



# On the beer wagon: the past, present and future of Celtic craft brewing and its policies

Juliette Wilson, Vasco Sanchez Rodrigues, Ciaran Mac an Bhaird, Maryam Lotfi, Maneesh Kumar, Donagh Horgan, Sarah Dodd & Mike Danson

**To cite this article:** Juliette Wilson, Vasco Sanchez Rodrigues, Ciaran Mac an Bhaird, Maryam Lotfi, Maneesh Kumar, Donagh Horgan, Sarah Dodd & Mike Danson (2023) On the beer wagon: the past, present and future of Celtic craft brewing and its policies, *Regional Studies, Regional Science*, 10:1, 329-346, DOI: [10.1080/21681376.2022.2158751](https://doi.org/10.1080/21681376.2022.2158751)

**To link to this article:** <https://doi.org/10.1080/21681376.2022.2158751>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 24 Mar 2023.



Submit your article to this journal [↗](#)



Article views: 157



View related articles [↗](#)



View Crossmark data [↗](#)

# On the beer wagon: the past, present and future of Celtic craft brewing and its policies

Juliette Wilson <sup>a</sup>, Vasco Sanchez Rodrigues <sup>b</sup>,  
Ciaran Mac an Bhaird <sup>c</sup>, Maryam Lotfi <sup>b</sup>, Maneesh Kumar <sup>b</sup>,  
Donagh Horgan <sup>d</sup>, Sarah Dodd <sup>a</sup> and Mike Danson <sup>e</sup>

## ABSTRACT

This paper examines the potential of the craft beer sector as a regional development lever. Focusing on three culturally linked but politically distinct small nations, Wales, Scotland and Ireland, it takes a historical journey from the inception of this sector to the present day. Discussion focuses on highlighting the complex interactions between brewing, society, policy and economy. We review current policy and sectoral realities for our Celtic context and propose a grounded and holistic vision of regional craft-brewing policies, particularly around more circular and zero-waste ecosystems.

## ARTICLE HISTORY

Received 10 March 2021; Accepted 12 December 2022

## 1. INTRODUCTION

Craft brewing has increasingly been positioned as an anchor sector for both urban and rural regional socio-economic development (Bowen & Miller, 2022; Feeney, 2017; Garavaglia & Borgoni, 2022; Mount & Cabras, 2016; Reid, 2018, Reid & Gattrell, 2016). As well as providing a convivial ethos for community development, craft breweries are acknowledged to generate specialist tourism, and wider skills, social employment and community development: ‘local, independent breweries strengthen local economies, promote sustainable development, and strengthen social history’ (Feeney, 2017, p. 1). Brewing, then, authentically comprises a geographically widespread but highly diverse nexus of production, consumption, nutrition, differentiation, well-being and social lubricant, over deep time.

Craft brewing’s dual appeal lies in it being simultaneously high-growth and yet with an artisanal folk ethos that is almost archetypal, and consciously so (Dodd et al., 2021; Drakopoulou Dodd et al., 2018). Characteristically the sector is also seen to have benefits for ‘its role in local economic development, the promotion of local identity, and its innovative approach to business operation based on human connection and community support’ (WEALL, 2021). Craft brewing ‘holds in balance both an innovative high growth ambition, held collectively, and a firm

**CONTACT** Maryam Lotfi  LotfiM@cardiff.ac.uk

<sup>a</sup>Department of Marketing, SBS, University of Strathclyde, Glasgow, UK

<sup>b</sup>Logistics & Operations Management Section, Cardiff Business School, Cardiff University, Wales, UK

<sup>c</sup>Fiontar & Scoil na Gaeilge, Dublin City University, Dublin, Ireland

<sup>d</sup>Work Employment and Society, SBS, University of Strathclyde, Glasgow, UK

<sup>e</sup>Centre for Energy Policy, University of Strathclyde, Glasgow, UK

enactment of frugal, circular, local, foundational, pro-social and everyday entrepreneurship' (Dodd et al., 2021, pp. 505–506).

In both spatial and societal terms, (craft) breweries offer a strong context for transdisciplinary analysis in regional policymaking (Argent, 2018; Cabras & Reggiani, 2010; Cabras et al., 2020; Ellis & Bosworth, 2015; Gatrell et al., 2018; Sjölander-Lindqvist et al., 2020). They are implicated, throughout human settled history, at national, regional and local levels in policy arenas as apparently diverse as food and drink, agriculture, tourism, health and well-being, art and culture, environmental sustainability, export marketing, place-branding, gender, and craft entrepreneurship (Bowen & Miller, 2022; Garavaglia & Borgoni, 2022; Garavaglia, 2018; Reid & Gatrell, 2017). This may also explain why the sector's intense institutional regulation of brewing has persisted too, for nearly 4000 years (Poelmans & Swinnen, 2011). It could shed light, too, on why this regulation has come to be so siloed in nature, relatively narrow in scope and centrally conceived (Cabras & Bamforth, 2016; Cabras & Higgins, 2016; Drakopoulou Dodd et al., 2018).<sup>1</sup> And yet brewing remains, as it has been quite literally throughout human history, very heavily circumscribed by centralized and fragmented regulations, institutional constraints and societal norms (Argent, 2018; Cabras & Bamforth, 2016; Danson et al., 2015; Tremblay et al., 2005; Woolverton & Parcell, 2008).

The craft brewery industry is affected significantly by the current fragility of recovering regions, already bruised by a decade of austerity. This fast-growing and socially significant challenger segment was severely threatened by the existential threat posed by COVID-19. At the height of the UK's spring 2020 lockdown, the industry estimated its sales to have fallen by 82%. Fully 65% of craft brewers had entirely ceased production, with another 30% significantly cutting output. More than half were struggling to access any government support, and nearly a third predicted job loss (SIBA, 2020). Dependence on pubs, especially, as well as tourism and catering more widely, meant an immediate cessation of sales. However, 70% had responded with novel distribution channels, though developing new online services, or local delivery services, now offered by 60% of the (SIBA) sample. The widespread destruction of the sector predicted in the pandemic's early stages has not, then, come to pass. Indeed, the sector appears to have become still more celebrated as a potential panacea for regional development.

Here we carry out an exploration of the relationship between (craft) brewing and socio-economic development, though time, for three culturally linked (but politically distinct) small nations. Scotland, Ireland and Wales share various complex histories, including their Celtic roots, yet diverge in important ways, as we shall see (not least in terms of their relationship with the UK and the EU). Our aim is to take a holistic overview of craft brewing as a regional development lever of considerable heritage and potential, analysing current policy and sectoral landscapes against their historical backdrops, using the Celtic context as a focus for this study.

Whilst craft brewing has been shown to generate value of various kinds – from employment and innovation to community-building – there must surely be areas even the finest brew cannot reach, and possible consequences of a less benign nature that require articulation. As well as highlighting what this promising sector can deliver, then, to equitable regional development, this study also strives to rigorously draw attention to the challenges, limitations and drawbacks of jumping blindly on the beer-wagon.

Our paper builds on the extensive and growing scholarly literature on craft brewing, as well as more historical material. It builds on the growing scholarly interest in the importance of this sector in the regional studies field in particular, where there has been focus on opportunities presented for local economic development and renewal; the impact on other related industries such as tourism; and development of rural areas in particular (Argent, 2018; Cabras & Reggiani, 2010; Cabras et al., 2020; Garavaglia & Borgoni, 2022; Mount & Cabras, 2016; Reid & Gatrell, 2017). It also adds to a growing literature in this sector focused on the social ties of place and community and how craft breweries can be valuable place assets fostering a 'social terroir', a

social or historical connection to place (Bowen & Miller, 2022; Eades et al., 2017; Gattrell et al., 2018; Hede & Watne, 2013; Melewar & Skinner, 2020; Sjölander-Lindqvist et al., 2020).

It is the outcome of a two-year period of interactions, debate, joint study and analytical experimentation within (and beyond) a team of eight scholars from three Celtic countries. As well as a sectoral specialism in craft brewing, we created a transdisciplinary team with very wide-ranging and complementary expertise. The team comprises engaged scholars with applied knowledge from many relevant fields: operations and production management, distribution systems, marketing, rural development, farm diversification, theology of the land, start-up and growth funding models, craft branding, architecture, small firm financing, planning, local enterprise networks, regional economic geography, and, of course, for each of us, policy. This paper is a thought experiment, a critical re-reading of the regional development potential of craft brewing through the lens of the Celtic context.

We begin by journeying through the beer history of Wales, Ireland and Scotland, highlighting the complex interactions between brewing, society, policy and economy. Arriving in the present, we review current policy and sectoral realities for our Celtic context. After setting out the narrative section of the essay, we then consider the implications of these narratives in a critical and summative synthesis. This synthesis allows us to propose a more grounded and holistic vision of regional craft brewing policies, particularly around more circular and zero-waste ecosystems.

Without better understanding our past, we hamper attempts to build our futures. More importantly still, given the *global* nature of the policy challenges we address here, there are many parts of the world where ancient, artisanal, ritual and subsistence brewing and beer consumption practices remain undisturbed by industrialization. In the non-vinous world, too, beer remains as implicated in some local religion and ritual as wine is now for the Christian communion; just as in the Celtic past. This paper proceeds by an exploration of the role of beer and brewing in socio-economic, regional and industrial development. We then delve in increasing detail into the specific linked but distinct brewing sectors of Wales, Scotland and Ireland. This also serves to explain the relevance and suitability of the countries for the exploration, setting them into deeper context, and revealing historical challenges and opportunities, as well as regional beer heritage.

## 2. REGIONAL SOCIO-ECONOMIC DEVELOPMENT AND BREWING IN WALES, SCOTLAND AND IRELAND

### 2.1. Beer, early society and history

Beer is a complex drink, with impacts upon human development and well-being across a range of interlinked policy and theory arenas: health, religion, employment, consumer protection, inequalities, nutrition, water provision, innovation, tourism, terroir, agriculture, skills development, traditional cultures and enjoyment. Therefore, it offers unique potential to policymakers, particularly at the level of small nation-state, or of region. To build our case, we turn to history to illustrate the persistently diverse and complex political economy of beer and brewing.

Like other mind-altering foods and beverages, beer ‘under controlled circumstance ... can provide a cultural and social advantage’, supporting ritual, religion, rite and social regulation (Katz & Voigt, 1986, p. 34). We tend, though, to forget that ‘beer would also have had an enormous *biological* advantage’ to the earliest brewing communities, too (added emphasis). As well as purifying water, brewing ‘enhanced the nutritional quality of an already available food to a level almost comparable to that of meat’. These attributes, as well as taste and pleasure, have led some scholars to argue that it was in fact brewing that first led the drive to agriculture, settlement and socio-economic development, rather than baking (Cabras & Higgins, 2016, p. 611; Katz & Voigt, 1986).

The very first ‘recipe’ in archaeological records is for beer, from Sumer, in Mesopotamia, dated to around 6000 BCE (e.g., O’Gorman, 2009, Nelson, 2005, p. 9). The brewer in this

case was the god Enki, and a second recipe is also found in a hymn to the Sumerian goddess of brewing, Ninkasi (Katz & Voigt, 1986). Grain and beer produced by Mesopotamia's settlers were traded for more exotic and rarer goods, so that excess brewing capacity fostered trade developments too (Poelman & Swinnen, 2011; Rabin & Forget, 1998). Beer rations, of about a litre a day, later appear on the first civic 'pay checks', cuneiform clay tablets from Uruk, paid to their attached labourers by palaces and temples. Inns, always a special place for beer and brewing, likewise facilitated travel, trade, pilgrimages – what would become tourism – and are gloriously celebrated in Sumerian drinking songs (Katz & Voigt, 1986). Also from (later, Babylonian) Mesopotamia, Hammurabi's legal code – again, the first written evidence of its genre, from about 1750 BCE – set the tone for future relations between brewing and the state, with very precise stipulations as to brewers' gender (female) as well as beer quality and purity (Drakopoulou Dodd et al., 2018, p. 639). Unsurprisingly, given all these ways in which beer was woven deeply into the fabric of emergent society, its production and consumption also marked social boundaries.

Unlike the (apparently) egalitarian hunter–gathering lifestyle, 'with the spread of agriculture, social differentiation and hereditary inequality eventually became correlated with political and ideological complexity' (Budd et al., 2020). Settlement, then, brings the first context where we find socio-economic inequalities, and the civic administration that can create, perpetuate, entrench, diminish or uproot these. For our areas of interest, and our wider narrative, this is of crucial importance, since it appears that beer consumption was an early indicator of status. The roots of European settlement and farming were also the beginnings of food inequality, which is predicated upon wider socio-economic divisions, and perpetuates these through generations. New evidence makes clear that 'food production factors drove such very early evidence of socio-economic and dietary inequality' (Budd et al., 2020, p. 932).

Beer, that is, was always also a class marker, with both production and consumption differentiated by status, and acting to reinforce these differentiations. Elite management of beer and brewing has also arguably long been a mechanism for the othering of the non-elite. In contemporary times, in the modern West, beer is seen as a drink for the masses, and much craft brewing growth centres around a rhetoric of 'winification' to directly address this. We note here that the class and cultural role of beer and brewing has always been an integral element in its use as a policy tool, albeit implicitly, and draw attention to these persistent examples from the historical record.

## 2.2. The early Celtic context

The Celtic edge of Europe is geographical, and geological, as well as cultural. Its coastlines have long been famed for their gold (Ireland and Wales), silver (west Iberia) and the otherwise elusive tin (Galicia, Brittany, Cornwall) (Cunliffe, 2018, p. 53). The Gulf Stream made the Atlantic coast a rich fishing resource, too, and shellfish were an early and abundant seasonal food source. With the setting sun as a western beacon over the sea, and cyclical experiences of tidal patterns, a deep appreciation of time, seasonality and the natural elements is evident in such archaeological evidence as remains, from as early as the period between 5000 and 2000 BCE (when Stonehenge was created) (p. 21). The sea, and voyaging, were to remain a crucial an element of Celtic life, and provide the context within which Celtic beer and brewing were first set. Feasting played a large role in the socialization of communities around a hero-king figure (Nelson, 2005, pp. 10–13). From 3000 BCE there is evidence of brewing in Scotland, with local flavourings (some frankly dangerous) such as, 'from around 2000 BC ... mashed cereal straw, cereal-type pollen, meadowsweet, types of heather (including ling), and royal fern' (pp. 11–13). Other findings from Celtic and Pictish lands confirm heather beverages were being brewed by the inhabitants of both Scotland and Ireland before and after the arrival of the Romans in Britain (Scottish Brewing, n.d.). In Wales, the retreating Celtic tribes were already well known for their brewing

skills, and this reputation persevered. Saxon records from the seventh century CE onward, for example, mention ‘Welsh ale’ (or *bragawd/bragot*), a heavy brew laced with spices. It was as highly prized as another Celtic drink, mead, made from fermented honey (Wales: Craft Beer and Brewing, n.d.).

From these early beginnings, brewing became dominated by first monasteries, then by women within the domestic context, until commercial success led to women being pushed out of the trade by 1700. The following century experienced large expansion and then consolidation with urban breweries overwhelming rural enterprises. Lost too were local varieties and flavours as railways, oligopoly powers and large city market demands advantaged the urban breweries.

### 2.3. The 19th and 20th centuries: the industrialization of brewing

We have shown thus far that beer has been a very important element in humanity’s socio-economic and cultural development, since its earliest origins. We have also highlighted ancient Celtic and Pictish brewing practices, highly localized brews of importance for celebration, socialization, identity and nutrition. With the coming of modernity, however, these cultural and localized meaning-systems for beer and brewing were subjected to institutional forces which would raise a range of new challenges (and opportunities), many of which pertain to this day.

Consider, for example, the impact of Victorian religious conservatism on the internationally celebrated Welsh beer industry. Similar temperance patterns were also important in Scotland, ironically enough often in the Western Isles, home to the 4000-year-old brew described by Nelson (2005). Although today beer is still the national drink in Wales, the beer industry has had to make its way into a society far more hostile to alcoholic drinks than neighbouring England. In the late 19th century, Wales’s dominant non-conformist chapels were appalled by public displays of drunkenness. The powerful anti-alcohol movement succeeded in establishing the Welsh Sunday Closing Act 1881, shutting pubs on Sundays; members of the movement also pressed for prohibition.

The country’s leading brewing centre, Wrexham, in north-east Wales – once known for its strong ales – was largely closed down, though its pioneering lager brewery, Wrexham Lager, continued producing until the year 2000. When founded in 1883, it had promoted its lager as a temperance drink. Those that survived concentrated on brewing relatively low-alcohol beers. Wales’s leading brewer today, Brains of Cardiff, chiefly brewed a mild, dark ale. ‘Dark’ accounted for the bulk of its production until the 1980s. Stronger pale ales mainly came from England, notably from Bass and Whitbread, which later took over many Welsh breweries.

Thus, we can see how socio-cultural movements opposing the consumption of alcohol served to facilitate deep changes in Wales’s brewing landscape, making space for larger English competitors, and focusing on product ranges of lower alcohol beers.

Alongside Brains, only the small brewery of Felinfoel survived this collapse in local Welsh brewing (Wales: Craft Beer and Brewing, n.d.). From the 18th century until the early 20th century, Wales dominated world tinsplate production, peaking in the early 1890s when 80% of world’s tinsplate was produced in South Wales (BBC, n.d.). In 1931 this very specific local resource, and canning knowledge associated with it, allowed the small brewery at Felinfoel to become the first outside the United States to commercially can beer. Before this time, beer was only available in barrels or glass bottles. From this time, lightweight tin cans could be used without compromising on the taste or quality. Felinfoel Brewery was a major supplier to British armed forces abroad in the Second World War. Such an advantage enabled Felinfoel Brewery to source cans locally and grew considerably by pioneering canning of beer in the UK.

A similar story of consolidation, urbanization and oligopolization of the brewing sector occurred in Scotland during the 19th and 20th centuries. At its peak, in 1840 there were 280



breweries in Scotland; mergers, acquisitions and closures precipitated decline so that, by 1900, brewing was primarily concentrated in large firms in Edinburgh, Glasgow and Alloa.

As traditional Scottish styles of beers became less fashionable, these trends were exacerbated so that by 1910 there were only 92 breweries reducing to 63 in 1920. Unlike in Wales, sales were significant in home and international markets based on high-quality and diverse types of beers and ales, so that Edinburgh was recognized as 'the world capital of ale-brewing' in the 19th century (McLean, 2013), while Tennents of Glasgow was the largest exporter of bottled beers in the world, for instance (Scottish Brewing Archive, n.d.).

If a handful of major industrial brewers were to dominate Scotland's modern brewing scene, in Ireland, of course, there could be only one. Like Wales and Scotland, at the beginning of the 19th century, there were over 200 breweries in Ireland. There was considerable consolidation during the 1800s, with the emergence of one brewer that was to come to predominate the Irish brewing scene: Guinness. Like Scotland, export was a very important element in the production of major brewing firms. Consumption trends are also notable: 'The output of the Irish brewing industry trebled between the 1850s and 1914, over 40% of which was exported, and that was largely due to Guinness which at that time was the largest brewery in the world' (Ferriter, 2015, p. 4). Domestic consumption was also quite high and Ireland boasted over one-and-a-half times as many licensed premises per head of population than England and over two and a half times as many pubs per capita as Scotland (Ferriter, 2015) – the sobering hand of temperance, and the importation of 'refined' modern tastes, did not reach across the Irish Sea. Beer drinking in pubs remained at the nation's cultural heart, even if production had become massified in Dublin's Guinness, at the expense of smaller, regional and rural breweries.

At the turn of the 20th century, to be specific, there were approximately 36 breweries in Ireland. The economic stagnation that followed independence resulted in many of the remaining smaller breweries closing. Thus, by 1920, the number of breweries had shrunk to 24, and by 1960 this had decreased further to approximately eight<sup>2</sup> breweries in the Republic of Ireland (European Beer Guide, n.d.). Let us reiterate that, as a clear indication of the consolidating trend which impacted all three countries, in 1800 there were more than 200 breweries in Ireland. By 1960, there were eight.

Thus, it remained for the greater part of 40 years, and of the eight breweries in existence in 1960, most were eventually owned by three large breweries, dominated predominantly by Guinness, which became the largest brewery in the world. The number of breweries remained at approximately seven or eight up until the mid-1990s when the number of independent micro-breweries started to grow significantly. Although lagging the craft movements of the United States, the UK and other more developed markets, there was a very significant growth in the craft brewing sector from the mid-1990s onwards. Exporting continued to be important for the Irish brewing industry, following an established pattern. Yet, domestic consumption was equally significant, reflected in a high level of alcoholism by 1971 over 11% of total consumer spending was accounted for by alcoholic drink. Between 1986 and 2000, there was an increase of 48% in the amount of alcohol consumed per head of population in Ireland. In particular, the early years of the Celtic Tiger in the mid-1990s saw a large increase in consumption. Here, the increase in beer sales were not viewed as *de facto* positive, given the correlation with worsening alcohol abuse and illness during the same period, which may also explain a rise in temperance or abstinence in 1970s Ireland, too.

In Scotland, complementing earlier forces of concentration and consolidation, First World War restrictions and the Temperance Movement were also each instrumental in further changes so that the sector declined to just 36 breweries by 1940. Against supply-side developments, while the Temperance Movement had impacted on consumption, post-Second World War improving standards of living in the 1950s saw an increase in beer demand.

Not unconnected, increases in monopoly powers reduced these numbers further to 26 in 1960 through an ‘amalgamation rush’ (Craft Beer and Brewing, n.d.) and then to only 11 by 1970, with continuing takeovers and closures in these latter decades also being driven by the loss of colonial markets. By 1980, ownership was dominated by a few non-Scottish drinks conglomerates who dominated the domestic and export markets, and so ‘the virtual disappearance of the Scottish independent brewers’ (Craft Beer and Brewing, n.d.). By the end of the 1990s this trend was reversed with the revival of Scottish beer production in the form of small microbreweries.

The two centuries between 1800 and 2000 saw, then, similar patterns emerging in all three Celtic countries in our study. Although playing out in differing timescales and localized contexts, we can see the dramatic reduction in all three countries from several hundred brewers to quite literally less than a handful. Industrial consolidation in urban centres of mass production affected many formerly domestic crafts, of course, as did the First World War and the Great Depression. However, brewing was particularly impacted by changing attitudes and practices around alcohol consumption – such as temperance and taste – as well as the expansion and contraction of imperial markets.

The resurgence in Celtic craft brewing in the past few decades has been nothing short of remarkable. Once again, breweries number in the hundreds, and are becoming more distributed within the rural, as well as in areas of urban, deprivation. Whilst austerity and COVID-19, as well as perhaps over rapid sector growth, have slowed and sometimes reversed this trend, nevertheless, it is very significant to note that craft brewing sectors in all three countries studied have, in such a short space of time, returned to near pre-modernity levels. Our next section tells this story, highlighting key challenges and opportunities faced by contemporary Celtic craft brewing contexts, through the last few decades.

### 3. CONTEMPORARY CELTIC CRAFT-BREWING CONTEXTS

Brewdog, founded in 2007 in Ellon, Aberdeenshire, whilst not the first, is widely regarded as the catalyst for the growth of the Scottish craft beer sector (Cabras & Bamforth, 2016; Cunningham & Barclay, 2020).<sup>3</sup> Growth in small, independent breweries was particularly strong in Scotland between 2010 and 2018 and current estimates are of 115 breweries, most microbreweries, employing fewer than nine people (O’Connor, 2018).

Currently, there are 141 active breweries in Wales, and in the last 10 years there has been a rapid growth in the craft sector with the number of small and micro-beer producers continually increasing (*The Telegraph*, 2014).<sup>4</sup>

From approximately 12 breweries in Ireland in 1997, Feeney (2018) estimates that by mid-2018 there were 125 microbrewing companies in the Republic of Ireland, of which 75 were independent production breweries (p. 16). Beer production by independent microbreweries was 157,000 hectolitres (2017) out of a total of 8 million hectolitres, accounting for less than 2% of total beer production in Ireland.

Scotland has a higher than proportionate rise in the number of new breweries growing from 35 to 105 between 2010 and 2017, with a particular increase in small-scale micro-breweries (SRUC, 2018). Recent research by TBAS (The Beer Association of Scotland) shows that the majority of Scottish brewers are producing less than 500 hl and employing fewer than six people (TBAS members survey 2016, Scottish Enterprise). Between 2013 and 2017 there had been a fivefold rise in micro-breweries across Scotland, and the Highlands and Islands showed substantial growth with 105 micro-breweries established, followed by Eastern Scotland (mainly Edinburgh city) with 50, the South-West with 15 (mainly Glasgow) and 10 in the North East. Despite the limited local markets available to many micro- and small breweries in many localities in Scotland where much of this growth has taken place, they have become established,



survived and evolved through localized growth followed by connection into a wider supply chain.

There are some estimates of the local impacts of the Scottish 'beer and pub sector' in terms of jobs, incomes, multiplier effects within and compared with English regions, and Wales available from a study by Oxford Economics in a report for the British Beer and Pub Association (Oxford Economics, 2010). This is based on 2009/10 data so somewhat out of date given the expansion in the microbrewery sector since. In a report to the Scottish Government, SRUC have pointed out that 'brewing in remote and rural regions would provide an additional social value through diversification of opportunities for employment, consumption and rural sector growth' (SRUC, 2018).

Yet, all is not rosy in our post-modern hop garden. In Ireland, the growth in new entrants has slowed somewhat in recent years, deterred perhaps by a small number of failures and significant overcapacity in the sector. Feeney (2018) contends that there is significant unused capacity in the sector, with a utilization rate of less than 50%. Unlike other markets, most craft brewers do not operate licensed premises or tied pubs. Instead, their main sales outlets are supermarkets or taps in local licensed premises. Craft brewers are experiencing reduced output, a number of failures, difficulties in accessing distribution channels and underdeveloped export markets, all of which is exacerbated by the COVID pandemic.

In Wales, 61 micro-breweries closed between 2000 and 2020 (Wales Breweries, RateBeer, n.d.). The closing of micro-businesses is no surprise and well documented in entrepreneurship or small business literature. The reason for the closure of 61 breweries in two decades could be attributed to factors such as different legislations and policies such as agriculture and rural affairs policy (e.g., Glastir), health policy (e.g., minimum pricing of alcohol) and tax policies.

For instance, minimum pricing of alcohol has a two-folded effect: on one side, it has been claimed that it saves the National Health Service (NHS) £6.5 million a year and boosts the Welsh economy by £44 million a year by reducing workplace absence and crime (BBC News, 2019). On the contrary, it could possibly push drinkers to switch from one addiction to other cheaper and harmful substances.

Likewise, alcohol tax duty rules and regulations are pitting larger, longer established brewers against newer, smaller microbreweries. Small breweries pay duty on what they produce. The Small Brewers Relief (SBR) scheme reduces the amount breweries pay, depending on how much they produce. It is a sliding scale and breweries producing less than 5000 hl (or 880,000 pints) a year pay 50% of the standard rate – which is the biggest tax break available through the scheme. However, some larger breweries do not think it is fair and have set up the Small Brewers Duty Reform Coalition (SBDRC) with the main goal being to scrap the SBR. They are putting pressure on, for example, the Welsh Government for review and reform of the SBR, as they see it as an exaggerated tax loop that now acts as a disincentive to grow because small breweries are reluctant to lose the duty relief by upping their capacity (Wales Online, 2018).

The unintended consequences of the SBR scheme could lead to increasing tension between micro- and small breweries in Wales, and elsewhere, having a direct impact on cooperation and collaboration activities between micro- and small breweries.

Today's renewed craft brewing sector also faces geographical challenges, being often peripherally positioned in marginal places. In Wales, the majority of the breweries are spread in the outskirts. There are significant challenges linked to access to infrastructure, raw material, recruitment of skilled staff and logistics, and stimulate breweries to collaborate with local universities or other relevant government bodies. At the same time, they face the challenge of skill shortage to recruit or retain trained brewing expert (SIBA, 2019, p. 6). These challenges required breweries to take innovative cluster approach that includes other breweries. Informal

and formal clusters of beer producers also include wider stakeholders, such as non-for-profit consultancies, government and universities.

In recent times, COVID has brought considerable challenges to the craft beer sector in all three countries. In Wales, few breweries had access to grocery retail and online shopping market channels, and many needed to temporarily close in April 2020. However, with financial support from the Welsh Government, sectoral advice and guidance, and innovative ways of accessing the business to customer (B2C) market, many Welsh breweries managed to weather the storm during the pandemic.

Brexit too has been experienced as a major challenge, on both sides of the Irish Sea, given the strong international connections, procurement and sales of craft brewing. The Welsh beer industry expects to encounter challenges and changes including access to restricted raw materials, new regulations, currency exchange fluctuations, which can affect cash flow and financial health of breweries (Food Manufacture, 2019). Micro- and small craft beer producers are particularly vulnerable to those challenges.

Indeed, on one hand, the industry has been pushed to try for export and new markets to confront the overcapacity risks, and, on the other, the possible imposition of tariffs may cause customers from the EU to look elsewhere. Nevertheless, the potential trade barriers caused by Brexit might encourage domestic supplies of high-volume products such as wine and beer. This could lead to new opportunities to expand production in these sectors.

Increased domestic production of beer has the potential to drive agriculture and horticulture. In rural Wales, for example, this would result in more horticulture specifically in the South and North East border areas where there is already a culture and infrastructure for these products and more dairying in the low land areas of North, South and West Wales. Barley and hops could become a more important element for South Wales farming. Having local malters and hops in Wales could make Welsh craft beer more premium and provenant. Hence, Brexit could actually generate growth within the beer and spirits sectors and bring prosperity to rural Wales (Dwyer, 2018).

Peripherality and rurality, however, also offer opportunities, particularly around tourism. Visit Scotland actively highlights the craft beer sector through its website with reference to brewery tours, pubs, beer festivals, locality-based real ale tours and other events. The opportunity is taken to make explicit links to Scotland's other national drinks (whisky and boutique gin, especially), traditional Scottish food, and to restaurants through the themed '2015 – Year of Food and Drink'. These are all a means of adding value, strengthening the supply chain and generating synergies across and between sectors.

Yet the full benefits of potential here have also to be realized equally across the three countries. As the tourism offer has developed in Ireland, destination marketing has built up around whisky distilleries in particular (Foley, 2013; Jovicic, 2019). While Dublin's Guinness Storehouse is noted to be Ireland's most visited attraction, the contribution of the Guinness Campus to wider placemaking and regeneration of the Liberties area has been minimal, and often focused on speculative development with little return on investment to the local community (Kelly, 2007). Ambitious developments such as the Digital Hub have not been delivered upon, while rampant neoliberal gentrification takes root, allowing centuries of co-production around the Guinness brewery to evaporate (Cardullo et al., 2018; van Winden & Carvalho, 2016). Similarly, the landmark Murphy's and Beamish and Crawford in Cork have been neglected as sites of socio-cultural importance, betraying their contribution to the identity of that city. As these brands were incorporated into the Heineken International group their ties to place have loosened, with notable negative consequences to their neighbourhoods. Given the purchase of the Franciscan Well craft brand by Molson Coors in 2013, it remains to be seen if that organization will be cognisant of its rich social heritage and its impact on place and identity (Lenihan, 2010).

Scotland's rural development programme is designed to build on the strengths of rural Scotland and it particularly highlights the key growth sectors of Tourism and Food & Drink; resourceful and resilient businesses and communities; natural capital – including large quantities of good-quality water; cultural, historical and natural capital and assets; and research institutes which offer good provision for training and learning. However, in many areas outwith the Central Belt there is a narrow economic base and lack of growth opportunities, with particular issues of access to finance for rural businesses, low wages, and problems of coordination across sectors and agencies.

There are clear opportunities to build on 'Scotland the brand' through further strengthening the performance of Scotland's growth sectors; and such interventions should create and maintain vibrant rural communities by using Scotland's natural environment and heritage to increase employment opportunities and improve rural and national economic growth. Specific strategies are needed to better integrate training/skills across land-based sectors and tourism, to target support for knowledge transfer with stronger linkages to research and technology, and to support greater collaboration across sectors for added value.

These economic and environmental dimensions underpinning the development of rural Scotland create the context and rationale for assessing the role for the craft beer sector to contribute to sustainable growth across the country. Microbreweries are characteristically embedded into the local economy and offer the potential to realize many of the benefits of the rural development programme. Critically there is an identified need for different and varied interests to join up their thinking, understanding, cooperation and support to achieve these aspirations.

#### 4. CRITICAL SUMMATIVE SYNOPSIS

What is the current policy landscape for deploying craft breweries as a potential tool in regional development, when these narratives are considered as a whole? What are the major themes emerging from this review of contemporary brewing policy in the three Celtic countries? We found that some market changes, and, especially, the promise of collaboration, provided support and opportunities within the wider institutional environment (Table 1). Supportive policy frames and practices included examples of funding being provided to help with the development of skills, and export marketing, as well as the provision of expertise and projects around innovation, Brexit, and production efficiencies and collaborations. Some positive fiscal regimes were also noted, such as excise relief for small brewers.

Skills gaps, geographical isolation, distribution, internet and other infrastructure barriers remain significant inhibitors of business development for rural craft brewers in the Celtic fringe. Market turbulence, a shrinking beer market, complex and oligopolistic distribution and retailing systems also threaten these potential anchor ventures. Government support for rural development was seen to be often routed through other sectors, like tourism, and through their industry bodies, or larger companies, so excluding small artisan brewers from the support ecosystem. Licensing, excise duty, the structures of these and a perceived failure of competition law continue to be the main challenges visited on craft breweries on the margins. Brexit is seen as a particular threat, in all three nations, especially the uncertainty which it brings. In parallel with its deep local embeddedness, craft brewing is a very internationally connected sector. Brexit challenges the continued success of knowledge, resource, contact and sales networks upon which this depends.

In summary, then, this is a sector facing considerable challenges, even before the COVID-19 pandemic threw craft breweries and their communities into crisis. We note that the major barriers to policy development relate to access to knowledge, skills, influence, infrastructure, and fairer fiscal and licensing regimes. All these are directly or indirectly related to these Celtic 'internal colonies', and their regions, distance from resource-intensive centres and the much

**Table 1.** Craft-brewing policy in the Celtic periphery.

	<b>Institutional environment</b>	<b>Policy frame and practice</b>
Support and opportunities	<p>Consumers' taste and drinking habits are transitioning to craft beer</p> <p>Collaborative strategies address multiple needs, as with food and drink collaboration</p> <p>Strong peer and local networks provide support</p>	<p>Funding is available to: develop brewing skills and quality; to support export marketing</p> <p>Support is available for: innovation; planning for Brexit</p> <p>Government support for the food and drink industry can provide a focus for supportive policies</p> <p>Projects are available to optimize resource efficiency; to optimize use of co-products</p> <p>Excise relief for small brewers, below certain thresholds</p> <p>Investment tax breaks can facilitate brewery launch and growth</p> <p>There are a growing number of local agency case studies of craft brewers in video form to showcase skills and opportunities</p>
Challenges and threats	<p>Environmental challenges around climate change</p> <p>There are gaps in the business administration skills of many craft brewers</p> <p>Lack of resource and skills to apply for support and funding</p> <p>Recruiting and retaining staff is a problem for all, but especially for rural and island breweries.</p> <p>Access to infrastructure impedes the growth of rural and island breweries, especially</p> <p>Poor rural Wi-Fi access for customers and community</p> <p>Overcapacity and dropping demand in the wider beer market</p> <p>Small scale of craft brewing inhibits establishing or joining large-scale distribution networks</p> <p>Challenges entering mainstream distribution channels</p> <p>Turbulence, structural barriers and licensing in the public house sector</p> <p>Barriers of entry to the public house market</p> <p>Access to support is needed for the craft and artisan (food) sector</p> <p>Access is needed to dedicated rural development support</p>	<p>Government support for the tourist industry and the food and drink sector is often routed through industry organizations and targeted at larger firms</p> <p>Pricing of licences, planning, etc. crowds out smaller brewers</p> <p>Possible restrictions on alcohol marketing and sponsorship</p> <p>The ability to sell beers on-site for drinking and retail may be inhibited by law 'Cliff-edge' structure of Small Brewers Relief (SBR) (excise relief) discourages growth and increases tensions with medium-sized brewers</p> <p>Brexit means key policies around farming, exporting and importing are very uncertain, and replacements for essential policy agencies lost through Brexit are unclear</p> <p>Brexit may cut craft brewers off from their international knowledge and resource networks</p> <p>The impact of business rates on the hospitality sector, a key route to market for beer</p> <p>Visa rules and Brexit may worsen skills gaps</p> <p>Complexity of retailing structures and licensing laws</p> <p>Outdated arrangements for collecting excise duty on beer</p> <p>Competition policy has done little to tackle brewing oligopolies of production and distribution</p>

greater power of the beer oligopoly within those centres. Positive foundations upon which flourishing futures might be built were much scarcer than challenges and barriers, but focused on collaboration, skills development and a reconceptualization of international activities.

Reflecting on these findings, we note that as a policy and practice community, there is now a deepened appreciation of grassroots challenges, and a much broader, more innovative and focused set of solutions to many of these. Zero Waste Scotland, for example, collaborates with 173 breweries to preserve and enhance the local value of their waste. At a local level, craft breweries can form the heart of community hubs, sustaining – and being sustained by – other artisans, makers, artists, neighbourhoods, traders and, of course, their place itself (Ellis & Bosworth, 2015; Sjölander-Lindqvist et al., 2020). This may be particularly so in rural small and medium-sized enterprise (SME) economies, where interwoven communities of small firms provide the entire fabric of the local economy, and where craft beer tourism can help make and shape tourism markets (Cabras et al., 2020; Ellis et al., 2018; McLaughlin et al., 2016).

What seems to be special about craft brewing? Which of its features drive this move away from formal, linear supply chains and towards sustaining community hubs? Deep trust embedded in place is crucial, as is the encapsulation of this ethos, and its place, in local recipes, imagery, discourse and connections (Ellis & Bosworth, 2015). Collaborative practices from craft brewing also transfer well across sectors, as does its shared mindset which focuses on the development and flourishing of communities, and not individual business growth (Dodd et al., 2021; Drakopoulou Dodd et al., 2018). The sector's adaptability has been shown too in its innovative responses to the challenges of both Brexit and COVID-19, often through enhanced local interaction. Heritage, culture, connectivity and adaptability help craft brewing to close some loops at community level, too (Garavaglia & Borgoni, 2022; Mount & Cabras, 2016).

Regionality of itself asks questions as to what local means, and for craft brewing in particular, finding the scale which provides scope for sustainability has been complex. The closest small-scale bottling plants, and the nearest malting facility for home-grow barley, are both across the Scottish border with England, for example. Brewers in the Highlands and Islands have been supported by grants for in-house bottling lines, which has been a well-received response to this structural bottle neck.

What still somewhat eludes our grasp, fully, are some of the other the bits in the middle, in-between the local challenges and the national or regional policy initiatives which respond to these. Brewers are now in abundant supply, thanks to a growth in degree programmes, but specialists in other key tasks – such as maintaining brewing plant – are not, forcing small-scale breweries to purchase help from larger firms. It may thus be larger scale systemic change that is needed to bridge these various in-between disconnects.

## 5. CONCLUSIONS

Our historical review showed the wide-ranging, diverse, complex and interwoven institutional and policy practices around brewing's history. Far more holistic and broader socio-economic themes were identified than have been shown to prevail even in the growing modern Celtic brewing contexts. Are we missing a trick? Is it time to move back to the future of regional brewing economies, with localized and circular supply chains, as the recent WEALL report has proposed:

Over the last years, the craft brewing sector has expanded significantly in Scotland and around the world, demonstrating a business model which is based on collaboration and driven by a thriving entrepreneurial community. Craft brewing is often considered an example of 'success', not only because of the increasing number of craft breweries being established across Scotland, but also due to its role in local economic

development, the promotion of local identity, and its innovative approach to business operation based on human connection and community support. These key attributes could be seen as lessons for other industries and could provide an illustration of what a Wellbeing Economy entails in practice. (WEALL, 2021, p. 9)

Indeed, such broadening of interest and support for craft breweries resonates with a number of the existing paradigm-shifting agendas which have come to the foreground in combatting COVID-19 and in building resilience more generally. Significant progress has been made in understanding and identifying the barriers and constraints to communities and regions being able to sustain activities through challenges such as a global pandemic, climate change (Fazey et al., 2016), loss of competitiveness, subsequent limited market size and depopulation (Dressler et al., 2016; Danson et al., 2015). This accords with recent work within regional studies that argues that the focus of research post COVID-19 should be to more equitable and sustainable regional outcomes to 'build forward better', to a new regime of economic and social development (Martin, 2021, p. 145).

Recently, under the conditions of the COVID-19 lockdowns and regulations, governments at large and in Scotland in particular have established commissions and advisory groups to recommend the means to build a better recovery than the market or 'business as usual' could deliver; examples include Just Transition Commission's Reports (Scottish Government, 2021), Advisory Group on Economic Recovery (Scottish Government, 2020) and CERG (2020), while more local initiatives are being promoted in the concept of Community Wealth Building (North Ayrshire, 2020) and the 20 min neighbourhood. Common across many of these is their consistent endorsement of the related frames of the foundational economy (Foundational Economy Collective, 2018), circular economy (Ellen MacArthur Foundation, 2019), and a Green Recovery where localism (Houghton & Blume, 2011), production and consumption is encouraged at the community or subregional level (Gibbs, 2018; Trebeck & Williams, 2019).

What might extending craft beer policy and initiatives look like on the ground? Which specific and new regional policies are we proposing here? Community gardening projects aim to tackle food poverty, and to enact locally circular economies, as well as building social resilience and self-sustaining skillsets. The creation of community hop groves could thus build on these established partnership models. Localizing supply chains, even in part, would also be a significant step in smoothing craft brewers' resourcing uncertainties and inefficiencies (both environmental and commercial). Communal hop production, processing and selling might also provide a platform for the collective generation of other brewing resources, like water, or energy. Indeed, since the Celtic edges are particularly abundant in wind, tidal and water (energy) resources, building physical plant, as well as natural, on a local collective fashion may also be particularly feasible.

In terms of food poverty, the nutritional benefits of beer are too often overlooked, given an overriding anti-alcohol agenda within health and social policy. If a focus away from binge consumption of mass-produced, strong, undifferentiated alcohol is sought, then perhaps a more mature alternative is enabling people to better appreciate hand crafting their own alcohol. Water is ever more contested, and access to nutritious locally produced food harder to come by. Yet these benefits of beer have become overshadowed by modern taboos around even low levels of alcohol. It is time to remember that brewing purifies water, and converts grain into a food valuable 'to a level almost comparable to that of meat' (Katz & Voigt, 1986, p. 34).<sup>5</sup> The health benefits of beer are considerable, and must surely be recognized in policymaking?

Partnering with agriculturalists expert in (locally viable) hop and flavouring variants might similarly take an established form, that of distributed citizen science. Viewed as a living lab, collaborative horticultural research projects in the peripheral rural would also provide hands-on, embedded science, technology, engineering and mathematics (STEM) learning in areas of



denuded human capital. Community, civic, or distributed gardening for beer production provides a space for rebuilding, shaping and accrediting locally relevant but globally transferable horticultural and agricultural competences.

Additionally, beer gardening also provides a focus for the rediscovery of locally specific brewing recipes and practices, which link people to their places' culture, cuisine, deep history and traditions. Local knowledges, especially at the edges of Europe, have often been displaced by the mainstream, and this is, indeed, a major narrative within craft brewing. Brewing offers an engaging collective vehicle for the rediscovery of locally fit recipes and domestic sustainability. Brew-days to share local skills and knowledge would provide similar results, and help build embedded communities of knowledge. The inherent conviviality of the brewing world would also tackle some modern social ills, such as isolation, loneliness and lack of agency. Connecting with educational, cultural, historical and tourism bodies, partners could also create and 'curate' shared exhibitions of this collective endeavour. Podcasts tours; video overviews; online visitor guides; and continuing education classes might all be appropriate outcomes pulling together local craft histories and geographies, around brewing.

## AUTHOR CONTRIBUTIONS

All authors contributed equally to this paper. In a counter to dominant practice, we have listed the authors in reverse alphabetical order.

## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

## NOTES

<sup>1</sup> Population ecologists, for example, consider craft brewing as an inherently peripheral sector, which exploits those resource-scarce spaces overlooked by the centre, and its large-scale generalists (Clemons et al, 2006, p. 152; Elzinga et al., 2015, p. 724; Carroll & Swaminathan, 2000; Carroll, 1985; Argent, 2018, p. 3; Cabras and Bamforth, 2016, pp. 626–628).






<sup>2</sup> These included the large breweries Beamish and Crawford (Scottish & Newcastle since 1995), Guinness (Diageo), Murphys (Heineken since 1983), Great Northern (Harp, Diageo since 1959), Macardles (Diageo since 2003), Smithwicks (Diageo since 1965) and Waterford brewery (acquired by Guinness in 1952, ceased brewing in 1954).

<sup>3</sup> Now considered to have broken almost all the tacit rules governing craft beer culture, Brew-dog may be cast out from the craft fold, but they remain Scotland's third 'unicorn' enterprise, a high-profile focus for all things 'artisan' and 'punk'.

<sup>4</sup> In Wales, this rise could be due to an increase in popularity of craft beer influenced by changing customer preferences and their willingness to pay more for good-quality craft beer (SIBA British Craft Beer Report, 2019). This is encouraging sign for the sector across the UK and Wales in particular, where average consumption of alcoholic drinks per person per week from 2014 to 2017 in Wales is lower than rest of the UK, that is, 679 ml in Wales followed by 680 ml in Scotland, 683 ml in England and 747 ml in Northern Ireland (DEFRA, Scottish Government, 2020).

<sup>5</sup> These attributes, as well as taste and pleasure, have led some scholars to argue that it was in fact brewing that first led the drive to agriculture, settlement and socio-economic development, rather than baking (Katz & Voigt, 1986; Cabras & Higgins, 2016, p. 611).

## ORCID

Juliette Wilson  <http://orcid.org/0000-0002-4932-0473>  
 Vasco Sanchez Rodrigues  <http://orcid.org/0000-0001-6991-2129>  
 Ciaran Mac an Bhaird  <http://orcid.org/0000-0003-2863-3398>  
 Maryam Lotfi  <http://orcid.org/0000-0002-1261-9834>  
 Maneesh Kumar  <http://orcid.org/0000-0002-2469-1382>  
 Donagh Horgan  <http://orcid.org/0000-0003-0979-4743>  
 Sarah Dodd  <http://orcid.org/0000-0002-3140-8194>  
 Mike Danson  <http://orcid.org/0000-0003-1041-0022>

## REFERENCES

- Argent, N. (2018). Heading down to the local? Australian rural development and the evolving spatiality of the craft beer sector. *Journal of Rural Studies*, 61, 84–99. <https://doi.org/10.1016/j.jrurstud.2017.01.016>
- BBC (n.d.). A history of the world. <https://www.bbc.co.uk/ahistoryoftheworld/objects/mLpYbeiaRf6Tt5vusaOMw>.
- BBC News. (2019). <https://www.bbc.co.uk/news/uk-wales-politics-48675251>.
- Bowen, R., & Miller, M. (2022). Provenance representations in craft beer. *Regional Studies*, 1–11. <https://doi.org/10.1080/00343404.2022.2092088>
- Budd, C., Bogucki, P., Lillie, M., Grygiel, R., Lorkiewicz, W., & Schulting, R. (2020). All things bright: Copper grave goods and diet at the neolithic site of Osłonki, Poland. *Antiquity*, 94(376), 932–947. <https://doi.org/10.15184/aqy.2020.102>
- Cabras, I., & Bamforth, C. (2016). From reviving tradition to fostering innovation and changing marketing: The evolution of micro-brewing in the UK and US, 1980–2012. *Business History*, 58(2016), 625–646. <https://doi.org/10.1080/00076791.2015.1027692>
- Cabras, I., & Higgins, D. M. (2016). Beer, brewing, and business history. *Business History*, 58(5), 609–624. <https://doi.org/10.1080/00076791.2015.1122713>
- Cabras, I., Lorusso, M., & Waehning, N. (2020). Measuring the economic contribution of beer festivals on local economies: The case of York, United Kingdom. *International Journal of Tourism Research*, 22(6), 739–750. <https://doi.org/10.1002/jtr.2369>
- Cabras, I., & Reggiani, C. (2010). Village pubs as a social propellant in rural areas: An econometric study. *Journal of Environmental Planning and Management*, 53(7), 947–962. <https://doi.org/10.1080/09640568.2010.495488>
- Cardullo, P., Kitchin, R., & Di Felicianantonio, C. (2018). Living labs and vacancy in the neoliberal city. *Cities*, 73, 44–50. <https://doi.org/10.1016/j.cities.2017.10.008>
- Carroll, G. R. (1985). Concentration and specialization: Dynamics of niche width in populations of organizations. *American Journal of Sociology*, 90(6), 1262–1283. <https://doi.org/10.1086/228210>
- Carroll, G. R., & Swaminathan, A. (2000). Why the microbrewery movement? Organizational dynamics of resource partitioning in the U.S. Brewing industry. *American Journal of Sociology*, 106(3), 715–762. <https://doi.org/10.1086/318962>
- CERG. (2020). Eight policy packages for Scotland's Green Recovery. Retrieved July 2020, from <https://cerg.scot/wp-content/uploads/2021/05/8-policy-packages.pdf>
- Clemons, E. K., Gao, G. G., & Hitt, L. M. (2006). When online reviews meet hyperdifferentiation: A study of the craft beer industry. *Journal of Management Information Systems*, 23(2), 149–171. <https://doi.org/10.2753/MIS0742-1222230207>
- Craft Beer and Brewing. (n.d.). <https://beerandbrewing.com/dictionary/aNf0fvsdSF/>.
- Cunliffe, B. (2018). *The ancient celts*. Oxford University Press.

- Cunningham, J., & Barclay, S. (2020). Craft beer sector collaboration in north east Scotland: The role of individual success. *The International Journal of Entrepreneurship and Innovation*, 21(4), 263–274.
- Danson, M., Galloway, L., Cabras, I., & Beatty, T. (2015). Microbrewing and entrepreneurship: The origins, development and integration of real ale breweries in the UK. *International Journal of Entrepreneurship and Innovation*, 16(2), 135–144. <https://doi.org/10.5367/ije.2015.0183>
- Dodd, S., Wilson, J., Karampela, M., & Danson, M. (2021). Crafting growth together. *Entrepreneurship & Regional Development*, 33(9–10), 789–815. <https://doi.org/10.1080/08985626.2021.1914741>
- Drakopoulou Dodd, S., Wilson, J., Mac an Bhaird, C., & Bisignano, A. P. (2018). Habitus emerging: The development of hybrid logics and collaborative business models in the Irish craft beer sector. *International Small Business Journal*, 36(6), 637–661. <https://doi.org/10.1177/0266242617751597>
- Dressler, G., Müller, B., Frank, K., & Kuhlicke, C. (2016). Towards thresholds of disaster management performance under demographic change: Exploring functional relationships using agent-based modeling. *Natural Hazards and Earth System Sciences*, 16(10), 2287–2301. <https://doi.org/10.5194/nhess-16-2287-2016>
- Dwyer, J. C. (2018). The implications of Brexit for agriculture, rural areas and land use in Wales.
- Eades, D., Arbogast, D., & Kozlowski, J. (2017). Life on the ‘beer frontier’: A case study of craft beer and tourism in West Virginia. In C. Kline, S. Slocum, & C. Cavaliere (Eds.), *Craft beverages and tourism* (Vol. 1, pp. 57–74). Palgrave Macmillan.
- Ellen MacArthur Foundation. (2019). <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview#:~:text=The%20circular%20economy%20is%20a,do%20with%20the%20materials%20afterwards>
- Ellis, A., Park, E., Kim, S., & Yeoman, I. (2018). What is food tourism? *Tourism Management*, 68, 250–263. <https://doi.org/10.1016/j.tourman.2018.03.025>
- Ellis, V., & Bosworth, G. (2015). Supporting rural entrepreneurship in the UK microbrewery sector. *British Food Journal*, 117(11), 2724–2738. <https://doi.org/10.1108/BFJ-12-2014-0412>
- Elzinga, K. G., Tremblay, C. H., & Tremblay, V. J. (2015). Craft beer in the United States: History, numbers, and geography. *Journal of Wine Economics*, 10(3), 242–274. <https://doi.org/10.1017/jwe.2015.22>
- European Beer Guide. (n.d.). <http://www.europeanbeerguide.net/irlbrew.htm>.
- Fazey, I., Wise, R. M., Lyon, C., Câmpeanu, C., Moug, P., & Davies, T. E. (2016). Past and future adaptation pathways. *Climate and Development*, 8(1), 26–44. <https://doi.org/10.1080/17565529.2014.989192>
- Feeney, A. E. (2017). Cultural heritage, sustainable development, and the impacts of craft breweries in Pennsylvania. *City, Culture and Society*, 9, 21–30. <https://doi.org/10.1016/j.ccs.2017.03.001>
- Feeney, B. (2018). Craft beer and independent microbreweries in Ireland, 2018. A Report for Bord Bia and the Independent Craft Brewers of Ireland.
- Ferriter, D. (2015, January). Drink and society in twentieth-century Ireland. In *Proceedings of the royal irish academy* (Vol. 115, pp. 1–21).
- Foley, A. (2013). The contribution of the drinks industry to tourism.
- Food Manufacture. (2019). <https://www.foodmanufacture.co.uk/Article/2019/09/23/Food-and-drink-businesses-in-Wales-urged-to-prepare-for-Brexit#>.
- Foundational Economy. (2018). <https://foundationaleconomy.com/>
- Garavaglia, C. (2018). The birth and diffusion of craft breweries in Italy. In *Economic perspectives on craft beer: A revolution in the global beer industry* (pp. 229–258).
- Garavaglia, C., & Borgoni, R. (2022). The local dimension of legitimation: An empirical analysis of firms’ entry in the Italian craft beer market. *Regional Studies*, 1–15. <https://doi.org/10.1080/00343404.2022.2078491>
- Gatrell, J., Reid, N., & Steiger, T. L. (2018). Branding spaces: Place, region, sustainability and the American craft beer industry. *Applied Geography*, 90, 360–370. <https://doi.org/10.1016/j.apgeog.2017.02.012>
- Gibbs, D. (2018). Sustainable regions. In *Handbook on the geographies of regions and territories*. Edward Elgar.
- Hede, A.-M., & Watne, T. (2013). Leveraging the human side of the brand using a sense of place: Case studies of craft breweries. *Journal of Marketing Management*, 29(1–2), 207–224. <https://doi.org/10.1080/0267257X.2012.762422>

- Houghton, J., & Blume, T. (2011). Poverty, power and policy dilemmas: Lessons from the community empowerment programme in England. *Journal of Urban Regeneration and Renewal*, 4(3), 207–217.
- Jovicic, D. Z. (2019). From the traditional understanding of tourism destination to the smart tourism destination. *Current Issues in Tourism*, 22(3), 276–282.
- Katz, S. H., & Voigt, M. M. (1986). Bread and beer. *Expedition*, 28(2), 23–34.
- Kelly, S. (2007). The liberties transformed: The emergence of new commercial and residential spaces in inner Dublin. *Journal of Irish Urban Studies*, 6, 89–118.
- Lenihan, M. (2010). *Hidden cork: Charmers, chancers and cute boors*. Mercier Press Ltd.
- Martin, R. (2021). Rebuilding the economy from the COVID crisis: Time to rethink regional studies? *Regional Studies, Regional Science*, 8(1), 143–161. <https://doi.org/10.1080/21681376.2021.1919191>
- McLaughlin, R. B., Moore, M. S., & Reid, N. (2016). Inter-metropolitan location patterns of craft breweries in the United States. *Studies in Regional Science*, 46(1), 115–129. <https://doi.org/10.2457/srs.46.115>
- McLean, A. (2013). The history of brewing in Scotland, <https://www.saltiresociety.org.uk/about-us/branches/edinburgh/edinburgh-branch-summary-of-speakers-2013-2014/1st-november-allan-mclean-the-history-of-brewing-in-scotland/>.
- Melewar, T. C., & Skinner, H. (2020). Territorial brand management: Beer, authenticity, and sense of place. *Journal of Business Research*, 116, 680–689. <https://doi.org/10.1016/j.jbusres.2018.03.038>
- Mount, M., & Cabras, I. (2016). Community cohesion and village pubs in Northern England: An econometric study. *Regional Studies*, 50(7), 1203–1216. <https://doi.org/10.1080/00343404.2014.989150>
- Nelson, J. P. (2005). Beer advertising and marketing update: Structure, conduct, and social costs. *Review of Industrial Organization*, 26, 269–306.
- North Ayrshire. (2020). <https://www.north-ayrshire.gov.uk/council/community-wealth-building/community-wealth-building.aspx>
- O’connor, A. (2018). *Brewing and distilling in Scotland-economic facts and figures*. Scottish Parliament Information Centre.
- O’gorman, K. D. (2009). Origins of the commercial hospitality industry: From the fanciful to factual. *International Journal of Contemporary Hospitality Management*, 21(7), 777–790.
- Oxford Economics. (2010). <http://sbpa.wpengine.com/wp-content/uploads/2017/Briefings/BBPA-Regional-impacts-2011-oxford-economics-report.pdf>.
- Poelmans, E., & Swinnen, J. (2011). A brief economic history of beer. In J. Swinnen (Ed.), *The economics of beer* (pp. 3–28). Oxford University Press.
- Rabin, D., & Forget, C. (Eds.). (1998), *The dictionary of beer and brewing* (2nd ed.). Fitzroy Dearborn Publishers.
- Reid, N. (2018). Craft breweries, adaptive reuse, and neighborhood revitalization. *Urban Development Issues*, vol. 57(1), 5–14. <https://doi.org/10.2478/udi-2018-0013>
- Reid, N., & Gatrell, J. D. (2016). Cluster-based economic development: Four cases for context in developing regions. In *Spatial diversity and dynamics in resources and urban development: Volume II: Urban development* (pp. 195–207).
- Reid, N., & Gatrell, J. D. (2017). Craft breweries and economic development: Local geographies of beer. *Polymath: An Interdisciplinary Arts and Sciences Journal*, 7(2), 90–110.
- Scottish Brewing. (n.d.). (<http://www.scottishbrewing.com/history/history.php>).
- Scottish Brewing Archive. (n.d.). <https://archiveshub.jisc.ac.uk/features/apr02.shtml>.
- Scottish Government. (2020). Family Food Statistics 2017/18. <https://www.gov.uk/government/statistics/family-food-201718>
- Scottish Government. (2020). Towards a robust, resilient wellbeing economy for Scotland: Report of the Advisory Group on Economic Recovery, Scottish Government. <https://www.gov.scot/publications/towards-robust-resilient-wellbeing-economy-scotland-report-advisory-group-economic-recovery/>
- Scottish Government. (2021). Just transition commission: A National Mission for a fairer, greener Scotland, Scottish Government. <https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/>

- SIBA. (2020, April). <https://www.siba.co.uk/2020/04/17/82-drop-beer-sales-covid-19-lockdown-hits-craft-breweries-hardest/>.
- Sjölander-Lindqvist, A., Wilhelm, S., & Daniel, L. (2020). Craft beer – Building social terroir through connecting people, place and business. *Journal of Place Management and Development*, 13(2), 149–162. <https://doi.org/10.1108/JPMD-01-2019-0001>
- Small Independent Breweries Association. (2019). British beer: A report on the 2018. Members Survey of the Society of Independent Brewers. Burton-on-Trent: SIBA, <https://cask-marque.co.uk/wp-content/uploads/2019/03/The-SIBA-British-Craft-Beer-Report.pdf>
- SRUC. (2018). <https://digitalpublications.parliament.scot/ResearchBriefings/Report/2018/10/11/Brewing-and-distilling-in-Scotland—economic-facts-and-figures#Tourism>.
- The Telegraph*. (2014). <https://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/11283995/The-real-reasons-for-the-tragic-demise-of-the-British-pub-industry.html>.
- Trebeck, K., & Williams, J. (2019). The economics of arrival. In *University of Chicago press economics books*. University of Chicago Press.
- Tremblay, V. J., Iwasaki, N., & Tremblay, C. H. (2005). The dynamics of industry concentration for US micro and macro brewers. *Review of Industrial Organization*, 26(3), 307–324. <https://doi.org/10.1007/s11151-004-8114-9>
- van Winden, W., & Carvalho, L. (2016). Urbanize or perish? Assessing the urbanization of knowledge locations in Europe. *Journal of Urban Technology*, 23(1), 53–70. <https://doi.org/10.1080/10630732.2015.1090194>
- Wales Breweries. (n.d.). RateBeer. <https://www.ratebeer.com/breweries/wales/0/239/>.
- Wales: Craft Beer and Brewing. (n.d.). (<https://beerandbrewing.com/dictionary/yGm5L1apEe/>).
- Wales Online. (2018). <https://www.walesonline.co.uk/whats-on/food-drink-news/secret-brewery-battle-could-kill-14510008>.
- WEALL. (2021). Tapping into a wellbeing economy: Lessons from Scotland's craftbreweries about the importance of local production, November. <https://weall.org/tapping-into-a-wellbeing-economy-new-report-explores-lessons-from-scotlands-craftbreweries>
- Woolverton, A. E., & Parcell, J. L. (2008). Can niche agriculturalists take notes from the craft beer industry? *Journal of Food Distribution Research*, 39(2), 50–65.