The Impact of product designations on innovation. The case of breweries in the United Kingdom

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Introduction

The European Union has a number of interventions which are designed to encourage diverse agricultural production, to protect product names from misuse and imitation, and to help consumers by giving them information concerning the specific character of the products. The three schemes, collectively known as Protected Geographical Status (PGS) are Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), and Traditional Speciality Guaranteed (TSG).

PDO covers agricultural products and foodstuffs which are produced, processed and prepared in a given geographical area using recognised know-how. PGI covers agricultural products and foodstuffs closely linked to the geographical area; at least one of the stages of production, processing or preparation takes place in the area. Finally, TSG highlights traditional character, either in the composition or means of production of agricultural products.

The various designations cited above are focused on regional foodstuffs and after a slow start, British food producers are increasingly using these interventions, as can be seen in Figure 1. UK Government Departments such as the Department for Environment, Food and Rural Affairs (DEFRA) (and their counterparts in the devolved administrations) merely facilitate the enforcement of the relevant European legislation. However, there is a common view by rural development practitioners that these interventions are a useful promotional tool, providing support for regional 'clusters of food producers', as well as enhancing the reputation of the region. In Figure 2 the location of registered PDO, PGI, TSG and applications in the UK is reported showing that there are 10 registered PGS (accounting for to 24% of all registered PGS in the UK) and 2 more applications in Scotland. Several contributions (most recently an Economic Impact Study of the PDO by London Economics, 2012) try to quantify the economic impact of the various forms of protected geographical status.

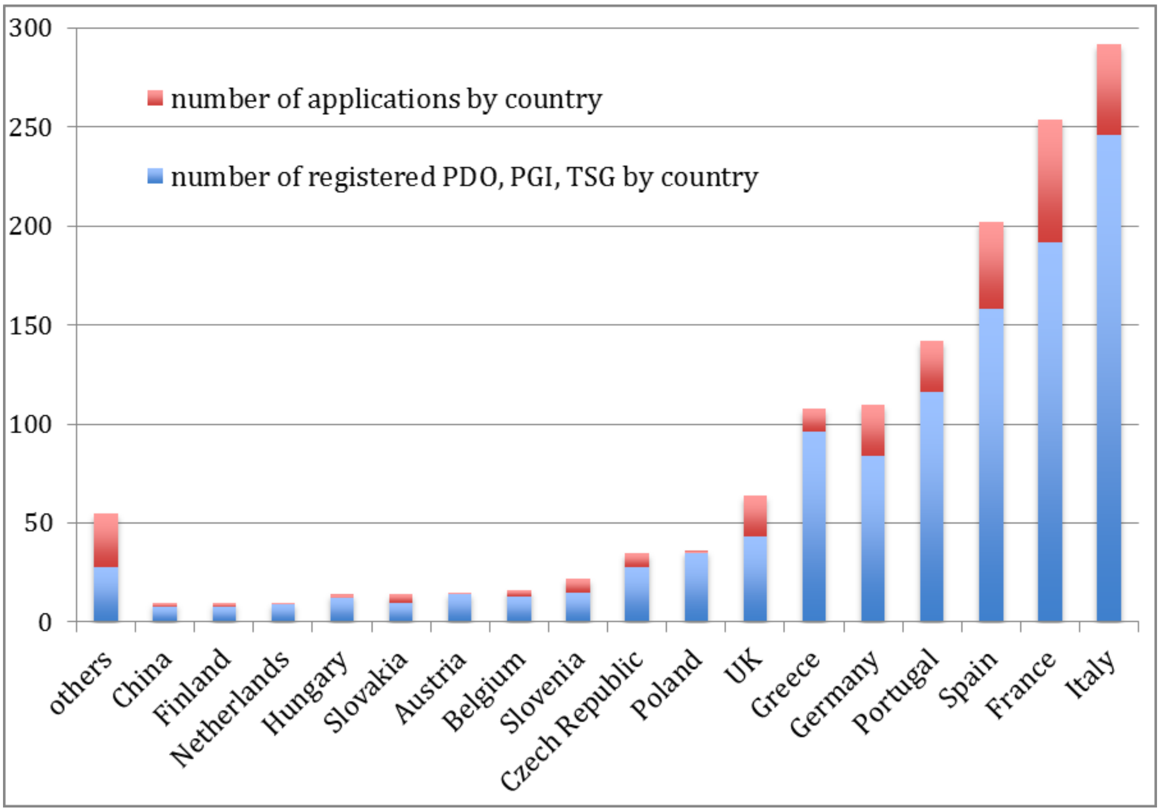
However, there has been limited analysis as to the possible impact of such interventions on the ability of enterprises to enhance their competitiveness through investment in innovation. The aim of the present work is to gain a better understanding of the impact of such policies on the types and levels of innovative activity in firms using PGS schemes.

Although a number of food designations have been initiated in the United Kingdom, the focus of this work is on breweries operating under the PGI definition as there is a definite production process unlike most of the other 25 designated food stuffs which are merely locally sourced items with limited further production (such as Comber potatoes and Devon Clotted cream). As brewing is composed of a number of key production stages, it is distinct from most of the other designated foods stuffs (which have at most two stages in their production process) and it would be anticipated that research, development and innovation would play a role in this industry.

By carrying out structured interview with participating breweries managers and other stakeholders, we seek to identify whether the PGI scheme has had any impact on innovation.

In addition, the brewing market is one of contrasting fortunes: increasing concentration in the high volume low price beer market, but also a rapid expanse in the number of micro-breweries seeking to address need in a fast growing higher price market. Again, it would be anticipated that in such a fast developing and price insensitive market, there would be significant investment in innovation in order to create difference. Only four companies participate in the PGI scheme (the majority of which operate in Kent and Rutlandshire in England), and they will be assessed to see if they comply with the micro-brewery/craft brewery model.

Figure 1: Number of PDO, PGI, TSG and applications by Country. Source: EC Door database.



We believe that the present study is relevant not only for the brewery industry, but also for other industries potentially interested in seeking PGS for their output. For example in Scotland the presence of PGI-PDO is very much concentrated on meat (beef and lamb), salmon, and cheese. This leaves many other potentially interested industries which might benefit from an impact assessment on innovation of PGS.

The industry

The U.K. beer market generated £18 billion worth of sales in 2011 with an increase of 1.1% with respect to 2010. According to Keynote (2012) lager market share in value is 71.47%, while dark beers share was 28.53% up from the 27.10% in 2008. The popularity of real, or cask ales (non-carbonated beer made with traditional ingredients) – has been key to this increase. Real ale's share of the draught beer market – served in pubs and clubs – rose from 5.8% in 2008 to 6.1% in 2010, the first increase for generations.

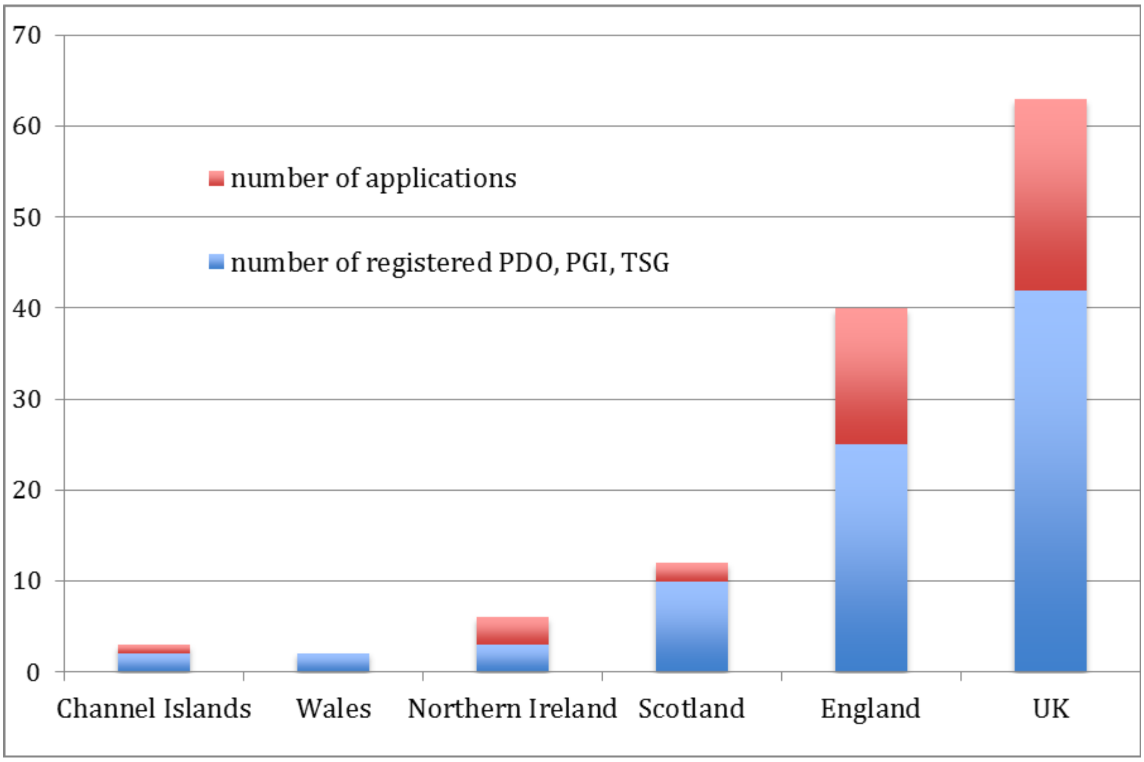
According to Oxford Economics (2012) more than 650,000 workers are directly employed in the beer and pub sector and almost 300,000 jobs are indirectly sustained by the industry. The Gross Value Added (GVA) directly attributable to the sector is in excess of £10 billion and a further £9.5 billion indirectly. In Scotland almost 73000 jobs are directly and indirectly attributable to the beer and pub industry, which also accounts for £1510 million of GVA.

Considering breweries only, more than 18000 employees work for them directly, and 87000 jobs are indirectly related to breweries. The sector also contributes almost £4 billion to the UK GVA.

The supply side

The majority of lager beers are produced by just four large breweries: Scottish and Newcastle (who produce Foster's and Kronenbourg); Coors (from the U.S.); Inbev (who produce Stella Artois, from Belgium) and Carlsberg of Denmark. These beers are produced using modern industrial brewing methods to fairly standardised recipes. This has, arguably, led to a two tier system of production, with mass produced lower quality beers supplying a large nationwide market, whilst craft brewed beers are beginning to make significant inroads in attracting customers who enjoy traditionally brewed ale.

Figure 2: Number of PDO, PGI, TSG and applications in the UK. Source: EC Door database.



There is a common perception that the brewing industry in the United Kingdom is in long term decline. According to data from the Brewery History Society, the number of distinct breweries in England fell from 1,324 in 1900 to 141 in 1975. However the figure of 141 breweries in 1975 does not give a true picture of the extent of concentration, as a large share of the industry was controlled by the 'big four' brewers. The concentration ratio or in this case the Herfindahl Index (a measurement of concentration within an industry and measured by taking the sum of the market share of all forms within the industry and squaring it) records that for brewing industry in the UK it is 2362. A HI greater than 1800 implies significant effects. This illustrates that the brewing sector is highly concentrated.

Table 1: Regional distribution of breweries in the UK.).

Regions	**number of breweries and brewing company premises**
South East	116
London	23
East	106
South West	127
West Midlands	90
East Midlands	92
Yorkshire & The Humber	105
North West	121
North East	31
Wales	47
Scotland	55
Northern Ireland	6
UK	919

Source: Oxford Economics (2012

Two essential technological factors which enabled this concentration were: (a) technical change in brewing which made the product more easily transportable; and (b) a reduction of transport costs over the last 100 years. One particular development which was particularly influential was the development of ‘keg' beer, or ‘brewery conditioned' beer which was sterilised in the brewery and had CO2 added, making it easier to transport over large distances. However this sterilisation approach has proven the great catalyst for the real ale movement, which initially went into decline, but has been subsequently re-established through the campaigning work of the Campaign for Real Ale (CAMRA). CAMRA sought to preserve real ales through a number of mechanisms: including the promotion and quality control of new/existing real ale brands and breweries, the development of new supply chains, such as encouraging the take up of real ale by bar chains and the supermarkets and finally encouraging Government support through changes to regulation and taxation. This organisation has in essence developed a new market which technology had sought to replace.

The technological factors cited earlier in turn led to a succession of mergers and acquisitions accompanied by the closure of small breweries and the relocation of production to new, large scale breweries and the substantial investments made by the four big brewers in developing national brands of beer which could be sold over the whole country. These brands could be highly standardised products with little regional variation.

However there has also been a counter trend within brewing, with a significant increase in the number of micro-breweries in the UK. The UK now has over 900 breweries, of which 700 are microbreweries which have developed since 1975. In Table 1 the regional distribution of breweries is reported, showing that 55 of them are located in Scotland.

Although these micro-breweries also produce beer, there is a perception that their product is differentiated from the beer produced by the four nationwide brewers. In short, micro-breweries are often single site operations and seek to develop a ‘local based product', which commands a higher price due to its premium quality. The real brands are considered local because there is variation in terms of either production techniques and/or sourcing of local materials. The micro-breweries in large part produce ‘real ale'. ‘Real ale' is matured by secondary fermentation in the container (cask) from which it is dispensed and is therefore a living product and is not pasteurised or filtered and no extraneous carbon dioxide is added. Although the ‘keg beer' (produced by the 4 main brewers) is brewed using the same primary fermentation process as real ale, it is subsequently pasteurised. Therefore no further conditioning can take place in the container (‘keg') from which it is served, and is known as ‘brewery-conditioned' beer.

The four dominating large brewers did not established themselves is this segment of the market. As Vaizey (1960, p. 84) highlighted, one reason for this choice is that economies of scope in brewing are of limited importance while economies of scale are very important. Berghoff et al (n.d.) state: “large batch size often hinders the major brewers' success in the craft brewed market because the production of small batches, necessary to produce the product variety and freshness demanded by craft-beer drinkers, does not fit profitably into scale production operations''.

On the other side craft brewers (the US term) and real ale brewers (UK term) obviously cannot achieve the same economies of scale in production as the big brewers. But since small batch production is the appropriate scale for real ales then small brewers don't really suffer a competitive disadvantage to the large brewers, because production of small batches doesn't really fit the business models (and large scale plant) of the large brewers. So technology can help explain the co-existence in the same market of firms of very different scale.

An essential characteristic of the new entry into the brewing market has been its greater regional dispersion, with many of the micro-breweries located in villages or even on isolated farms. An explanation is that the regional and local origins of a beer have become an important characteristic of the product in the eyes of the consumer – or, “place is what we drink” (Swann, 2006). The best-informed consumers (which thanks to Camra they mostly are) may know the production heritage of each brand of beer, but the less well informed may judge production heritage by geographical origins, hence the perceived need to use geographical indicators such as PGI/PDO.

The demand side

Both on-trade (beer consumed in the premises it is purchased on) and off-trade (beer consumed away from the place it was purchased) have witnessed troubles in recent years. The on-trade distribution channels are struggling due to regular pub closures, with approximately two pubs being closed every day. The off-trade is problematic for the industry because of falling prices caused by stiff supermarket competition, which reduces the profit margins for all businesses involved in the manufacture and sale of beer. The on trade market is particularly significant for micro-breweries as they do not have the wide distribution networks that the four leading breweries have. Due to the comparatively short life span of real ale and its highly localised nature, its distribution is often highly focused to key geographies and the number of free houses (i.e. pubs which are able to choose which beer they sell) within that area.

The rise of real ale and the growth in the number of micro-breweries was in large part driven by a consumer advocacy organisation, the campaign for real ale (CAMRA). CAMRA was set up in the 1970s by beer drinkers to campaign against the rising tide of pub and brewing closures due to the consolidation process of the big breweries. From the very start, the organisation was charged with preserving traditional methods and regional specialities and with a membership of over 95,000 and a degree of influence much greater than that, can be said to have had a significant impact on the subsequent growth of microbreweries. CAMRA has had a significant demonstration effect to the market and has created a discerning market for specialist beers in the UK that appreciate the qualities of real ale and appreciate regional and local variety.

In addition, to PGI/PDOs, the real ale sector has developed a number of awards/quality symbols of its own (such as the Annual National and Regional awards run by CAMRA and organisations such as Federation of Small Brewers and various supermarket awards), these not only promote new and emerging brands to both established and new markets (particularly the supermarket awards) but also provide an element of quality assurance to consumers. Award winning beers often command premium prices.

Product designations and its economic impact

Product designation or Protected Geographical Status is a legal framework defined in European Union Law to protect the names of regional foods. Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG) are geographical indications within the framework. The law ensures that only products genuinely originating in a specified area are allowed to trade under a certain name. The purpose of the law is to protect the reputation of the regional foods and eliminate the unfair competition and misleading of consumers by non-genuine products which may in some way be inferior. Only products which meet the various geographical and quality criteria may use the protected indication.

Protected indications are treated as intellectual property rights by the Customs Regulation 1383/2003 and infringing goods may be seized by customs on import. The preamble to the Regulation cites consumer demand for quality foodstuffs and identifies a number of goals for the protection regimes, including:

a) the promotion of products with specific characteristics, particularly those coming from less favoured or rural areas;
b) the improvement of the income of farmers, in return for a genuine effort to improve quality;
c) the retention of population in rural areas; and
d) the provision of clear and succinct information to consumers regarding product origin.

The rationale for granting any intellectual property rights is the furtherance of the public interest. Product designations are used to balance competing interests in the market place, to protect consumers from misinformation and producers from ‘unfair’ business practices.

The protected designations of origin (PDO) and protected geographical indications (PGI) govern definitions for food and certain other agricultural products. The label Traditional Speciality Guaranteed (TSG) is a similar protected term which does not impose any restrictions on the geographical origin of the product.
The Protected geographical indication is the name of an area, a specific place or, in exceptional cases, the name of a country, used as a description of an agricultural product or a foodstuff:

a) which comes from such a specific area, place or country;
b) which has a specific quality, goodwill or other characteristic property attributable to its geographical origin; and
c) whose production, processing or preparation takes place within the determined geographical area.

To receive the PGI status, the entire product must be both traditionally manufactured and at least partially produced within the specific region and thus acquire unique properties.

The PDO is more specific about the method of production and like the PGI is also linked to a specific geography. The guidelines specify that a product does not receive product designation protection only because of its point of origin but it must also comply with a given set of criteria related to content and production methods. These practices reflect local tradition and if they became extinct, it would mean the end of an associated method of production. However, the maintenance of production methods is not enough, there is a need to ensure potential consumers are aware of the ‘uniqueness of the product’ and so they must be provided with accurate information related to this history and point of origin.

Finally, the Traditional Speciality Guaranteed (TSG) is a trademark for an agricultural product or a foodstuff and must be manufactured using traditional ingredients or ‘must be characteristic of its traditional production process'. Unlike PGI/PDO status, TSG does not have to be manufactured in a specific geographical area.

Enforcement (of the rules cited above) is carried out by Member State authorities, acting within rules laid down at EU level (Article 10 of Regulation 510/2006). Article 10 designates competent authorities to take responsibility for ensuring that the obligations are met. In the UK, the application process is administered by an independent consulting company commissioned by the Government (Food from Britain), which receives applications, liaises with applicants and helps with the completion of those applications.

Economic Impact of product designations

The central economic contention of product designations is that it is in the interest of a producer to try in some way to differentiate their product/s from those of others. This has traditionally evaded producers of agricultural products usually due to perceived expense. Product designation may provide producers with a new or an extra means to identify their products as distinct and thereby attract further purchases from consumers. This may be particularly important for small scale producers who may not have the necessary means to promote the individual brand at the national/international level.

A study by the OECD (1995) identified a number of factors that influence the success of small, rural enterprises that target niche markets. The two main factors that emerged were: market access and differentiation. The study found that an approach to addressing these factors is to work collectively (i.e. groups of enterprises operating in the same sector) in order to develop a competitive advantage.

These groupings of enterprises (or in the case of PGIs may be individual enterprises) exhibit the characteristics of a monopoly in that they segment the production market and erect barriers on producers which limit entry at two levels. First, only producers within the demarcated area qualify for participation and secondly, only producers who comply with the code of practice may be involved. These institutional barriers facilitate the formation of a monopolistic cartel which encompasses all producers within the designation who comply with the code of practice. However, for producers located within the designation, geographical indications retain local, public good characteristics of non-rivalry and non-exclusion. By limiting entry and functioning as a barrier to trade, these collective monopolies thus eliminate competition from similar products produced elsewhere, thereby improving market access for those producers entitled to use the designation.

The product designations can be viewed as being both protectionist and a market based tool encouraging local companies to trade internationally. The PGI can be construed as creating a market where none previously existed. In terms of the beer market, it may be viewed as 'creating an ethical food market' based on the initial premise of preserving local tradition and utilising local materials.

Linked to this creation of a new market is that the PGI definition provides an opportunity to nurture infant companies, as it provides a form of protection against further new entrants or for existing companies to differentiate their production methods to address the new market. In addition, the localised sourcing of the materials (based on the tight geographical definition) brings with it discernible advantages to localised sourcing and the development of strong local supply chains, which is only trading with those companies that comply with the PGI definition. Finally, through stimulating so many new starts there is an opportunity to enhance overall competition within the highly concentrated beer market, through the development of strong niche products.

Product designation is a legal framework defined to protect the names of regional foods. There are four possible functions for geographical indications, the first of which is an origin function, with designations being used as an indicator of the origin from which the products come. The second function relates to a quality function, with designations symbolising qualities which certain products have or which consumers associate with them. The third such function relates to the investment or advertising function, where designations are variables upon which investment/consumption decisions are made. Finally the culture-protecting function of designations achieved by preserving traditional production methods, habits of consumption and cultural identity. PDO/PGIs first and foremost defend the geographical name of the protected products against misuses, such as lowering of quality which may either harm the health/satisfaction of the consumer or cause harm to the reputation of the product type through its replacement with an inferior product. The PDOs also have the potential to 'steady commercial relations and reducing uncertainty on the trade of the goods, particularly to distant markets, where there is an awareness of the product type, but who do not have an existing trading relationship with particular companies. This ability to market the product to new or premium markets brings with it the potential to gain a higher premium price than non PDOs or PGIs as they facilitate the opening of new commercial channels, particularly with foreign large based retailers or through the collective product promotion thanks to the presence of a collective organisation in charge of organising, defending and promoting the PDO or PGI production system represented.

It is clear that the impact on innovation has not been considered in either the initial development or the subsequent implementation of the PDO/PGI scheme. Therefore, any impact on innovation by the scheme would be viewed as entirely incidental and would not be recorded as a matter of course in any impact analysis.

Innovation

The economic literature has identified the importance of innovation to the continued competitiveness of the enterprise and the growth of economic systems. There is therefore general consensus that innovative activity is the driving force of change and growth. The definition of innovation, however, should not be restricted to scientific and technological change only. It is a concept applicable to any dimension of firms' structure, for example to organization as well as managerial innovations.

Economic theory suggests that there is not a linear relationship between size of the company, competitive market structure, and the propensity to innovate. High levels of competition, as well as monopoly, do not provide the best environment for innovation. Intermediate level of competition seems to favour more innovative activity (Tirole, 1988). Markets operating under oligopolistic competition are therefore more supportive of investment in innovation. Given that the PDO scheme favours differentiation and therefore some form of oligopolistic competition, the question must be posed as to the balance between the protection afforded and the restrictions of activity that can be supported. In addition to Tirole's analysis of the impact of size and market concentration on the propensity to invest in innovation, Kamen and Schwartz (1982) and Mansfield (1983) have identified a number of other factors which may possibly impact on decisions to invest in innovation. These are:

a) Current and expected profitability of investments;
b) The rate of diffusion of good practice into the enterprise;
c) The ability of the owner/manager to put innovation into action; and
d) The impact of external constraints such as regulation and labour regulations.

The Community Innovation Survey (CIS) for the UK has been used to provide a benchmark in the assessment of the variables affecting the decision to invest in innovation on a cross sectoral basis. The CIS was conducted in the UK by the Department of Trade and Industry and had a reference period of 1994 to 1996 and had the aim of explaining the drivers of innovation in manufacturing as well as in the service sector. Over 70% of medium high and high technology firms introduced new products compared with 53% of medium-low tech and 46% of low technology firms doing product innovation. For process innovation the report identifies that there is much less of a division between high and low technology industries and a substantially lower proportion of companies overall has done it. Also for organisational innovation (such as the introduction of email, Investors In People and benchmarking schemes) there is no significant difference between low tech, medium low tech and medium high technology industries with only enterprises in the high technology category being more innovative than the rest. For organisational innovation the proportions of firms in all groups answering that they were undertaking it was much higher than other forms of innovation. Some 70% of low technology firms (such as brewers) engaged in organisational innovation. The report identified that medium high and high technology industries rely more markedly on internal resources for both product and process innovation than do the lower technology industries.

The Brewing sector has traditionally been thought of as a low technology industry. Therefore, following the CIS report findings, it would be anticipated that microbreweries:

1. Are less likely to do product innovation;
2. Have a tendency to do process innovation; and
3. Tend to the implementation of certain types of organisational innovations, such as the use of ICT and benchmarking systems to track the performance of competitors as well as use of schemes such as Investors In People.

These hypotheses related to low technology industries such as micro-breweries (and for the impact of the scheme) will be subsequently assessed in the findings section.

Methodology and findings

The focus of this study is to assess the impact of PDO designation on the ability of breweries participating in the scheme to undertake innovation. The methodology has been designed to take on board a triangulation approach, first checking the hypotheses from the economic literature and the findings of the CIT report with primary research data obtained from the four participating companies and other stakeholder organisations, including relevant sector bodies (CAMRA and SIBA); and the Certification bodies operating on behalf of DEFRA.

Given both the small number of potential stakeholders and participating companies and the highly qualitative form of the information to be collated, it was felt that the most appropriate survey method was the use of semi structured telephone interviews. Owing to commercial sensitivities only aggregated (anonymised) responses are reported in the following paragraphs.

Size

A natural assumption about the size of companies in receipt of PDO/PGI would be small scale microbreweries producing between 5,000 -30,000 hectolitres of beer per year and employing on average 15 staff. Of the approximately 900 microbreweries in the UK some 90% would be of this scale. The four beers protected under PDO/PGI are:

- Kentish Ale and Strong Kentish Ale;
- Rutland Ale; and
- Newcastle Brown Ale.

However, three of the four PDO/PGIs are under the control of larger scale breweries, with one (Newcastle Brown Ale) belonging to the Heineken Brewing Group. Rather than PDO/PGIs being the preserve of small scale micro-breweries, for three of the four examples they are part of a wider portfolio of beers. But the original contention remains in place, whether there is an impact on innovation of participating in the PDO/PGI scheme. The three participating companies are potentially illustrative of large, medium and small scale breweries operating in the UK.

Rationale for being involved in the scheme

A number of the respondents stated that the decision to enter the scheme was determined over a decade previously. At the time of choosing to enter the scheme, it was felt that there was a need to demonstrate the traditional nature of the product through an internationally recognised accredited scheme, particularly as it was viewed as being important to enter new export markets in continental Europe and the US.

The PGI scheme was believed to have the necessary accreditation and was judged to be sufficiently international as to assist entry into the aforementioned markets. However, the importance of the scheme to the marketing strategy within the various companies has declined in recent years, as there is neither the domestic nor international awareness of the PGI to make it sufficiently cost effective as a centre piece of any brand specific promotional campaign.

The respondents stated that the PGI scheme no longer carried the premium they originally thought it would have within their industry. Rather the various respondents stated that they now promote the quality of their brands using other industry specific awards and merely continue to use the PGI marque on their bottles as a legacy of their previous strategy.

Innovation

The respondents themselves tended to be from a range of technical and professional backgrounds and thereby provided definitions of innovation wider than simply those related to investment in new products and processes. They also identified organisational innovations such as the introduction of new management systems. Although investment in new products and processes were important to the wider company and the regulated brand, such as improvements to bottle design and production techniques, the majority of innovative activity was non drastic and had minor incremental improvements to internal processes such as performance monitoring, new marketing initiatives (use of CRM systems) and adoption of new financial reporting structures.

Each of the participating companies within the Scheme had also introduced other complementary brands to their product range since joining the Scheme, which were marketed in conjunction with the participating brand even though they did not comply with the PGI Scheme.

Competitive environment

Each of the respondents stated that they have a portfolio of brands of which the participating brands is merely a small part. However, the portfolio of brands represents a clear market segmentation. Although each of the respondents recognised the other participating brands (to the scheme) these were not seen as the main competitors, rather they were just part of a very crowded market, which was divided into roughly three key segments: namely distribution through own tied houses (pubs owned by the brewery), distribution through free houses (pubs which are independent of the breweries) and distribution through the large supermarkets.

Each of these distribution networks brings about its own issues and a differentiated level of importance for quality schemes such as the PGI. In their own tied houses, these tend to be clustered in certain regions and the PGI beers are actively promoted to a very well informed local audience who know the history and heritage of the brand and are willing to pay a premium for it. This is perhaps the market segmentation for which the PGI marque is the most important, but is also the one with the least potential growth (the target group tends to be male and middle aged, significantly loyal to a brand with little switching).

However within the other two distribution approaches, free houses and large supermarkets, the PGI marque is of less importance compared to other variables such as brand recognition to individual customers (usually through brand specific advertising or winning awards) or the development of cost effective distribution agreements with these bodies.

The supermarket sector is seen as the most important for future growth and all respondents have sought to develop new working arrangements (such as improvements to their distribution networks and customer relationship management tools) to strengthen these relationships. Although the brand still brings a premium, it is promoted within the shops and the national media as one in a portfolio of complementary products.

Investing in innovation

Respondents stated that the scale of their enterprises meant that external sources of finance were not used for their standard investment in innovation. Rather most innovation was not usually capital intensive but was about incremental changes to processes and services delivered by the company. Given the nature of this mature sector, most significant capital investment was due to replacement due to end of commercial life, rather than investment in new ‘kit’ as a result of significant innovation/change in production method.

Although respondents did not give exact figures on expenditure related to research and development, they stated that this was relatively low compared to expenditure on new initiatives such as the adoption of new management systems (in particular, new marketing initiatives).

Complying with the ‘approved definition’ and innovation

Respondents stated that what went into the bottle or cask could not be changed, either in production method, sourcing of raw materials or location of production due to the approved definition. However, this was only a small part of the total production process (in terms of costs and added value) and that the definition did not constrain them in areas where they most heavily invest in innovation (both financially and in time) such as improvements to marketing and distribution. The PGI status was not seen as a limitation to innovation, rather it was as constraining as any of the other recipes which they used to prepare beer and with such a knowledgeable market (both in terms of supermarket purchasing managers and the buying public) there was little opportunity or rationale to change production methods.

Respondents all cited the Newcastle Brown constraint, regarding relocation, which might in the future prove difficult to abide with, however the geographic interpretation was at the county level rather than site specific.

Summary and conclusion

The preamble to Regulation 1383/2003 set the following objectives for product designation, including:

- the promotion of products with specific characteristics;
- the improvement of the income of farmers;
- the retention of population in rural areas; and
- the provision of clear and succinct information to consumers regarding product origin.

As in other sectors, participants of the real ale designation are promoting a product which is traditional and is constrained in its production process, use of raw materials and geographical location. It therefore complies with the spirit of the first objective of the Preamble. However, these are only one small part of the overall process of adding value within beer production, as in common with most other lifestyle the majority of the added value comes from the marketing and distribution of the beer.

Unlike other sectors, the participants of product designation in the brewing sector are not small scale, artisan ran businesses, rather they are large scale, technically sophisticated and often with a large professional workforce. The impact to farmers is through the local supply chain for raw materials, which accounts for only a small part of the total costs of the production process and given the scale of the breweries, purchasing power rests with them. Although there is a geographical constraint on the sourcing of raw materials, the materials themselves (water, hops and barley) are easily sourced from other locally based suppliers, thereby weakening any bargaining position on the part of farmers.

Breweries had their origins in local communities and sourced their workforce from the surrounding farms and villages. However, the increasing scale and professionalism of breweries and particularly of those participating in the scheme does not provide opportunities for the local sourcing of direct employment. Where there is an impact on retention of local population is through local supply chains, including the use of local farmers. However, unlike other PDOs/PGIs the direct employment opportunities and consequent impact on retaining population is minimal.

The original rationale for companies seeking to participate in product designation was similar to that cited by respondents to the London Economics report, which stated that PDO/PGIs were entered into for:

> '*economic reasons such as marketing, gaining/securing market share to keep businesses viable or profitable through the protection of the use of names or sending quality assurance signals to consumers.*'

In common with other sectors, consumer awareness of PDOs/PGIs within the brewing sector is low and for a sector as competitive as the real ale sector, there is a need to augment brand recognition and sending quality assurance signals to consumers through additional marketing. Unlike a decade earlier, the brewing sector now has a number of quality assurance / awards schemes which are better known to the target markets for real ale than PDOs/PGIs and so have largely superseded them.

In summary, the PDOs related to real ale in the UK do still comply with the objectives of the scheme, but the participants are very distinct to those who use the scheme in other sectors. Those participants are small scale, locally based artisan businesses who have a direct impact on farmers' incomes, retention of population and provide clear messages to the buying public as to quality and source. The real ale sector is a modern business in the guise of an artisan enterprise.

Returning to the central contention of this report, the impact of product designation on the capacity of breweries to undertake innovation, the simple answer is that it is minimal. The sector (and the individual participant companies) is of a scale and level of sophistication in which innovation is all pervasive, although production methods, raw materials and location are constrained they are but a small part of the overall process. Rather most innovation relates to improvements to process and service, which are driven by a need to meet the demands of an increasingly dominant market (the supermarkets) and is facilitated by a highly mobile and professional workforce which has the opportunity to identify emerging trends and the absorptive capacity to put the necessary innovations into practice. Product designation within the brewery sector is a legacy of a previous initiative, rather than a constraint to future innovation.

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