataset has been compiled from different sources, such as Faostat, Euromonitor International and Mitchell.[3] In our analysis, we assume that consumption equals domestic supply, e.g. national production minus export plus import plus changes in stock.

2 A tale of two snapshots (i.e. the global picture: 1960–2010)

Figures 10.1 and 10.2 indicate beer-, wine- and spirits-drinking nations in 1960[4] and 2007. Beer is defined as *the aggregation of lager, dark beer,*

stout and low/non-alcoholic beer (Jackson, 1977; Euromonitor, 2011a, d). A 'beer drinking nation' is a country where beer makes up at least 50% of total consumption of alcoholic beverages.[5] As shown in Figure 10.1, in Eastern European countries are labelled as spirits-drinking nations; while more than 50% of the total consumption of alcoholic beverages accounts for spirits, consumers normally drink lower volumes of spirits compared to beer. Hence, computing levels of alcohol consumption across countries by using a standard/comparable unit, while accounting for beverages' alcoholic content, may identify a larger number of countries as being spirits- or wine-drinking nations rather than beer-drinking nations.[6]

By comparison, we deduce that the beer consumption as a share of alcoholic beverages consumption has increased between 1960 and 2007. In addition, many of the heavy beer-drinking nations (where the share of beer consumption is above 90%) have diversified their consumption patterns, as shown by a decrease in the proportion of beer. Beer has lost some importance, but retains a strong position in North America, Belgium, Denmark, Ireland, the UK and the Netherlands. Many wine-drinking nations have become beer-drinking nations (e.g. Chile, Argentina, Spain and Portugal), while spirits consumption has diminished in Eastern Europe and Asia Pacific. While our figures solely do not reflect absolute volume changes, they seem to corroborate patterns of 'homogenization' and 'more evenly spread consumption' identified by other studies conducted on data for the period 1950–1995 (Bruun et al., 1975; Smart, 1989; Leifman, 2001), which demonstrated how traditionally dominant beverages in different countries were losing ground in relative terms.

3 How much do we really drink? (i.e. consumption volume)

Figure 10.3 shows absolute global consumption volumes of beer, wine and spirits (left-hand side) and per capita consumption levels (right-hand side). Absolute consumption volumes are higher for beer, spirits and wine in 2007 compared to 1960. Total beer consumption has nearly quadrupled from 431.9 million hectolitres to 1,716.8 million hectolitres, and per capita consumption has almost doubled from 14 to 27 litres (Faostat, 2011a, b) in the period considered. The gap between beer consumption and wine and spirits consumption has widened with regard to both absolute and per capita terms. Differences registered in 1960 may be explained by differences in alcohol content – people will

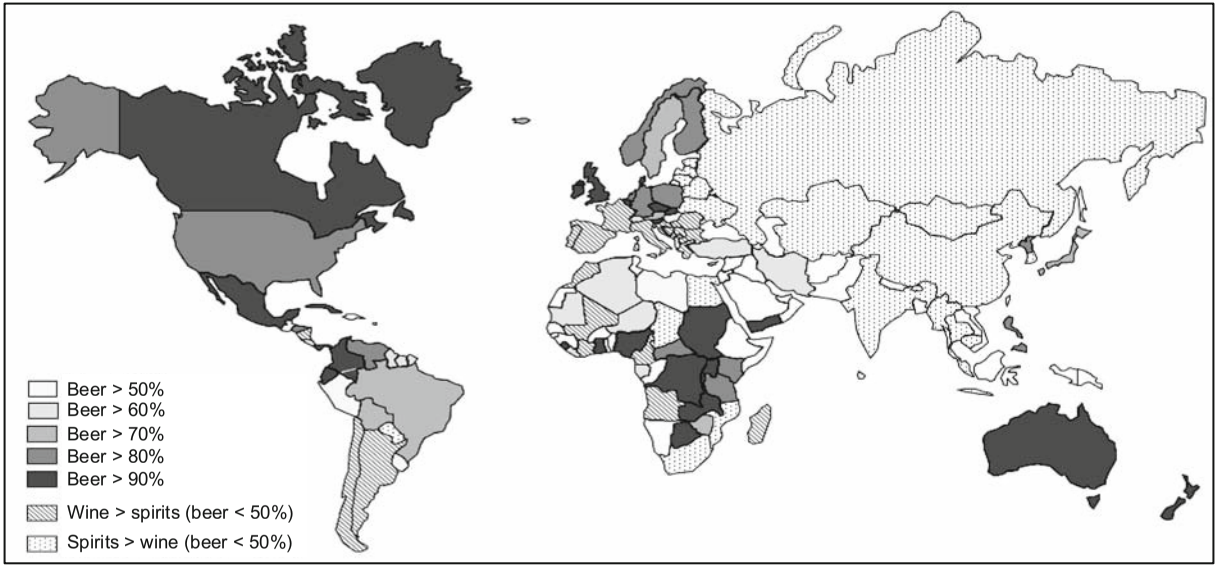

Figure 10.1 Beer-drinking nations, 1960

Source: Compiled with data from various sources: Faostat (2011b); Mitchell (2007a, b, c) and Presentation Magazine (2015).

Figure 10.2 Beer-drinking nations, 2007

Source: Compiled with data from various sources: Faostat (2011b); Mitchell (2007a, b, c) and Presentation Magazine (2015).

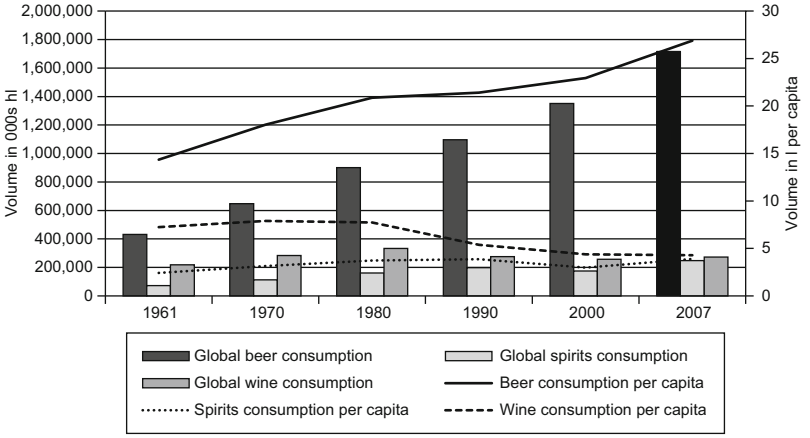

Figure 10.3 Absolute and per capita consumption of beer, wine and spirits, 1960–2007

Source: Domestic Supply. The bars indicate the absolute volumes and should be measured from the left while the lines indicate the per capita volumes and should be measured from the right-hand side.1961 is the first available year. Source: Compiled with data from Faostat (2011a, b).

drink less spirits, volume-wise, than beer. However, differences registered in 2007 are very large; we assume these may be due to beer popularity among other reasons (cf. infra).

Data by region indicate that beer-drinking regions remained so throughout the measurement period, although consumption patterns among countries in the same region varied, as shown by Figures 10.1 and 10.2. For instance, Eastern Europe – a beer-drinking region in 1960 – includes beer-drinking nations (those countries bordering Western Europe), wine drinking-countries (Balkan countries) and spirit-drinking countries (mostly the USSR). However, by 2007 nearly all countries in the region became beer-drinking countries

Figures 10.4 and 10.5 illustrate the seven regions of the world on a roster.[7] The bubble size of each region indicates its absolute beer consumption volume in 1960 (Figure 10.4) and 2007 (Figure 10.5). The location of a bubble on the roster indicates the region's share of beer consumption in comparison to total alcoholic beverages (i.e. wine, beer and spirits), and the per capita beer consumption in litres.[8]

When comparing both figures, three important changes become apparent. The first change is a general increase in absolute beer

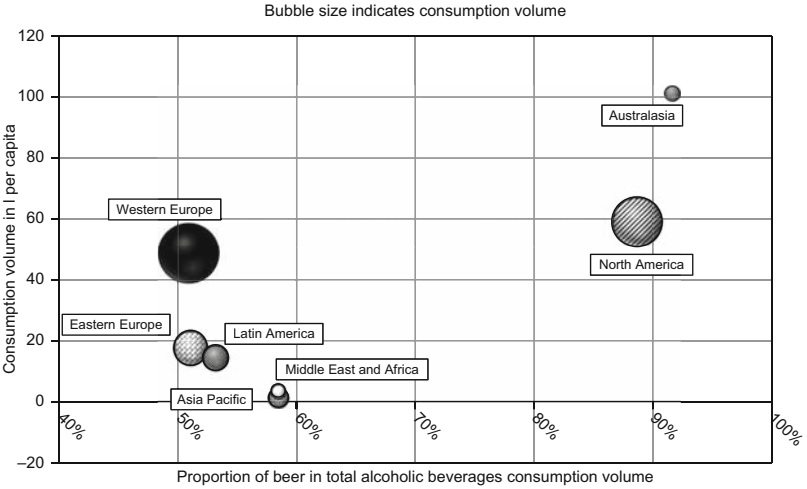

Figure 10.4 Beer consumption per region, 1960

Source: Compiled with data from: (Faostat, 2011a, b; Euromonitor, 2011e).

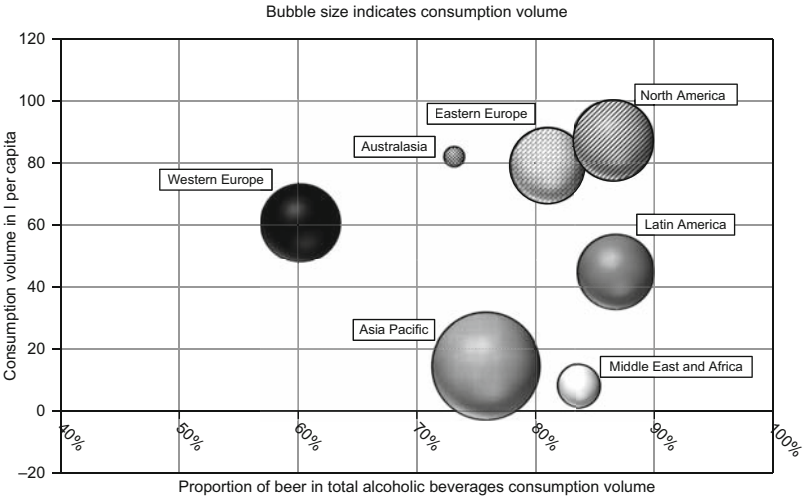

Figure 10.5 Beer consumption per region, 2007

Source: Compiled with data from: (Faostat, 2011a, b; Euromonitor, 2011e).

consumption: all bubbles have grown in size. In 1960, the largest beer-consuming regions were Western Europe, North America and Eastern Europe. However, by 2007 Asia Pacific ranks first, followed by North America and Western Europe.

The second change relates to per capita consumption levels in different regions. All bubbles have moved upwards, except Australasia which shows the highest level of per capita consumption in 1960, and ranks second after North America in 2007. Asia Pacific became the largest beer-consuming region in 2007, but its per capita level remains low. Eastern Europe surpassed Western Europe with regard to per capita beer consumption. The Middle East and Africa maintained lower per capita consumption levels in the period considered.

The third change is a possible convergence of consumption patterns. All the bubbles initially on the left-hand side moved right between 1960 and 2007: beer increased its weight in these regions. Conversely, all the bubbles initially on the right-hand side moved left in the period considered, signalling a growing importance of spirits and/or wine in these regions.

Various historical factors can explain initial differences in consumption patterns between regions/countries and the three above-mentioned changes that took place throughout time. The growth in absolute beer consumption between 1960 and 1980 was mainly caused by increasing consumption in already established beer markets such as Western Europe, North America[9] and Eastern Europe. In 1961, Western Europe accounted for 40.2% of the total global beer consumption, North America for 28.4 and Eastern Europe for 13.2. Since then, proportions for North America and Western Europe decreased in spite of their increasing consumption volumes, although in 2007 these regions were the second- and third-largest global beer consumers. In contrast, beer consumption increased in Eastern Europe from the late 1990s onward. In 1960, Eastern Europe accounted for 13.2% of the total global beer consumption and the region comprised beer-, wine- and spirits-consuming nations. By 2007, its proportion grew to 15.1%, with nearly all Eastern European countries becoming beer-drinking countries (as shown in Figures 10.1 and 10.2). The shift in Eastern Europe can be explained with convergence in consumption patterns due to increased contact with Western Europe, or may be due to mutual exchanges and influences across countries with different drinking vocations in the regions over time (Swinnen and Van Herck, 2011, p.247). Russia, which experienced a beer boom in 1996 when (mainly young) consumers switched en masse from vodka to beer, contributes to most of the consumption volume in the region. However,

a 200% increase excise duty on beer in 2010 (not applied to the stronger (>9%) alcoholic beverages), and new distribution and consumption constraints in 2013, made levels of beer consumption in Russia fall after 2010 (Euromonitor, 2011f; Deconinck and Swinnen, 2011; Landi, 2010).

The recent growth in absolute levels for global beer consumption volumes can be mainly attributed to increasing levels in Asia Pacific (from the late 1980s onward[10]) and to a steady growth in Latin America.[11] Australasia shows the smallest beer consumption volume of all regions in 1960, and its consumption only slightly increased in 2007.[12] In the Middle East and Africa, beer consumption volumes were very low in 1960 but increased strongly over time, although the contribution of this region in terms of absolute consumption remains small.[13]

In 1960, Australasia, North America and Western Europe were the largest per capita consumers. Per capita consumption levels developed similar patterns in these regions between 1960 and 2007: increases until the 1970s (Australia), 1980s (North America) and 1990s (Western Europe), followed by a gradual decrease and stagnation. Part of this decline can be attributed to government campaigns addressing drinking – and driving, changing consumer behaviours (such as a trend towards premiumization, cf. infra) and an increased interest in a healthy life-style with impact on smoking and drinking habits and higher levels of sports activities (Smart, 1987, 1989; Johnson et al., 2008). As the markets in these regions are saturated, per capita consumption volumes should remain within the band of 80–100 litres per capita in North America and Australasia. However, Western Europe, historically divided between beer- and wine-consuming nations, appears to show convergence among consumption patterns for different alcohol beverages, caused by factors such as migration, increased trade and cross-country travelling. As a result, the increase in beer consumption in traditionally wine and/or spirits-drinking nations may be counterbalanced by declining trends in traditionally beer-drinking nations (Euromonitor, 2008b, 2011e). Particularly in Eastern Europe some countries show very high per capita consumption levels, e.g. 146 litres in the Czech Republic in 2007.[14]

Between 1960 and 2007, levels of per capita beer consumption in Latin America increased gradually from 14 litres to 45 litres, although the region still ranked fifth in 2007 among regions in terms of per capita consumption. While Asia Pacific was the largest beer-consuming region by volume in 2007, it was the smallest, together with the Middle East and Africa, with regard to per capita consumption. Religious constraints (e.g. Islam and Buddhism), high market regulation and an unstable political

climate may explain such low levels in these regions (see Datamonitor, 2010; CIA, 2011).[15] However, despite the exponential growth experienced by many countries in these regions since 1960, per capita beer consumption remained less than 15 litres in 2007 in Asia Pacific, and less than 8 litres in the Middle East and Africa (Datamonitor, 2010; see also Lau et al., and Nyuur and Sobueso, this volume).

4 How much are we willing to pay? (i.e. consumption value)

Table 10.1 and Figure 10.6 illustrate changes in consumer expenditure for beer, wine, spirits and alcoholic beverages as a whole between 1990 and 2011. Overall, total consumer expenditure on alcoholic beverages increased in the period considered. This growth could be explained by inflation, an increase in consumption volume, a sudden increase in imports or a combination of these factors. Another explanation could be a change in consumption patterns between mature and emerging markets (Euromonitor, 2008a, 2011c, 2012, 2013).

In mature markets, per capita beer consumption volumes stagnated or declined in the period considered, while they are still growing in emerging markets. In addition, mature markets tend to consume premium-priced products (e.g. higher quality beers sold at higher prices), a trend known as 'premiumization' (Euromonitor, 2012). As a result, most consumers in mature markets choose quality over quantity, increasing their expenditure without increasing their consumption volumes. In contrast, consumers in emerging markets tend to prefer low-priced products, a trend labelled as 'economization'. There is no strict division between the two trends, and both can appear simultaneously in the same market. This may happen when consumer groups differ significantly within the same market, or in situations of economic downturn, since consumers tend to be more price-sensitive. The recent financial crisis and related economic recession has further increased polarization

Table 10.1 Proportions of consumer expenditure, 1990–2011

	1990	1995	2000	2005	2011
Alc. drinks/total cons. exp.	2.06%	1.71%	1.53%	1.46%	1.42%
Spirits/alcoholic drinks	38.99%	33.00%	30.03%	31.56%	31.28%
Wine/Alcoholic drinks	22.87%	21.96%	23.57%	26.49%	25.42%
Beer/Alcoholic drinks	38.14%	45.05%	46.40%	41.95%	43.31%

Source: Calculated with data from Euromonitor (2011b).

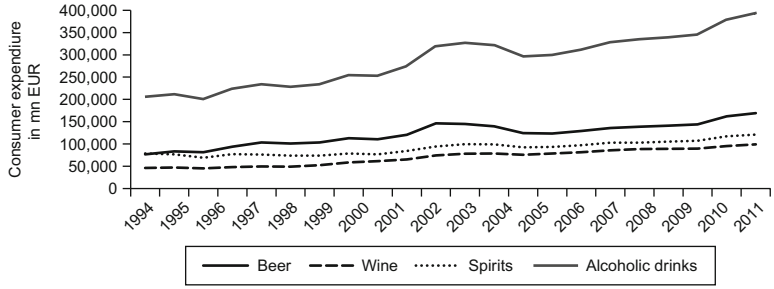

Figure 10.6 World consumer expenditure on alcoholic beverages, 1990–2011
Source: Compiled with data from Euromonitor (2011b).

by cutting out the middle segment, with more consumers buying economy-priced beers for everyday consumption while buying premium-priced beers occasionally. One effect of the economization trend is that drinking economy-priced beer, such as Oettinger, has become popular among many youngsters in Germany; the same applies for Cara Pils in Belgium (De Rechtzetting, 2011; Eén, 2010).

Premiumization and economization are not mutually exclusive: both trends are found in mature markets as well as in emerging markets (Hoyer and MacInnis, 2007, pp.260–264). Moreover, the consumption pattern of alcoholic beverages seems to change depending on the maturity of the market. Over time, spirits are partially substituted by beer when disposable income levels increase; equally, beer consumption is partially substituted by wine (Madsen et al., 2011; Faostat, 2011b; Colen and Swinnen, 2011 and 2015).

Whereas consumer expenditure on alcoholic beverages increased over time, the actual proportion it accounts for in total consumer expenditure has sunk from 2.1% in 1990 to 1.4% in 2011 (see Table 10.1). This indicates that, overall, expenditure on alcohol beverages increased, but consumers spend a smaller proportion of their disposable income on these products.

However, according to Figure 10.6, consumer expenditure on beer ranks first,[16] followed by spirits and then by wine. Although Figure 10.3 shows that wine consumption volumes are higher than those for spirits, consumption expenditure on spirits is higher than on wine. This reflects average higher prices per volume of spirits over wine (Euromonitor, 2011b).

Finally, it appears that total consumer expenditure on alcoholic beverages in all regions increased, while the proportion of total consumer

expenditure on alcoholic beverages decreased between 1990 and 2011. Beer shows the largest share throughout the period considered, followed by spirits and wine almost everywhere. In Australasia, and from the beginning onwards (1990), more money was spent on wine than on spirits. In Western Europe, consumer expenditure on wine was higher than that of beer and spirits, in contrast to the global tendency of beer usurping the largest share. In Eastern Europe, spirits show the largest share in 1990, followed by wine and then beer. However, expenditure on beer in this region increased, surpassing expenditure on wine in the late 1990s, and on spirits in the mid-2000s.

5 Where do you want to hang out? (i.e. consumption location)

Consumers' choice on where to consume beer depends on two different types of legislative restrictions: *consumption constraints*, thus laws and regulations concerning licensed premises, anti-social behaviours, drinking age limits and drinking and driving; and *distribution constraints*, concerning different forms of alcohol licenses and distribution regulations that vary among countries.[17] Due to these restrictions, preferences about locations for imbibing beer may differ from country to country across countries. To verify the situation in different regions, we explore a range of locations and places where consumers may have their beers by analyzing on-trade versus off-trade sales (Euromonitor, 2011d). In doing so, we assume that *off-trade selling* is either for delayed consumption at private events (at home or somewhere else) or for private consumption at public events such music concerts, art festivals, and so forth. In contrast, *on-trade selling* is assumed to be immediate on-site consumption, e.g. in pubs or restaurants. Locational choice in our analysis, therefore, is linked with selected sale points, although we are fully aware that other factors have an impact on consuming beer – e.g. disposable income, service costs, urbanization, climate conditions, cultural preferences, access to on-trade licensees and so forth. (Euromonitor, 2008b, 2011b, d).

Figure 10.7 reports proportions of total consumption by off-trade sales per region in the period 1997–2007. All regions considered show 50% off-trade consumption, with a higher number of off-trade consumers located in Australia and Eastern Europe, while off-trade sales are proportionally less in Western Europe. Although the share of off-trade beer sales in Western Europe increased from 50% in 1997 to nearly 60% in 2009, the hospitality sector is still more important in this region than anywhere else in the world. At-home consumption in the period

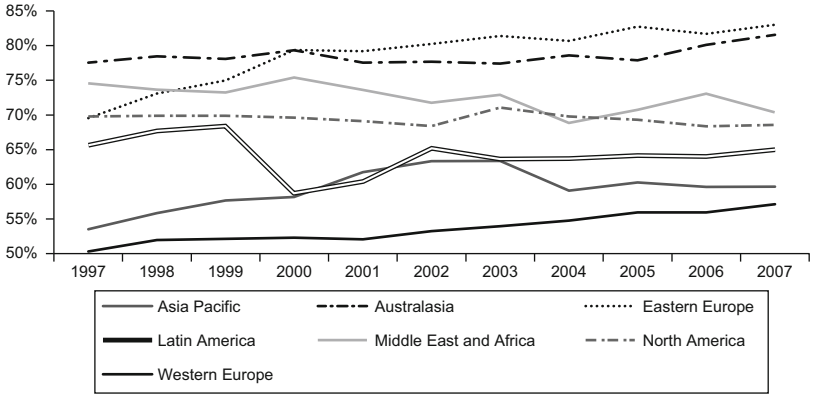

Figure 10.7 Off-trade consumption as a proportion of total consumption, 1997–2007

Source: Compiled from Faostat (2011a,b) and Euromonitor (2011d).

considered has been favoured by economic downturn, tougher drink-driving measures and intensified government campaigns addressing health risks and anti-social behaviour associated with alcohol consumption (see Bamforth and Cabras, this volume).[18]

The proportion of beer sold off-trade is very high in Australasia – around 80% in Australia and 70% in New Zealand. The obvious cause for this high share could be the low-density populated areas in these countries which reduce urbanization patterns and so prevent the hospitality sector from developing. However, despite low population density,[19] 89% and 86% of the population in Australia and New Zealand lived in urban areas in 2010 (CIA, 2011). Hence, urbanization and population density seem not to have determined the off-trade sales and beer consumption in these cases.[20] More probably, other factors influencing locational decision in this region could be related to climatic conditions, cultural preferences, the presence of a pub culture and high price differentials between on-trade and off-trade beer (Srivastava and Zhao, 2010).

6 Pick your poison (i.e. consumption of different beer categories)

Nowadays, consumers worldwide can choose between different types of beers and different beer brands. For our analysis, we define and group beer in four categories: *lagers, dark beers, stouts and low/non-alcoholic beers*.[21]

The first category, *lagers*, is incorporated in *premium/standard/economy imported or domestic lager by origin*, where premium, standard and economy refer to price categories. However, lagers (and beer in general) may have different pricing strategies in different countries. For example, Stella Artois is considered a standard lager in its home market, Belgium, while it is considered a premium lager in the US. *Other examples of lager beers are Budweisier (US); Heineken (The Netherlands); Tuborg (Denmark) and Snow Beer (China)*. The second category, *dark beers*, includes *ales, bitters, wheat* and *sorghum beers*.[22] Examples of major brands in this category include Erdinger, Paulaner, and Maisel (Germany); Bass Ale and Molson Red Jack Ale (US); and John Smith's and Newcastle Brown Ale (UK). The third category, *stouts*, which comprises also *porters,* include very dark, almost black beers. Notable examples are Kostritzer (Germany), Guinness (Ireland) and Mackesons (UK). The fourth and final category, *low/non-alcoholic (NA) beers*, includes beers with alcoholic content below 1.2% ABV. Most of these beers are lagers, although some ales/dark ales and wheat beers also fall within this category. Examples are Kirin Free (Japan), Bittburger Drive (Germany) and Jupiler NA (Belgium).

Table 10.2 illustrates off-trade consumption volumes for the four categories from 1997 to 2010, together with 2015 projected sales at global level and for the different regions. Lagers account for the largest share of global off-trade consumption volumes in the period considered, and this trend is expected to continue in the near future. However, patterns of diversification can be identified among different regions and Euromonitor expects varying growth rates by 2015 for other beer categories in different parts of the world.

Diversification is growing in Western Europe, the Middle East and Africa, and Australasia, where tastes tend to vary more among consumers compared to the global average. Dark beers, stouts and low/NA beer account for significant proportions of total beer consumption in these regions. Dark beer is very popular in Western Europe and the Middle East and Africa. Many Western European countries, such as the UK, Ireland and Belgium, have a history of brewing dark beer. Moreover, although the technique to brew lagers was invented in the mid-19th century, many countries continued to brew with their traditional method (for instance, in Belgium, lager beer brewing on large scale arrived only between the 1920s and 1930s). This explains why many Western European countries enjoy a much wider choice of beer (Poelmans and Swinnen, 2011a, 2011b). The recent revival of monastic-style brewing and *trappist beers*, and the growth of micro-breweries in many Western European countries, have further diversified and refined Europeans' beer palate.[23]

Table 10.2 Off-trade consumption of different beer categories by region, 1997–2015 (in percentage of total off-trade consumption of that region)

		World	Western Europe	North America	Australasia	Eastern Europe	Latin Amrica	Asia Pacific	Middle East and Africa
1997	Lager by origin	93.9	84.6	96.6	82.4	98.8	99.6	99.5	73.5
	Dark beer	3.8	9.4	2.4	5.1	0.4	0.0	0.2	19.8
	Low/NA beer	1.7	5.2	0.7	12.2	0.4	0.2	0.1	2.1
	Stout	0.6	0.9	0.4	0.3	0.4	0.1	0.2	4.6
2000	Lager by origin	94.2	85.8	96.6	83.1	98.9	99.6	99.6	74.0
	Dark beer	3.5	8.9	2.4	5.1	0.4	0.0	0.1	17.0
	Low/NA beer	1.5	4.4	0.6	11.4	0.4	0.2	0.1	3.2
	Stout	0.7	0.9	0.4	0.4	0.3	0.1	0.2	5.8
2005	Lager by origin	94.4	87.0	96.2	83.3	97.6	99.7	99.5	75.0
	Dark beer	3.4	8.4	2.9	5.7	0.7	0.0	0.1	13.4
	Low/NA beer	1.5	3.6	0.4	10.5	1.4	0.2	0.3	6.2
	Stout	0.7	1.0	0.5	0.4	0.3	0.1	0.1	5.4
2010	Lager by origin	94.6	86.3	94.1	85.5	97.1	99.5	99.3	70.0
	Dark beer	3.3	8.9	4.2	6.4	1.1	0.1	0.1	16.3
	Low/NA beer	1.4	3.7	1.2	7.7	1.5	0.3	0.5	9.4
	Stout	0.7	1.0	0.5	0.4	0.3	0.1	0.1	4.3
2015	Lager by origin	94.6	85.1	92.6	85.1	96.8	99.4	99.2	65.4
	Dark beer	3.4	9.7	5.4	7.4	1.2	0.1	0.1	16.4
	Low/NA beer	1.5	4.2	1.3	7.1	1.7	0.3	0.6	14.3
	Stout	0.7	1.0	0.7	0.4	0.3	0.2	0.1	3.9

Source: Calculated with data from Euromonitor (2011b).

In the Middle East and Africa, the popularity of dark beer is associated with sorghum (see Nyuur and Sobueso, this volume). Possible factors explaining the popularity of low/NA beers in Australia and in the Middle East and Africa (and, to a lesser extent, in Western Europe) can be associated with improved product characteristics for these types of beers, changing consumption habits, increasing awareness for health issues and alcohol-related antisocial behaviours, and religious constraints on alcohol consumption.[24] Low/NA beers may be gaining popularity with regard to on-trade consumption too, particularly in countries where drinking and driving regulations have been progressively toughened in the past decades, although we have no empirical evidence to support this statement.

In North America, Latin America, Eastern Europe and Asia Pacific, lagers have always been popular for several reasons. The North American preference for light-coloured lager beers is a legacy of the Temperance Movement, which pushed consumers towards bland and seemingly mild beers. In addition, with the end of the Prohibition, American consumers were relatively unaccustomed to other types of beers, with many switching to sweet carbonated soft drinks.[25] The following generations struggled to readjust to bitterness, so brewers tended to brew sweeter and lighter beers (Poelmans and Swinnen, 2011b; *New Yorker*, 2008).

However, a decrease in the share of lager consumption since 1997 reflects an increase in consumption of other types of beers. The emergence and rising popularity of the craft brewery beer movement that took off in the US between the 1970s and 1980s, seems to be a sort of renaissance for the American beer industry, and has significantly widened the choice for American consumers (Carroll and Swaminathan, 2000; Poelmans and Swinnen, 2011a, b; Cabras and Bamforth, 2015; Moore et al., this volume). In addition, increasing consumption of low/NA beers has had an impact on lager consumption in the region (Stack, 2003, Tremblay and Tremblay, 2005).

In Asia Pacific, China is responsible for the largest share of the beer consumption, particularly in relation to lagers and, to a lesser extent, low/NA beers (Bai et al., 2011). Chinese consumers frequently engage in drinking games; hence, consumer preferences tend to converge towards beers that can be drunk fast and easily, such as lightly carbonated, low alcoholic and soft-flavoured beers (Bai et al., 2011 and Euromonitor, 2009a).

Finally, the increasing diversification in beer consumption observed in North America, Latin America and Eastern Europe between 1997

and 2010 may be related to factors such as premiumization (cf. supra), increased levels of trade associated with Eastern European countries joining the European Union, and international mergers and acquisitions that increased and widened the supply of non-lager beer to traditionally lager-drinking regions (Euromonitor, 2011d; European Union, 2007).

7 Conclusions

In this chapter we presented an overview of the beer consumption patterns at global and regional levels between 1960 and 2007, and we explored the presence of different trends in beer consumption worldwide.

A number of important changes that took place occurred in the period considered. First, a general increase in absolute beer consumption in all the regions examined, with a traditionally beer-drinking region such as Western Europe surpassed by Asia Pacific and North America in terms of consumed beer volumes. Second, per capita beer consumption increased in all regions except one (Australasia). Third, there is possible convergence of consumption patterns: traditionally beer-drinking regions started to diversify their consumption patterns, switching to wine and spirits, and traditionally wine and/or spirits-drinking regions increased their per capita levels of beer consumption.

Fourth, although consumer expenditure on alcoholic beverages increased over time, the proportion of total consumer expenditure designated for alcoholic beverages decreased between 1960 and 2007. Fifth, beer consumers in mature markets are usually wealthier than those in emerging markets and, as a result, tend to purchase premium beers. The opposite happens for consumers in emerging markets, on average less wealthy and oriented to purchase less expensive beers. However, the distinction between both trends is not entirely defined, and consumers of these opposite groups may coexist in the same market, particularly in times of economic downturn or when consumer groups differ significantly within one market. Sixth, while more beer worldwide is consumed off-trade than on-trade, there are large differences across regions.

Lastly, beer consumption in all the regions examined experienced diversification between 1990 and 2011. While lagers remained the most popular type of beer consumed worldwide, other types such as stout, dark beer and low/non-alcoholic beer are increasing their shares in terms of consumption volumes across different regions.

Notes

1. See, for instance, Smith and Solgaard (2000); Selvanathan (2006); Aizenman and Brooks (2008); and Colen and Swinnen (2011 and 2015).
2. Notable exceptions are: Berger and Snortum (1985); Hennessy and Saltz (1990); Nelson (2003); Kuntsche et al. (2009); Srivastava and Zhao (2010); George (2011); McCluskey and Shreay (2011); and Vanrafelghem (2013).
3. Faostat (2011a,b); Euromonitor International (2008a,b; 2009a,b; 2011a–f, 2012, 2013) and Mitchell (2007a,b,c).
4. The available data for all regions starts from the year 1961 onwards. For the year 1960 only limited data is available. For simplicity we mention the year 1960 with the data of 1961 in our text.
5. Due to lack of information on the alcohol percentage of each drink throughout time and the differences in the alcohol percentages of beer, wine and spirits in different countries, it was not possible to recalculate all alcohol products of all countries into one completely comparable unit (e.g. a certain percentage of alcohol). Therefore, we used absolute consumption data in litres.
6. Please note these figures are given to show the proportion of beer in the consumption of alcoholic beverages within each country – e.g. in two different countries beer can have a share of 90% of total volume, although the actual beer consumption volume in both countries can be rather different – and the change in consumer habits throughout time, not to mention the exact consumption volumes in each country.
7. Western Europe, North America, Australasia, Eastern Europe, Latin America, Asia Pacific and Middle East and Africa.
8. E.g. in Western Europe a total of about 17.4 million litres of beer (bubble size) were consumed in 1961. Beer consumption represented 50.9% of total consumption of alcoholic beverages (x-axis) and Western European citizens consumed 48.8 litres per capita (y-axis).
9. Initial migration to North America originated in the beer drinking countries of Western Europe. As a result North Americans have been avid beer drinkers Smart (1987, 1989).
10. This exponential growth since the early 1980s was partly due to the substantial demographic growth that took place in the segment aged 20 to 35 years, i.e. the age segment with the largest per capita beer consumption. In this respect, China is responsible for the largest share of consumption (CIA, 2011; Freeman, 2011, p.112).
11. Most migration to Latin America originated in Western Europe's wine drinking countries. Hence – and in combination with climatic conditions – Latin America was historically more of a wine drinking region. The largest shares of beer consumption go to Brazil and Mexico. See Chapter 7 in this volume.
12. Also, the initial migration to Australasia originated in the beer-drinking countries of Western Europe although wine became very popular in Australia over time (Smart, 1987, 1989). While beer in Australia still had a share of 93% of total alcohol volume in 1960 – and although the absolute volume of beer consumed increased over time – its share has decreased to 73% by 2007 and wine's share increased from 6.7% to 25%.

13. We may assume that actual beer consumption in this region is higher than depicted in Figure 10.4 and Figure 10.5, as only beer made of barley and not beer made of sorghum is included in the data. In the Middle East and Africa (mostly in Southern Africa) sorghum is used as a substitute for barley, resulting in an under-representation of total beer consumption (Jackson (1977, pp.242–246). Hence, even if the beer consumption volume data given in the figures is an under-representation, it would never have been as high as in the largest beer-consuming regions.
14. Other countries that had per capita consumption volumes of 100 litres or higher were Hungary, Slovakia and the former Yugoslavia.
15. In Asia Pacific, China is the largest contributor in terms of both absolute and per capita beer consumption. Beer consumption increased rapidly since 1980 mainly due to changing consumer behaviours, rural–urban migration, increasing average household incomes and constant real prices for beers. However, compared to other regions, Chinese per capita beer consumption – 30 litres per capita in 2007 – is still considerably low (Bai et al., 2011).
16. In 1990, the share of world expenditures on spirits in total world expenditures on alcohol was slightly higher (38.99%) than for beer (38.14%). However, by 1995, beer was already more important and it has kept this position ever since.
17. For example, the State Alcohol and Tobacco Company of Iceland holds a monopoly in the sales and distribution of all alcoholic beverages in Iceland (Vínbúdin 2012).
18. See Brewers of Europe (2012) and Johnson et al. (2008, pp.88–99).
19. 2.8 people per km² in Australia and 16.5 people per km² in New Zealand.
20. Also in Eastern Europe (with off-trade shares of 70% in 1997 and 82% in 2007), urbanization and population density do not appear to determine the off-trade proportion of consumption.
21. Division into the four categories and examples: Jackson (1977, pp.14–15); definition of the different categories: Euromonitor (2011a, d).
22. Bitters have a harder, more bitter flavor than ales, tend to be darker in colour, are usually less carbonated than lagers, and are generally drunk at warmer temperatures.
23. For more information about the growth of monastic style and trappist beers in Europe, see Jackson (1991: 157–192), The International Trappist Association (2014) and De Standaard (2015).
24. An example of how the beer-producing companies play into this trend is the innovative marketing strategy in 2009 of the Dutch brewer Bavaria, based around the two main drivers for alcohol-free consumers; 'drunk driving' and 'sports' (The Economist 2013, Bavaria 2012).
25. As reported by Stack (2003), Cabras and Bamforth (2015), and Dighe (forthcoming).

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Part III
Pubs, People and Places

11

Tied Houses: Why They Are So Common and Why Breweries Charge Them High Prices for Their Beer

Koen Deconinck and Johan Swinnen

1 Introduction

Pubs with exclusivity contracts with breweries or drinks distributors are known as "tied houses." Often, the building in which the pub is located is property of the brewery or is being rented by the brewery from a third party on behalf of the publican. In other cases, the brewery has made financial or material investments in the pub, e.g. by giving loans or providing furniture. In return, publicans agree to exclusively buy products from the brewery.[1]

Tied houses have a long history and are common in several countries. Tied houses have been a feature of pubs in countries such as the UK and Belgium since the 19th century and in several countries (including Germany, Belgium, France, the Netherlands, the UK and countries outside Europe such as Mexico) a significant portion of pubs are characterized by tied house contracts. However, given their prominence both historically and in many countries with a rich beer culture, it is somewhat surprising that there are hardly any representative data and few studies on them. Some exceptions are the studies by Pleijster et al. (2011) on the Dutch market and a few studies on the UK market such as Gottfried and Muir (2011), the work by Margaret Slade (1998, 2011) on competition policy and the divestiture of brewer-owned pubs and more general studies by David Preece (2008) and his colleagues (Preece et al., 1999) on public house retailing in the UK.

The few data that are available do suggest that tied houses are very important in several countries. Recent data for the UK shows that two-thirds of pubs are tied to regional breweries and so-called "pub companies" or "pubcos" (real estate companies specializing in pubs, for which they also act as exclusive beer distributor; Gottfried and Muir, 2011). Evidence from the Netherlands shows that more than 60% of pubs have some form of contract (Pleijster et al., 2011). For Belgium, a survey on a representative sample of 250 pubs found that around two-thirds of the pubs in the sample had tied contracts, although it is not exactly clear from the study how stringent these contracts are (Van Passel and Wauters, 2009). The European Commission concluded in 2000 that of the 36,000 pubs in the country, around 12,000 have some form of exclusivity contract with Belgium's leading brewer, AB InBev (European Commission, 2002).[2]

The tied house system has received a great deal of criticism from publicans who blame the contracts for forcing unreasonably high beer prices on the tied houses. In the UK in the 1980s such complaints led the Thatcher government to force a divestiture of tied houses by breweries, in hopes of improving the situation of formerly tied publicans. In retrospect, however, it has become clear that the divestiture was a complete failure (Slade, 1998). It has merely caused a shift from pub ties with breweries to ties with real estate companies.

The new contracts came under scrutiny after an interest group, the Campaign for Real Ale (CAMRA), lodged a complaint with the Office of Fair Trading (the British government's antitrust and consumer protection agency; OFT hereafter). In 2010, the OFT rejected the complaint, noting that the pub sector appears to be competitive overall. In addition to the OFT investigation, however, the Business, Innovation and Skills Committee of the House of Commons investigated the issue, and eventually the government developed legislative proposals to introduce a code of practice and an "Adjudicator" to arbitrate disputes (Helsey and Seely, 2014). However, the House of Commons unexpectedly voted to add an amendment allowing publicans in tied house contracts to buy beer "free of tie," thus effectively abolishing the tied house system (see Preece, this volume). This option was not proposed by the government, as preliminary analysis indicated that abolishing the tie would increase the rate of pub closures (London Economics, 2013), an argument disputed by CAMRA, and other campaign groups in the UK. The unexpected vote led to a sharp drop in the shares of publicly traded companies owning tied pubs. Analysts expected the companies to fight the decision (Fletcher, 2014).

Criticism of the tied house model has also attracted media attention in Belgium and the Netherlands. Although the debate in Belgium and the Netherlands has not yet reached the same political level as in the UK, interest groups in both countries have been trying to put the issue on the policy agenda (Baarsma and Rosenboom, 2013; Horeca Vlaanderen, 2010).

The complaints are remarkably similar for the three countries, with the publicans arguing that the contract forces them to pay unreasonably high beer prices compared to pubs free of tie. As noted by Gottfried and Muir (2011), "The main allegation made against the pubcos is that they are charging their lessees too much for their beer and that this is putting tied pubs at a competitive disadvantage." For instance, one UK website advocating reform asks: "Is it right that publicans tied to big pub companies can pay above £110 for a barrel of beer, but independent publicans are able to purchase for less than £70?"[3] In the Netherlands, Baarsma and Rosenboom (2013) allege that the beer tie is bad for pubs, as it leads to higher wholesale prices, lower profitability and a relatively high bankruptcy rate. The authors conclude that the pub market can only function properly if the exclusivity contracts between bars and breweries disappear. In a memorandum for the 2010 elections in Belgium, the professional federation of the hospitality industry asserted that tied houses pay up to 60% more than free houses. The federation asked for more transparency in price-setting and a strict separation between rental contracts and beer distribution contracts (Horeca Vlaanderen, 2010).

Despite the media attention, and the relevance of the issue for an important economic sector, there is little serious economic analysis of the problem.[4] From an economic point of view, there are several issues. Why do we observe the tied house contract in the first place? Why is it so widespread? Why do brewers use the wholesale price of beer as a main instrument to differentiate between tied houses and free pubs since this seems to disadvantage the tied houses?

In this chapter we present an economic analysis of tied houses, drawing on a formal and more elaborate theoretical model and analysis in Deconinck and Swinnen (2014). We use the model to demonstrate that one can explain the empirical observations, i.e. that tied houses are common and that they are charged high prices for their beer, with a model of rational agents who decide to join in a contractual arrangement taking into account important transaction costs, credit market imperfections, moral hazard and differences in risk aversion. In a Williamson-type (1985) framework one can see tied houses as an intermediate stage between a free house and a "managed pub," which affects the type of

tenant and their attitude to risk – which in turn affects the nature of the contract.

The chapter is organized as follows. In the next section, we discuss the "demand" for tied houses – i.e., the motivations of publicans to engage in a tied house contract. In the third section, we discuss the "supply" factors – i.e., the economic motivations behind breweries' involvement in tied house contracts. The fourth section then offers an explanation for the observed structure of the contracts. A fifth section offers some implications and conclusions.

2 Credit constraints and the demand for tied houses

Given the well-documented differences in beer prices between tied houses and free houses, and given the frequent complaints from publicans with a tied house contract, the question is why publicans are nonetheless willing to enter into such a contract. We argue that an important part of the explanation is that many publicans are credit-constrained. The start-up cost of a pub frequently exceeds publicans' own means. Moreover, credit institutions often appear to be reluctant to invest in pubs.[5] In such cases, breweries can step into the void by paying for the necessary investments as part of a "tied" contract with the pub. In this way breweries provide interlinked contracts with their pubs, much like other economic agents do in supply chains.[6]

2.1 Credit constraints and investments

Tied house contracts are indeed usually linked to the provision of such investments or support. In the Netherlands, 64% of businesses rely on the brewer for the draft equipment, 11% rely on the brewer for credit and 8% work from a building which is rented from the brewer. For traditional pubs in particular, 16% rent the building from the brewer (Pleijster et al., 2011). The largest investments by brewers occur in rental pubs where brewers invest in the real estate, decoration, maintenance and repairs, draft equipment, refrigerators, furniture and so on.[7] In non-rental pubs, brewers also often provide some of these services. An estimate for the UK puts the value of such services for rental pubs at around £6,000 to £8,000 per year, including repairs and maintenance and operational support such as free training (OFT, 2010).

One form of financial support by the brewer which is common in Belgium is a so-called "lost fund" (*fonds perdu*). The lost fund is a lump sum payment by the brewer to the publican which is repaid through the publican's purchases of beer from the brewer. Some brewers consider the

lost fund to be an advance on a volume discount. From this perspective, publicans can choose whether they want to receive the money as a discount on wholesale prices over time or as a lump sum payment at the beginning of the contract. At any rate, the lost fund payment provides clear illustration of the role of credit constraints.

The investments by the brewer stand in stark contrast with typical "franchise" contracts in the retail sector (e.g. fast-food chains such as McDonald's). Often such contracts require large up-front investments or payments by the operator. Investments by the parent company are usually limited. In fact, one dominant theory to explain the popularity of franchising postulates that parent companies use franchising when they lack the funds to finance their own expansion. By requiring operators of outlets to finance investments themselves, the parent company can achieve a quick expansion with minimal investments (Combs et al., 2004). As a result, the "barriers to entry" for an individual operator are usually higher in these typical franchise contracts compared to a tied house contract (Lashley and Rowson, 2002). As Subway, the popular sandwich franchise, explains on its website: "[O]ur startup costs are lower than most restaurants. The initial franchise fee is $15,000, and total investment can be as low as $ 78,600" (Subway, 2014). McDonald's warns prospective operators that "Generally, we require a minimum of $750,000 of non-borrowed personal resources to consider you for a franchise" (McDonald's, 2014). Start-up costs for a tied house are considerably lower: Lashley and Rowson (2002) report that these costs could be as low as £4,000–£ 5,000.

2.2 Investments and Exclusivity

In return for its investments in the tied house, breweries often demand that the publican exclusively sells products of the brewery. The economic logic behind exclusivity requirements is that competing breweries might otherwise benefit from the brewer's investments in a pub – a situation known as a "free rider" problem (Slade, 2011). By imposing exclusivity requirements, the brewery can be sure that the benefits of its investment will not go to competitors.

On the other hand, exclusivity requirements also increase the incentive for the brewery to invest in the pub. By associating its name with the pub, the brewer puts its brand reputation at stake. A classic example is the insistence of brewers that publicans should regularly clean the draught equipment. Brewers may include such requirements in their contracts, or they may in some cases offer these services for free. Investing in clean draft equipment improves the quality and the taste of the beer, which

in turn improves the reputation of the brewer. A good reputation of the brewer will stimulate the sales of beer in other pubs or in supermarkets. This "spillover effect" (Slade, 2011) reduces the incentives for the publican to invest in clean equipment. The problem will be especially severe in tourist locations where there is a large fraction of non-repeat customers, so that the individual reputation of the publican plays only a minor role. The exclusivity arrangement increases the incentives for brewers to invest in quality control.

2.3 Credit constraints and the terms of the contract

Credit constraints will affect the beer price paid by the publican to the brewer. In return for providing the publican with infrastructure and equipment, the contract needs to create sufficient cash flow for the brewery to generate a return on investment. Many brewery–pub contracts can thus be thought of as the brewery and the publican negotiating about both a level of investments by the brewer and a wholesale beer price (and possibly a rental payment).

A large investment by the brewery implies that the brewery will require a large surplus from the beer contract to achieve a return on its investment. At the same time, a large investment by the brewery will be needed when the publican's own financial means are smaller, which in turn implies that the publican has less bargaining power. The result will be a relatively high beer price. On the other hand, if the publican bears all the investments, he may be able to play off different brewers to obtain the best possible terms of contract and the lowest beer price.

3 Market power and the supply of tied houses

From the perspective of the brewer, there are several possible motivations for investing in a network of exclusive pubs as a distribution channel. These motivations will differ importantly between large brewers and small brewers. Large brewers can use tied houses as a way of reducing competition. Small brewers may rely on tied houses to withstand competitive pressures of larger (and more cost-efficient) brewers.

3.1 Large brewers and small brewers

Tied houses can be used by large brewers to stifle competition. The competitive effects of "vertical restraints" between producers and retailers (such as the tied house contract) have received much attention in the industrial organization literature (Rey and Vergé, 2008). An important anti-competitive effect occurs when most of the distribution

outlets are tied through exclusivity agreements. If most pubs are tied to existing brewers (a situation known as "foreclosure"), a new entrant in the brewing industry would not be able to sell any beer in existing pubs. To enter the industry, the new entrant would need to invest in its own distribution network, which creates a barrier to entry. For large brewers, investing in a large network of "tied houses" is therefore one way to prevent future competitors from entering the market.

However, tied houses also offer a strategy for small breweries to withstand competitive pressure. Brewing is characterized by important economies of scale, not only in the brewing process itself but also in procurement, distribution and advertising (Swinnen, 2011). As a result, larger breweries often achieve lower unit costs than smaller breweries. In addition, larger breweries can often rely on larger marketing budgets. In a context of free houses, for a given quality level and reputation, larger breweries would therefore be able to give better terms to publicans (and, ultimately, consumers). This raises an important challenge for small breweries. By investing in a network of pubs that are required to buy from the small brewer, the latter is guaranteed a minimum production volume. By selling beer in the tied houses at a higher price, the brewer can recover the fixed costs of brewing. This in turn allows the brewer to compete with the large brewer in the "free" pubs.[8]

3.2 Empirical observations

Data for the Netherlands suggest that tied houses are most important for small brewers. Brewers with a larger market share are less likely to rely on tied houses. Figure 11.1, based on data from Pleijster et al. (2011), shows the market share of different breweries in the Dutch market, as well as the relative importance of rental pubs in the total number of pubs selling beer of that brewer. (Since rental pubs typically have the most stringent "tied" contract terms, this is a good proxy for the use of tied house contracts overall.) Heineken, the market leader, has a market share of almost 50%, but rental pubs only account for about 5% of all pubs selling Heineken. For smaller breweries, rental pubs are more important: for Bavaria which has 10% market share, the share of rental pubs is 20%.

Likewise, in Germany the existence of "tied houses" is cited as one of the reasons for the survival of a large number of small, regional breweries (Adams, 2006). While there are no representative data on this for other countries, our discussions with brewery managers suggest that the situation is similar in Belgium. However, one should take into account the regulatory environment. In the EU, current regulations limit the use

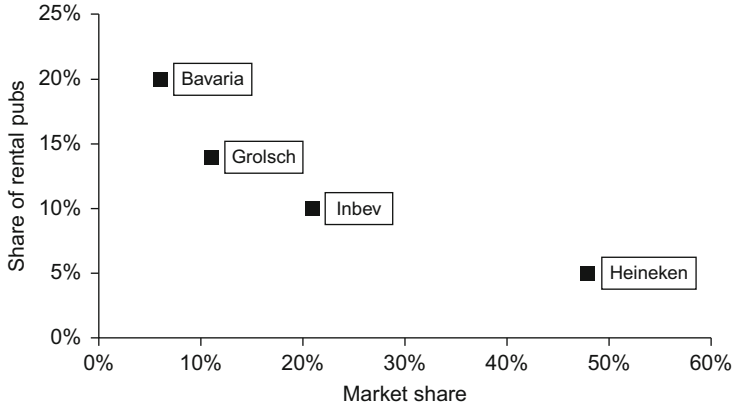

Figure 11.1 Importance of tied houses for smaller brewers in the Netherlands

of exclusivity agreements for large companies but provide considerably more leeway for smaller companies.[9]

In countries where such regulations do not exist, foreclosure by large brewers can be an important problem. This appears to have occurred in the Mexican beer market, where Heineken and AB Inbev together until recently controlled nearly 100% of the market and relied on an extensive network of tied houses. SABMiller (the world's third-largest brewery) challenged this practice, alleging that the tied houses prevented its entry into the Mexican market. In July 2013, the Mexican antitrust authorities ruled that AB Inbev and Heineken need to reduce their reliance on exclusive agreements (*Wall Street Journal*, 2013).

4 Why high beer prices in tied houses?

Tied contracts typically imply high wholesale prices. However, using the beer price to extract profits leads to at least two potential efficiency losses. First, if the brewer takes a profit margin, and the publican then takes another profit margin, the resulting retail price will be inefficiently high – a problem known as "double marginalization." Second, using the beer price also reduces the incentives for the publican to put effort into improving his pub. From an economic point of view, the use of high wholesale beer price thus seems puzzling at first sight. Both efficiency losses could be avoided if the brewer would simply charge a high fixed payment (e.g. a higher rent) to the publican, while selling beer more

cheaply. However, a high beer price (even with the two inefficiencies involved) may be optimal if publicans are risk averse, as we explain in this section.

4.1 Tied contracts: high beer prices and low rents

Although the specific terms of contract will vary depending on the circumstances, in general brewers seem to use the wholesale beer price as the central mechanism to extract the surplus of the pub, instead of a high fixed franchise fee (e.g. through a higher rental payment). In the Netherlands, Pleijster et al. (2011) report rents of brewery-owned pubs are similar to the going market rate. On the other hand, in 2009 the net beer price (after rebates) paid by pub operators varied between 1.77 and 2.17 euros per litre of beer depending on the type of contract (Pubs rented from the brewer paid the highest price). In Dutch supermarkets, the same brands of beer cost between 1.13 and 1.62 euros per litre. Likewise, for the UK, Slade (1998) notes that rental prices of brewery-owned pubs in the 1980s were usually below the market rate. While pubs with an arm's-length relationship with brewers received a 7 to 8% discount off the list price, pubs that were rented out by the brewer received no discount compared to the list price. More recently, the Office of Fair Trading estimated that a typical tied house would on average pay 30% more for beer than a free pub, although this is compensated by a "subsidy" on the rent which works out to roughly a similar yearly amount (OFT, 2010). While rents are often subsidized or at least not higher than typical market rents, brewers use the wholesale beer price to extract surplus from the publicans.

4.2 Problem I: double marginalization

The double marginalization problem is well known in the industrial organization literature (Rey and Vergé, 2008). The brewer charges a markup over marginal costs when setting his wholesale price and the publican also charges a markup over this wholesale price. The resulting retail price is inefficiently high, in the sense that it does not maximize the *joint* profits of the brewer and the publican. A lower price would imply more consumption and more profits.

In theory, there are several solutions to this double marginalization problem using contractual features known as "vertical restraints" (Rey and Tirole, 1986). For instance, the brewer could impose a maximum retail price – a practice known as "retail price maintenance," which is illegal in most cases. The brewer could thus impose the joint profit-maximizing price which in turn induces the publican to sell the optimal

quantity. Alternatively, the brewer can also set the optimal quantity directly (a practice known as "quantity forcing") which in turn induces the publican to set the optimal price. Since the retail price and total quantity are fixed in both cases, the wholesale price no longer influences the quantity decision, and the brewer can use the wholesale price to divide the joint profits.

Another solution to the double marginalization problem is "two-part pricing." In addition to charging for the beer, the brewer could also charge a fixed fee (e.g. through a higher rent). In this case the brewer would set his beer price equal to the marginal cost. If the publican then takes a profit margin on this low beer price, the resulting retail beer price will be at the joint profit maximizing level. The lower price leads to larger consumption and higher profits. The fixed fee can then be used to divide the surplus among the brewer and the publican.[10]

This theoretical analysis would predict that tied house contracts, especially in rental pubs, would be characterized by a relatively high fixed fee (rental price) combined with a relatively low wholesale price for beer, which is the opposite of what we observe in reality. Reliable data to assess the efficiency loss is difficult to obtain. Pleijster et al. (2011) present some estimates of wholesale and retail prices for different contract types in the Netherlands. Using their numbers we estimate that the double marginalization problem leads to lower revenues of approximately 13% (see Deconinck and Swinnen, 2014). Hence, the question is why the normal solutions to double marginalization (in particular two-part pricing) are not used. This suggests that other problems must be more important than the double marginalization problem.

4.3 Problem II: moral hazard and incentives for effort

The success of a pub depends in large part on the effort of the publican in creating a friendly atmosphere, in organizing events such as quizzes, sports nights or live music performances, and so on. Much of this effort is hard to monitor. It is difficult, for instance, for a brewer to ascertain whether an employee is doing his best to create a friendly atmosphere. One solution to the moral hazard problem is to reward employees with a share of the profits of the pub. Another solution is to rely on independent publicans. In both cases, as their incomes depend on the profits of the pub, the publicans can be expected to be more motivated to improve the attractiveness of their pub, solving the moral hazard problem.

The relative scarcity of "managed pubs" (where the pub is operated by an employee of the brewery) is an indication of the importance of such moral hazard issues. In the UK, only about 15% of pubs are managed (Gottfried and Muir, 2011); in Belgium and the Netherlands managed pubs are extremely rare. The large majority of pubs are operated by an independent publican.

However, this adds a second inefficiency to the high beer prices in tied house contracts. Since the income of the publican depends on the margin between the retail beer price and the wholesale beer price, and since publicans cannot fully pass on a higher wholesale price to their consumers, a high wholesale price reduces the returns to the publican of exerting extra effort. That is, the wholesale price acts as an "income tax," making it less profitable for the publican to invest time and energy in the pub.

The use of two-part pricing (i.e. low beer prices but high rents) would again prevent this problem. So the moral hazard problem can explain why we do not see more brewery-managed pubs, but it cannot explain why we observe the high beer prices in tied contracts – to the contrary.

4.4 Risk aversion

Why, then, do we not observe low beer prices and high rents in reality? A likely answer is that publicans, given the relatively small scale of their operations, are risk-averse, since it is hard to protect themselves against fluctuations in income. A contract with a low beer price and a high rent implies that the publican faces a high (fixed) monthly payment, while his own revenues may vary a lot, for instance depending on weather conditions. Since breweries are usually larger firms, it is plausible that they would be less risk-averse than the publican: a brewery sells to many pubs so that fluctuations "average out." In addition, the brewery may have easier access to finance to bridge periods of low income.

Under the standard two-part pricing solution, the brewers would be receiving the least volatile revenue stream and publicans have to absorb most of the volatility. Prospective publicans would probably not be willing to accept such a risky contract. A risk-averse publican would prefer a higher wholesale beer price and lower rent over a contract with high rent and a low beer price, even if this implies (on average) a higher payment to the brewer. The reasoning here is similar to that of an insurance contract: by using the beer price instead of a fixed payment, the publican can partly insure himself against the volatility of his revenues.

5 Conclusion and implications

In this chapter we have identified the importance of credit constraints, moral hazard and risk-aversion in understanding the role that tied houses play among pubs, and why beer prices are (much) higher in tied houses than in free houses.

Our analysis has implications for the controversy regarding the high wholesale beer prices charged by brewers to tied houses compared to "free houses." Our analysis implies that the debate on the functioning of tied house contracts and comparisons of the relative level of wholesale beer prices in tied and free houses needs to take into account the corresponding investments of the brewer and the publican. Since brewers typically invest larger amounts in tied houses than in free houses, higher wholesale prices are needed to cover the brewer's opportunity costs. Ignoring these investments will lead to incorrect conclusions regarding economic efficiency and rent distribution.

Any policy proposals thus need to take into account the possibly unintended consequences in a context of credit constraints. A ban or restriction on tied contracts may reduce the incentive of the brewer to invest in pubs. While this may lead to a short-run advantage for publicans, in the long run this might reduce investments in the pub industry, or it may induce spillover effects on other markets. This is illustrated by the experiences with the forced divestiture of pubs in the UK. The UK government decided in 1989 that breweries owning more than 2,000 pubs had to divest themselves of half of the number of pubs in excess of 2,000. The idea behind these "Beer Orders" was to create more independent pubs, which would lead to more competition in the sector. However, instead of the divested pubs ending up in the hands of independent publicans, a new organizational form appeared: the so-called "pub company" or "pubco." These companies bought the pubs from the brewers and started acting as distributors for their pubs. Whereas national breweries owned 32,000 of the UK's 60,000 pubs in 1989, this number was reduced to zero in the wake of the Beer Orders. The pub companies, non-existent before 1989, bought practically all the divested pubs. Given the apparent aim of the reform to create more independent pubs, the Beer Orders clearly failed (Gottfried and Muir, 2011; Slade, 1998; Preece et al., 1999). This outcome is consistent with our argument about the importance of credit constraints on the part of publicans.

In their discussion of interlinked contracts in developing country agriculture, Bardhan and Udry (1999) note that "[i]f, in our reformist zeal,

we do not pay enough attention to the underlying economic rationale of pre-existing institutions and their interconnections, and try to hack away parts of them, we may not always improve (and may even worsen) the lot of ... the intended beneficiary of the reform programme." At the same time, they note that understanding an institution should not be confused with blindly accepting the resulting outcomes as the best possible state of events. The same may apply to tied houses. The end of tied house contracts or a forced divestiture may have negative consequences for publicans in the long run. On the other hand, this does not imply that the current situation of publicans in tied houses is necessarily optimal. To the degree that the terms of contract depend on bargaining power, there might be scope for changes in the wholesale price which would not affect economic efficiency and which, given the negative effects of wholesale prices in terms of double marginalization and moral hazard, may even improve the total surplus.

Notes

1. Both breweries and distributors (drinks wholesalers) can have such exclusivity contracts with pubs. For simplicity, we will refer to "breweries" only, although the argument extends to distributors. Throughout, we will refer to the operator of the pub as the "publican."
2. In the US, by contrast, tied houses have been illegal since the end of Prohibition. After the repeal of Prohibition, a "three-tier" system was introduced with a strict separation between production, distribution and retailing of alcohol. The situation persists to this day.
3. See www.fairdealforyourlocal.com (accessed 22 December 2013).
4. An exception is Slade (1998), who studied the consequences of the forced divestiture of tied houses in the UK after 1989.
5. In Belgium, the professional federation of the hospitality industry complains about a lack of access to credit (Horeca Vlaanderen, 2010). A series of telephone interviews with the leading financial institutions in Belgium, conducted by the authors in 2013, confirmed that the hospitality industry is seen as a high-risk sector, so that institutions are reluctant to extend credit.
6. Contracts are interlinked when the terms of one transaction are "linked" to those in another transaction. In agriculture, for example, processing companies often provide inputs to farmers who then in turn sell their output to the processor. Studies show that such contracts improve access to technology and inputs for poor producers (Dries et al., 2009; Swinnen, 2006). For a comprehensive theoretical analysis, see Swinnen et al. (2015).
7. Current debates in the UK often center around the alleged lack of investments by pubcos in their pubs. This is partly linked to the switch, after the forced divestiture, from rental contracts to long-term lease contracts which legally make the tenant responsible for a larger part of maintenance and other costs (Slade, 1998).

8. Clearly this argument will be more relevant in the context of, e.g., Germany, Belgium and the Netherlands (where breweries still have important networks of tied houses) and less in the UK, where many pubs are owned by specialized real estate companies. However, the argument may have applied to the UK before the "Beer Orders" of the 1980s.
9. The exact regulations are rather complex. Article 101 §1 of the Treaty on the Functioning of the European Union prohibits contractual arrangements which restrict trade, including exclusivity agreements such as the tied house. Potential violations need to be assessed on a case-by-case basis in court. As a rule of thumb, the so-called "de minimis" rule exempts those arrangements among players that are too small to influence the market, where "too small" is typically interpreted as "less than 15% market share" (see Communication of the European Commission 2001/C 368/07). However, in case most pubs are tied, a stricter threshold of 5% market share is used. The rationale is that the risk of "foreclosure" is greater if most pubs are tied. In practice, larger brewers will typically make arrangements with antitrust authorities to make the exclusivity provisions less strict (e.g. by allowing some beers of competing brewers in tied houses), or by reducing the duration of the contract (Atsma, 2003).
10. These solutions (retail price maintenance, quantity forcing, two-part pricing) assume that the brewery and the pub remain two separate firms. Another solution would be for the brewer to fully own the pub (using employees of the brewery to run the pub). This gives the brewer complete control over the pricing decision, thus avoiding the double marginalization problem.

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12

Turbulence in UK Public House Retailing: Ramifications and Responses

David Preece

1 Introduction

UK public house retailing (PHR) has experienced a good deal of turbulence since the early 1990s (see, for example, Spicer et al., 2012; Slade, 2011; Preece, 2008). The major contributory factors are the 1989 'Beer Orders' (arising out of the Monopolies and Mergers Commission's investigation into the UK brewing and public house retailing sector); changing socio-economic contexts; technological innovations; the smoking ban; taxation and beer duty; extensive regulation and bureaucracy; the development and extension of strategic branding; cheap booze in supermarkets (often sold as a 'loss-leader'); and, from the later 1990s, the increasingly widespread incidence of financialization in the sector.

Against this backdrop, pub companies, the 'regional brewers'/pub operators and the larger national/international brewers have responded in a number of ways. The large public house retailing companies (or 'pubcos') originated during the 1990s and continued to expand their estates until a few years ago (burdening their companies with debt in the process), since which time they have been reducing the size of their estates. Other responses of pubcos, brewers and brewer-pubcos have included selling off/closing breweries; churning pub estates; acquisitions, mergers and takeovers; exiting brewing; developing new 'offers'/brands; and extending opening hours. Comparing the current situation to the early 1990s, two main outcomes have been a much-reduced estate of UK public houses (down from c. 60,000 to c. 48,000) and a number of pubs struggling to survive. In particular,

the 'private equity'/financial capital – backed pub companies (given the downturn in the on-trade over recent years, the 2007/2008 financial crisis and other contextual changes referred to above) have been struggling to repay their debts and have been selling off significant portions of their estates.

These developments have created a situation whereby the freehold of many of the extensive number of pubs on the market can be bought cheaply, for example for £100,000–£400,000, depending on location, existing trade, the state of the pub and so forth. Sometimes the pubs are bought by other PHR companies or brewer/pub retailers, sometimes by an independent pub operator, but often they are closed down and replaced with a supermarket chain outlet, residential housing, betting shops, or even a church.

The chapter will focus upon UK PHR. This is for reasons of word-count and focus, not because there have not been significant developments and changes in UK brewing as well over recent years, which indeed there have, not least a major expansion in the number of micro-breweries (brewing predominantly real ales) which, as of April 2015, total over 1,400, with a concomitant increase in the number and range of beers.

2 Turbulence and change in UK public house retailing: early 1990s to date

Public houses, or 'pubs' for short, are a 'third place' (Oldenburg, 1999), distinct from homes and workplaces, where people meet to relax, chat, gossip, play games, eat, drink and exchange local knowledge and intelligence. Public house retailing in the UK can be traced back to at least Roman times, that is to around 2,000 years ago (see e.g. BLRA, 1996; Jackson, 1976; Brown, 2004). Jennings comments that:

> Historically, there were three main types of establishment for the sale of alcoholic drink: the inn, the tavern and alehouse. All three dated back to the medieval period and were the designations used in a government survey of 1577, which provides the first detailed information we have on drinking places. The term 'public house' only came into general use in the late seventeenth century. Its precise origin is unclear, but it seems likely that it derived simply from a contraction of 'public ale-house', as this form was also employed. ... The term, it would seem, was [thus] used in an overlapping way for inns and more substantial alehouses, and in an inclusive way to cover all types of establishment. (2007, p.19)

Inns had as their primary purpose the service of travellers, but also sold ale and food. The tavern can be traced back to the Middle Ages, and was a specialist establishment for the sale of wine (as well as ale). Greatly outnumbering inns and taverns were alehouses, which '... were common by the early fourteenth century in town and country. Based on the 1577 survey, estimates of between 20,000 and 24,000 alehouses for the county as a whole [England] have been made' (Jennings, 2007, p.22). Until the emergence of commercial brewers in the seventeenth and eighteenth centuries, ale was mostly brewed in the alehouse itself or its outbuildings.

Since those very early days, the sector has mostly experienced incremental change, but has from early times always been subject to regulation by the monarchy and, later, national (and in recent years, supranational, e.g. the EEC) and local government. An understanding of the UK history of brewing beer and the buildings/public houses in which it is consumed goes some way to helping us contextualize where we are today (think, for example, of those ornate and characterful public houses on the Campaign for Real Ale's (CAMRA) 'heritage list' which survive today from the Middle Ages). However, this chapter is not a history of UK PHR (or brewing), but, rather, our point of departure is to outline and examine what has been happening since the early 1990s following a piece of legislation which, in its unfolding impact since then, has had a profound impact upon UK PHR – one so substantial that it is not an over-statement to describe what has occurred as a 'transformation' of the sector. In the wake of this legislation, there have been a number of other socio-economic developments during the 20-plus years up to the present time which have also contributed to the turbulence the sector has been – and still is – experiencing. These developments can be summarized under the following headings: (i) the 1989 'Beer Orders'; (ii) a changing socio-economic context; (iii) public house investment and branding; (iv) financialization.

3 The 1989 'Beer Orders'

Following a brief recovery in beer consumption after the Second World War, a downward trend reappeared and continued until the late 1950s, followed by an increase in beer consumption through to a peak of 42.1 million barrels in 1979 (Gourvish and Wilson, 1994, pp.451–452) and a downturn during the 1980s. There was intensified competition to maintain/increase market share in a context of declining volumes, and this led to takeovers and mergers of brewery companies, and over

time the formation of six major companies which dominated the sector from around the early 1960s to the early 1990s. Millns has noted: 'The UK brewing industry and beer market changed fundamentally between 1945 and 1995, with the main shifts coming in the rapid concentration of the 1960s mergers, in increasing diversification away from concentration on beer production, and in the reduction of vertical integration through the 1989 Beer Orders' (1998, pp.157–158).

The UK beer and PHR industry at the end of the 1980s, then, was vertically integrated (see Crompton, 1998). The 'Big Six' brewing companies of Bass, Scottish & Newcastle, Courage, Allied, Grand Metropolitan and Whitbread were responsible for the entire process from buying the barley and hops, brewing the beer, distributing it to the pubs and selling the beer to the customer. They owned over 70% of the UK estate of managed and tenanted pubs, as well as exercising indirect control through free trade loan accounts and grants. For example, in the late 1980s Bass owned around 7,500 pubs, supplied 20% of the UK beer market and had a free trade loan portfolio worth hundreds of millions of pounds.

The Department of Trade and Industry's 'Beer Orders' of 1989, arising out of the Monopolies and Mergers Commission's investigation into the UK brewing and PHR industry, was the chief instigator of change in the sector during the 1990s. The Commission stated that 'A complex monopoly situation exists in favour of the brewers, with tied estates and loan ties ... restricting competition at all levels' (Monopolies and Mergers Commission, 1989, p.4). The Commission had in mind in particular the national 'big six' companies which dominated the sector at the time. The Orders required brewers owning more than 2,000 on-licensed premises to, by November, 1992, either cease brewing, or sell, or lease free from any tie, half the pubs they owned over the DTI-imposed limit of 2,000. The stated objectives were to increase competition and improve customer choice, and thus drive down prices and achieve better value for customers. Tenants were given the first option to buy their pubs if they were put on the market by one of the nationals, and many indeed did so.

Three main responses from the 'Big Six' national brewer/retailers followed: Scottish & Newcastle Breweries decided to remain in both brewing and PHR, but as it had the smallest estate of all the nationals, and did not reach the 2,000 ceiling, it did not need to divest itself of any pubs. Another response was a 'pubs for breweries' swap by Courage and Grand Metropolitan, with the former taking over the ownership of the latter's breweries and the latter taking over the former's pubs and

then entering into an exclusive supply agreement of Courage beers in Grand Met pubs. Bass and Whitbread decided to remain in both brewing and PHR, but as they owned well above the 2,000 ceiling, they had to sell off a large number of pubs. Bass had to sell 2,680 pubs in less than two years. They were bought, along with all the pubs released by the other brewers, by individuals and pub retailing chains (see Millns, 1998; Crompton, 1998; Preece et al., 1999; Knowles and Egan, 2002). This release, over a short period of time, of thousands of pubs onto the market meant that:

> there were opportunities for entrepreneurs and for companies to acquire assets at reasonable prices and with reasonable prospects of being able to manage these premises in such a way as to make money through pub retailing or through pub leasing. Several new pub retailing companies were formed at this time. Most of them had a bias towards a tenanted or leased estate, for that was the kind of pub that was being disposed of ... the new companies acquiring the assets simply had to make money. They had to be responsive, they had to be competitive and they had to be 'fleet of foot' in order to survive and grow their businesses. (Preece et al., 1999, pp.12–13)

As Knowles and Howley (2000, p.366) comment:

> The result of this order [the Beer Orders, qv] was that 11,000 pubs were subsequently sold by the big six brewers, triggering a radical overhaul of pub estates and a restructuring among the big brewers. At the same time, smaller, more entrepreneurial companies found it easier to enter or expand within the market, leading to increased competition and more niche operators. This whole process has had the effect of revitalising the pub industry by paving the way for more innovative pub and bar formats to emerge.

Lashley and Rowson (2002) classified the types of public house retailers that emerged after the Beer Orders as: (i) national retailer with brewing; (ii) national retailer with no brewing; (iii) regional/local retailer with brewing; (iv) regional/local retailer with no brewing; (v) (totally) independent operator/freehouse. Just three years after this paper was published, category (i) no longer existed and some companies in category (iii) had spread their pub estates out of what were formally their original regional heartlands (Greene King and Wolverhampton &

Dudley [now called Marstons] in particular), and have continued to do so since this time.

4 A changing socio-economic context

The early 1990s was a period of limited growth in real personal disposable income in the UK, an increasing level of unemployment and super-inflation of house prices, which resulted in low levels of consumer confidence. During the period 1990–1996, the home entertainment market (video recorders, rented videos, etc.) grew by over 10% per annum, while the consumption of alcoholic beverages by volume in retail premises declined overall (while beer volumes were down, however, revenues were maintained through price increases; see Pratten, 2007a, b, c).

Thus, PHR companies' only possibility for growth was through gaining market share from competitors. The predominant view in the sector at the time was that if net growth was to be achieved, it would be through food sales, entertainment machines, consumers trading up to premium/higher margin products, and a reorientation around market segments such as country inns with a food emphasis and branded city town bars.

Reasons for the beer volume decline included demographic changes (especially the relative decline in the proportion of 18–25-year-olds in the population over most of this period), changing consumer lifestyles, the influence of the health lobby, and the switch from on- to off-trade consumption, especially the purchase of cheap alcoholic drinks in supermarkets (reflecting changes in consumer lifestyles towards home-based leisure activities). The view emerged that other pub market segments needed to be developed or expanded to compensate for this loss of trade, such as families, young women and retired people. This led to calls for enhanced pub investment targeted at such segments. At the same time, the policy of sustaining revenues by increasing prices in the on-trade meant that the increasingly cheaper products in the off-trade became even more attractive. For those companies that had chosen to remain in both brewing and retailing, this was to the benefit of their brewery divisions, but it was not helping their PHR divisions, both of which belonged to the same PLC, or were in a 'strategic alliance' with a brewery company.

Up until and during the earlier part of the time period being considered, the predominant view in the PHR sector was that:

> consumers were individuals, and would not want to be considered as 'typical' of a target-market segment for a brand. It was believed that customers wanted a 'personal relationship' with the landlord, to be

> treated as individuals ... they were 'locals' in their local. If brands were to succeed and attain scale and scope economies, then this accepted wisdom had to be broken down: this was to become the objective of brand management in the 1990s. (Preece et al., 1999, pp.18–19)

5 Public house investment and branding in the 1990s

Attempts to increase sales volumes and profits were made by the introduction of new concepts/brands, the acquisition of more pubs, the building of new pubs and the refurbishment of older pubs. Of course, a major inhibitor for some of the nationals here was the DTI's imposed cap. If a company was at its maximum allowed estate, it would only be able to acquire or build new pubs if it sold some of its existing estate. The major disposal programme imposed by the Beer Orders meant that there was a unique opportunity to improve the overall quality of a company's estate by disposing of those pubs with the lowest sales volumes. Through an emphasis on larger pubs, it was hoped that the cost of sales would be reduced via the spreading of 'fixed' costs over higher volumes. From this time period on, disposals and estate churning became an everyday aspect of PHR companies' corporate strategy, the effect of which was to create a 'virtuous circle' of investment in those pubs or parts of the business that were achieving the highest margins and profits, and disinvestment at the opposite end of the estate. In the latter case, either the pubs were sold off to another organization, or were (initially at least) retained in the form of tenancies, for

> the more marginal properties were let out to tenants as a way of securing outlets for the beer product and at the same time tapping into the entrepreneurial, managerial and financial resources of the small firm. (Lashley and Rowson, 2002, p.354)

During this period there was also an increased amount of capital investment in some of the PHR estate – much of it facilitated by the emergent new/IT technology – in the form of back-office computer workstations, beer lines measurement and monitoring equipment, EPOS systems and so forth. The latter was usually linked to the 'back-office' computer and into company databases (this had significant implications/possibilities for labour/workplace monitoring and control, and hence for the pub auditing role/function, and, in some respects at least, gave the publican more immediate day-to-day control over his/her pub. See Preece et al., 1999).

Thus, by the mid-1990s, some of the national companies had exited from brewing altogether, while there had been a significant increase in

the PHR company sector, with 22 PHR chains owning over 13,000 pubs in 1995 (Millns, 1998). In 1989 the vertically integrated brewers owned almost 45,000 pubs; by the end of 1994 this had been reduced to under 22,000 (Pressnell, 1995, p.14). Millns observed in 1998:

> Convergence and diversification are likely to continue. Brewing has already converged with other industries in terms of adopting a managerial rather than family/craft guild approach to the business, being market and brand-led rather than producer-dominated, tending to separate production and retailing, and viewing itself as part of a wider sector, in competition with other forms of leisure for consumer spending. Diversification will continue as brewing companies give different answers to the strategic question of what business they are in, and fewer answer that they are simply brewers of beer. (Millns, 1998, pp.158–159)

This prediction has, of course, been borne out by subsequent events. People working in and writing about the sector now talk in a 'matter-of-fact' way about 'pubcos' and 'pub chains', rather than 'brewers', unless, of course, they are specifically referring to brewing companies. The newly formed PHR companies were more responsive to increasingly more sophisticated consumers, and were prepared to challenge the established norms and expectations of what had hitherto been a rather conservative industry. Consumers had become more discerning and fickle and less loyal towards an established offering. The industry response in terms of capital investment and refurbishment soon mopped up much of the finance which had been generated through the national companies' public house disposal programmes. The introduction of public house branding (going beyond having the brewery/pub retailer's sign at the door, a long-established practice still to be found with the regional brewer/retailers) for all or part of a pubco's estate began to gain some momentum from the mid-1990s, examples being country inn dining destinations, Irish and Australian theme pubs, 'chameleon' pubs, 'heritage' pubs, real ale pubs and female-friendly and family-friendly pubs. This was an attempt to gain some customer loyalty/affiliation in a context where consumers had become more fickle and discriminating, and where alcohol could be purchased much more cheaply in the off-trade for consumption at home with friends/family, perhaps while availing oneself of the new home entertainment offerings.

From the later 1990s the trend towards branding, especially in the managed estates, gathered momentum, as did the sale or conversion

Table 12.1 Ownership of UK public houses by type of operator

	1989	2004
National brewers		
Tenanted/leased	22,000	0
managed	10,000	0
Subtotal	**32,000**	**0**
Regional brewers		
tenanted/leased	9,000	5,972
managed	3,000	2,617
Subtotal	**12,000**	**8,589**
Independents		
tenanted/leased	negligible	23,857
managed	negligible	10,268
freehouses	16,000	16,850
Subtotal	**16,000**	**50,975**
GRAND TOTAL	**60,000**	**59,564**

Source: 'Pub Companies', Second Report, 2004/5, House of Commons Trade and Industry Committee, HC 128–1, 21/12/04, p. 8.

of 'community-managed' houses to tenancies or leases. Much of the remaining national brewer/retailers' managed estate was either sold or converted from community-based businesses to high street outlets, restaurant operations or lodges. These disposals gave a fillip to the creation of more, mainly leased-based, PHR companies. The days of the managed house as the 'shop window for the brewery's products' had long since gone. Table 12.1 gives an indication of the outcome of the transformational change which had taken place in UK public house ownership over the 15-year period between 1989 and 2004.

6 Financialization

In order to understand the transformation of public house retailing since the later 1990s, it is essential to discuss the 'financialization' of the sector, which has been a, if not the, main cause of this continuation of change and turbulence in the sector. In 'financialized economies' (Froud et al., 2002; Williams, 2000):

> New forms of financial competition reflect the requirement to meet the expectations of the capital market as much if not more than

> those of consumers in the product market. Capital markets are no longer merely intermediaries in relations between economic actors, but a regulator of firm and household behaviour. (Thompson, 2003, p.366)

In the increasingly deregulated and globalized market places of recent years, the search for new and/or enhanced ways of satisfying shareholders has produced a shift towards the dominance of financial circuits of capital (Lazonick and O'Sullivan, 2000; O'Sullivan, 2000). At the same time, the increased dominance of institutional investors has '... accelerated the stronger emphasis on anticipated future cash flows and dividend payments, appreciation in share price, new metrics of measurement and rates of return above other means of investment as markers of financial performance' (Thompson, 2003, p.366).

Thus, the financialization of (much of) the UK PHR sector is by no means atypical and is expressive of the way in which 'shifts in the circuits of capital are changing the character of corporate change itself ... away from internally oriented, commitment and values-based transformational change, to one that is based on the *financialization* of change in response to the new dynamics of capital markets.'(Thompson, 2003, p.367, emphasis in original). Financialization led, inter alia, to the emergence of two very large lease-based PHR companies (Enterprise Inns and Punch Taverns) and a number of smaller ones. Guy Hands was the leading early instigator and player in this process. During the late 1990s he was the UK Chief Executive of The Principal Finance Group, part of Nomura Equity Investment. His acquisition strategy was based on the maxim that pubs are excellent generators of cash. In leasehold pubs, cash flows are expected to be generated on a regular basis, primarily because of the rental payment by the lessee (otherwise they have no business or, often, home), and drinks sales (the lessee, in the arrangement we are discussing here, is 'tied' to pay the PHR company for his/her supply of beer, with the company getting the beer from the brewers at one (discounted) price, and then charging the lessee a higher ('above market') price. Nomura used the projected 'near certainty' of these cash flows, as measured by Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA), as a new way of valuing pubs and borrowing money (i.e. taking out loans to fund the pub purchases, hence incurring debt). The old 'site and bricks and mortar plus annual barrellage' valuation method produced one figure at the time (say £300,000), whereas notionally capitalising

the cash flows produced a higher figure (say £340,000). Employing this methodology (see note 1), Nomura was successful in several pub estate purchasing deals, to the extent that at one time they were the UK's largest pubco, and Nomura's methodology was adopted by a number of other PHR companies. Table 12.1 shows how the number of 'Independent/tenanted and leased' (i.e. 'pubcos') pubs grew from 'negligible' in 1989 to nearly 24,000 in 2004.

When discussing PHR financialization and securitization,[1] the Finance Director of a privately owned PHR company observed in an interview:

> And what has happened now is that it is just a pure financial punt at the end of the day. It has got nothing to do with breweries, almost nothing to do with pubs ... when we were trying to do our various deals [with finance houses and investment companies] we talked to similar people and we discovered that they were not bothered with what the business was ... All they were interested in was 'could the business be securitised?', because that is the way they could get the money out and they could make their return, and therefore pay the most to secure the business. Just had to be a business that had a secure regular income, because that is what they would secure it as. But it has all just been driven by this desire to securitise the income of the business, to get more and more money and cheaper and cheaper costs, to have more and more pubs selling more and more beer and getting better and better discounts. But it is all just pure finance. (Preece, 2008, p.1116)

Why has securitization not been applied to the same extent in managed house estates? As the same Finance Director commented, a key reason is that there is no rental income for the PHR company:

> I mean, well it only works for tenanted pubs. I think people have securitised managed pubs, but at a much lower value, and the reason they do it on tenanted pubs is because they believe – I mean this is the crazy thing about all of this – they believe that because you have got a chunk of the income as rental coming in, then they just see rental income as being secure. They do not seem to recognise that the tenant can only pay the rent if he is selling the beer ... well, what that is finishing up is if you had all your income in rent, that would be absolutely fantastic to hear. That is called a property company, that is not called a pub. (Preece, 2008, p.1116)

The key features, then, of this new 'pubco' business model were:

- the pubcos purchase pubs through financialized debt
- they then lease the pubs to lessees/tenants via leases/tenancies of varying length and conditions
- beer and certain other supplies must be purchased from the pubco or suppliers nominated by the pubco
- rent is paid, and is reviewed (usually upwards) at least annually
- pubcos enjoy the 'right of entry' to the lessees' premises
- the pubco buys its beer from breweries in bulk at discounted prices, which it then sells onto its lessees at a higher price.

7 Ramifications and responses

The new pubcos' business model did not work out as effectively as they anticipated and planned. There are a number of reasons for this, many of which have been mentioned already. These include: decreasing beer volumes in the on-trade; cheap alcohol in supermarkets; taxation on alcohol and pubs (one piece of good news is that the 'duty escalator' on beer was abolished in the April 2013 budget and duty has been reduced by 1p/pint each year since then); extensive regulation of practice: bureaucracy, monitoring and control of pub operations; enhanced home entertainment facilities; and last but not least, the economic downturn in the economy and financial crisis of 2007/2008. These factors have also affected the remaining brewer-retailers and freehouses, of course, but the former and many of the latter have not been embroiled in mountains of debt, and the former have guaranteed outlets for their beers and other products. The upshot of all this is that the two largest pubcos in particular have been struggling financially to repay their debts and have addressed the matter in three main ways: (i) by selling off many of their pubs, (ii) by setting the rents for many of their lessees at levels that the latter have found difficult, if not impossible, to meet, given the level of their pub's activity and hence cash flows, (iii) by maintaining the 'tied' system, whereby their lessees have to purchase their beer from the pubco and the pubco makes money from them by charging a higher price than a) it has paid to the brewers for the beer, b) the publican could get by directly buying beer on the open market (as freehouses do). See also Deconinck and Swinnen, this volume.

Given the above, many of the pubcos' lessees have been struggling to remain in business, and many have indeed chosen or been forced to leave their pubs, whether because the pub was to be sold/closed, or the

pubco wanted a new tenant in the pub, or the tenant decided 'enough is enough' and chose to leave the sector/company. This in turn helped spark the establishment or attention of a number of campaigning and political groups, such as the All Party Parliamentary Save the Pub Group (APPSPG)[2], the 'Fair Pint Campaign', the Campaign for Real Ale, and the 'Fair Deal For Your Local' campaign (which comprises the foregoing three groups along with the Federation of Small Business, Forum for Private Business, UNITE and GMB unions, and 'Justice for Licensees'). These groups and organizations have been campaigning to save the British pub, with the overall estate continuing to fall at between 18 and 30-plus per week. Of course, some pubs are sold to other pub operators and some are new builds, but many are sold for development or alternative use and many are demolished, the net effect being a continued overall decrease in the UK estate. Examples of campaigning issues are the calls these and other pressure/consumer groups have made for the establishment of a 'statutory code' for rent reviews (arguing for the option of an 'open-market rent' being available to lessees) and for the abolition of the tied house system.

Largely as a result of the efforts of these groups and the APPSPG, the UK government consulted the sector on pubco reform. Following much campaigning and lobbying (from a range of interested parties, not least the publicans and pubcos – the large pubcos having opposed anything other than 'voluntary/discretionary' reform), and in particular the galvanizing efforts of Greg Mulholland in the House of Commons[3], following a vote in the House of Commons, a clause was inserted into the Small Business, Enterprise and Employment bill in November 2014 which enshrines in law that tenants 'tied' to a pubco which has over 500 pubs will in future be able to choose a 'market rent only' (MRO) option (i.e. they can choose not to be also tied with regard to their beers). Tenants of these large pubcos will have the right, at the renewal or review of their lease, to request an independent assessment of their rent, and to choose to have an MRO only, and not a beer tie as well (they might, however, choose to have both). The bill received Royal Assent on 26 March 2015, with the requirement that the statutory code, along with the appointment of an independent adjudicator, be in place by May 2016 at the latest. The Adjudicator will investigate 'unfair practices' and disputes with tenants/lessees and pronounce on the course of action to be taken. Also, a 'Pubs Advisory Service' will be established to advise tenants and lessees on the MRO option. The changes will be phased in over a five-year period, and exemptions will be allowed for 'genuine franchise agreements' (where, of course, no rent is payable) and where pubcos make a 'significant' investment in the pub.

Another response to the turbulence experienced in UK PHR in recent years has come directly from pub customers and their local communities. There has been local community opposition to proposals to close pubs, especially in rural areas. Since 2012, this opposition has been aided by 'Asset of Community Value'(ACV)/ 'Community Right to Buy' legislation, which gives community groups six months to draw up and submit a case to retain a pub. This will only apply where the pub has already been listed as an ACV with the relevant local authority, and it also requires members of the local community to get together and engage in such action. If there is no such ACV or no preservation order (e.g. as a 'site of historical interest') for a given pub, developers generally experience little difficulty in buying a pub from, say, a pubco, closing it down within days or weeks, and either converting it to a restaurant/ retail outlet of some form or literally knocking it down and replacing it with a different building, for example a Tesco or Sainsbury 'local'. Even with ACV pubs, it has still been possible to convert them to alternative use, although from 6 April 2015, new planning protection for pubs has made ACVs subject to full planning applications should they come under threat from demolition or change of use.

One key reason for local opposition to a pub closure is that it may be not just the last public house, but also the last public facility in the area (see, for example, Muir, 2012; Cabras, 2011; Cabras and Reggiani, 2010). Sometimes the local response has been that members of the local community have purchased the pub from the pubco or brewery, and have then refurbished and reopened it. There are instances where such pubs have been established as cooperatives (registered under the Industrial and Provident Societies Act, 1965 or, since 2011, under the Co-operative and Community Benefit Societies and Credit Unions Act, 2010) and run thereafter for the benefit of the members and the local community (the two being synonymous to a greater or lesser extent). ACV status has facilitated the purchase of pubs by local communities by granting them a six-month period of time to organize themselves into a planning/working party group, mobilize local and wider communities, raise the capital required and make the necessary arrangements to purchase and renovate the pub.

8 Conclusions

So, what is the current situation of UK brewing and public house retailing? Although this chapter has focused upon the latter, it is worth noting that as a result of extensive takeover and merger activity since

the early 1990s, the pub and non-pub (e.g. supermarkets, restaurants) beer supply markets are now dominated by the major international brewing corporations of Molson Coors, SABMiller, Carlsberg, ABInBev and Heineken (none of which are UK-based or owned), hence there are still strong monopoly elements here despite the intention of the 1989 Beer Orders. Some of the regional brewer-retailers of the early 1990s still remain as such (although there has been some consolidation here also), for example Hall & Woodhouse, Harveys, Holts, St. Austell, Arkells, and Adnams. Others are now 'nationals' rather than 'regionals', in particular Greene King and Marstons. There has been a major expansion of mini- and micro-breweries over the last few years, from a handful in the early 1990s to over 1,400 as of June 2015, with over 100 such breweries in the county of Yorkshire alone, and real ale (the focus of the great majority of the micro- and mini-brewers) has been holding its own and expanding its share in a declining on-trade.

As for UK public house retailing, this has now reached a watershed. As we have seen, the major, securitized, pubcos are selling off their pubs and thus reducing their estates, and, given that many of these pubs are not reopening as pubs owned by other people/companies, the overall UK estate is reducing. At the same time, many of the pubs that are still open are struggling for the reasons outlined earlier, and a number of interest and consumer groups are drawing attention to this serious state of affairs and are campaigning for their retention, and for their staff, tenants and customers (there is a certain irony in that the UK now has more breweries than it has had for over 60 years, and yet the number of pubs in which to enjoy their beers has reduced significantly). The nature and structure of ownership of the UK's public house retailing sector today is such that continued volatility and turbulence seem inevitable, and it is difficult to see how it could be otherwise as long as a large proportion of the estate continues to be owned by financial institutions, from whose position pubs are seen quintessentially as generators of cash and assets to be bought and sold. It is not all bad news for pubs, however, as there some examples of the British pub crawling from the wreckage, for example the successful Wetherspoon (managed house) chain of over 800 pubs, the many freehouses and regionals that have refocused their offer around food as well as beer and wine, and the local community and cooperative pubs. A certain amount of optimism may be justified given the abolition of the duty escalator, the reduction in beer duty of 1p/pint in the last three budgets, the ACV legislation, the more discerning customer demanding and enjoying an ever-changing choice of real ales, the increasing incidence of micro-brewers opening

and extending their own estate of pubs, and, not least, the hoped-for positive impact of the MRO option for pub lessees. Tom Stainer, Interim Head of Communications at CAMRA, has commented: 'The combined impact of the code, adjudicator and the genuine choice between a market rent only deal or a tied deal will help ensure the return of a thriving pub sector' (*What's Brewing*, 2015).

How might/will the major pubcos (those with over 500 tenanted/leasehold pubs) respond to the introduction of the MRO option and Adjudicator? It is too early to offer any definitive observations, but already there are some indications as to what actions they will take. As Ed Bedington observed in *The Publican* (1 May 2015), the MRO:

> has the potential to disrupt and change the marketplace – but thereby has the potential to open up new opportunities. ... [The major pubcos have the opportunity] to look at [their] operations and build new, stronger relationships with tenants. ... Changing the [business] model may even bring in new business. The legislation is opening the pubcos to greater competition.

In May 2015, Punch Taverns said that it believes that the new pubs code is unlawful, put 160 of its pubs up for sale, and announced that it is reviewing new managed and franchised models and new MRO leases, and said that it is deferring some capital investment projects. In the same month, Enterprise Inns announced a five-year plan which includes the disposal of over 1,000 of its pubs, the conversion of 850 to managed outlets and the aim to operate a 'commercial property business' with around 1,000 assets. At the same time, it argued that it will (still) be able to generate 'significant' income from its tied tenancy estate, and will continue to offer tied leases of up to five years. The uncertainty continues! Some lessees are now wondering, for example, whether they will be offered five-year rather than fifteen-year agreements, others who would like the MRO option whether their pub will be put in the 'commercial property' section. What sort of pubco are lessees going to be dealing with in the future? There is undoubtedly going to be further sectoral restructuring, perhaps with the larger regional brewers and pub retailers taking their tied estates close to the 500 pubs threshold, while those companies with more than 500 pubs may look to franchise agreements (which fall outside the scope of the MRO option as we saw earlier) and managed estates as they continue to expand.

A recent report by Oxford Economics for the British Beer and Pub Association (BBPA, 2015) has estimated that brewing and pubs

contribute £22b to the UK economy and support around 870,000 jobs, 44% of which are held by people under the age of 25. Of course, it is not just the economic contribution that is significant – so is the contribution of pubs to the social enjoyment and well-being of pub visitors. For many customers, especially in rural areas, the visit to the local pub is often the only time in the week that they meet and converse with others; football, cricket, darts and dominoes teams are formed and meet in the pub (often enjoying sponsorship from the pub); pubs act as a 'third place' (Oldenburg, 1999; see also Markham and Bosworth, this volume, and McLoughlin and Preece, 2010) where one meets, but does not have to be concerned about feeding and watering, friends and relations, but also where one meets new people; networks and contacts are made for mending some household item/repairing the car, getting a lift and so forth; facilities are available for people on the move (e.g. Internet/Wi-Fi); the pub is where the village library and/or the post office and/or village shop, and so forth, is located. So, while the UK public house estate will always be changing and developing, and none of us can predict the future with any degree of certainty, we can say that what actually unfolds over the coming years will be the result of the decisions and actions of a range of actors: brewery and public house companies, politicians, publicans, pressure/consumer groups and, not least, the preferences and choices of the general public. Will more of them be tempted to visit and enjoy (and more often) the facilities offered by the British pub, where the range of facilities and opening hours has been extended, the beer and food choice in many of them enhanced and, last but not least, they find a publican who is able to make a decent living?

Notes

1. This financial strategy involves borrowing money on a short-term basis to acquire pubs, and then later (through 'securitisation') converting the loans into less costly medium and longer-term financial instruments, as and when the pub estate confirms its EBITDA projection. The cheaper loans are a result of the lower level of risk which has now been confirmed through EBITDA, such data being required by longer term lenders in order to securitise the debt. In essence, securitization is a process whereby future cash flows from the PHR's asset base (such as rental income) are used as financial backing for investment bonds on international bond markets. As these longer-term debts replace more expensive short term ones, they help generate additional cash balances for further acquisition and expansion. Thus the possibility arises to move ever 'onwards and upwards' in a pub-acquisition spiral.
2. Chaired by Greg Mulholland, Liberal Democrat MP for Leeds North West.

3. The MRO only option clause was added to the Bill despite the government whipping its MPs to vote against it, following a vote triggered by Mulholland, with 284 MPs in favour and 269 against the first and only such instance in the 2010–2015 Parliament.

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13

The Village Pub in the Twenty-First Century: Embeddedness and the "Local"

Claire Markham and Gary Bosworth

1 Introduction

The pub, or colloquially "the local," has been a familiar feature of English villages for many centuries. As with European cafés or American bars and inns, village pubs provide recognisable meeting places in their rural communities and form part of England's cultural history (Kingsnorth, 2008). While their portrayals may seem timeless and consistent, the reality is that state legislation, demographic changes and the growth of the capitalist economy have all led to significant economic and social impacts upon English village pubs. Much has been written on the development of the pub (Haydon, 1994; Jennings, 2007; Pratten, 2007a, b, c) but rather than reiterate these, the aim of this chapter is to look at how economic and social transitions have shaped the function of village pubs today. The importance of the chapter resides in adding to our knowledge about the village pub of today and how it is perceived and experienced as a consequence of complex and interrelated economic and social factors. At a time when rural pubs have been closing at a rate of 13 a week (Muir, 2012), this can inform publicans, campaigners and policymakers alike about the key challenges and opportunities for village pubs in the future.

For the purposes of this chapter, any premises licensed to sell alcoholic drinks in a rural settlement smaller than a town is considered to be a "village pub." We focus on the "village" pub because the community that it serves has historically been more clearly defined and because embeddedness is considered to be a stronger feature of rural than of more urban areas (Bosworth and Atterton, 2012; Reimer, 1997). Today, village pubs are more than just places where drinks are served as a large number also include restaurants, some have taken over other village

services such as shops and post offices, and others have diversified to have micro-breweries or visitor accommodation in an attempt to sustain the business (Plunkett, 2011; Cabras, 2011, 2013). In light of these changes, this chapter explores the contemporary significance of village pubs as social meeting spaces, as parts of the rural economy and as familiar images within their communities.

We explore these interrelated social and economic influences by drawing on Granovetter's (1985) concept of embeddedness which essentially explains that economic decisions are always subject to individuals' social influences – thus the decision to buy a drink in the village pub is not taken as a purely rational economic decision based on the price of the drink but is wrapped up in deeper social and cultural meaning. Many scholars have argued that this feature is stronger in rural areas because of the character of overlapping social relations, close-knit communities and common behavioural expectations (Munoz et al., 2014; Tonnies, 1955). Others have inferred that this creates a form of "local embeddedness" where connections to the place are strengthened by virtue of interrelated social and economic influences (Hess, 2004). In particular, it has been argued that entrepreneurs can benefit from being "locally embedded" as strong social connections within a locality can increase loyalty, knowledge flows and cooperative behaviour (Jack and Anderson, 2002), competitiveness and ultimately success (Hess, 2004). However, there are also dangers that can accrue from these local connections where a lack of openness, a high degree of inflexibility and a lack of adaptability can result in "a situation where social norms and obligations may override economic arguments" (Atterton, 2007, p.240), sounding a caution for today's village pubs.

2 Methodology

This chapter is informed by literature on the history, sociology and economics of pubs and of wider rural communities. Additional insights are provided from 66 in-depth interviews carried out between 2010 and 2013 as part of a grounded theory study which explored how rural inhabitants and connected actors perceive and experience the village pub (Markham, 2014). These interviews were intentionally semi-structured to allow individual respondents to tell their own stories and explain their personal connections, perceptions and experiences linked to the village pub. A theoretical sampling approach was employed where targeted data collection is guided by emerging theories (Birks and Mills, 2011). The study area of Lincolnshire is one of the most rural counties

in England and among the 25 villages covered, 60% saw a decline in their number of pubs between 1949 and 2014 (see Markham, 2014 for further details). Interviewees included a range of people with connections to village pubs, ranging from village residents to publicans and other local service providers. Conversations covered the influences of historical factors, perceptions of rural life and wider economic and social changes relating to people's experiences of the village pub. Just over half the sample (56%) was male and the youngest participant was under 20 while the oldest was over 90. Since the interview data which informs the chapter was collected for a different purpose, it is necessary to make clear that additional analysis was needed. The sample allowed additional analysis to draw comparisons between the experiences and perceptions of males and females as well as older and younger people regarding the evolution of village pubs.

The research is exploratory in nature; its aim is not to claim representativeness but to provide deeper insights into the multiple representations of the village pub. The following structure therefore explores: (i) the continuing role of history in shaping contemporary understanding of the village pub, (ii) the interplay of economic and social behaviours, and (iii) the distinctions that emerge between "lived" and "imagined" experiences – with parallels to the wider debates about the meaning or existence of a "rural idyll." Drawing these together leads to conclusions that highlight the "embedded" quality of village pubs as well as the multiple experiences and interpretations that they engender.

3 Historical influences

Village pubs in England have evolved over many centuries, with informal, unlicensed meeting places becoming gradually more regulated with respect to opening hours, the volume of drinks' measures, the responsibilities attached to license-holders, health and safety legislation and age restrictions on alcohol consumption. The shift of the working classes to cities throughout the industrial revolution has also been linked to a decline in village pubs (Clark, 1983). As a result, by the twentieth century the village pub had already seen a significant decline in its social importance (Brandwood et al., 2004), but many traditions had already been established, not least that pubs were largely masculine venues, associated with rural work and other rural activities. Following World War I the numerical decline continued with increasing numbers of larger pubs in suburbia serving a wider population (Campaign for Real Ale, 2014) – foretelling the modern era of pubs entering the competitive

leisure sector of the economy. Heightened mobility and wider leisure choices since the Second World War have been linked with a further decline in the numbers of village pubs and more recent pressures from tighter drink-driving legislation, competition from supermarkets, rising prices and the ban on smoking in pubs have all added to the challenges faced by pub owners and managers (Jennings, 2007; Preece, 2008; Preece, et al., 1999; Muir, 2012).

Against this background, movements like the Campaign for Real Ale (CAMRA) whose "pubs matter" campaign has, at the time of writing, attracted the support of 102 MPs (CAMRA, 2015), highlight public sentiment towards village pubs. Many of the social and economic activities associated with today's village pubs have their origins firmly rooted in their social and economic history. In earlier times, the village pub was at the heart of many social gatherings pertaining to weddings, christenings, funerals and congratulatory celebrations (Clark, 1983), placing the pub in the family biographies of many rural people. Social activities such as games, sports and singing (Dunn, 1980; Jennings, 2007) have also continued over several centuries and remain integral to the perceptions and experiences of the twenty-first century village pub. While some of the activities may now have a more modern flavour (for example, karaoke replacing communal singing or American pool tables replacing traditional English games) the modern versions can be seen to stem from an expectation that village pubs provide these forms of social activities.

The social histories attached to village pubs are considered to offer business opportunities through the reinforcement of local identity but they can also create restrictions where preservationist attitudes create a barrier to developments. Research interviews highlighted the sense of ownership that communities felt towards their village pubs, notably when national brands began to impose themselves on a pub's identity:

> What I didn't like was the fact that the *[pub name]* became a subtitle to the Watney Mann *[a national brewing company]* name ... I did continue to frequent the pub after its refurbishment but not for long. ... It became more focused on pound signs and less on community and this was clear in its looks and attitude. *(former village resident, 2010)*

From the perspective of embeddedness, this is a clear example of economic behaviour being moderated by social expectations and, in this case, the imposition of an outside brand identity emphasises the view that local embeddedness can be a particularly strong factor in rural

communities. In other words, economic choices are moderated by a desire to support a *local* business with a *local* identity because part of the value provided by the pub is a sense of continuity within a rural community. Integrating the community identity of a village pub into the business can lead to positive outcomes. One interviewee explained:

> What makes our local a local is not just its locality but its identity, the fact that the beer mats, pictures and trophies tell stories of the village and its residents. It's what makes it special and local. *(village resident, age: 41–61, Ruskington, 2012)*

These stories are part of the consumer experience but also part of the identity associated with being part of the village community as a whole. Here the embeddedness on display fosters loyalty towards the pub and also displays an inter-temporal quality as it is social relations and stories from the past that are influencing current behaviour.

4 Combining social and economic functions

Village pubs have historically been places where travellers brought both goods and news from beyond and pub owners have often provided other services in English villages (see Clark, 1983; Winstanley, 1976). The pub remains an economic hub in many villages and this is being actively extended by the "Pub is the Hub" organisation promoting them as sites for alternative economic and social activities extending from libraries and educational group meetings through to part-time post office provisions and a diverse range of manufacturing, retailing and hospitality activities (Pub is the Hub, 2014). The economic value of the pub extends beyond these visible activities, however, as it is also a key node in local networks and a valuable link in local supply chains. In tourist areas, selling local food and drinks can enhance the attractiveness of a pub as a visitor destination and the local economy can benefit further as village pubs often act as conduits for wider information about other local businesses and attractions. Even without tourists, village pubs, like other retail services, tend to recognise the need to support local businesses as part of reciprocal behaviour that supports the local economy (Newbery and Bosworth, 2014). In each case, these are classic examples of embeddedness that strengthen local networks.

Aside from direct trade, village pubs continue to have an economic importance in facilitating the growth of other local businesses and business networks (see Cabras, this volume). While some village pubs

provide the meeting place for business network meetings, they also provide more informal connections. One respondent said:

> You could always count on the pub *[and its customers]* when you needed to find a good, local tradesman ... I've found plasterers, builders and electricians *[through asking in my local]. (village resident, Navenby, 2011)*

As well as direct recommendations for business, social networks supported by village pubs play a key role in filling information gaps and facilitating the sharing of new ideas (Jack and Anderson, 2002). Based on the concept of social capital, strong networks embedded in the local community also promote trust resulting from "concern for one's associates, and a willingness to live by the norms of one's community and to punish those who do not" (Bowles and Gintis, 2005, p.379).

For many older village residents, particularly men who see themselves as long-standing residents, the village pub of today is experienced through the lens of past experience, and is very clearly a social facility:

> My local is my place ... I get to meet friends and make new ones ... over the years I have made lots of friends in the pub. To me it is more than a watering hole – it's my window to the outside world. Without it I wouldn't have a social life, I would be stuck in the same four walls day in day out ... I would be existing, but not living. *(village resident, age: 61–80, Navenby, 2010)*

From this it becomes clear that older residents attach a high level of social importance to the village pub, which originates from their own experiences. This past experience can then go on to influence how they talk about the village pub and how they continue to experience its social function amid aesthetic and social changes:

> "I tended to sit with the same group of people ... I enjoyed myself ... I still go to the same pub and sometimes I find myself imagining and recreating *[in my mind]* the experience *[of the pub]* I had 40 years ago ... The reality *[in terms of appearance and ambience]* of my local is now very different to how it was back then but let's not talk about that. *(village resident, age: 41–60, Billinghay, 2010)*

In both of these quotations we also see customers referring to the pub as "*my* local" (emphasis added to illustrate the possessive language),

something that would apply to very few other commercial premises. The long-standing social function of the village pubs generates a strong sense of embeddedness among regular users. They are customers and their expenditure is critical to the survival of the business but their decision to frequent the pub is based far more on the social experience than on pure economic utility. This factor is brought into sharper focus in village pubs where competing attractions have traditionally been fewer and the risk of isolation, especially among older generations, is starker.

In contrast to older village residents, those under 40 often see the village pub in the context of the social and economic transitions that have occurred post-1970. Their greater personal mobility and wider choices of home entertainment and other night-time attractions increase competition for the village pub. These increased opportunities, combined with intense marketing strategies, have enabled many young people to readily consume social experiences beyond their home village:

> What I like about going into town *[on an evening]* is the fact that I can experience new things each time I go…there are always new pubs and clubs opening and they are always a little different from the last…. *(village resident, age: 18–40, Burton Pedwardine, 2010)*

Another younger respondent commented:

> I don't use the village pub anymore, it's too expensive, it's cheaper for me to get some drinks from the supermarket and have my friends round. *(village resident, age: 18–40, Helpringham, 2010)*

The local dimension of embeddedness is stretched in modern lifestyles where people are more mobile and connected through considerably wider social networks. This exposure to the wider consumer-driven economy undermines the advantage of a village pub's locally embedded position and potentially turns it into a disadvantage if their owners are slow to adapt to external changes. The challenge for village pubs is to recognise the value of their locally embedded status and what this can offer to customers – including younger customers. For example, although younger residents may not use the village pub as much as their older relatives did when they were younger, several in the under-40 age bracket did recognise their social importance and still try to "carve out" a social identity in village pub space (Leyshon, 2005, 2008a, b). As the following quotation shows, young people's decision-making is still

"embedded," in Granovetter's term, but the ongoing social relations are not necessarily so spatially limited, thus the village pub cannot always rely on local embeddedness to boost trade.

> I was introduced to real ale by my grandfather at our 'home-made' pub…I think it's amazing, beats the stuff you get in town, it's one of the factors which keep me returning every month, that and the fact that me, my dad and my granddad can enjoy a pint within a 5 minute walking distance of our houses. (village resident, age: 18–40, Swaton, 2010, paraphrased)

In the case of the above resident part of the desire to engage with the village pub was based on its social function of offering a social space where different generations of the same family could publicly meet and satisfy basic human desires (i.e. drink, conviviality and entertainment). Although this is a weekly "pop-up" pub that bases itself in the village hall, this participant is still experiencing this newer version of the village pub in a similar way to how it has been perceived and experienced, particularly by men, over the course of time. However, it is also more complex than this because the loyalty to the pub in question is afforded in the face of myriad choices and reflects the overriding influence of strong social (in this case family) relations.

Many publicans are aware of the implications of the wider functions that their business provides. For example, one explained:

> You have to understand a pub isn't just an economic venture, it's also a social one…pubs by their very nature can enhance residents' social lives and I feel I have a responsibility to adopt some practices such as a book club which result in a higher social return for residents over an economic return for me. *(former publican, Heckington, 2010)*

However, a lot of the social activity does not generate calculable returns and the subtleties of the expectations of local residents and other customers can be very difficult to distinguish. Indeed, as the next section sets out, perceptions and experiences of village pubs today are fraught with inconsistencies.

5 Perceptions and experiences of today's village pub

A common theme across the interviews was that the village pub continued to be experienced as a space of social gathering where people

go in times of celebration and commiseration, and where friends and family can publicly meet and enjoy one another's company. Such views provide a sense of continuity but this can mask a significant number of changes that result in village pubs being somewhat different to those unchanging representations of our imaginations. Before unravelling some of these inconsistencies, it is important to introduce a debate from rural studies literature where the notion of a "rural idyll" is similarly critiqued for being an imagined "bucolic" state that never truly existed (Bunce, 2003; Bell, 2006). The desirability of rural areas is influenced through a range of media portrayals and a romantic notion that rural places are "unspoilt" by modern, industrial changes, but this creates an image of a historical rurality which is the residual of development rather than a dynamic and changing place of its own making.

The village pub, as part of the rural idyll, can be viewed in a similar way. For some people, cultural portrayals and shared memories have a heavy influence on the expectations of a village pub resulting in less desirable elements of village pubs being sidelined. The "sociable" and "friendly" pub is also a place of gender and class rules. For example, there were different physical spaces for different socio-economic groups, with the land workers typically frequenting the public bar and land owners the more reserved "saloon" or "lounge."

> Even if I had wanted to have mixed with *[the upper classes]* who visited the saloon bar the fact that we were divided by a wall made it seem like I couldn't, like it was wrong … against the rules. *(village resident, Thorpe Latimer, 2010)*

In some villages with more than one pub, this division was more pronounced:

> The Nags was our *[land labourers, drainage workers]* local, the Willoughby De Broke was theirs *[those who owned land].* My boss sometimes came into the Nags but when he did he bypassed us and went straight to the saloon … by today's standards his actions would be seen as ignorant but back then it was normal … workers and bosses didn't socialise, it wasn't the done thing. *(village resident, Helpringham, 2010)*

These distinctions spread into behavioural patterns too. More affluent middle classes have tended to use the village pub as space to form new friendships, which can then be developed and strengthened in different geographical spaces, including the home (Hunt and Satterlee, 1986;

Hunt, 1991) while working-class groups have tended to use the village pub as a social site where they can sustain existing friendships (Hunt and Satterlee, 1986; Hunt, 1991). This is also reflected in the practices of buying drinks where the reciprocal buying of "rounds" enables middle-class groups to establish acceptance (Hunt and Satterlee, 1986; Hunt, 1991; Heley, 2008) while working classes buy rounds to reinforce friendship groups (Bell, 1994).

Existing literature also explains how the village pub has traditionally been a male-dominated space with considerable evidence indicating that these past traditions continue to influence both the actual experiences of women patrons and perceptions of how women should behave in pub spaces (see Hunt and Satterlee, 1987; Leyshon; 2005, 2008a, b; Whitehead, 1976). It has been argued that while village pubs are increasingly mixed-gender spaces, women often continue to endure patriarchal social relations within them (Hey, 1986). However, the comparison of empirical interview data from male and female interviewees in Lincolnshire highlighted that both genders saw the contemporary village pub as a social space for men, women, couples and families at any time of the day or week. This "legitimacy" of women was enhanced where food was a more important component of the pub's function. Elsewhere women have identified alternative ways to "become" accepted, such as joining female sports teams in the pub (Hunt and Satterlee, 1987).

A further dissonance relating to village pubs concerns the attitudes of long-standing or older village residents with younger people and newcomers. The last section has already illustrated changing social networks and leisure choices among younger people but distinctions can also be drawn in terms of their perceptions of village pubs. Those who are "new" to village life, or those who have very little lived experience of the village pub, such as younger groups, are often drawn to it by media portrayals or nostalgic memories passed on from friends or relatives. However, these representations may not match the experience that they encounter when they actually visit. Sometimes, as the following quote from an incomer to the village shows, their experience can be positive and there can be a desire to continue consuming the village pubs social function:

> I love visiting the Barge, it's everything I think a village pub should be…it's busy with everyone chatting to one another in a lovely friendly and warm atmosphere and you can get great food, what more could you want from a village pub? *(village resident, age: 41–60, Heckington, 2010)*

On other occasions, however, if the first visit to the village pub does not match preconceptions, the loss of that image is detrimental to the experience and subsequent attachment that might be felt. This can even be true among indigenous residents as illustrated by the following quotation:

> The village pub *[when participant first start visiting]* wasn't what I imagined; instead of being a hive of activity with all and sundry visiting with an open fire and luxury interior it was a select few residents with a gas heater in the corner and décor which was dull. The atmosphere was nothing like *[what is shown]* on television. *(village resident, age: 18–40, Burton Pedwardine, 2010)*

This idea of customers being disillusioned with the village pub after their ideals have not been met provides one explanation as to why some young people and those who class themselves as village "newcomers" are, in some instances, actively choosing to spend their leisure time elsewhere. Unlike older residents who have developed social networks connected to the village, there is not the same local dimension to embeddedness among newer village residents or younger people whose social connections are spread more widely and centre on their own age groups.

The consumer society and the "countryside of consumption" (Slee, 2005) affords greater choice to the majority of today's mobile and affluent rural population. However, this also weakens the locally embedded networks that have underpinned notions of the rural idyll and the attractiveness of rural communities as safe, friendly and more fulfilling places to live (Bell, 2006). Mirroring debates concerning the rural idyll, the village pub is in danger of becoming something that is stronger in the imagination than it is in reality. A smaller proportion of rural residents regularly use their pubs (Muir, 2012) yet evidence of higher house prices in villages with pubs compared to those without pubs indicates that they remain desirable assets for rural communities (Mount and Cabras, 2015). Reinforcing this point, one of the Lincolnshire publicans interviewed commented that villagers "just like to know it's [his pub] there for their property values." Unlike the rural idyll, which can endure to a large extent through imagined and symbolic representations, village pubs must also remain viable businesses if their desirable features are to be maintained as part of English rural communities. Being more esoteric, the rural idyll can arguably be strengthened by any perceived threats which serve to reinforce the value of the imagined

idyll. For village pubs, however, the loss of a definite, physical attribute in the community has a more direct and tangible impact. This can have serious implications for the lives of more marginalised rural people, as shown in the quotations below:

> For me the best part of going to the pub was meeting with Joey and the rest of my pals, sometimes a pint would last me all night ... drink really didn't matter, it was the atmosphere and being with friends that made it special. *(village resident, age: 41–61, Heckington, 2011)*
>
> When it [the pub] shut my life changed ... I don't drive and I can't walk far these days; going to my local was my time to socialise ... but that got took away from me and it hurt ... at times I became lonely and isolated, it was more than a pub to me it was a social lifeline. When it went so too did a part of my life. (village resident, age: 81–100, Helpringham, 2011)

This final quotation once again illustrates how the personal nature of embeddedness comes to the fore when these consumer spaces are conflated with deeply felt social functions. The local nature of the embeddedness here is secondary in an emotional sense but is fundamental to the situation in which this resident is restricted by the sparseness of the rural environment to one "local" space in which to fulfil his social life.

6 The future of the village pub

Influenced by processes of counter-urbanisation (see Bosworth, 2010; Champion, 1989) and changing consumer demands, the village pub has had to transform from a social space in more "closed" villages to a hospitality business serving increasingly mobile communities. Thus the village pub today is simultaneously a material feature of its community providing a social space and an economic service and a representation of social memories and personal experiences. Village pubs are also able to attract outsiders seeking to consume perceived rural experiences and this affords additional values to traditional crafts and locally produced food and drink linked to authenticity and heritage. The questions for the village pub are whether this offers a sustainable future and whether these three functions can be delivered in harmony.

By exploring the experiences and perceptions of older and younger pub-goers, this research has demonstrated that the social features of the

village pub have evolved throughout history and the past plays a key role in shaping contemporary expectations. As with debates about the wider rural idyll, this can lead to an over-romanticised vision drawing on selective memories concerning the positive features of past portrayals. This creates dissonance between the lived experience of the present day-villagers and the imagined experiences of outsiders and thus any changes to increase the viability of the village pub as a business can be fraught with social tensions. For the village pub, or rural life more generally, rationalising reality against idealised perceptions is a pervasive challenge for the sustainability and cohesiveness of twenty-first-century rural England. Essentially, this research suggests that the village pub is a valuable microcosm of these wider rural debates.

The challenges are accentuated in rural communities because the village pub is viewed as part of the social and built environment, not just as a business. Providing a leisure experience to satisfy the demands of a modern consumer society and fulfilling a social function for local communities while sustaining an image of heritage and timelessness as part of the rural idyll is not straightforward. Changing demographics and greater mobility in rural communities alongside growing competition for leisure time and expenditure add to the vulnerability of village pubs. Where these are integral to their rural communities, as is clearly the case among those surveyed here, this has knock-on effects for local people, especially those older residents who become isolated by virtue of the changes taking place around them. If the village pub closes, it is not just the business and the physical meeting space that are lost but social networks are weakened and collective memories that make up the community identity can also be lost. While embeddedness tends to be viewed positively in terms of its impact for rural communities, once businesses are under threat, embeddedness means that the impact of closure extends beyond the economic.

Perhaps new models such as "pop-up" pubs or shared community facilities are going to satisfy the demands of today's rural communities and perhaps these will continue to sustain the local social ties that support social well-being. Perhaps taking away the bind of historical expectations will also afford greater freedom for new business models to become more successful. In this scenario, community cohesion focuses once more on the people rather than the place and the "village pub," in whatever representation, will continue to benefit from strong embeddedness in rural communities where customers support these enterprises for a combination of social and economic reasons. Without the "local" restraints of locked-in local networks and idealised expectations of how

the village "local" should appear, there is undoubted potential for these new models to embrace diverse new ideas and rejuvenate the village pub as a social space for the twenty-first century.

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14

"Pillars of the Community": Pubs and Publicans in Rural Ireland

Ignazio Cabras

1 Introduction

The traditional importance of public houses or "pubs" in Irish culture, economy and society is widely acknowledged and has been analysed by a number of studies (McCarthy, 2001, Munoz et al., 2006; Patterson and Brown, 2007). Pubs in Ireland provide a fertile terrain for various social activities and represent significant incubators for the development of human relationships and social networking across the whole country.

Despite their importance, there has been a progressive decline in the number of Irish pubs over the past decade (Foley, 2011; Smyth 2012). The causes of this decline are many and diverse, such as the toughening of drink-driving laws, rising costs and alcohol duties, the increased popularity of home entertainment, and cheaper alcohol available in supermarkets and other retailers. However, the effects relating to the decline of Irish pubs may vary in different parts of the country, and pub closures in urban and town areas may generate different outcomes from a social and economic perspective compared to elsewhere.

In particular, closures affecting pubs located in rural and remote areas – namely *village* or *rural pubs* – may have a more significant impact on local economies and communities due to disadvantages related to smaller populations and spatial remoteness from major railway routes and road connections. In these areas, pubs are frequently the only places providing physical spaces for individuals and groups to start a wide range of communal initiatives, fostering community cohesion and engagement, and enhancing the provision of social capital at a local level.

This chapter explores and examines the role pubs play in rural Ireland. The author investigates the impact of pubs on rural economies and supply chains, and their function in fostering and increasing levels of

community cohesion and social capital at a local level. By presenting and discussing original information gathered from primary research, the author illustrates how pubs directly and indirectly affect many economic activities in the Irish countryside, shaping the formation of social capital and networks and enhancing the consolidation of community cohesion within communities in rural Ireland.

2 Pubs in Ireland: a brief historic overview

In many countries the pub industry is dominated by large national breweries and retail chains which own and manage a large number of pubs. It is definitely the case in the UK where these companies control about half of the total pubs operating in the country (Cabras and Bosworth, 2014; see also the chapter by Preece in this volume). However, the structure of the pub industry in Ireland is still characterised by family-run, independently owned businesses which represent the vast majority of pubs operating in the country today. This situation may signal very little variation in the state of Irish pubs for a long time, although changes in legislation affected these businesses particularly in the past century.

For example, in 1902 the Liquor Licensing Act introduced a complex system of tradable licenses for the provision of alcohol to the general public, limiting the creation of new licenses, restricting the supply side of the market and raising a significant entry barrier to potential licensees. The Act also tied licenses to the premises they served, imposing very stringent terms on licence transfers which reduced transfers across locations and regions. Obtaining new licenses in urban areas then became very difficult, since rural licences could not be transferred (Maguire, 2006). This situation remained intact for 60 years, until in 1962 the Intoxicating Liquor Act imposed the creation of new urban licences only upon the demise of already existing licences from the same city or town. Later, in early 2000s, new regulations introduced a sort of "two for one rule" which required the extinguishment of two rural licences to obtain a new urban licence. These changes created a market for rural licences whose prices rose in function of opening new urban pubs, particularly in Dublin (Maguire, 2006). As a result, many pubs in the Irish countryside ceased their activity.

During the years of the Irish economic boom, also known as the *Celtic Tiger*, the number of Irish pubs further increased almost everywhere in the country, reaching a peak in 2003, but registered a significant reduction afterwards as shown in Figure 14.1a. The causes of this decline, in Ireland as well as in other countries, are many and diverse. The most

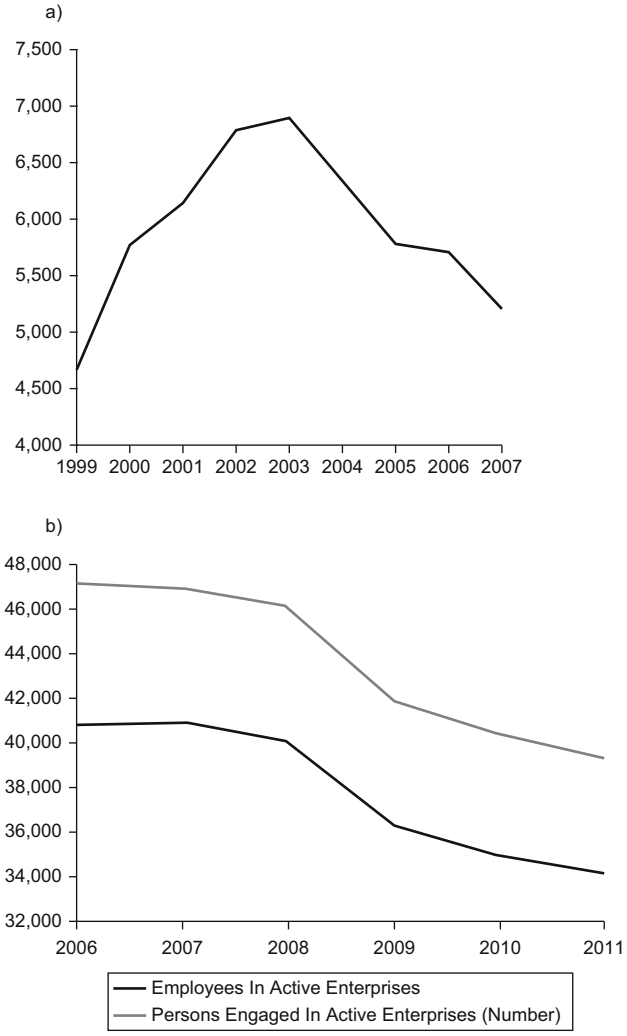

Figure 14.1 Number of pubs (a[1]) and level of employment in Irish pubs (b[2])

Note: [1]Numbers available only until 2007 due to changes in data collection afterward

[2]Figures related to direct employment (employees – indicated by darker line) as well as other figures (e.g. owners, lessees – in grey line) involved in the industry.

Source: CSO 2013.

important can be identified as the toughening of drink-driving laws (Pratten and Lovatt, 2002; Cabras and Bosworth, 2014), rising costs and alcohol duties (Foley, 2011), the increased popularity of home entertainment (Pratten, 2007), and cheaper alcohol available in supermarkets and other retailers (Preece et al., 1999; Cabras et al., 2012). The combination of these causes has had and still has a detrimental impact on the pub industry, and contributes to reducing the attractiveness of pub night-outs.

The effects of pub closures are also evident in terms of employment. The number of both operators and employees in the Irish pub industry shrank considerably between 2006 and 2011, as illustrated in Figure 14.1b, with about one-fifth of total jobs being lost in the five years of reference. The latest report about pubs in Ireland provided by the Allied Irish Banks (AIB, 2013) indicates that there are approximately 7,400[1] pubs currently open in Ireland, providing about 50,000 jobs across the country. However, figures provided by the Central Statistical Office (CSO) and quoted by Smyth (2012) indicate a potential 5,000 jobs lost in Ireland only in 2012. Unfortunately, sources do not distinguish between urban and rural pubs.

3 The impact of pubs on rural economies and communities

While the decline of Irish pubs affects the whole country, the effects of this decline may vary in different places and locations. Closures affecting village pubs or rural pubs, for instance, may generate more significant effects for local economies and communities. This is because pubs represent vital and essential networking places in areas that suffer many disadvantages in terms of major railway routes and road connections. For villagers, "the pub may operate as the centre of their social life, especially if there are no other alternative social facilities" (Hunt and Satterlee, 1986, p.523). In addition, village pubs help communities to achieve higher levels of community cohesion (Cabras, 2011), which "is what must happen in all communities to enable different groups of people to get on well together. …. People all want to fulfil their potential and feel that they belong and contribute to their local area" (CLG, 2008, p.10). In this sense rural pubs are crucial in fostering and increasing the provision of social capital, intended here as the whole of relationships among individuals which define the settings and texture of a given social context (see Putnam, 2000).

Many studies conducted by the author, mainly in the UK, have demonstrated the significance of pubs for the economy in rural and remote areas (Cabras and Reggiani, 2010; Cabras, 2011; Cabras and Bosworth, 2014; Mount and Cabras, 2015). Pubs are important generators of part-time and casual employment in areas where work opportunities for some categories of people (e.g. students, lone parents) are frequently reduced (Cabras et al., 2011). Moreover, village pubs often work as selling hubs for local producers that use them for placing their products (Cabras and Reggiani, 2010; see also Markham and Bosworth, this volume).

In addition, pubs are important for rural economies with regard to procurement and purchasing from local businesses. A pub serving food, for instance, may prefer using small local producers and suppliers for their weekly groceries, rather than national suppliers and large retail distributors. Its choice may then sustain the local supply chain, preventing a leakage of financial resources and supporting development in the area (Cabras and Bosworth, 2014; Mount and Cabras, 2015).

4 Methodology and data analysis

The data used in this study were provided by the Vintners Federation of Ireland (VFI), an organisation that represents licensed premises in Ireland, which gave the authors access to a membership database comprising contact information of 3,280 pubs – about 44.3% of the total number of operative Irish pubs based of figures from AIB (2013). Using the definition of village and rural pubs provided by Cabras and Reggiani (2010, p.949) – "[*pubs serving*] *communities or parishes with no more than 3,000 individuals, situated at least 5 miles (or 10 minutes' drive) from towns or larger parishes counting 5000 inhabitants or more*" – the author identified and selected 1,772 businesses for this study.

A survey questionnaire was then conducted in order to collect relevant data. The questionnaire framework was comprised of five sections associated with specific domains of pubs' activities and operations. The first section, entitled "Pub location," aimed at identifying pubs' main characteristics, such as types and years of activity, and seasonality. The second section, "Business turnover and expenditure," focused on the level of weekly turnover generated by these businesses, in addition to exploring the costs associated with general operations and the type of custom these pubs tended to rely on. The third section, "Employment," explored the level of full-time and part-time employment generated by the selected pubs, including salaries. The fourth section, "Suppliers,"

examined pubs' supply chain and purchasing patterns, focusing on the use of local businesses, average spend and types of suppliers used. Finally, the fifth section, "Business issues," addressed the challenges faced by pubs with regard to different types of issues, including taxation, regulations and the recent financial crisis. Data were collected by means of an online survey (for pubs whose contacts comprised an email address) and a postal survey (for pubs whose contacts did not comprise an email address) between June and July 2013. A total of 293 valid responses were gathered, accounting for 16.5% of the total population surveyed.

To further corroborate and substantiate information gathered via the survey questionnaire, the author visited six different locations and conducted six focus groups with residents and ten in-depth interviews with local publicans. The locations included two villages situated in areas with a predominantly farming-based economy (Ballyporeen and Lahardane), two villages characterised by a strong touristic vocation (Killaloe/Ballina and Dingle), one village based on fishing and naval activities (Castletownbere), and another village presenting a very mixed economy (Manorhamilton). Each focus group lasted between 45 and 60 minutes, and interviews lasted approximately 30 minutes.

Answers and responses gathered via these means were video-recorded and successively transcribed and used in the data analysis. The main purposes of both focus groups and interviews were to identify processes related to the creation of social capital (e.g. provision of training, volunteering and charity initiatives); to collect publicans' views on the capacity and capability of local pubs; and to further explore measures that could be taken to increase local retention of business and halt the closure of Irish pubs. Figure 14.2 shows the parishes where pubs selected for this study are located.

4.1 Survey results

The 293 valid responses gathered from the survey questionnaires covered all 26 counties across the four Irish provinces. The vast majority of respondents were pub owners (94%) whose activity remained open all year (96%). About two-thirds of the pubs surveyed served drinks only, with one out of four serving food and a very small proportion providing overnight accommodation. Interestingly, almost half of the pubs first opened before 1913, with only 6% opening within the last decade, corroborating evidence about the historical presence of pubs in rural Ireland and confirming pubs as deeply rooted in Irish history and culture.

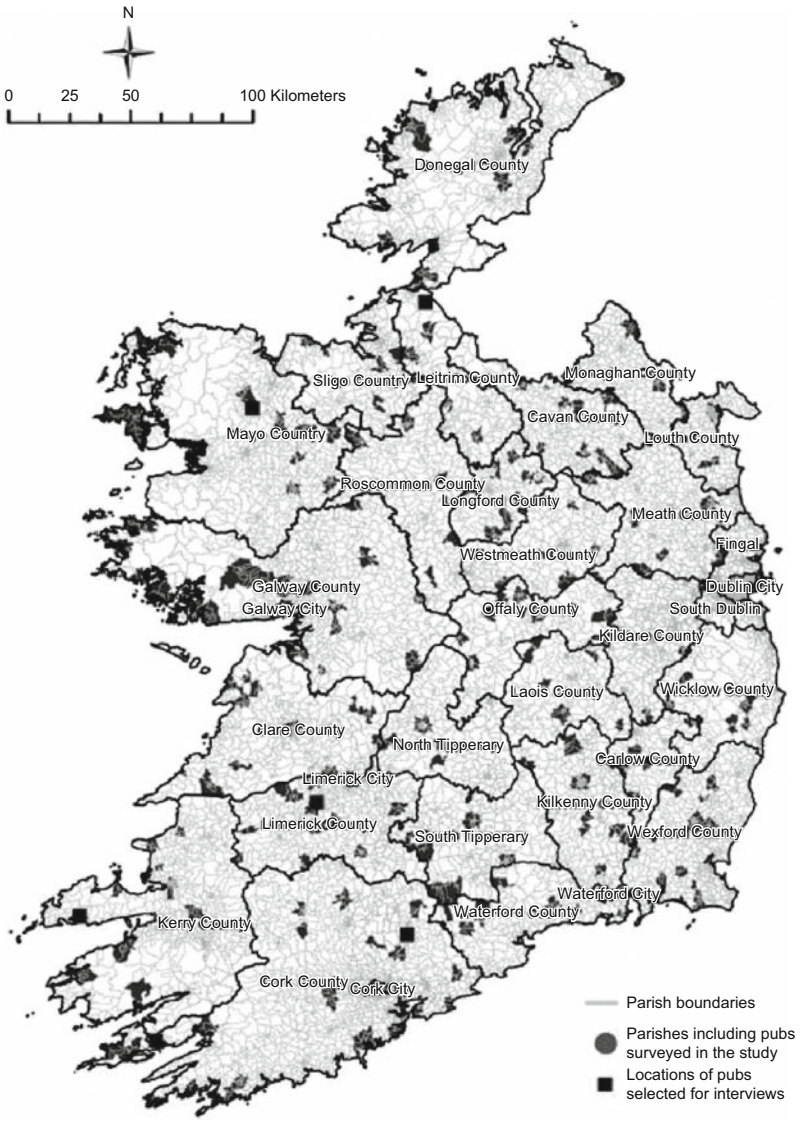

Figure 14.2 Selected pubs and parishes

As shown in Table 14.1, the majority of surveyed pubs operate between 50% and 60% costs ratio with regard to turnover. Costs related to employment and services (e.g. electricity and gas), supplies and products, and alcohol excises and other taxation are the largest voices in

Table 14.1 Average turnover and costs* by business type (in euros)

		A	B	C	D	E
TO	**Weekly average**	**4,350.2**	**5,641.1**	**3,542.9**	**4,781.4**	**2,062.7**
	Annual average	**226,212**	**293,335**	**184,233**	**248,631**	**107,263**
Costs	Supplies and products (29%)	*599.24*	*777.06*	*488.04*	*658.63*	*284.14*
	Employees and Services (32%)	*661.24*	*857.44*	*538.52*	*726.76*	*313.54*
	Alcohol excise and taxation (24%)	*495.93*	*643.09*	*403.9*	*545.08*	*235.15*
	Mortgages and leases (12%)	*247.96*	*321.54*	*201.95*	*272.54*	*117.58*
	Other costs (3%)	*61.96*	*80.39*	*50.49*	*68.13*	*29.39*
	Weekly total	2,066.30	2,679.50	1,682.90	2,271.10	979.8
	Annual total	**107,449**	**139,335**	**87,510**	**118,099**	**50,949**

**Calculated on turnover (TO) figures. A = pubs providing food and overnight accommodation, B = pubs providing food but no accommodation, C = pubs serving drinks only, D = hotels, E = other. Figures reported in euros.*

the budget, accounting for a cumulative average of 85% of total costs. Changes between levels of annual turnover and costs with the previous financial year, gathered from respondents during the survey, suggest a worsened situation for the surveyed pubs, with nearly one out of three logging a 26–50% decrease in turnover and 1–10% increase in costs. Only 10% of respondents reported no changes in the levels of turnover compared to the previous financial year. Overall, these figures indicate an increasing economic strain on rural pubs that will directly affect their survival.

In terms of employment, three out of four pubs have one or more staff members (excluding the pub owner or manager), with about 23% having no employees. Mean estimations suggest that surveyed pubs usually employ one full-time and two part-time employees, and pay an average salary of €10.30 per hour. Surveyed pubs tend to employ younger workers, with the highest grouping being 16–24-year-olds (33%), decreasing sequentially moving up in age groups: 25–34-year-olds (27%), 35–44-year-olds (19%), and 44–54-year-olds (12%), with the lowest employment group being 55+-year-olds (9%).

Responses gathered from the survey reveal that only 36% of surveyed pubs had access to a national medium or large retailer (e.g. SuperValu, Aldi, or Tesco within a five-mile radius), leaving the remaining 64% possibly dependent on more local retailers. Patterns of local procurement,

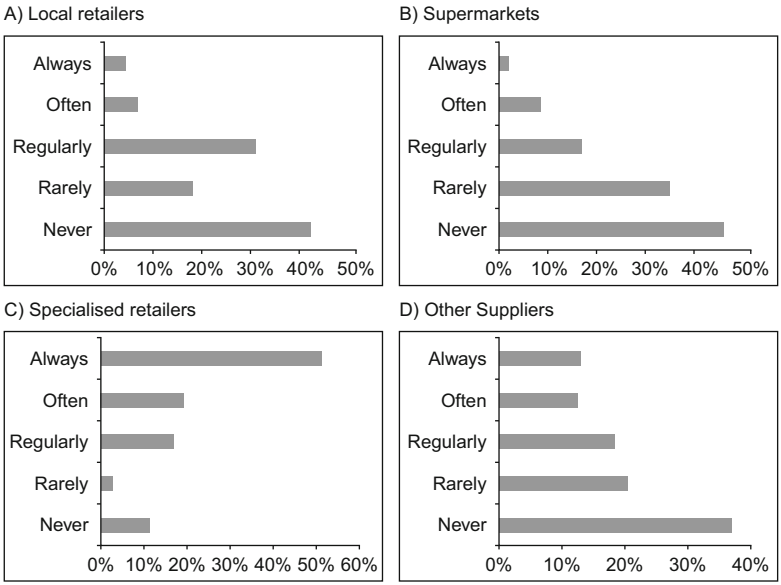

Figure 14.3 Proportions of local/non-local purchasing by types of suppliers

shown by Figure 3, indicate that about 70% of publicans approached indicated purchasing from specialised retailers for licensed businesses either often (19%) or always (51%). Conversely, 30% of respondents used local retailers on a regular basis and 10% used them almost exclusively. The higher proportion of pubs not purchasing locally is probably an effect related to many drinks-only pubs in the sample which tend to buy from large breweries and distributors (e.g. Diageo and Heineken), partially due to the low number of independent breweries operating in Ireland – about 30 in 2013 (Irish BrewersAssociation, 2013).

The average weekly purchasing for five different types of suppliers – bakers, butchers, fishmongers, farmers and grocers – shown in Table 14.2 – indicate the latter group as by far the most popular, accounting for over 44% of the total annual spend, followed by butchers (25%) and fishmongers (12%). Figure 14.4 indicates that hotels appear to generate the highest volume of purchasing among local suppliers. Similarly, pubs serving food, and food and overnight accommodation, are also good supporters of the local supply chain, while pubs serving drinks only spend relatively low amounts on local businesses. Overall, surveyed pubs contributed about €2.1 million to the local supply chain per annum.

Table 14.2 Pubs' weekly local expenditure per supplier group (thousands euros)

	Bakers		Butchers		Fishmongers		Farmers		Grocers		Total
	Count	Spend (€)	Count	Spend (€)	Count	Spend (€)	Count	Spend (€)	Count	Spend (€)	Spend (€)
€0	133	0	117	0	143	0	150	0	56	0	0
Up to €100	40	2.35	45	3.0	21	1.35	19	1.35	108	7.35	15.4
€101–€300	5	1.0	13	2.6	4	800	2	400	27	5.4	10.2
Above €300	4	1.3	13	4.7	8	2.9	2	0.8	14	5.2	14.9
Total expenditure	182	*4.65*	*188*	*10.3*	*176*	*5.05*	*173*	*2.55*	*205*	*179.5*	*40.5*
Annual total	*€241.8*		*€535.6*		*€262.6*		*€132.6*		*€933.4*		*€2,106.0*

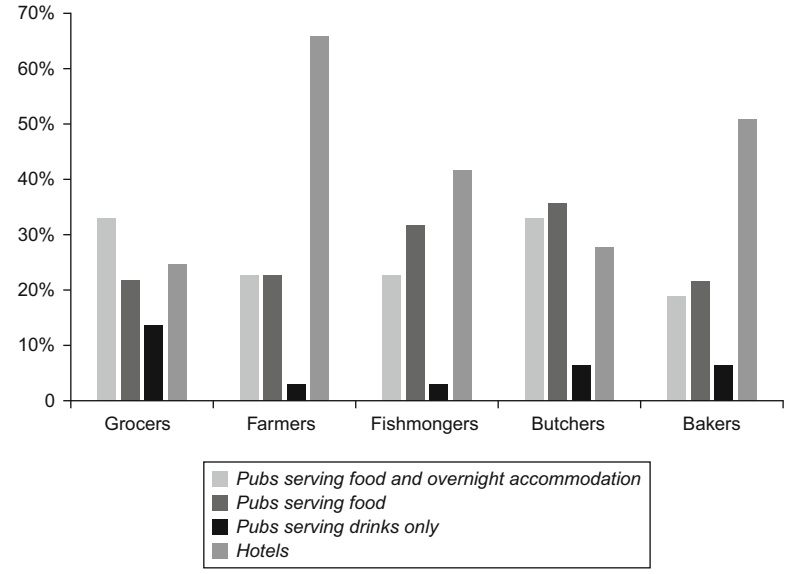

Figure 14.4 Patterns of local procurement*

*Although inserted in the survey, the "Other" category is excluded as no impact in four out of five categories of suppliers.

Table 14.3 reports the correlations calculated among a number of variables extracted from the survey questionnaire, namely the level of local competition (measured in the number of pubs within a five-mile radius), levels and trends of annual turnover and costs, level of employment and average wages, and average expenditure in the local supply chain. The

Table 14.3 Correlation table

	Pubs within 5-mile radius	Turnover estimation	Proportion of costs	Turnover trend	Costs trend	Number of employees	Average wage	Average local expenditure
Pubs within 5 mile radius	1	.091	.080	.087	.091	.135*	.072	.016
Turnover estimation	.091	1	.315**	.061	.006	.565***	.443**	.221**
Proportion of costs	.080	.315**	1	.087	.138*	.248**	.251**	.075
Turnover trend	.087	.061	.087	1	.273**	.145*	.121	.072
Costs trend	.091	.006	.138*	.273**	1	.002	.010	.042
Number of employees	.135*	.565**	.248**	.145*	.002	1	.796**	.416**
Average wage	.072	.443**	.251**	.121	.010	.796**	1	.460**
Average local expenditure	.016	.221	.075	.072	.042	.416**	.460**	1

**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

correlation matrix shows a high level of interdependence between levels of turnover and proportion of costs. For instance, turnover is positively correlated with costs, number of employees and general rates of pay for different employee groups, indicating a clear relationship among size of pubs, more employment opportunities and tendency to spend locally. Although higher levels of turnover and number of employees are likely to generate higher costs, trends in annual turnovers and costs (evaluations expressed by respondents on these two items in the last three years) suggest that those pubs that experienced growth were also able to increase their workforce without experiencing significant cost increases, with positive effects in terms of labour productivity. Correlations seem also to indicate that larger-sized pubs pay higher wages, but this result may be inflated by the presence of different categories of employees in those pubs with more individuals employed, e.g. chefs and kitchen staff. Further verification, however, did not identify any substantial confirmation on this particular issue.

4.2 Results from in-depth interviews and focus groups

In-depth interviews with pub owners and managers, and focus groups with residents, are used as a means of probing issues regarding attitudes towards managing rural pubs, in order to verify the impact of these businesses within local economies and communities in relation to social capital, community cohesion and engagement. The evidence presented in this section is not intended as a "representative" sample. Rather, the material is used to provide greater depth concerning a number of points already raised in the context of the survey questionnaire.

The publicans interviewed confirm the difficulties experienced since the decline of the Celtic Tiger economy and the start of the financial crisis. Above all, the toughening of drink-and-driving regulations and cheap alcoholic drinks sold by off-licence retailers and supermarkets are indicated as having a major impact on business turnover and operations, with new regulations and bureaucracy perceived as increasing new business costs without any evident return in terms of services. In addition, higher costs related to services and suppliers also impact business overheads, forcing many pub owners and managers to reduce their workforce and to employ staff mainly over weekends or for one-off events.

> *Now people have turned to drinking more at home, with the off-sale in supermarket … this has killed the pub culture in Ireland, and what is happening*

is that kids are growing up seeing their parents drinking at home. (Pub manager from Dingle)

If you fall behind in your VAT or taxes, they will fine you as if you were selling without a licence and you will need to re-licence your building, which means you will need to go to court… you will need to hire a barrister and an architect… deal again with fire officers, health inspectors, basically you will end paying 15–20 thousands euros because of this. (Pub owner from Manorhamilton)

Well, I have put on free Wi-Fi and that costs, but the major problem that I've got is Sky… paying [all] the subscriptions costs me 700 euros per month between Sky and BT and that's a massive blow for my budget. (Pub owner from Castletownbere)

With the recent financial crisis, many publicans had to engineer new strategies and policies in order to attract customers. However, while the crisis had generally toughened things in terms of business costs and overheads, it also provided opportunities for diversification and expansion. Possibly this situation may have pushed many publicans to increase the level of attention devoted to their respective communities. All interviewees appear to support a wide range of communal initiatives and events, either providing logistics or financial sponsorship, particularly with regard to sports teams. The way support is provided vary significantly across responses:

There has been a dramatic change in the level of turnover, it fell at 40–50% compared to the years of the Celtic Tiger, when you just needed to open the door and the people flooded in. So the business changed and you need to go back to being a proper publican in the sense that you are going to work for any meal that you sell, any drink that you sell, so you cannot just take it easy. (Pub owner from Lanahardane)

We are in the centre of the town, we get fishermen as well as tourists and passers-by and locals,… people call in anytime, it is a sort of meeting place, I realie I am very lucky in that respect… but you need to cut the cloth accordingly, that's what it is… you need to be ready!" (Pub owner from Castletownbere)

I have to do the driving myself for customers, otherwise I would not have any customers… I feel obliged, I am responsible for them so I drive them home make sure they arrive safely. (Pub owner from Ballyporeen)

I sponsor any type of initiative here, football team for example… Gaelic team… all under ages… festivals, Paddy's day, Christmas lightning,

everything… it costs about 1,000 euros to sponsor the soccer team… if I stop I am sure nobody else will pick up the baton. (Pub owner from Manorhamilton)

When asked about what could or should be done to improve the situation of rural pubs, interviewees identify two main issues that deserve immediate attention: targeting prices of alcoholic drinks sold in supermarkets, and enhancing transport services in remote areas. With regard to unfair competition from large national retailers and supermarkets, interviewees advocate new regulations to reduce the distance in prices between the on-licence and off-licence trade. As for improving the level of transport services, interviewees suggest to allow pubs to run small local transport schemes to collect and bring back customers from and to their homes for free. In both cases, the Government and local authorities were seen as the main bodies that could facilitate the process, possibly working in collaboration with main national suppliers such as Diageo and Heineken.

The supermarkets are able to sell at cheaper prices because they're able to buy alcohol cheaper than anyone else. As a result, women and kids now get drinking more and more without control… kids in particular buy bottles of vodka and bring them to the nightclub hidden… so that has fundamentally hit us. (Pub manager from Dingle)

Well, transport, taxis cannot be a problem. We have two taxis in the village and they work well during Saturday nights, their biggest business is [provided by] pubs and rarely you have two people wanting to go at the same time, and if they want they may just wait here and have another drink. (Pub owner from Castletownbere)

Local authorities could provide their means and operate small transport schemes around here, especially during weekends. Think about school buses: they remain unused and basically still two days a week… they could be used instead at weekends to pick and leave people home at a time and place and bring people to the pubs for free and we would be very happy to pay for this service ourselves. (Pub manager from Ballyporeen)

General views collected from the focus groups provide a relatively univocal perception of the role of pubs across different rural communities. Participants tend to identify pubs as the strongest facilitators for socialisation and engagement compared to other places available locally. A wide range of activities taking place locally, such as charitable events,

fund collections, language classes or exchange sessions, drama/artistic courses, are likely to be organised in pubs rather than in other venues. Comparable insights could be drawn in relation to sport centres: while the actual sporting activities may be carried out on sport pitches and premises, other parallel events related to such activities, e.g. celebrations for victories or commiserations for losses reported by local teams, are likely to be organised in pubs. This preference agreed to pubs is also due to the quality of facilities offered, mainly associated with the presence of a kitchen or the size of rooms.

> *I am a member of the local drama society and this is actually the room where we do our weekly rehearsal … because there isn't any other place first, and also because simply we do not have spaces at our homes … this room has been made available to us free charge … ."* (Resident for Castletownbere)
>
> *Yeah, if you go to a GAA match [Gaelic sporting event] then the team would eventually end up in the pub celebrating, or commiserating … You get to the pub after a funeral, or for a wedding, to meet all friends … this is where all people go after these types of events."* (Resident for Ballyporeen)
>
> *We have a community hall now, which is working in the village … before there was no place with cookers and a kitchen, so there was no public location for funerals … but now we have that facility, so we now have an option. You know, some people may not want to go to the pub after a funeral, they may just want to go to a place where there is tea and coffee …* (Resident for Ballyporeen)

Residents that took part in the focus groups tend to describe publicans as very important for their communities, with pubs functioning as informal "job centres" or info-points in relation to casual and part-time employment or to find out what is going on in the local area. According to responses, publicans often facilitate networking and exchange information between those offering employment and those looking for employment in a system that seems based mainly on reputation and word of mouth. Many business owners indicate pubs as important assets for their own businesses, as their presence increases the attractiveness of the entire area, generating tourism and providing opportunities for other local businesses and suppliers. Pub owners and managers were in many cases described as the *first ones to hear and/or know* and the first point of contact to find out what was going on in the local area.

> *See, you go to the pub here to know what's happening in the area and find out what's going on in the village … if you are in town, you may just go out*

for a drink and don't care about what's happening around the streets … but here, in rural areas, the pub provides us with information about everything and anything. (Resident for Ballyporeen)

Lots of jobs are generated because of the pub … if this place closes down my business would suffer a lot … this pub alone is a great touristic attraction for the village and if the pub is doing well the trend in tourism grows … this means good business for all the other businesses in town. (Resident from Castletownbere)

Yeah publicans are sort of pillars for the community, a sort of sentinel … publicans and shop owners they're highly regarded people within the community. (Residents from Manorhamilton)

While admitting that the prices of alcoholic drinks sold in pubs affect the attractiveness of pub nights out, the vast majority of residents also recognise an added value embedded into pints consumed in pubs, which include non-marketable values such as the place, the atmosphere and opportunities for socialisation. Many see live music events, quiz nights and sporting events shown on TV as incentives for visiting the pub over the weekend or during the week, although the lack of an efficient public transport system represented a key concern, particularly for those participants living in the parish area outside the village.

I had my Sky Sports at home and I got rid of it … I love rugby, but I never watched matches at home, I prefer to go out and watch matches at the pub, having a couple of pints. … we talk about everything. (Resident from Castletownbere)

Yeah the music is a major attraction, especially in getting people out of their homes … it is probably to do with tradition … and very often connected with dancing. (Resident from Lahardane)

We cannot come down to the village any time we want, you know the transport here is reduced, there is a bus in the morning and then one in the afternoon … yes, sure you can get a taxi, but taxis are very hard to get and are very expensive … there may be one car for a household as well and it may be used to go to work, so it's not very flexible. (Resident from Ballyporeen)

Finally, participants confirm the support provided by pubs to a wide range of initiatives and activities carried out within their villages and parishes. According to many, pubs are the first points when looking for help, and without their support many activities and initiatives would simply cease to exist. Equally important, participants describe cases of

antisocial behaviour registered in their local pubs as exceptional, mainly due to mutual knowledge among residents and the role of "guardians" played by pub owners and managers who worked in strict collaboration with the Garda.

> *Pubs here support lots of sporting activities and other types of events, such as music gigs and charities. This pub does a lot for the community; sponsoring the rugby team by buying the jerseys … so you know they invest in the community, they are community workers and they are part of the community.* (Resident from Killaloe/Ballina)
>
> *All the community activity that you may do at the church is based on faith, but all the lotteries, sport, GAA and soccer … they are all organised in the pub … if you are in the rugby area they may do that sport, handball in another areas … but really everything would be at the pub.* (Resident from Ballyporeen)
>
> *People are also keener to do things here together, you know if you get a good group of people you will never get a group so mixed as in the pub … and you will get lots of ideas, tons of ideas … you come in and say you get a hundred different opinions from different people, and this is great.* (Resident from Ballyporeen)
>
> *There is no issue with antisocial behaviour, it would not happen, we would not allow it to happen … it is taken down to the bottom … this establishment is well run.* (Resident from Castletownbere)
>
> *This is also a small place, as soon as something bad happens, people would quickly turn their back to those creating troubles … I've never experienced any situation in which I felt uncomfortable.* (Resident from Ballyporeen)

5 Discussion and conclusive remarks

Findings gathered from the survey questionnaire, in-depth interviews and focus groups provide an interesting account and a valuable description of the role pubs play in rural Ireland. There are several aspects unravelled by the analysis which shed light on the significant impact of these businesses within Irish rural communities and economies.

Surveyed pubs confirm their importance as employment generators in the countryside, a context frequently characterised by reduced job opportunities. The positive effects of pubs in terms of employment are felt particularly by workers at point of entry and/or living within immediate spatial proximity. Equally important, the study confirms the significance of pubs for rural supply chains: one surveyed pub out

of three purchases from local retailers on a regular basis, generating an average of 600 euros every month which represents an important injection of financial resources into the Irish rural economic context.

The positive impact of pubs within the Irish countryside is further corroborated by responses gathered from the focus groups. Many local residents and entrepreneurs praise pubs for creating direct/indirect custom to their own businesses, and for their informal role of "information centres" in advertising jobs and promoting events and products, targeting locals as well as tourists and passer-by traffic. Local pubs are also perceived as the main centres for social aggregation and engagement within selected parishes. Pubs are crucial in the development of communal initiatives such as clubs or sport teams, as well as the formation of volunteering groups and charities, given their frequent financial and logistical support to the organisation of communal initiatives.

Almost all the findings presented in this study corroborate evidence provided from previous studies in relation to the positive role played by pubs in creating and increasing the level of social capital within rural areas, e.g. by developing the provision of skills and training within the job market, strengthening reciprocal confidence and trust, and increasing levels of trust among residents (Hunt and Satterlee, 1986; Maye et al., 2005; Cabras, 2011; Cabras and Bosworth, 2014; Mount and Cabras, 2015). It appears that preserving and supporting rural pubs in Ireland would generate positive effects for entire areas and communities, although several issues affecting the pub sector in Ireland are causing their decline in number. These issues present some level of complexity and involve different stakeholders at different levels, and are further exacerbated in the rural context.

For instance, the high level of direct and indirect taxation experienced by pubs represents a main burden on profits. In October 2013, the Irish government further increased the excise duty on a pint of beer and cider by 10 cent (AIB, 2013). This move is likely to hit the Irish pub sector dramatically, with rural pubs set to experience even more problems compared to urban and suburban ones, given the reduced catchment areas they serve and type of economy characterising the Irish countryside.

Higher excise duties on alcoholic beverages, combined with the significant increase in off-trade purchasing of alcoholic beverages fuelled by cheaper prices available in large retailers and supermarkets, may have a much wider impact on rural communities too. Large retailers may be selling "below cost" (thus setting prices below the rate of duty plus VAT) in order to recover the VAT on the difference between the sale price and

the cost price, a mechanism commonly applied by major national retail chains endowed with significant bargaining power with manufacturers (Royal College of Physicians Ireland, 2013). However, resulting higher prices in pubs and bars are likely to push more and more people to purchase their alcoholic beverages from off-licence retailers, with higher quantities of alcohol consumed outside controlled environments, such as those provided by pubs, which may determine a substantial increase of health-related costs for taxpayers that will be inherited by future generations.

The reduced level of public transport available in rural areas, as the lack of valid transport alternatives, significantly affects the attractiveness of pub night-outs. Many pub owners tried to solve the situation by using their own cars to pick customers up from their houses and bringing them back, especially during weekends. This behaviour may reduce risks for pub-goers, although it also exposes pub owners to unfair expectations from residents, potentially increasing their running costs associated with providing the service.

While these issues are complex and involve stakeholders at different levels, a number of solutions may still help to prevent unnecessary pub closures in rural Ireland. As highlighted by the focus groups, rural pub closures represent a major issue for rural residents also in relation to increasing levels of alcohol consumption in private premises and uncontrolled environments. The Irish government could target this issue by campaigning in favour of social drinking and limiting the capability of advertising alcohol-related offers by large providers on national media and newspapers may reduce the level of alcohol consumption in private premises. These strategies may further enhance community cohesion and social engagement, creating more economic and employment opportunities as demonstrated by this study.

As for the provision of transport, the Irish government and local authorities could either enhance public transport or facilitate private services in rural areas. While the first option appears not very efficient in terms of cost–benefit analysis since aimed at serving lower population catchments, the second option may be more feasible. Indeed, the National Transport Authority (NTA) of Ireland has recently introduced a number of "rural hackney licences" schemes, to provide licences to vehicles operating in areas with a proven transport deficit at reduced costs (NTA, 2013). Licences applicants need to be residents from the local areas and must have the support of their respective local authorities in order to apply; no financial support is provided by the government. The

first hackneys' schemes started in early 2014, with other pilot schemes planned in selected areas of the country.

These solutions may bring multiple advantages to pubs operating in rural Ireland. However, given the wide range of benefits associated with these businesses, it is likely that positive outcomes can spread also to other rural businesses, not mentioning the positive social impact that supporting pubs can bring for local communities. As demonstrated in this study, pubs represent valuable assets in the Irish rural context. Preserving and supporting these businesses can generate benefits that transcend the mere rescuing of pubs from unnecessary closures.

Note

1. This figure probably relies on a very broad definition of "pubs," and may include other types of licenced premises such as European-style cafés and disco bars. Hence, it needs to be considered carefully.

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15
Beer and the Boro – A Perfect Match!

Alex Gillett, Kevin Tennent, and Fred Hutchinson

1 Introduction

Although football clubs (FCs) as firms are relatively unsustainable from a purely financial perspective, the club brands appear highly sustainable in comparison with many other industries (Kuper and Szymanski, 2012). While the ownership and the companies running the clubs may change, the club brands themselves appear to be more stable than in other industries where firms and brands go out of business, relocate or diversify to a far greater extent (e.g. Hannah, 1997). This may be because they are less vulnerable to competition – FCs have historically been geographic, and while their catchment area may shrink during less successful periods, it will not disappear entirely. Furthermore, rival foreign clubs do not enter and supply soccer at lower prices (although foreign investors may bid to take over the ownership) and although English clubs as a whole could fall behind foreign competitors and lose their best players, foreign clubs have their own problems of finance and management (Kuper and Szymanski, 2012). Put succinctly, society can keep unprofitable clubs going cheaply: bank managers and tax collectors have historically appeared reluctant to close century-old clubs – and so society swallowed the losses. Perhaps clubs were and still are too small to fail. At the same time, the brand loyalty of supporters means that no matter how lousy the product, a hard core of customers will continue to purchase: "Soccer is more than just a business. No one has their ashes scattered down the aisle at Tesco" (Taylor, 1998, cited by Kuper and Szymanski, 2012, p.82). Such support and brand awareness among the public, together with the attraction of football matches for bringing large crowds of consumers together in one locality, presents an obvious target for marketers of products such as beer and gambling

that are associated with the consumption behaviour of soccer "fans." Weed (2007, p.400) refers to "the male holy trinity of alcohol, football and male bonding," while Horne and Whannel (2009) identify that in England beer, football and working-class men appear interlocked – and so it is logical that beer should sponsor football or advertise in televised football. They believe that this is significant because few other advertisers have working-class men as a target due to perceptions that they have limited interests and income.[1]

The relationship between beer and English professional football can be traced to the formative years of the football league during the Victorian era. As Brown (2010, p.177) identifies, "when football was first promoted heavily, it was as a way of getting people to stop drinking." Landlords were, however, quick to spot an opportunity, noticing that clubs needed meeting places, and land to play the game on, and that pubs were one of the few places large enough to host meetings and often had land adjacent (Brown, 2010).[2]

Football Association (FA) rules at this time restricted directors' dividends to just 5% and football club owners were forever protesting they were involved in the sport for reasons other than money (Sanders, 2010). While the likelihood of significant profitability was low, it is thought that investment in sports clubs offered the dual benefits of boosting one's civic and philanthropic image, and also potentially realising secondary profits from related activities, such as catering (the latter identified as being of particular interest to directors whose main work was in the drinks industry; Tischler, 1981, cited by Budd, 2012). The owners of Manchester City, for example, made large profits from their control of the pubs and bars in the ground and its vicinity (Metcalf, 2013). Such was the attractiveness of football to the beer industry that 15% of all shares in football clubs were owned by people involved in brewing (Brown, 2010).

Although the relationship between beer/alcohol and football could be dismissed as simply an issue of leisure, scratch beneath the surface and questions emerge around the extent to which marketing is simply the role of commercial enterprises in meeting demand, or the exploitation by businesses of fans' loyalty to their clubs. Linked to this are issues about the extent to which sports teams that on the one hand promote health and fitness, should also be used to promote and advertise drinking culture and be financed by drinks companies on the other.

This chapter examines a historical case study, that of Middlesbrough Football and Athletic Company Limited. Findings show that there was always a close relationship between the 'drinking' industry, drinking

culture and the football club – and that the football club was part of a turf war between two regional breweries whose investment aided its survival. Given sports clubs' role in promoting physical fitness as well as their localities, to what extent should local authorities be (or not be) involved in assisting their survival? Furthermore, should this instead be left to private investors, particularly those that manufacture or market alcoholic drinks? (cf. Horne and Whannel, 2009).

Having introduced the context and purpose of our study we next outline our methods. The rest of the chapter then reports our findings. We begin with two sections focusing upon MFAC, before discussing the relationship between MFAC and the brewing industry in the 1980s. Attention is given to the involvement of Camerons, a brewer based in the neighbouring town of Hartlepool, and to MFAC's relationship with regional rivals Scottish & Newcastle. In particular we report on the 'turf war' between the two brewers that involved sponsorship of the football club and the supply of beer to its Ayresome Park stadium and facilities.

2 Methodology

The origins of this chapter stem from a broader research project in which the authors investigated MFAC and its financial problems in the mid-1980s. Approaching the topic from a business and management perspective, it became clear that the story of the football club was meshed with that of its local economy, including the local authorities, entrepreneurs and locally based businesses that had invested in it. Although MFAC's financial troubles during the 1980s are oft-cited in publications by (or endorsed by) the club and its former players and managers, these accounts were targeted towards a partisan readership of the club's own fans. As such they tended to be anecdotal, incomplete, and at times contradictory. We have approached this study with an awareness of the problem of archival silence (Decker, 2013) and by using secondary sources such as the local newspapers, key informant interviews with people independent from the club's administration, and by accessing the company archives of one of MFAC's most significant investors during the 1980s, Camerons brewery.

We conducted our literature search via three categories:

- *Popular* – including biographies and autobiographies such as those of the former football club chairman and directors (e.g. Amer and Wilson, 1998; Phillips, 2008), and books authorised by the club itself (e.g. Allan and Bevington, 1996, which focused on the club's

financial difficulties during the 1980s and subsequent reformation). The primary audience for these publications can be described as football supporters and enthusiasts. Despite obvious bias, we decided to use these sources because of the lack of published material elsewhere that was specifically related to the topic. Additionally, autobiographies provided a substitute for interview data where potential key informants were unavailable, infirm or dead. We identified some literature sources relating to Scottish & Newcastle breweries, but initially we could not find anything specifically about Camerons. We arranged a field trip to Camerons' brewery in Hartlepool, UK, and were fortunate to access a pre-publication draft of a forthcoming book about the history of the firm authored by one of its employees.[3]

- *Journalistic Popular* –This literature was typically authored by newspaper journalists and contained well-informed, analytic and critical works based on primary and secondary sources, but was less well-referenced than academic texts, meaning that it could be difficult to verify sources, e.g. Kuper and Szymanski (2012), who provide a statistical explanation for the evolution of football.
- *Academic* – there is a body of historical and social science literature dedicated to sport and football, and a body of academic literature concerned with beer and brewing (although it was not possible to find any academic literature specifically about Camerons). Of particular interest to us were sources discussing the relationship between sport and beer, such as Horne and Whannel (2009).

Consistent with the methods of business historians,[4] we constructed a narrative history in order to develop a picture of what was already known – or perceived to be known – about the football club, its ownership and finances during the 1980s, including its interaction with the local economy. We also examined academic texts, newsletters and minute books available in the libraries and research centres of the English Football Association, British Library, British National Archives, and the headquarters and study centres of the Fédération Internationale de Football Association (FIFA) and International Olympic Committee (IOC) in Switzerland.

We conducted interviews with three authors who agreed to answer questions about their work. Doing so enabled us to probe further and to verify our understanding and also the veracity of the authors' own sources. The first interview was conducted in the exploratory stages of our research with Bernie Slaven, a former footballer who was employed by MFAC during the 1980s and 1990s and subsequently forged a career as commentator and journalist in the local media. Slaven's autobiography

(Slaven, 2012), as well as his interview cited by Brownlee and Cox (2006), were among the first of the literature sources consulted. The second interview was conducted with Marie-Louise McKay, Manager of the Visitors Centre at Camerons' brewery. McKay had authored a history of the firm and brewery,[5] and allowed us access to her draft version prior to publication. We were granted access to the archive materials, such as cuttings from the local and national press collected by Camerons, that had underpinned her work. The third interviewee was John Wilson, who has written several texts about MFAC and co-authored the biography of former club director and chairman Charles Amer (Amer and Wilson, 1998). Two interviews and email correspondence took place during the first three months of 2015. The first meeting garnered information about the composition and backgrounds of the club's Board of Directors. At a follow-up meeting we were given access to an archival source which we had experienced difficulty in locating[6] as well as a recently reissued book about MFAC's Ayresome Park stadium.[7]

In addition to the above interviews, we also met Sean Wilson (MFAC's official Club Statistician) and Robert Nicholls (the editor of Middlesbrough FC fanzine *Fly Me To The Moon*). These meetings allowed us to discuss our findings and ideas, and resulted in us being granted access to archival sources including MFAC official Annual Reports and Financial Statements from the 1980s which we have used and cited as empirical data.

3 The formative years

> Before Middlesbrough was a hundred years old, it had more than a hundred thousand inhabitants, whose chief passions, we were always told, were beer and football. It is a dismal town even with beer and football. J. B. Priestley (1934, cited by Horne and Whannel, 2009, p.55)

Middlesbrough Football Club was founded in 1876 as an amateur club (Budd, 2012; Paylor, 1989) and, as today, football was the most popular sport in Victorian Middlesbrough (Budd, 2012). In May 1892 Middlesbrough Football Club as a trading entity was re-formed as a limited liability company, the Middlesbrough Football and Athletic Company Limited (MFAC). In 1899 the club entered the English Football League and its directors were willing to try professionalism[8] in order to build a team that could be a flagship "creditable to a town of the size and importance of Middlesbrough" (Minute Book of MFAC, 3 February 1899, cited by Budd, 2012, p.310) which "would be able to play any

club in England, and to lift the name of Middlesbrough to the highest pinnacle of fame, and be a credit and satisfaction to the town and the whole district" (North Star, 4 March 1899, cited by Budd, 2012, p.311).

Evidencing the role of local businesses and government in the formative history of MFAC, records show that Alfred Mattison, a club director, local councillor, as well as owner of the Zetland Hotel, was asked to help raise funds by using his influence with local businesses. The contribution to the local economy of a successful football team was considered by MFAC to be a selling point to local traders as an incentive to invest because of the crowds it would bring to the town and shops. A committee was formed to target tradesmen and licensed victuallers, and it appears that MFAC was increasingly being used politically and economically by its owners, which still included local men from industry and politics (Budd, 2012).

George Cathey, an associate of Middlesbrough MP Joseph Havelock, suggested that MFAC members should not patronise publicans "who refused to support the team ... within a week they would take up a couple of hundred shares" (North Star, 25 March 1899, cited by Budd, 2012, p.312). Before long, sufficient investment was found and Middlesbrough Football Club entered the English Football League for the 1899/1900 season (Paylor, 1989; Wood and Gabie, 2011).

The town's drinking culture at around this time was not restricted to the supporters but was also evident among the team, and this appears to have been at times problematic. According to Budd (2012), Middlesbrough's minutes record the difficulties experienced by the club with footballers' behaviour, and drinking in particular, which was seen as the cause of poor results on the field.[9] Such behaviour was not exclusive to Middlesbrough:

> There was a drink culture among professional footballers from the outset. ... The problem of young men with money in their pockets and time on their hands, idolized by the local population, was one professional clubs wrestled with from the start and they were forever pleading with supporters not to 'treat' players. (Sanders, 2010, p.145)

4 The intermediate years

Steel and chemicals provided reliable and secure employment to the populations of Middlesbrough and its surrounding towns, along with the extensive fabrication and spares businesses based on steel and

chemicals. These industries created a substantial local labour force, and hence captive market for brewery products, and often had recreational facilities attached to them; by the 1950s, ICI's "Synthonia" social club at Billingham was one of the largest licensed premises in the UK (Pettigrew, 1985). The local economy was sufficient to sustain its professional football team, and throughout MFAC's history up to and including the first part of the 1980s, local businessmen populated the board. Its Chair, Charles Amer, was a local entrepreneur and property developer with a portfolio of hotels and dance halls (Wilson, 2015). Amer first became a member of the club's board of directors in the 1960s after heading a consortium of local businessmen who had launched a takeover bid by approaching many of the club's listed shareholders (Amer and Wilson, 1998). Amer deemed the incumbent board of directors to have been unambitious and stifled by inertia; he likened board meetings to "an amiable old boys' social club" (Amer and Wilson, 1998, p.135). This criticism was echoed by another director, Dr Neil Phillips, who felt that his fellow directors lacked even basic knowledge about the club that they were supposed to be running (Phillips, 2008). Phillips recounts how at his first board meeting in 1963, "As the meeting progressed, innumerable empty bottles lay on the table…Some directors chain-smoked throughout the meeting" (p.187).

The club was moderately successful and Amer's investment appeared to be paying off – by the end of the 1970s MFAC had established itself in the First Division. In February, 1979 Middlesbrough Borough Council (MBC) gave planning permission for building work to commence on a new indoor sports hall adjoining the ground which would provide the club with modern sports facilities, followed later by permission for gymnasium and squash courts (Amer and Wilson, 1998). The project was to be:

> wholly self-financing, using grants received from the Sports Council, the Football Grounds Development Trust, the League's Safety of Sports Grounds Trust, a loan from Scottish and Newcastle Breweries (S&N), Parkway Estates, and by utilising the profits from the club's own lottery fund which could only be invested in new projects such as the Sports Hall. (Amer and Wilson, 1998, p.179)

The club had long operated a social club on the Ayresome Park site (Paylor and Wilson, 2014) and S&N supplied beer to it and to the members' bars within the stadium (*Northern Daily Mail*, 1983). The brewery saw its financing of the sports hall, which was to include a bar,

as an opportunity to increase its revenue on the site by introducing new selling points away from the fortnightly match-day peak.

5 A Teesside partnership: MFAC and the brewing industry in the 1980s

After a promising start to the decade, MFAC did not continue to perform well on the pitch and the first few seasons of the new decade saw the club decline from being a well-regarded First Division side to a struggling Second Division outfit. With relegation to the Third Division a real possibility by the 1982–1983 season, there were lower crowds and therefore lower gate receipts, which was a significant problem for the club because (other than incoming transfer fees) ticket sales were by far its largest source of income, and MFAC could no longer cover the cost of wages, let alone many of its bills (MFAC, 1981, 1982, 1983). Such pressures created the impetus for innovation on the commercial side of the club, and in September 1983 a new sponsorship deal with Camerons (based at the Lion Brewery in nearby Hartlepool) was announced, even though the impact that this had on the financial situation is not entirely clear from the club's published accounts (MFAC, 1983).

Camerons had a prominent position in the Teesside area as one of Hartlepool's oldest firms and traditionally its largest private sector employer (McKay 2014a, b). The firm is perhaps most strongly associated with its Strongarm beer that was launched in 1955 and targeted squarely at the industrial workforce.[10] The launch of Strongarm had coincided with an acquisition strategy that peaked in the 1960s with 750 licensed premises throughout the North East and North Yorkshire.[11] Camerons was purchased by Ellerman Lines for £10 million in 1974 before the whole Ellerman Group was purchased by Sir David and Frederick Barclay in 1983 for £45million (McKay, 2014a).

MFAC's deal with Camerons reportedly involved a cash injection of £250,000 to develop the club's sport and leisure facilities. It was proposed that this investment would "at last open up the sports hall white elephant" for six days per week in order to bring it online as a revenue stream which could in turn help the financial standing of the club as a whole (*Northern Daily Mail*, 1983). Additionally, Camerons' money would be used to revamp function rooms and the executive suite within the stadium so as to accommodate an additional 650 members (*Middlesbrough Evening Gazette*, 1983a). The deal represented a major step for the brewery, which was replacing its rival, S&N, at selling points in the social club and members' club bars, as well as in the sports hall

which S&N had helped to finance (*Northern Daily Mail*, 1983). Camerons' Managing Director stated: "We're not just making this move to sell our beer on Teesside. We also want to get involved generating a good family atmosphere at one of our local football clubs" (*Northern Daily Mail*, 1983).

On the same day, in another local newspaper, the lead story had the headlines "Boro Faces Trial by F.A." and "Lock up This Scum" (*Middlesbrough Evening Gazette*, 1983b). A pitch invasion after a recent match had caused concerns about hooliganism at Middlesbrough matches. Football hooliganism was (and to an extent still is) a favourite topic of the media and of politicians in the UK, with beer/alcohol considered to be a catalyst for violent behaviour in and around soccer grounds.[12]

By mentioning their efforts to generate a family atmosphere, both MFAC and Camerons appear to have been emphasising self-regulation and softening the message that they were investing to increase the sale of beer in and around the stadium, particularly on match days but also throughout the week. In a news article announcing the deal, the football club even managed to promote one of Camerons' premium brands, Hansa lager,[13] when the Club Chairman was quoted as punning "together we have the Hansa" in reference to its newly forged relationship with the brewer (*Northern Daily Mail*, 1983). Yet, ironically the deal was initially controversial with fans of Hartlepool United FC, the club in Camerons' hometown,[14] with the company accused of ignoring the financial difficulties of that club, and some fans vowed to shift their custom to rivals such as Vaux and S&N (*Northern Daily Mail*, 1983).

Considering the rivalry and competitive nature of the relationship between Camerons and S&N at the time, it is apparent that Camerons' displacement of S&N at the various bars within MFAC's stadium and social club was something of a coup. The promise of Camerons to help bring online the club's unopened sports hall and leisure facilities as a six-days per week revenue stream explains MFAC's incentive for switching its supplier. The competition between Camerons and S&N continued, and was still evident a year later when S&N bid to purchase Camerons from the Barclay Brothers but were met with opposition, mainly from brewery staff who perceived that such a takeover would threaten their jobs. CAMRA (Campaign for Real Ale), the Unions and Hartlepool Council all showed concern for the future of the Lion Brewery. The Council went so far as to ask the office of Fair Trading to refer the proposed takeover to the Monopolies and Mergers Commission, and the takeover did not proceed (McKay, 2014a).

6 The white elephant looms large

Having initially helped to turn around MFAC in the 1960s and overseeing one of the most successful periods in the club's history during the 1970s, Charles Amer resigned from MFAC's Board of Directors in January 1983 and the club's financial position now looked increasingly precarious. Over the next 18 months MFAC continued to struggle to pay its creditors and by summer 1984, with the Sports Hall still unopened to the public, the club reported a loss of £300,000 and debt had increased to £1.2 million (Carter, 1996). This contravened the conditions of the Sports Council grant, which had required the hall to be open to the public by December 1983. Amid concerns that the Sports Council might take action to reclaim the grant, and acting upon the advice of its financial advisor, MFAC served a High Court writ to Amer, including a claim for damages against his building firm, Parkway Estates, which had been commissioned to develop the facility (Amer and Wilson, 1998).

A condition of the Sports Council's £125,000 grant was that the sports hall must be used by the general public by 31 December 1983, therefore MFAC urgently needed to open the premises to casual users or to negotiate a joint user agreement with the County and/or the Borough Council in time to do so. Unopened to the public, the sports hall produced no direct revenue and as an asset was worth little, in fact the market value of the centre was below its cost, and it presented a financial burden and pressure on the development of the club (MBC, undated). Use by the County/Borough would, however, require additional remedial work, originally estimated to be in the region of £40,000–£70,000 to comply with Building and Fire Regulations (MBC, 1983) and later revised to £175,000 (MBC, 1984a). The Council attempted to secure central government funding to establish a joint partnership with the club, but was unable to do so.

Having taken over the club's alcohol supply contract from S&N, Camerons had prepared the business plan and cash-flow forecast for the Sports Hall. If the projected cash flow from the Sports Hall were to become reality then it would be a big contribution to resolving estimated losses. Middlesbrough Borough Council officers criticised the report as being naive and based on over-optimistic assumptions around demand and in particular the value and timing of money that the local authorities would contribute. The cash-flow projections also made no provision for coaching/supervision, repair and maintenance, or VAT. Furthermore, the Council's own analysis also questioned Camerons' projections for income generated by the proposed licensed bar within

the Sports Hall facilities, which was deemed to be an overestimate on the basis that drinking and health activities would not necessarily be compatible (MBC, 1984b).

Despite the best efforts from the local authorities and the club's owners to improve its fortunes, as well as the support of Camerons, MFAC was relegated to the Third Division of the English Football League on the last day of the 1985–1986 season. The Sports Hall remained unopened to the public and the Club's financial situation was perilous, with many bills still unpaid and former chairmen attempting to retrieve money previously invested (Allan and Bevington, 1996). Furthermore, the club was unable to pay its players or other staff and several players left or requested transfers. The impact of this was felt at all levels, including back-room staff, players and the management team, with the distinct possibility of the club going out of existence altogether (Todd and Brown, 2008).

In June 1986 there was speculation in the local press that MFAC's main sponsor, Camerons, might bid to buy the ailing club. Camerons had, though, committed £13m to purchase 78 pubs in the Mansfield and Hull areas at around the same time, and expressed a preference for sponsorship deals rather than ownership (*Middlesbrough Evening Gazette*, 1986a). It was also reported that Camerons was owed £90,000 by MFAC (*Middlesbrough Evening Gazette*, 1986b). In this context, the opportunity to invest in ownership of the club would have looked like throwing good money after bad. By August 1986, the club had two possible lifelines: Camerons or the club's bank appoint their own receiver, or, more speculatively, a consortium led by one of the club's directors attempt to put together a rescue package that would pay off debts and provide money to keep the club afloat (*Middlesbrough Evening Gazette*, 1986c).

7 S&N returns to MFAC

After a tense summer during which the team trained in local parks and school fields, the club was eventually saved at the eleventh hour, reforming – without the involvement of Camerons – as Middlesbrough Football and Athletic Company (1986) Limited. Sufficient investment had been obtained from the consortium of investors. Much to the frustration of supporters, but after carefully considering its options, Middlesbrough Borough Council declined to become an investor, although, less publicly, it continued to assist and advise in other ways "behind the scenes." The consortium included London-based entrepreneur Henry Moszkowicz, but mostly comprised firms with a strong presence on Teesside including ICI, Bulkhaul and Scottish &

Newcastle Breweries, who in exchange for their investment gained representation on the new Board of Directors[15] (Paylor, 1989; Allan and Bevington, 1996).

MFAC's shirt sponsorship arrangement with Camerons,[16] who were still one of S&N's largest rivals in the North East of England,[17] was unsurprisingly not extended into the 1986–1987 season and the team were still officially locked out of their Ayresome Park stadium until the receiver could remove the padlocks. As such the "new" club were due to play their first fixture with no home ground and no shirt sponsor. Eventually it was arranged for the fixture to be played at Hartlepool United's ground (Paylor, 1989; Brownlee and Cox, 2006). Despite the investment by S&N, which helped save the club and the team's jobs, the players opted to continue wearing the previous season's shirts emblazoned with the Camerons logo until they lost a match. After a strong start to the campaign which had "kicked off" in August, defeat finally came in October, meaning that Camerons benefited from around six weeks "free" advertising on the shirts of a club which was now part-owned by Scottish & Newcastle! (Slaven, 2012).

As well as being an important year in the history of MFAC, 1986 was also the year of a Monopolies and Mergers Commission investigation into "tied houses," which found consumer choice severely limited and no access for independent producers and wholesalers. It was concluded by the investigation that wholesale and retail prices were higher than they needed to be. Resultantly, the Supply of Beer (Tied Estates) Order 1989 and the Supply of Beer (Loan Ties, Licensed Premises and Wholesale Prices) Order 1989 were introduced in an attempt to liberalise the industry. The Acts were a catalyst for the growth of the "pubco," and influenced the development of both Camerons and Scottish & Newcastle Breweries.[18]

Camerons found itself bought and sold in fairly quick succession. In 1989, Camerons controlled 480 licensed public houses and 270 hotels and off-licences. By that time the Barclay Brothers had sold their brewery interests and Camerons was owned by Brent Walker, which spun off the majority of the tied estate as a separate company: Pubmaster (later acquired by Punch Taverns). Along with over 150 pubs and 300 customer accounts, Camerons was then sold to Wolverhampton & Dudley Breweries in 1992 for £18.7 million. The Hansa contract ended the same year and at around the same time the business of supplying own label brands to Co-op, Spar and Winerite was also terminated. Instead, efforts were focused on the Strongarm brand and the brewing of Heineken, Kronenbourg and Irish Harp. Overall volumes shrank and

redundancies followed before Camerons was sold to another North East brewery, Castle Eden, in 2001 (McKay, 2014a).

S&N had meanwhile switched its emphasis on brewing beer towards leisure and restaurant investment and symbolically changed its registered plc name by dropping the word "Breweries" to become just Scottish & Newcastle Limited (Ritchie, 1999). The firm was a major shareholder of MFAC until the 1992–1993 season, although afterwards their representatives, Reg Corbridge and Graham Fordy, stayed with the club and were given paid positions as development manager and commercial manager respectively as the club expanded its commercial operations (Paylor and Wilson, 2014). In 2008 Scottish & Newcastle Limited was acquired by Carlsberg and Heineken for a reported £7.8 billion and subsequently owned purely by Heineken (through a deal with Carlsberg). Also under Heineken's ownership, the former S&N Pub Company now traded as "Star Pubs and Bars" and retained a blue star in its logo, a throwback to that used for so long by the S&N brewery (Star Pubs, 2014).

8 Discussion and conclusions

This chapter has used a single case, Middlesbrough Football and Athletic Company Limited, to discuss the relationship between brewers, beer, pubs and football. The football club (including its stadium and social club facilities) was attractive to Camerons and to its rivals Scottish & Newcastle, and as such became a part of a North East turf war between the two. The case illustrates the historic nature of the relationship between beer and football and also shows this relationship as interwoven with other stakeholders, such as local authorities. What is demonstrated is the importance of "place" – the context of industry (in this case "heavy" industry as well as beer and hospitality) and the roles played by local government and the local football club. Several themes and questions emerge.

First, to what extent should football rely on funding from the brewing industry, which can be associated with problems at odds with the supposed benefits of the sport, such as the promotion of health and fitness? From the 1980s it became more common for clubs and the drinks industry to invest money in the "hospitality and leisure" aspects of the football club business model (particularly since the introduction of the English Premier League in 1992). One might question the extent to which clubs such as Middlesbrough are financially sustainable, whether or not they have an economic purpose (and if so, what that economic purpose is). In the literature there exists an argument that,

through its financing and advertising of football, the beer industry has exploited working-class males and is therefore contradictory to the sort of health and community benefit that sport can potentially bring about (see Horne and Whannel, 2009).

The two brewers discussed in this chapter were, during the earlier period, "regional" firms with a stake in the North East region of England and its communities. However, they were large enough to be able to make significant investment in their local sports clubs, in part at least because they were producers of "mass market" products, including a relatively high volume of lagers and other keg beers. The sports club presented a potential sales opportunity for keg and processed beers in particular, which can be kept longer than real ales and thus are well suited to sports stadiums where turnover may peak once per fortnight.

Given the changes that have occurred to the market structure of the UK beer industry (see Preece, this volume), and changes in the amount of money required to run or "save" a club, it seems doubtful that regional brewers would be willing and able to invest to help keep afloat their local football clubs today. In the present climate are football, beer and pubs all destined to be dominated yet further by big money, and fewer but larger organisations? A scenario of homogenizsation seems possible, given the trend for clubs to court corporate hospitality, to strike deals for exclusivity of supply and to seek sponsorship arrangements with mass-market drinks brands. The case presented in this chapter has reported how, even in the 1980s, executive suites and corporate hospitality facilities were seen as an area for investment by clubs and breweries.

There are, though, indications that the way in which brewers and football clubs interact may be evolving in ways other than just through corporate hospitality and big-brand homogenisation. An example is Crystal Palace FC, which began hosting a beer festival at its Selhurst Park stadium, and in 2014 had 180 beers and ciders, with the emphasis on craft and real ales (Crystal Palace FC, 2014a). The club has also launched its own branded wine and bottled beer (Crystal Palace FC, 2014b). The impetus for these initiatives appears to be the club's co-chairman, Stephen Browett who is also the Chairman of Farr Vintners, a wholesaler of fine wines (Farr Vintners, 2014).

Concerns about hooliganism aside, football and beer consumed in moderation are a perfect match, a point that has not been lost on brewers nor on football clubs. The Middlesbrough case acts as a vehicle to illustrate the historic links between the two sectors, and the consolidation and development within both. Particular attention has been given to the 1980s, a decade under-researched if not ignored completely by business

historians, but which we feel was significant for both industries due to the declining consumption, financial difficulties and increasing competition experienced by brewers and FCs alike. In some ways then, the 1980s represents a "last days of empire" before the significant changes that followed the 1989 Beer Orders, and for football clubs that followed the launch in 1992 of the English Premier League. Given the history and interconnections between beer and football, it seems implausible to imagine that the relationship between the two is likely to cease any time soon.

Notes

1. Horne and Whannel illustrate the point by comparing football and rugby league which have been targeted by beer, with rugby union and cricket which have tended to have a closer relationship with distilleries.
2. Everton, Arsenal and Tottenham Hotspur FCs were all clubs based at grounds owned by publicans at various points during their formative years. Indeed, when Everton FC disputed over rent, the brewer who owned the land told them to move away and founded Liverpool FC to replace them (Brown, 2010). When Wolverhampton Wanderers FC moved to Molineux stadium in 1889, it was with help from the Northampton Brewery Company (Metcalf, 2013). Both Manchester City and Manchester United also fell under the control of local brewing interests around the turn of the twentieth century. In the case of City, they rented their Hyde Road ground from Chester's brewery whose Managing Director was also the club's honorary president while other board members were publicans (Sanders, 2010).
3. McKay (2014a).
4. See Rowlinson et al. (2014) for a critical discussion and comparison of methods in historical theory and organisation theory.
5. See McKay (2014a).
6. An article published in a 1982 edition of *Private Eye* magazine (*Private Eye*, 1982) about MFAC, which was cited by Amer and Wilson (1998) as being inaccurate and based upon "contrived fabrication" (p.194).
7. Paylor. and Wilson (2014). This source had been unavailable for a number of years but was reprinted (and subsequently cited) during the process of writing the final draft of this chapter.
8. Not for the first time in the club's history, which had previously experimented with professionalism before returning to amateur status a few years earlier.
9. A player named Roberts was released, with his excessive drinking and poor conduct mentioned as part of the reason for his dismissal. Another player named Galbraith was suspended on two separate occasions for drunkenness, and a player called Stephenson was also cautioned after staying out until 11:45 p.m. and questions were raised about his sobriety (Budd, 2012).
10. Advertised as "The Strongest Ale on Sale in Teesside at 1/7 per pint," *Strongarm* was noticeably higher in price than the Coronation Ale it replaced, but such was its popularity that within eight months of its launch Camerons' decline

in sales of cask ales had been reversed and demand sufficiently stimulated that the firm now reported an overall increase for all beers sold in cask (McKay, 2014a).

11. It is important to understand that Camerons was not the only brewer involved in takeovers during this time, and that its acquisitions can be seen as part of a wider consolidation taking place within the industry.
12. As a result of alcohol-fuelled rioting at the Scottish Cup Final at Hampden in 1980, the Scottish Criminal Justice Act was introduced and made it illegal to be drunk in a football ground or while attempting to enter a ground, and was followed by the wider-reaching Sporting Events (Control of Alcohol, etc.) Act in 1985 for England, Wales and Scotland (Collins and Vamplew, 2002).
13. Following the success of its "Icegold" lager brand and the general trend for lager, in 1979–1980 Camerons invested around £2million to become the first company to be granted overseas brewing rights in Hansa Lager Bier – a premium German brand. Working in partnership with Dortmunder Actien Brauerei (D.A.B.), one of Germany's biggest breweries, Hansa was now brewed and marketed in the UK under license. The investment included the building of a German-style lager plant to meet D.A.B.'s specifications – the recipe, brewing technology and ingredients were all to meet exacting standards (McKay, 2014a, b). Camerons' links with football clubs were exploited in the marketing of Hansa, which involved the sponsorship of MFAC's away shirts during the 1985–1986 season (the home shirts carried the logo of Camerons itself), and also shirt sponsorship of York City FC between 1984 and 1990.
14. Founded in 1865, Camerons is one of Hartlepool's oldest firms and has historically been the town's largest employer (McKay, 2014a, b).
15. By 1986, S&N had become a large regional firm, had been ranked number five brewer in the UK and was selling around 6 Mhl per annum with sales mainly focused on Scotland and the North of England (BBC, 2008).
16. Significantly, Camerons Brewery Ltd was one of the first breweries to sponsor football kits, first with Middlesbrough from 1984–1986, with Hartlepool United FC from 1985 to 1990 and again from 1993 to 2000, and also with York City FC during the 1980s.
17. In 1985 at the time of its shirt sponsorship deal with Middlesbrough Football Club, Camerons held 5% of the North East of England beer market (Camerons, 2014).
18. See chapter from Preece (this volume), Preece (2008), Preece et al. (1999).

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