

# **What's in a name? The impact of Geographical Indications of Origin on producer growth and food heritage**

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## **What's in a name? The impact of Geographical Indications of Origin on producer growth and food heritage**

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## ABSTRACT

Post-Brexit the UK government has committed to the implementation of a new UK system of Protected Food Names (PFNs). These will replace the EU Geographical Indications of Origin (GI) regulations for sales in the UK market. GIs, and potentially PFNs, can have significant benefits. Here, we combine case study and econometric methods to consider GIs' impact on preserving and strengthening food heritage and producer growth. Our case study analysis suggests that GIs can play an important role in the heritagisation of food products although this depends critically on a range of operational factors. Our econometric analysis is limited to a small number of factory-based GIs and small number of producers for which longitudinal data is available. Using a Propensity Score Matching-Difference in Difference approach suggests that the GIs we consider have had no significant growth effects on producers over two years but may have longer term employment growth effects over four years. We find no evidence of any significant longer-term sales effect. This may reflect relatively low levels of consumer awareness of GI labelling in the UK and potential overlaps between GI labels and producers' own branding. Significant caveats apply to our econometric analysis but our results suggest there is limited justification in terms of producer growth for any significant increase in the number of GIs through the Protected Food Names scheme post-Brexit. More persuasive arguments for increasing the number of PFNs in the UK relate to the preservation of food heritage and, when combined with other local support mechanisms, their potential contribution to local food and drink tourism.

**Keywords:** Geographical Indications, Protected Food Names, Food heritage

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## **CONTENTS**

<b>ABSTRACT .....</b>	<b>3</b>
<b>CONTENTS .....</b>	<b>5</b>
<b>1. INTRODUCTION .....</b>	<b>6</b>
<b>2. LITERATURE REVIEW .....</b>	<b>9</b>
2.1 Food heritagisation through Geographical Indications .....	9
2.2 Economic benefits of GIs .....	12
<b>3. DATA AND METHODS .....</b>	<b>13</b>
3.1 Case studies .....	13
3.2 Econometric analysis.....	14
<b>4. FOOD HERITAGE EFFECTS OF GIS.....</b>	<b>16</b>
<b>5. PRODUCER GROWTH EFFECTS OF GIS.....</b>	<b>20</b>
5.1 Local unit analysis .....	20
5.2 Firm-level analysis .....	21
<b>6. DISCUSSION AND CONCLUSIONS .....</b>	<b>22</b>
<b>REFERENCES .....</b>	<b>47</b>

## 1. INTRODUCTION

Since 1992, and the first legislation covering Protected Geographical Indications (PGIs) and Protected Designation of Origins (PDOs), the EU has provided protection for specific agricultural products and foodstuffs. Inspired by the French AOC (*Appellation d'Origine Contrôlée*) and Italian DOC (*Denominazione d'Origine Controllata*) systems, protection is typically related to products linked to a specific geography, traditional manufacturing activity and environment (Cannarella and Piccioni 2011). As Conneely and Mahon (2015, p. 15) neatly summarise 'the principal rationale behind gaining GI certification for a food product is that it adds value for the specific geographical region to which it pertains. It enables producers to realise the value of a unique form of symbolic capital that is tied to local place-based attributes; in other words, associations with rurality and socially-constructed, value-laden concepts of tradition, authenticity and health ... that offer consumers certain recognised quality certifications and that also deliver additional social and economic benefits to rural areas'. Post-Brexit, UK producers' access to the European GI scheme will change and the UK government have committed to introducing a new Protected Food Names (PFN) scheme covering UK food sales. Here, drawing on a number of case studies of UK GIs and an econometric analysis of effects on producer growth we consider the potential benefits of a new PFN scheme.

Our starting point is the EU GI scheme which is based on the *sui generis* principle that gives producers within a specific geographical area an inviolate right to product protection (Vivien and Bienabe 2017). European GIs are of three types each of which is represented in the UK and which have different links to aspects of food heritage. Protected Designation of Origins (PDOs) are the most demanding GI designation requiring that agricultural products or foodstuffs are produced, processed and prepared in a specific geographical area, using recognized know-how. Of the 73 registered UK GIs, 27 are PDOs including Welsh Laverbread, Isle of Man Manx Loaghtan Lamb and a range of locally produced cheeses including Single Gloucester (Table 1)<sup>1</sup>. 'Welsh Laverbread', for example, is made from a specific type of seaweed and was awarded its PDO in 2017 based on the uniqueness of the product and the tradition of manufacture in coastal Wales<sup>2</sup>. Protected Geographical Indications (PGIs) have less stringent product requirements and require that

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<sup>1</sup> <https://ec.europa.eu/agriculture/quality/door/list.html>. Accessed 2<sup>nd</sup> January 2020.

<sup>2</sup> [Official Journal C15 17.01.2017](#)

some stage of the production, processing or preparation of a product occurs in a specific area although raw materials used do not need to come from the locality. There are 42 registered UK PGIs including Traditional Welsh Perry, Carmarthen Ham, and Yorkshire Wensleydale (Table 1). 'Yorkshire Wensleydale', for example, was granted its PGI status in 2013 and is a creamy-white cheese with 'a firm but forgiving, flaky, open textured appearance'. PGI status was granted on the basis of a documented history of farmhouse cheese manufacture in Wensleydale stretching back to the middle-ages although there is no requirement on the geographical origin of the milk used in the manufacture of Wensleydale<sup>3</sup>. Finally, Traditional Speciality Guarantees (TSGs) cover products and foodstuffs produced using traditional materials, production methods or composition without any element of geographical specificity. There are currently four registered UK TSGs including Traditionally Reared Pedigree Welsh Pork and Traditional Bramley Apple Pie Filling (Table 1). 'Traditional Bramley Apple Pie Filling' was awarded TSG status in 2015 based on the specific characteristics of the Bramley apple (and the associated recipe) but without any specific geographical linkage.<sup>4</sup>

Comparing the absolute number of European GIs awarded for food products in the UK to that in other EU economies suggests that the number of GIs in the UK lags that in other major EU economies and also some smaller countries such as Greece (Table 1). Awards of the more stringent PDOs and PGIs, which may be more strongly linked with localised food heritage, are also less prevalent in the UK than in other major EU economies (Table 1). Despite this, total sales of GI products in the UK in 2010 were estimated at €5.5bn or 6.2 per cent of total UK food and drink production (EU, 2012, Table 9, p. 24). Only around 19 per cent of UK GI sales were food and drink products, however, with the remaining 81 per cent dominated by spirit sales (EU, 2012, Table 6, p. 18). In terms of food and drink sales of GI products this comprised: 9 per cent fresh meat, 2 per cent cheese and 9 per cent other products (EU, 2012, Table 14, p. 32)

GIs have attracted significant academic attention but as Dias and Mendes (2018) bibliometric review suggests the vast majority of research on GIs focuses on food science and technology and considers the relationship between agricultural products and final

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<sup>3</sup> [Official Journal C231 09.08.2013](#)

<sup>4</sup> [Official Journal C80 07.03.2015](#)

outputs (e.g. milk characteristics and cheese ripening characteristics)<sup>5</sup>. A number of studies have, however, considered consumers' perceptions of traditional food and GIs and provide evidence that consumers do value GI labelling and that this can be reflected in pricing. Two recent meta-studies (Deselnicu et al. 2013; Leufkens 2018) both suggest that on average GI labelling does lead to a sales price premium although this differs widely between products, types of GI and levels of consumer recognition (EU 2012)<sup>6</sup>. Research on GIs in the UK has, however, been limited with none of the 501 studies considered in the recent survey by Dias and Mendes (2018) relating to the UK.

Here, drawing on recent UK experience we combine case-studies and an econometric approach to consider the potential benefits of GIs for preserving and strengthening food heritage and producer growth. We regard food heritage as important both because of its intrinsic value but also because of the potential contribution of traditional food products to the preservation of local culture as well as contributions to social cohesion (Quintero-Angel, Mendoza, and Quintero-Angel 2019) and tourist development (Jimenez-Beltran, Lopez-Guzman, and Santa Cruz 2016). As Everett and Aitchison (2008, p. 150) remark food tourism can play a significant role in 'strengthening a region's identity, sustaining cultural heritage, contesting fears of global food homogenisation and facilitating the regeneration of an area's sociocultural fabric'.

The argument develops as follows. In Section 2 we briefly review existing evidence on the heritage and economic benefits of GIs internationally. Section 3 describes our case study and econometric approaches. Our case study analysis focuses on aspects of food heritage and relates to six UK GIs chosen to reflect a range of product categories (Newmarket Sausage, Traditional Cumberland Sausage, Melton Mowbray Pork Pie, Staffordshire Cheese, Buxton Blue Cheese and Herefordshire Cider). Our econometric analysis focuses on producer growth in five factory-based GIs for which it is possible to obtain longitudinal data on producer performance (Newmarket Sausage, Cornish Pasty, Traditional Cumberland Sausage, Melton Mowbray Pork Pie, Staffordshire Cheese). In more technical terms, we use a Propensity Score Matching-Difference-in-Difference approach which is

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<sup>5</sup> Alegria et al. (2012) for example, examine the micro-biology of starter cultures in Oscypek a traditional Polish scalded-smoked cheese with PDO status. Similarly, Delgado et al. (2010) consider the aromatics produced during ripening by Torta del Casar, a Spanish soft cheese with PDO status.

<sup>6</sup> EU (2012), for example, estimated the highest value premia at 2.96 for GI pasta, 2.54 for GI bread and bakers products, and 1.85 for other animal products. Lower premia were evident for oils and fats 1.43 and mineral water 1.38 (EU, 2012, Table 37, p. 73).



generally regarded as econometric best practice for policy impact analysis<sup>7</sup>. Data is taken primarily from the Business Structure Database (BSD) which provides longitudinal annual employment and turnover and background information on all UK firms. Sections 4 and 5 respectively detail our case study and econometric results. Section 6 summarises our main findings and considers the implications for policy towards Protected Food Names post-Brexit.

## 2. LITERATURE REVIEW

The international intellectual property (IP) protection of food products was institutionalised in the 1994 World Trade Organisation Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement. The TRIPS agreement provides minimum rights to protect against misleading practices or unfair competition but is only ‘weakly prescriptive’ about protection regimes and public support. This has led to a wide variety of institutional approaches to the implementation of geographical indications (GIs) across different countries: legalistic (and in some respects more demanding than TRIPS) in the EU and more permissive in the US and global South (Marie-Vivien and Bienabe 2017). In the US, for example, geographical indications provide a guarantee of area of origin without any associated claim on quality (Menapace and Moschini, 2012). In Europe a *sui generis* approach has been adopted, regarding producers in a specific locality as having an inviolate right to product protection. Marie-Vivien and Bienabe (2017 p. 3) comment: ‘The rationale is protecting the collective asset represented by a product reputation embedded in and derived from a localised cultural heritage’.

### 2.1 Food heritagisation through Geographical Indications

Local heritage ‘whether it be an object, monument, inherited skill or symbolic representation, must be considered as an identity marker and distinguishing feature of a social group ...[it] preserves the cultural and social identity of a given community’ (Bessière 1998, p. 26). Culinary and food heritage plays a part in this type of local identity with links to other aspects of local history, the availability of specific ingredients and local cooking

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<sup>7</sup> See for example the Innovate UK Evaluation Guide, 2018, p. 29. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/681741/17.3253\\_Innovate\\_UK\\_Evaluation\\_Framework\\_RatherNiceDesign\\_V2\\_FINAL\\_WEB.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/681741/17.3253_Innovate_UK_Evaluation_Framework_RatherNiceDesign_V2_FINAL_WEB.pdf). We have used this approach recently in an impact evaluation of the effects of UKRI support on business growth and performance (Vanino et al. 2019).

traditions. Heritagisation is then the process by which a particular cultural artefact whether tangible or intangible becomes a concrete part of the recognised heritage of a particular group or locality. This may involve a process of conservation, curation, research and socialisation which gives heritage objects a particular social meaning and potentially economic value (Bessière, 1998). For example, food items and culinary traditions have been included in the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage since 2010 under the heading of traditional craftsmanship (Lixinski 2018). 'Traditional Mexican cuisine' was the first entry to the list in 2010 along with 'Gingerbread craft' from Croatia and 'Gastronomic meal of the French' (Iomaire 2018). More recent food related entries on the UNESCO list have tended to be more specific with a number reflecting traditions under threat. It is notable, however, that while 178 countries are Parties to the Convention for the Safeguarding of Intangible Cultural Heritage this does not include the UK<sup>8</sup>.

However, as Guan, Gao, and Zhang (2019, p. 3). comment 'food heritagisation is far from a technical development process, but is a contested and negotiated social process in which various actors seek to articulate certain foodstuffs as heritage for their own benefits'. Guan, Gao, and Zhang (2019) illustrate the potential tensions with the example of Yuanjia Village in China in which the local Party Secretary instituted a 'snack street'. This provides traditional foods and proved successful in attracting a flow of new visitors to the village significantly benefitting the food producers and 'resulted in a huge income gap between food operators and ordinary villagers, and furthered psychological imbalance among ordinary villagers' (p. 10). Developing co-operatives designed to share the benefits of tourism proved contentious but ultimately successful in engaging villagers in the food tourism enterprises and sharing the benefits. Two further illustrations of the potentially contentious nature of food heritagisation through the European GI scheme are provided by Wifellz (2013):

- In 2007, Loukoumi Geroskipou – a soft sugar sweet similar to Turkish Delight - was granted a PGI on the basis that the product had been produced in a Cypriot village for over 100 years<sup>9</sup>. The grant of the PGI was contentious with one Turkish factory

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<sup>8</sup> Recent analyses of intangible cultural heritage in the UK have suggested the potential value of adopting the UNESCO convention or similar approaches to safeguarding intangible cultural heritage (Harrison 2019).

<sup>9</sup> See <https://ec.europa.eu/agriculture/quality/door/registeredName.html?denominationId=841>.

owner being quoted as saying: 'this dessert is known as Turkish delight in the global market. Greek Cypriots do not even know how to produce this sweet, whereas Turks have been manufacturing lokum since the early times of the Ottoman Empire' (Wifellz 2013, p. 271).

- In 2009 a PDO application for Halloumi cheese was developed by a consortium of large-scale Cypriot producers based on a recipe utilising only cows' milk. This contradicted local custom in which Halloumi was typically based on a combination of cows' milk and goats' milk. After considerable local controversy over the recipe the application was withdrawn in 2012 (Wifellz 2013, p. 271)<sup>10</sup>.

Other GI development processes have been more positive. Quinones-Ruiz et al. (2017) document the eight-year development process of the Sorana Bean GI which worked effectively as a collaborative venture due to the small number of producers involved. Interestingly, however, the final product specification includes restrictions that 'impede the adoption of modern farming techniques [However,] the GI process fostered the motivation to produce high-quality beans and increased the local pride of producers ... boosted the reputation of Sorana bean, favouring its direct marketing ... and opened up the access to new markets and marketing channels' (Quinones-Ruiz et al. 2017, p. 183-4). This, in turn, led to positive benefits in terms of sustainability and the value of other local agricultural products. These positive downstream benefits of GIs have also been noted elsewhere with benefits for producers and consumers (Jena and Grote, 2012).

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<sup>10</sup> A revised application for a PDO for Halloumi cheese has now been accepted and published (although not yet registered) containing the following provision: 'Milk (fresh sheep or goat's milk or a mixture thereof, with or without cow's milk added), rennet (but not pig rennet), fresh or dried Cypriot mint leaves (*Mentha viridis*) and salt. The proportion of sheep or goat's milk or the mixture thereof must always be greater than the proportion of cow's milk. In other words, when cow's milk is used in addition to sheep or goat's milk or a mixture thereof, the proportion of cow's milk in the Halloumi must not be greater than the proportion of sheep or goat's milk or the mixture thereof'. (Official Journal, 28.7.2015, 246/9, paragraph 3.3).t

## 2.2 Economic benefits of GIs

Once in place a GI may convey notions of product quality with implications for consumer acceptability, demand and pricing (Sylvander and Allaire 2007). In their meta-analysis of the price premium for GI labelled food and drink products, for example, Deselnicu et al. (2013) find an average percentage sales price premium for GI labelled products of 15.1 per cent although this varied widely between products (standard deviation 26.1 per cent). Sale price premiums were lower where alternative means of differentiating products such as branding and trade marks were relevant and higher where stricter forms of GIs were involved<sup>11</sup>. These results are confirmed by the more recent meta-analysis by Leufkens (2018) which again highlighted the heterogeneity between GIs and the variability of margins between varieties of GI. On average PDOs generated a price premium of 26.6 per cent compared to 8.7 per cent for PGIs. Leufkens (2018), p. 2852 concludes that ‘A sui generis European regulation for GIs, with reference to a clear quality signal (i.e. label) does not appear to be justified given the large heterogeneity between the individual GI products found in this meta-analysis study’. In other words, there is little evidence that European GIs provide a consistent indication of quality which is persuasive and creates a consistent price premium.

The economic benefits of GIs may flow beyond consumers and producers, however, to local communities and supply chains and include local employment creation and agro-tourism. Such benefits arise because GIs are a marketing and promotional tool which may help to overcome problems of information asymmetry and consumers’ uncertainty about product quality or authenticity (Rangnekar 2004). This may have benefits for local food tourism, particularly where heritage foods recognised through GIs are promoted through other localised development strategies (Bramley and Bienabe 2012). GIs may also generate social capital among producers leading to improved product quality and environmental improvements (Quinones-Ruiz et al. 2017). However, these benefits may be offset by the tendency of GIs to lead to ‘cartelisation’ through co-operation between

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<sup>11</sup> Stricter PDOs typically require local ingredients as well as local production and may therefore be more costly to produce. Less tightly regulated PGIs may draw on sources of inputs beyond the locality.

producers which may result in artificially high prices or more limited supply (Crespi and Marette 2003). Technical or legal issues can also arise which mean that the specification of the GI itself may weaken its economic benefits.

### **3. DATA AND METHODS**

#### **3.1 Case studies**

The objective of our case studies was to identify the potential contribution of GIs to preserving food heritage in the UK and to identify any related economic and social benefits for producers and consumers. We follow other studies in this literature (e.g. Wifellz 2013; Quinones-Ruiz et al. 2017) by adopting a multiple case-study approach with the unit of analysis being the individual GI or food product (Yin 2018). We focused on product-based GI's rather than those protecting agricultural varieties or crops and considered a range of different product types identified from the EU DOOR database<sup>12</sup>. In each case an initial document search was followed with semi-structured interviews with producers and sector experts undertaken between June and September 2019.

Participants were contacted using a combination of purposive and convenience sampling approaches depending on context (Marshall and Rossman 2011). Purposive sampling approaches were used where there was a single or small number of producers of a particular product. Convenience sampling was adopted where there was a larger number of producers and we were able to work with producer groups to identify producers willing to be interviewed within the project timescale. Other producers were identified through web searches, personal contacts and networking and through information provided by Trading Standards departments. Potential participants were first contacted by email to explain the project and arrange interviews. Interviews were conducted by telephone or face-to-face and recorded with the consent of the participant. Interviews were subsequently transcribed.

Interview questions were developed from a detailed literature review of prior studies of GIs. Questions focused mainly on traditional knowledge of products, the benefits and dis-benefits of having a GI and any impacts on the local economy. Themes of questions were gathered and grouped to ensure that every aspect of our research objective was covered.

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<sup>12</sup> See <https://ec.europa.eu/agriculture/quality/door/list.html>.

We introduced continuation probes to clarify (and expand) questions or sentences without derailing the conversation (Rubin and Rubin, 2005).

### **3.2 Econometric analysis**

Our econometric analysis focuses on the impact of GIs on producer growth and uses longitudinal data on UK businesses from the Business Structure Database (BSD)<sup>13</sup>. The BSD is constructed by matching annual snapshots from the Inter-departmental Business Register which is itself based on VAT and PAYE data. The BSD comes in two forms which differ in terms of the unit of analysis – firm or local unit. The local unit version of BSD provides employment data for local units (sites) across the UK over the 1997-2018 period. The firm-level BSD includes both turnover and employment data for each UK business. In addition to longitudinal data on firm performance, each version of the BSD includes a small range of firm characteristics including (partial) postcode and a 4-digit industry identifier. In each version of the BSD the data is anonymised and was accessed through the Secure Data Service.

To extend the range of matching covariates available in the BSD we match the BSD with firm-level data on aspects of firms' intellectual property assets and a range of local eco-system indicators. In particular, firms' holdings of trade marks might be an important control variable given the role of GIs as a form of collective branding. We create trade mark histories for all UK companies using data provided by the Intellectual Property Office. These include an indicator of the number of trade marks held by each firm each year. These are matched to observations within the BSD at firm level. For the local units' analysis we assume that each local unit within a firm has access to all of the trade marks held by the parent firm. Using the postcode identifier we also match in four control variables measured at the level of Local Enterprise Partnerships (LEPs) which provide an indication of the nature of the local business eco-system within which firms are operating. Annex 1 provides an overview of the variables used and their sources.

Our empirical approach combines propensity score matching with difference-in-difference modelling to compare the performance of firms which may benefit from a GI to similar firms elsewhere in England. We use propensity score matching (PSM) at the firm-level or local-

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<sup>13</sup> Office for national statistics (2019). Business Structure Database, 1997-2018. Secure access. 10th edition. Uk Data Service. SN 6697 <http://doi.org/10.5255/UKDA-SN-6697-10>.

unit level to create a control group of non-GI (non-treated) firms which is as similar as possible to the group of firms which are eligible for the GI (Caliendo and Kopeinig 2008). The difference-in-difference element of our approach helps to take account of unobserved heterogeneity by comparing differences in the performance of treated and non-treated firms/local units before and after the introduction of the GI (Heckman et al. 1997; Imbens 2004).

Our empirical approach has six steps:

- Step 1 is the identification of the treatment group, i.e. the group of firms which are covered by each of the GIs. We define eligibility using both geographic criteria using firms' postcodes and product criteria defined using 4-digit SIC codes (Table 2). This identified a treatment group comprising 18 firms and 37 local units at the time of the introduction of each GI. This very small number of producers inevitably restricts the robustness and generality of the analysis.
- Step 2 involves the identification of the set of potential control group firms. These are firms/local-units within the 4-digit SIC codes covered by the five GIs in which treated firms were identifiable, but which are outside the geographical boundaries of the GIs. This group comprised 275 firms and 860 local units at the time of the introduction of each GI.
- Step 3 involves the definition of a common time variable. The five GIs we consider were introduced between 2007 and 2012. We create a new time variable which is defined for all firms in the treatment and relevant group of potential controls. This variable  $t$  is set equal to 0 in the year in which the relevant GI was introduced. This variable is defined both for firms eligible for each GI and the relevant set of potential controls.
- Step 4 defines the difference variables which form our dependent variables. We compare the average growth rate of the outcome variables  $y_{t+n}^1$  in the period pre- and post- the introduction of each GI using the time variable defined in Step 3. To capture both short and longer-term effects we consider differences in growth rates over periods of  $n=2$  and  $n=4$  years before and after the introduction of each GI. The average treatment effect ( $\tau_{ATT}$ ) of the GIs at  $t+n$  can then be expressed as the difference-in-difference between the change in growth rates pre- and post- the introduction of the GI in the GI group (treatment) and control group. However, as



we observe only either the treated (GI) or non-treated for each firm/local unit we need to develop a control groups of non-GI firms/local units as similar as possible to the GI or treatment group.

- Step 5 involves the estimation of propensity scores to enable us to select suitable controls from the relatively large group of untreated firms/local units. This involves matching observed characteristics as closely as possible to those of treated firms before the introduction of the GIs (Rosenbaum and Rubin 1983; Heckman et al. 1997; Becker and Ichino 2002; Lechner 2002). We estimate the probability that any firm was eligible for a GI, the so-called propensity score, based on a set of observable firm-level and locational characteristics.
- Step 6 involves matching treatment and relevant controls and the construction of difference-in-differences and average treatment effects (ATEs). After estimating the propensity score for firms in the treatment and control group, we proceed by matching the untreated and treated observations according to their estimated propensity score. We report results from adopting two different matching algorithms. First, we apply an exact matching technique with a strict Caliper bandwidth, matching each treated observation only with the closest untreated observation within a 0.05 range in the propensity score. Second, we report a Nearest-Neighbour matching approach matching each treated firm with the three firms in the control group with most similar propensity scores. In each case the definition of potential control groups and the time variable (Stage 2) enforces an exact match between product groups (SIC codes) and date. Balancing tests provide an indication of the validity of the matching and the resulting average treatment effects.

## 4. FOOD HERITAGE EFFECTS OF GIS

Our case study evidence highlights a number of situations in which GIs have played a positive role in the heritagization of UK food products. For Newmarket Sausage (Case 6), Herefordshire Cider (Case 4) and Melton Mowbray Pork Pies (Case 5), for example, the development of the GIs involved collaboration between producers in researching the historical tradition of the product and developing the product specification. This collaboration has contributed to a collective view of the value of each product as an element of local food heritage and its potential value in attracting sales and tourism. The prospect of obtaining a GI, and the potential protection from imitation it gives (Case 5), can also



incentivise the re-discovery of heritage food products such as Staffordshire Cheese (Case 1). The same aspect of a GI may also be important in ensuring continuity of production when producers either fail or stop producing a product for some other reason. When the original (and only) producer stopped producing Buxton Blue cheese, for example, the GI provided both the product specification and protection which encouraged another local creamery to begin production of the cheese (Case 2). Without the GI the cheese would in all likelihood no longer be produced.

The requirement of each GI to establish clear local provenance and legitimacy has also contributed to the codification of product histories. In some cases these were compiled by the individuals or organisations compiling the application (e.g. Case 1, Case 2) while in other situations the historical research was commissioned externally (Case 3). In all but one of the cases considered here, the historical narrative links early production to either religious institutions or farmhouse production for local residents own use. Only in the case of Melton Mowbray pork pies is the origin of the product linked to early commercialisation in the 1850s.

These historical narratives, like the GI product specifications themselves, are inevitably limited and represent a particular view and interpretation of each local history. Codifying these narratives risks perpetuating historical inaccuracies revealed by future scholarship (Bessière, 2013) but has the positive benefit of creating collateral for local marketing and tourism development. The extent to which the historical narratives are used as part of any tourist promotion varies significantly between cases as does the orientation of producers. The strongest links to the development of local tourism were evident in Melton Mowbray (Case 5) and in Herefordshire Cider (Case 4). In both cases producers were contributing actively to local tourism development and in turn attracting new tourist business. As one of our interviewees in Melton Mowbray commented: *‘tourism, if one wishes to call it that, is a big part of our agenda and its ours as a business, but also as a town’*. This is amply illustrated by one of four pictures on the cover of the Melton Mowbray town visitor guide being of a pork pie and another of a Stilton cheese<sup>14</sup>. In Herefordshire the Cider Route has been strongly supported by the producer association (the Three Counties Cider Association) who have also recently developed a range of Cider-based events (Craft Con,

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<sup>14</sup> [http://www.melton.gov.uk/downloads/file/4064/melton\\_mowbray\\_visitor\\_guide](http://www.melton.gov.uk/downloads/file/4064/melton_mowbray_visitor_guide). Accessed 6<sup>th</sup> December 2019.

Cider and Perry Festival) and contributed to developing 'Cider Lands' (<https://ciderlands.org/>) an international cider tourism and heritage network. In both cases (Melton Mowbray and Herefordshire) the value of the GI's contribution to local tourism has been amplified by collaboration between producers and engagement by local public and tourism agencies. The development of this type of tourism initiative, supported by GIs, may have significant local benefits both in terms of supporting local identity, consciousness of local food heritage and tourist development (Sims 2010). There may also be other benefits through developing a wider appreciation of food heritage in the UK, an appreciation which is often thought to be less strongly developed in the UK than elsewhere with a focus instead on ethnic diversity (Grigorova, Dimitrova, and Preslavsky 2014).

The process of development and registration of GIs and maximising the value of their benefit for producers and local tourism also creates opportunities for positive public policy engagement. In all of the cases considered here public agencies, either local national or both, played a catalytic role in starting the development process and/or facilitating the registration process. For example, in the case of Cumberland Sausage the GI process was initiated by 'Made in Cumbria', a local economic development agency (Case 3). Other interviewees stressed the importance of support from DEFRA, the National Farmers Union (NFU) (Case 1 and 2) and Local Trading Standards inspectors (Case 4). Once a GI is in place maximising its benefits depends in part on related tourism developments and here a number of interviewees referred to a reduced emphasis on tourist development by local authorities due to budgetary pressures (Case 3, Case 4).

Our case studies also suggest a number of factors which limit the potential contribution of GIs to the heritagisation of food products. First, the time period to complete the registration period varied from 3 years to 11 years in the cases we considered requiring significant commitment and time input to achieve GI status. These seem typical of the situation in other countries. Quinones-Ruiz et al. (2017), for example, outline the case of the Sorana Bean which took eight years to achieve registration and required an estimated 1.86 man years of effort during this period and that of Mostviertel Perry which took eleven years to achieve registration and 0.35 man years of effort. The implied costs and collective commitment required to achieve GI registration, combined with the delays in reaping any commercial benefit, is likely to reduce the willingness of producers to pursue GIs. As Quinones-Ruiz et al. (2017, p. 190) comment however: 'A supportive legal framework along with the support of public authorities can back up the community of producers not only in

terms of technical aspects but also in a mediator when conflicts appear to be difficult to solve’.

The ‘technical aspects’ of GIs here mentioned by Quinones-Ruiz et al. (2017) also proved significant in a number of the GIs we considered. In particular the specificity, or lack of specificity, in the product specification led to GIs not being used currently as in the case of Traditional Cumberland Sausage (Case 3), being eschewed by some producers of Herefordshire Cider (Case 4) or increasing the vulnerability of the GI product to wider supply chain changes (Case 1). In this sense our case studies illustrate the tension between defining a product specification which is tight enough to prevent imitation and provide protection for producers but loose enough to allow individual producers to use their own ‘recipe’ (Wifellz 2013). Issues can arise because of the specific wording of the product specification. For example, the phrase ‘can *only* included [Emphasis added]’ in the product specification of Traditional Cumberland Sausage (Case 3) rules out the inclusion of other herbs and seasonings which might have been part of the recipes of individual producers. In other situations, the specificity of the sources of inputs may limit the growth potential of the GI as in the case of Staffordshire Cheese where because of the environmental specification the GI specification limits sources of milk supplies ‘*to about three farms*’. Pressures on dairy farms in the UK may further reduce this number in future calling into question the viability of the GI as currently defined<sup>15</sup>.

A rather different group of issues arise with other GIs which may be too broadly defined to offer protection to producers using traditional production approaches. This includes the inclusion in the product specification of Herefordshire Cider of production techniques associated with industrial rather than artisan production. As one interviewee commented: ‘*virtually all of these practices became common place only in the latter half of the 20<sup>th</sup> century. There is nothing of tradition in them*’. And so ‘*as a producer of true Herefordshire cider we cannot make a legitimate connection with this PGI and indeed we feel it might damage our brand if we did so*’<sup>16</sup>. Other Herefordshire producers operating on a larger scale take a different view and value the flexibility which the GI provides. The example of Herefordshire Cider illustrates the tension between defining a GI which is true

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<sup>15</sup> There is however a counter-argument here which suggests that the specificity of the GI tightly limits the available inputs and therefore protects GI holders from larger competitors.

<sup>16</sup> Private communication with the authors 10<sup>th</sup> April 2019.

to the artisanal heritage of a product and a specification which allows more industrial production methods which may have more substantial economic benefits.

Once a GI is in place the trade-off for producers is whether the costs of maintaining compliance with the GI, such as inspection costs and any restriction on ingredients and production methods, outweigh the commercial benefits. In the case of the Mostviertler Perry reported in Quinones-Ruiz et al. (2017) the cost of certification fees and the additional testing requirements which the GI required proved unacceptable to smaller producers. We observed similar issues in Herefordshire with the GI requiring product testing beyond the capabilities of many artisan producers. However, while there was a recognition of the disproportionate cost of certification for smaller producers, this was not cited as a significant barrier to using a GI in any of the cases we considered. More important in most producers' decision to use or not use a GI was the extent of customer recognition and therefore the sales price premium or additional sales of the product. In general, producers we talked to regarded GI labelling as carrying little weight with UK consumers: *'I think for some people [the PDO] doesn't have any meaning' (Case 3)* and *'We're not entirely convinced ... what percentage of the general public would recognise the PGI logo and know what it is ... I don't believe the general public have been informed well enough to fully understand what it is' (Case 6)*.

## 5. PRODUCER GROWTH EFFECTS OF GIS

We report two separate empirical analyses using different versions of the BSD at local units and firms. Both follow a similar analytical approach.

### 5.1 Local unit analysis

This experiment considers the effect of eligibility for any of the five GIs on the growth of firms' local business units. This permits a more granular analysis than the firm-level analysis reported below but due to data limitations in the BSD we can only consider GI effects on local units' employment growth.

Completion of Step 1 in the methodology above identifies 37 local units which were covered by the five GIs at the time of their introduction. These form the treatment group for our local unit analysis. Defining the group of potential controls for local units identifies a group producing similar products to those of local units covered to the GIs but located elsewhere

in England. These include 860 local units in the analysis for  $n=2$  and 680 local units for the longer-term analysis when  $n=4$ . Probit models used to define propensity scores for the  $n=2$  and  $n=4$  analysis are reported in Table 3<sup>17</sup>. Few local-unit specific factors were significant but local business eco-system factors proved more important. Local units which were more likely to be eligible for the GIs were typically in areas characterised by lower job density and productivity (GVA per hour) but slightly higher skill levels. Stage 5 of our empirical analysis involves propensity score matching using exact and nearest neighbour procedures ( $n=3$ ). Balancing tests for the short-term  $n=2$  and longer-term  $n=4$  analysis are reported in Table 4. In both comparisons significant differences between the characteristics of the treatment group and broad group of un-matched controls are eliminated effectively by the matching process (Table 4). Average treatment effects on the treated firms are positive although these effects are not statistically significant for either matching approach over a two-year horizon and only marginally significant over a four-year time horizon (Table 5). The implication is that GIs have had a positive but statistically weak impact on employment growth in eligible local units two and four years after the introduction of the GI.

## 5.2 Firm-level analysis

We now consider the growth effects of eligibility for the GIs on the relative growth of eligible (treatment) and comparable non-eligible (control group) firms. The advantage of the firm-level (rather than local unit) analysis is that the firm level BSD includes both turnover and employment data. We are therefore able to consider both the turnover and employment growth effects of GIs.

Here, completion of Step 1 identifies 18 firms which were covered by the GIs and these form the treatment group for our firm-level analysis. Defining the group of potential controls for firms identifies a group of firms producing similar products to those of firms covered to the GIs but located elsewhere in England. These include around 270 in the analysis for  $n=2$  and around 170 firms for  $n=4$ . Probit models used to define propensity scores for the  $n=2$  and  $n=4$  analysis are reported in Tables 6 and 7 respectively. Firms which were more likely to be eligible for the GIs were typically slightly larger, younger and more likely to have trade marks than those in the wider group of potential controls. They were also located in

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<sup>17</sup> We estimate separate probit models for each analysis as the group of local units in both the treatment and control groups differ. Some local units which existed for two years before and after the introduction of the GI were not available

areas of England characterised by lower median earnings and productivity. Stage 5 of our empirical analysis involves matching using exact and nearest neighbour procedures ( $n=3$ ). Balancing tests for the short-term  $n=2$  and longer-term  $n=4$  analysis are reported in Tables 8 and 9. Matching again improves the comparability of the two groups reducing the t-tests which reflect differences between the two groups (Tables 8 and 9). Short-term ( $n=2$ ) average treatment effects prove generally positive but insignificant for both turnover and employment growth. This is also the case for the longer-run effects for both turnover and employment growth using both matching approaches. The implication is that the GIs have had a positive but statistically insignificant impact on employment and turnover growth in eligible firms two and four years after the introduction of the GI (Table 10).

## 6. DISCUSSION AND CONCLUSIONS

In terms of food heritage our case study analysis suggests four key findings. First, GIs can be effective in preventing the imitation of traditional food items and so support the heritagisation of food products encouraging continuity of production and the re-introduction of extinct products. Second, particularly when they are combined with other supporting initiatives, GIs can help to contribute and protect local food cultures and identity and generate added value for tourism and related activities. Third, and particularly as the economic benefits to producers of heritage products may be marginal and producers themselves may be small artisanal manufacturers, the perceived value of heritage-based GIs may be particularly sensitive to regulatory issues or costs. Fourth, a number of operational factors may undermine the potential benefits of GIs in preserving food heritage. These include: (a) the length of time taken to move from application to registration; (b) the availability of a supportive regulatory and legal environment; (c) the breadth and/or specificity of the GI product specification; and, (d) the level of awareness of GI labelling among consumers. This latter point was recognised in the recent government consultation relating to GIs after Brexit with one national trade association commenting that they thought it was important that *'more is done to inform consumers and the marketplace about the detail and meaning of the various schemes'*<sup>18</sup>. The challenge this represents is reflected in a recent study which suggested that only around 14.4 per cent of UK consumers recognise the EU PGI label, a level lower than that in any other six countries in the study except

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<sup>18</sup> <https://www.gov.uk/government/consultations/geographical-indications-gi-creating-uk-schemes-after-eu-exit/outcome/summary-of-responses>



Norway (Hartmann et al. 2019, p. 69)<sup>19</sup>. Recognition levels for the EU PDO (10.0 per cent) and EU TSG (8.5 per cent) label were even lower. Moreover, only 10.3 per cent of UK consumers reported taking the EU PGI label into account when doing their shopping (Hartmann et al. 2019, p. 70). This is a marked contrast to the Red Tractor label which is recognised by 75.9 per cent of UK consumers (Hartmann et al. 2019, p. 121)

Our econometric analysis requires longitudinal data and also firm performance information on both the pre- and post-registration period. This data requirement limits the scope of our analysis to the employment and turnover growth impacts of the introduction of five factory-based GIs. This means that our analysis is subject to significant caveats. For the five GIs we are able to consider our analysis suggests no significant growth effects over two years but provides some evidence of longer term employment growth effects over four years. We find no evidence of any significant longer-term sales effect. Although recognised as a best practice approach for modelling policy impacts our PSM-DID results are subject to significant caveats. First, the small number of firms (and local units) which are eligible for the five GIs we are able to consider limits the robustness of our analysis. Second, because of the anonymised nature of our longitudinal data we are unable to identify a treatment group of firms which are actually holders of GI certifications. Instead we are able only to identify groups of eligible producers, i.e. firms which are in the geographic area covered by each GI and which produce products which are very similar – at the 4-digit level – to those covered by the GI. Third, as suggested by the meta-analysis by Deselnicu et al. (2013) the benefits of different types of GIs can differ substantially. Our analysis focuses on a group of GIs dominated by the less demanding PGIs which Deselnicu et al. (2013) suggest attract lower price premia and have, potentially, weaker growth effects. Reproducing our analysis for a group of - more demanding - PDOs may suggest stronger growth effects. Finally, our analysis has only considered the direct effects of GIs on eligible firms but there may be wider local benefits through tourism or supply chains<sup>20</sup>. These potentially positive effects are likely to mean that our estimates may under-estimate the full economic value of GIs and their potential contribution to tourism and local economic development.

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<sup>19</sup> It is notable also that levels of UK consumer recognition of the EU organic label were the lowest of the seven study countries (16.4 per cent)

Allowing for these caveats our econometric evidence is largely consistent with evidence from our case-study interviews with GI holders over the last year<sup>21</sup>. Few certified producers we talked to have seen their GI as having very significant sales benefits in the UK market. Reflecting a number of similar comments one producer commented that:

*‘We’re not entirely convinced how many, so what percentage of the general public would recognise the PGI logo and know what it is. We know that if you explain to somebody about the PGI, people know champagne, people know Cornish pasties, Parma ham, but the Newmarket sausage is not as strong as those brands ... but on, the logo itself, I don’t believe the general public have been informed well enough to fully understand what it is’.*

Instead, GIs tend to be seen by producers as:

*‘.. about protecting and promoting. So, in terms of the pork pies specifically, we’re protecting, promoting a regional food product and it all began its life here and it’s protecting it from misuse and imitation, and that was happening ... So this isn’t about stopping people making a pork pie, but it is about them misrepresenting a pork pie by calling it a Melton Mowbray when it’s not’.*

Brexit has raised considerable uncertainty relating to the status of existing GIs and the prospects for new GIs. Following a short consultation in late 2018 the overall UK shape of UK GI policy post-Brexit is now clear. UK producers will be able to continue using the European GI scheme and labelling for exports but a new ‘Protected Food Names’ (PFN) scheme will be introduced to protect registered producers selling in the UK. The PFN scheme is intended to comply with the World Trade Organisation TRIPS framework and may mean that in some cases producers would use both the UK and European logos on products both exported and sold in the UK. In policy terms, and taken at face value, our results suggest there is little justification in terms of producer growth for any significant extension of GIs through the Protected Food Names (PFNs) scheme post-Brexit. More persuasive arguments for increasing the number of GIs in the UK relate to the preservation

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<sup>21</sup> The weakness of the producer benefits of these GIs may also be reflected in a decline in the number of registered users of each GI since the period to which our analysis relates. As noted elsewhere the Traditional Cumberland Sausage GI now has no registered users and there is now only a single verified producer of Staffordshire cheese.



of food heritage and, when combined with other local support mechanisms, the potential contribution of GIs to local food and drink tourism.

Key decisions have been announced regarding the guiding principles of new PFN scheme, with a commitment to a *sui generis* approach similar to that adopted in European GIs rather than following the US and global South in regarding PFNs as a tradable intellectual property instrument (Marie-Vivien and Bienabe 2017). This means that as in Europe, producers in a specific locality will be regarded as having an inviolate right to the protection of local heritage products. The alternative approach – reflecting the case of Loukoumi Geroskipou cited earlier (Wifellz 2013) – would have treated GIs as a form of collective branding which may or may not have a specific geographical linkage but are tradable. Both types of GIs can play have a role in supporting food heritage although the PFN *sui generis* approach has stronger links to the heritagisation of local food products, culture and potentially tourism. While the underlying principle of the PFN scheme has been decided, less certainty attaches to operational aspects of the scheme such as approval and registration processes, inspection routines, appeal processes etc. It is also unclear whether GIs will be actively promoted as an element of food or rural development policy post-Brexit.

In terms of the development of operational aspects of the PFN scheme, two inter-related issues seem particularly important if the scheme is to contribute effectively to the development and protection of food heritage in the UK. First, the GI cases we considered have emphasised the difficulties of collaboration and drafting which arise during the process of developing a GI application. Rival producers may be unwilling to work together, unwilling to share information on product specifications and/or find it difficult to co-ordinate collective action (Wifellz 2013). Our case studies emphasise the importance of an external and impartial broker who can convene producers and help coordinate collaboration both to reduce the time taken to get to the point of application and also ensure that product specifications themselves are effective in maximising the potential benefits to producers and consumers. The case of Melton Mowbray pies is instructive here with one producer commenting that the *'spec's quite broad and they can cover a multitude of things whereas a recipe is very bespoke to each Baker'* (Case 5).

As raised in the 2018 Consultation, awareness of the PFN scheme among both producers and consumers is also critical to its success. The UK currently lags other major European economies and some smaller countries in its use of GIs and consumer awareness (Hartmann et al. 2019) (Table 1), and arguably in its broader recognition of intangible

cultural heritage (Harrison 2019). There is clearly the potential to expand the number of UK GIs or PFNs, however. For example, during our interviews focussing on heritage cheeses a well-informed industry insider commented that there was significant potential to expand the number of cheese GIs: *‘... off the top of my head, I would say, at this very second in time that twelve cheeses wouldn’t be a problem to me. Twelve PDOs. And it could be more ... But twelve cheeses, to me, wouldn’t be a problem’*. Actively expanding the coverage of the PFN scheme therefore has the potential to protect and promote a range of other food products with benefits for local producers and wider awareness of the scheme itself. Promoting consumer awareness of the PFN scheme will also be critical to its success and adoption by producers. As reflected in a number of our case studies there are considerable doubts among producers about the extent to which consumers understand and value the long-established GI labelling. Building wide-spread awareness of a new PFN logo and the implied quality standard will be challenging and require significant investment.

## Case 1: Staffordshire Cheese PDO 2007

A hard cheese made from cows' milk, Staffordshire cheese was granted its PDO in 2007. The cheese has a history of farm-based production dating back into the 19<sup>th</sup> century with documented sales at weekly markets in Derby, Ashbourne, Leek, and Burton on Trent. Staffordshire was not produced after the second world war but was revived in the early 2000s. One of our interviewees who led the development of the PDO recalls how he came across the original recipe

*'... one evening I was giving a talk at a little village called Foxt, which is in Staffordshire. And a lady kept waving a piece of yellow paper at me ... she said, "Well, here is how they made cheese on the farm here in Foxt. And, this is from the old daily records". And this was the recipe for the original Staffordshire cheese'.*

As one of interviewees noted the process of developing the product specification for the PDO

*'... took about three years, you know, in total, because they kept asking more and more questions, and so on and so forth. But I wasn't all that bothered about that, you know, I quite enjoyed delving and searching. But it was a very torturous route'*  
[INT 2]

The unique taste of Staffordshire cheese is attributed to the geological conditions of the local farms from which milk is sourced. An interviewee commented on this aspect of the PDO specification saying:

*'we have to have milk from cows that are grazed, raised on limestone' Which, to be honest, is difficult in Staffordshire because it's the potteries. It's mainly clay. There is a stretch of limestone but that's sort of on the road back to Ashbourne. ... But the problem with the dairy industry is that various people have gone out of business now or they're doing different things. And so the pool on which I can draw has now dropped to about three farms'.*

In 2017 there were three dairies producing Staffordshire cheese but at the time of our interviews in mid-2019 there was only a single remaining producer:

*‘... We are the only producer. So yeah, the weight of history rests upon my shoulders, really, at the moment...’ [INT 3].*

The cheese currently has a significant regional market through specialist outlets, farmers’ markets and country retailers as well as a major supermarket:

*‘Interestingly enough, the cheeses we sell to Morrison’s, because all the supermarkets at the moment are looking to their laurels, they’re all trying to, you know, sort of wave the local flag...’ [INT3]*

## Case 2: Buxton Blue PDO 1996

Buxton Blue is a hard, blue veined cheese which was produced by a single manufacturer in Buxton alongside a range of other blue veined cheeses. It was granted a PDO in 1996. The original producer had been producing blue veined cheeses in Buxton since 1870. A trade mark for Buxton Blue had been granted to the firm (No. 1510447) and the product name had been in regular use since 1990. The original application referred to the continued tradition of blue cheese manufacture at the factory in Buxton and the use of milk from farms within a 15-mile radius of Buxton. No other historical or cultural link was claimed<sup>22</sup>. The original producer stopped the production of Buxton Blue around 2014 and production was taken over by another local creamery who is now the sole producer. Buxton Blue is sold regionally through both retail and wholesale channels and through major retailers.

Asked about the impact of the PDO on the sale price of Buxton Blue the producer compared their cheese to the pricing of a good quality Blue Cheshire and suggested *'for retail ... the price would be the same'*. This was related to a general lack of consumer recognition of GI labelling in the UK market although the producer noted:

*'I think some people [the PDO] doesn't have any meaning for, but I think for the majority of serious cheese buyers I think it does have some meaning'.*

And:

*'I guess it depends who is buying it. If it's going to a posh farm shop then they'll take more interest in the labelling. If it's going to be used by a chef in a pub, you know in a restaurant in a pub [yeah], then they probably don't care'.* [INT 11]

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<sup>22</sup> See [UK\\_0017\\_0287\\_SPE\\_EN\\_O.pdf](#)

### Case 3: Traditional Cumberland Sausage PGI 2011

Traditional Cumberland Sausage was granted its PGI in 2011 following a four-year long period of development. The distinctive features of this pork sausage are its spiral, coil shape and highly seasoned taste. The sausage is noted as far back as the 16<sup>th</sup> Century and has a history of farmhouse production in Cumbria. Varieties of the Cumberland Sausage which do not necessarily conform to the product description of the PGI are widely produced in the region and sold locally and increasingly through e-commerce. The PGI itself has fallen out of use with no local producers now manufacturing sausage which conforms to the PGI product description.

Two issues with the PGI specification were highlighted by former producers. First, the designation itself 'Traditional Cumberland Sausage' is difficult to differentiate in consumers' minds from more generic 'Cumberland Sausage'. The decision to adopt the 'Traditional label' was made during the development of the PGI:

*'one producer was adamant that we should go for 'Cumberland Sausage' rather than 'Traditional Cumberland Sausage. But because Cumberland Sausage is made all over the place we decided at the time that the cat was out, and we would be up against all the major manufacturers. So, it finished up 'Traditional'.*

Low levels of understanding of the PGI mark among UK consumers also reduced the value of the PGI. Secondly, and said to be a more significant barrier to use of the PGI, the specific wording of the PGI restricted producers from using individual recipes. Early drafts of the specification referred to a list of herbs and seasonings which Traditional Cumberland Sausage 'can include'. In the final specification this became the more specific 'can only include', ruling out the inclusion of other herbs and seasonings which might have been part of the recipes of individual producers. At the time of our discussions with producers some consideration was taking place relating to changing the wording of the product specification.

#### Case 4: Herefordshire Cider/Perry PGI 1996

The Herefordshire Cider/Perry PGI was granted alongside PGIs for Worcestershire and Gloucestershire cider/perry. The product specification refers to a tradition of Cider and Perry production in the area for over 400 years including 'three pears sable' on the Worcester City coat of arms from 1575. The product specification requires cider and perry to be produced from 'locally grown fruit'. Traditionally, cider and perry production was orchard or farm based but the PGI permits a number of production techniques which are more typical of larger commercial producers. These include: chaptalisation - the addition of sugar syrup to allow higher alcohol levels to be reached or adjust sweetness; juice concentration (typically by boiling); dilution; filtration; fining; centrifuging. One interviewee making cider using more traditional approaches notes that:

*'virtually all of these practices became common place only in the latter half of the 20<sup>th</sup> century. There is nothing of tradition in them'*

and commented that these permissions might be applicable if they

*'focussed on some aspects of quality, culture and the tradition of Herefordshire cider, but they do not'. 'Given this set of criteria what value has the word Herefordshire and the PGI logo to the consumer? I'd say little to none. As a producer of true Herefordshire cider we cannot make a legitimate connection with this PGI and indeed we feel it might damage our brand if we did so'<sup>23</sup>.*

The existence of the PGI also means that non-certified cider/perry producers in Herefordshire who do not pay to complete the inspection process by Trading Standards are unable to market their cider as 'Herefordshire Cider'. This creates difficulties for smaller craft producers for whom the cost and technical requirements of the inspection process are difficult to meet. The GI is of more potential benefit for the small numbers of producers which are exporting. However, even here:

*'I think it's 'English' probably which will be key, to have a county in England on the label, I think it's [the PGI] just an extra selling point'.*

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<sup>23</sup> Private communication with the authors 10<sup>th</sup> April 2019.

### Case 5: Melton Mowbray Pork Pie PGI 2009

Melton Mowbray Pork Pies have a bow walled pastry case and a filling of uncured pork. The meat content of the whole product must be at least 30 per cent with a filling seasoned with pepper. The pies must be free from artificial colours, flavours and preservatives. The pies have a traditional link with hunting but have been manufactured commercially since the early 19<sup>th</sup> century in Melton Mowbray. The process to apply for the PGI was started in response to a Melton Mowbray style pork pie being made elsewhere. Nine producers were involved in the discussions on the specification,

*‘So the spec’s quite broad and they can cover a multitude of things whereas a recipe is very bespoke to each Baker’<sup>24</sup>. The application process was delayed by administrative changes and ‘three bouts of foot and mouth - so that stopped things. MAFF changed to Defra. At one stage it went to ADAS, then it’s gone back to Defra again. So, there’s all of these points are barriers up to progression etc. And, people change roles ...’.*

And subsequently,

*‘you have the likes of Kerry Foods, you had Northern Foods etc. putting in objections so they had to be considered ... it all ended up in the High Court which to piemakers was totally wrong, you know, it should be about the pie not the policy. But that’s where it went. And eventually a ruling was made, and that was appealed against and the appeal was overturned. And we eventually got the official endorsement in 2009, 10 years ago. It took 11 years to process’.*

The PGI is considered a benefit in protecting a regional food product and contributing to local food tourism. One interviewee commented:

*‘The whole purpose of protected status is all about protecting and promoting. So, in terms of the pork pies specifically, we’re protecting, promoting a regional food product and it all began its life here and it’s protecting it from misuse and imitation, and that was happening ... So this isn’t about stopping people making a pork pie,*

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<sup>24</sup> For example, the product specification includes ‘spices’ but is non-specific either about the quantity or specific nature of spices included in any recipe. Paragraph 4.5



*but it is about them misrepresenting a pork pie by calling it a Melton Mowbray when it's not'.*

And more broadly,

*'the town positions itself as being the rural capital of food. There's no other town in the country that has two protected food products, and they're seen as sort of let's call them high-profile food, so Stilton cheese, and Melton Mowbray pork pies associated with them. [The] PGI, it confirms and reinforces the town's position as the heart and important rural economy, it protects our rural region and the heritage as well. So tourism, if one wishes to call it that, is a big part of our agenda and its ours as a business, but also as a town'.*

## Case 6: Newmarket sausage PGI 2012

Newmarket sausage is a traditional pork sausage with a high meat content and moderate seasoning of herbs and spices. There is an established link dating back to the 19<sup>th</sup> century with horse racing in Newmarket. In the early 20<sup>th</sup> century there were around 12 producers of Newmarket Sausage although now only three remain within the PGI – two major producers and one smaller local butcher<sup>25</sup>. One of the major firms – Musks - has been producing Newmarket Sausages for 135 years since the company was founded in 1884 and holds a Royal Warrant for 'Newmarket Sausage'. The three firms collaborated on the development of the PGI specification:

*'there are two others and basically those other companies have a slightly different recipe so we had to collaborate and what, and define what the Newmarket sausage was'.*

One of the major producers commented that the value of the PGI is mainly for

*'protection against imitation ... since the application we've only had one company which happens to be based over in Bath who made a Newmarket sausage who were spoken to by the Newmarket Association and, but otherwise that ... we have a Royal Warrant and so for us we use the Warrant more than the PGI as a selling tool'.*

There was also a view that:

*'We're not entirely convinced how many, so what percentage of the general public would recognise the PGI logo and know what it is. We know that if you explain to somebody about the PGI, people know champagne, people know Cornish pasties, Parma ham, but the Newmarket sausage is not as strong as those brands ... but on, the logo itself, I don't believe the general public have been informed well enough to fully understand what it is'.*

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<sup>25</sup> [Official Journal C69 07.03.2012](#)

Growing a business within a PGI can also pose challenges:

*'well one challenge is obviously with the PGI it has to be made within a certain designated area. I mean Newmarket is not a particularly big town .. we had to relocate our factory so we had the challenge of actually trying to find somewhere within the local town which was a bigger factory than what we currently have ... trying to find the right sort of unit was a bit of a challenge although we did actually manage to find one in the end'.*

**Table 1: Registered GIs in the UK and other EU countries: January 2020**

Country	Number of registered GIs				Percentage of registered GIs			
	PDO	PGI	TSG	Total	PDO	PGI	TSG	Total
Italy	167	130	2	299	55.9	43.5	0.7	100.0
France	105	144	1	250	42.0	57.6	0.4	100.0
Spain	102	90	4	196	52.0	45.9	2.0	100.0
Portugal	64	74	1	139	46.0	53.2	0.7	100.0
Greece	76	31	0	107	71.0	29.0	0.0	100.0
Germany	12	79	0	91	13.2	86.8	0.0	100.0
United Kingdom	27	42	4	73	37.0	57.5	5.5	100.0
Poland	8	23	10	41	19.5	56.1	24.4	100.0
Czech Republic	6	23	1	30	20.0	76.7	3.3	100.0
Slovenia	8	13	3	24	33.3	54.2	12.5	100.0
Croatia	12	11	0	23	52.2	47.8	0.0	100.0
Belgium	4	11	5	20	20.0	55.0	25.0	100.0
Austria	10	5	3	18	55.6	27.8	16.7	100.0
Hungary	6	8	2	16	37.5	50.0	12.5	100.0
Netherlands	6	5	4	15	40.0	33.3	26.7	100.0
Slovakia	2	10	3	15	13.3	66.7	20.0	100.0
Finland	5	2	3	10	50.0	20.0	30.0	100.0
Lithuania	1	6	2	9	11.1	66.7	22.2	100.0
Bulgaria	1	2	5	8	12.5	25.0	62.5	100.0
Denmark	0	8	0	8	0.0	100.0	0.0	100.0
Sweden	3	3	2	8	37.5	37.5	25.0	100.0
Ireland	3	4	0	7	42.9	57.1	0.0	100.0
Romania	1	6	0	7	14.3	85.7	0.0	100.0
Latvia	1	2	3	6	16.7	33.3	50.0	100.0
Cyprus	1	4	0	5	20.0	80.0	0.0	100.0
Luxembourg	2	2	0	4	50.0	50.0	0.0	100.0
Norway	0	2	0	2	0.0	100.0	0.0	100.0

**Source:** EU DOORS database. Accessed 2<sup>nd</sup> January, 2020.

**Table 2: Product groups included in impact modelling**

Product category	Date		Product description	Geography	SIC 2007	SIC 2003	Postcode areas
Newmarket Sausage - PGI	2012	Meat products (cooked, salted, smoked, etc.)	'Newmarket Sausage' is a seasoned pork sausage made using fresh, primal cuts of meat from either the whole carcass, the shoulder or belly, and seasoned with a selection of herbs and spices.	Newmarket and surrounding villages.	10720 10130 46320 10110 10130	15820 15139 51320 15112 15139	CB8
Cornish Pasty - PGI	2011	Bread, pastry, cakes, confectionery, biscuits and other baker's wares	The Cornish Pasty is a savoury D-shaped pasty which is filled with beef, vegetables and seasonings.	The administrative area of Cornwall.	10710 56103 10130	15810 55303 15139	TR
Traditional Cumberland Sausage - PGI	2011	Meat products (cooked, salted, smoked, etc.)	Traditional Cumberland Sausage is a spiral coil-shaped seasoned pork sausage. Its most distinctive feature is that, unlike other sausages, it is not linked but long and coiled.	The county of Cumbria.	10720 10130 46320 10110 10130	15820 15139 51320 15112 15139	CA
Melton Mowbray Pork Pie - PGI	2009	Meat products (cooked, salted, smoked, etc.)	Melton Mowbray Pork Pies have a bow walled pastry case giving them their characteristic bow shape. The pastry is golden brown in colour with a rich texture.	Melton Mowbray and surrounding towns including Leicester and Northampton	56103 10130	56103 10130	LE, NG1-17, NG31-33, NN1-10, NN14-29, PE9
Staffordshire Cheese - PDO	2007	Cheese	Staffordshire Cheese is made from milk from cows kept on Staffordshire farms. It has a smooth, slightly crumbly texture which can be hard or semi-hard depending on the age of maturity.	The County of Staffordshire	10512 46330	15512 51331	ST

Sources: Authors' analysis based on product specifications available at: <https://ec.europa.eu/agriculture/quality/door/list.html>.

**Table 3: Probit models of factors characterising firms eligible for GIs: local unit analysis for 2-year and 4-year difference in difference**

	2-year growth			4-year growth		
	Std.	Err.	z	Std.	Err.	z
Employment	-0.002	0.002	-0.80	-0.003	0.002	-1.21
Employment squared	0.000	0.000	1.85	0.000	0.000	2.15
Firm age (yrs)	0.003	0.011	0.30	-0.006	0.014	-0.44
Firm age	0.000	0.005	0.09	0.002	0.005	0.37
Trade marks	-1.754	0.809	-2.17	-1.028	0.961	-1.07
Job density	0.000	0.000	0.84	0.000	0.000	-1.15
Median earnings	0.024	0.014	1.69	0.031	0.018	1.70
% with NVQ4	-0.149	0.042	-3.56	-0.117	0.047	-2.51
GVA per hour	1.934	0.969	2.00	2.580	1.187	2.17
Number of observations		897			717	
F-test		38.04			40.57	
Rho		0			0	
Pseudo R <sup>2</sup>		0.1234			0.1764	

**Notes:** See Annex 1 for variable definitions. Models also include regional dummy variables (not reported).

**Table 4: Balancing tests for local-units analysis**

		Two-year differences (n=2)				Four-year differences (n=4)			
		Treatment Mean	Control Mean	Bias %	t-tests	Treatment Mean	Control Mean	Bias %	t-tests
Employment	Unmatched	44.77	33.186	10.1	1.28	44.77	33.186	10.1	1.28
	Matched	73.216	73.184	0	0	77.778	52.222	22.2	0.5
Employment squared	Unmatched	19612	9800.3	11.4	1.43	19612	9800.3	11.4	1.43
	Matched	43383	40368	3.5	0.09	51643	23875	32.3	0.72
Firm age	Unmatched	16.876	14.062	32	3.33	16.876	14.062	32	3.33
	Matched	16.162	16.059	1.2	0.05	15.259	14.852	4.6	0.19
Trade marks	Unmatched	1.7257	4.2996	-18.6	-1.5	1.7257	4.2996	-18.6	-1.5
	Matched	2.973	4.0865	-8.1	-0.36	3.2222	10.519	-52.8	-0.9
Job density	Unmatched	0.87009	0.97639	-3.9	-0.28	0.87009	0.97639	-3.9	-0.28
	Matched	0.83703	0.84065	-0.1	-0.14	0.84926	0.84519	0.1	0.14
Median earnings	Unmatched	20805	22769	-53.1	-5.18	20805	22769	-53.1	-5.18
	Matched	20893	20681	5.7	0.27	20279	19772	13.7	0.83
% with NVQ4	Unmatched	36.392	41.674	-62.8	-4.9	36.392	41.674	-62.8	-4.9
	Matched	38.881	39.884	-11.9	-0.69	39.207	39.848	-7.6	-0.36
GVA per hour	Unmatched	22.285	26.68	115.8	-9.68	22.285	26.68	115.8	-9.68
	Matched	22.904	23.127	-5.9	-0.26	22.74	22.627	3	0.12

**Notes:** See Annex 1 for variable definitions.

**Table 5: Average treatment effects for local units' employment growth**

	Treatment Effect	Std. Err.	T-stat
<b>2-year DID</b>			
Caliper matching	0.40	0.199	0.020
Nearest neighbour matching	0.21	0.171	1.18
<b>4-year DID</b>			
Caliper matching	0.271	0.184	1.84
Nearest neighbour matching	0.317	0.188	1.68



**Table 6: Probit models of factors characterising firms eligible for GIs: firm level analysis for 2-year difference in difference**

	Employment (2 years)			Sales growth (% over 2 years)		
Coef.	Coeff	SD	z	Coeff	SD	z
Employment	0.004	0.005	0.9	0.004	0.005	0.81
Employment squared	0.000	0.000	-1.09	0.000	0.000	-1
Firm productivity	0.000	0.000	1.1	0.000	0.000	0.98
Firm age	-0.060	0.036	-1.67	-0.039	0.034	-1.16
Trade marks	0.058	0.057	1.03	0.058	0.057	1.02
Job density	-2.488	1.746	-1.43	-2.666	1.702	-1.57
Median earnings	0.000	0.000	-3.11	0.000	0.000	-3.1
% with NVQ4	0.057	0.026	2.22	0.056	0.025	2.21
GVA per hour	-0.391	0.115	-3.39	-0.385	0.112	-3.44
Constant	15.281	4.086	3.74	15.106	3.998	3.78
Number of observations		283			293	
F-test		48.78			50	
Rho		0			0	
Pseudo R <sup>2</sup>		0.364			0.3554	

**Notes:** See Annex 1 for variable definitions. Models also include regional dummy variables (not reported).

**Table 7: Probit models of factors characterising firms eligible for GIs: firm level analysis for 4-year difference in difference**

	Employment (4 years)			Sales growth (% over 4 years)		
Coef.	Coeff	SD	z	Coeff	SD	z
Employment	0.160	0.077	2.09	0.005	0.004	1.24
Employment squared	0.000	0.000	-2.09	0.000	0.000	-1.14
Firm productivity	-0.001	0.010	-0.12	0.000	0.000	0.6
Firm age	-0.019	0.122	-0.16	-0.042	0.046	-0.9
Trade marks	1.670	0.813	2.06	0.064	0.057	1.13
Job density	5.465	2.689	2.03	-0.543	2.266	-0.24
Median earnings	-0.009	0.004	-2.05	0.000	0.000	-2.47
% with NVQ4	0.269	0.281	0.96	0.064	0.030	2.13
GVA per hour	-14.151	6.824	-2.07	-0.466	0.164	-2.83
Constant	0.160	0.077	2.09	0.005	0.004	1.24
Number of observations		188			206	
F-test		63.26			42.14	
Rho		0			0	
Pseudo R <sup>2</sup>		0.080			0.112	

**Notes:** See Annex 1 for variable definitions. Models also include regional dummy variables (not reported).

**Table 8: Balancing tests for 2-year, firm-level DID analysis - t-tests**

		Employment Growth	Employment Growth	Turnover Growth	Turnover Growth
		Exact	NN	Exact	NN
Employment	Unmatched	1.77	1.77	1.77	1.77
	Matched	-0.84	0.76	-1.2	0.64
Employment squared	Unmatched	-1.77	-1.77	-1.77	-1.77
	Matched	-0.97	0.92	-1.34	0.87
Productivity	Unmatched	0.49	0.49	0.49	0.49
	Matched	-1.68	0.97	-1.59	0.81
Firm age	Unmatched	1.01	1.01	1.01	1.01
	Matched	-0.39	0.46	-0.42	0.56
Trade marks	Unmatched	0.7	0.7	0.7	0.7
	Matched	-1	0.09	-1.44	-0.01
Job density	Unmatched	-0.28	-0.28	-0.28	-0.28
	Matched	-1.41	-0.61	-1.53	-0.27
Median earnings	Unmatched	-5.17	-5.17	-5.17	-5.17
	Matched	-0.37	0.28	-0.61	-0.05
% with NVQ4	Unmatched	-2.26	-2.26	-2.26	-2.26
	Matched	0.08	0.33	0.22	-0.21
GVA per hour	Unmatched	-6.71	-6.71	-6.71	-6.71
	Matched	1.05	0.92	0.71	0.26

**Notes:** See Annex 1 for variable definitions.

**Table 9: Balancing tests for 4-year, firm-level DID analysis - t-tests**

		Employment Growth	Employment Growth	Turnover Growth	Turnover Growth
		Exact	NN	Exact	NN
Employment	Unmatched	1.77	1.77	1.77	1.77
	Matched	-1	1.14	-1.01	0.46
Employment squared	Unmatched	-1.77	-1.77	-1.77	-1.77
	Matched	-1	1.01	-0.99	0.82
Productivity	Unmatched	0.49	0.49	0.49	0.49
	Matched	-0.65	1.01	-1.7	0.92
Firm age	Unmatched	1.01	1.01	1.01	1.01
	Matched	-0.53	2.01	-0.61	0.18
Trade marks	Unmatched	0.7	0.7	0.7	0.7
	Matched	.	1.05	-1	-0.05
Job density	Unmatched	-0.28	-0.28	-0.28	-0.28
	Matched	.	-1.58	-1.21	-0.71
Median earnings	Unmatched	-5.17	-5.17	-5.17	-5.17
	Matched	.	2.05	-2.08	1.11
% with NVQ4	Unmatched	-2.26	-2.26	-2.26	-2.26
	Matched	.	1.38	-1.58	-0.28
GVA per hour	Unmatched	-6.71	-6.71	-6.71	-6.71
	Matched	.	1.92	0.17	0.7

**Notes:** See Annex 1 for variable definitions.

**Table 10: Average treatment effects for firms' employment growth and turnover growth**

		ATT	SE	T-stat
<b>a. Two-year treatment effects</b>				
Employment growth	Caliper	0.197	0.398	0.49
Employment growth	NN	-0.038	0.279	-0.14
Turnover growth	Caliper	0.434	0.521	0.83
Turnover growth	NN	0.328	0.398	0.82
<b>b. Four-year treatment effects</b>				
Employment growth	Caliper	0.613	0.517	1.19
Employment growth	NN	0.368	0.802	0.46
Turnover growth	Caliper	1.848	1.100	1.68
Turnover growth	NN	0.255	0.779	0.33

### Annex 1: Variable definitions and sources

Variable	Variable definition	Unit of analysis	Source
Employment growth	Percentage growth in employment over two years	Firm, local unit level	BSD
Employment growth	Percentage growth in employment over four years	Firm, local unit level	BSD
Sales growth	Percentage growth in sales over two years	Firm	BSD
Sales growth	Percentage growth in sales over four years	Firm	BSD
Firm productivity	Sales per employee in the year prior to the GI introduction	Firm	BSD
Employment	Number of employees	Firm, local unit	BSD
Firm age	Firm age in years	Firm, local unit	BSD
Trade marks	Number of trade marks held by the firm at time of introduction of GI	Firm level	IPO
Job density	The number of jobs in an area divided by the resident population aged 16-64, 2017	LEP	NOMIS. Jobs density, 2017.
Median earnings	Earnings. Median annual pay (gross), total full-time, £ pa 2018	LEP	NOMIS. Annual survey of hours and earnings - workplace analysis.
% with NVQ4	Percentage of economically active with NVQ4+ aged 16-64, 2018	LEP	NOMIS. Annual Population Survey. Qualifications of economically active.
GVA per hour	GVA per hour worked, £ per hour, 2017	LEP	ONS. Sub-regional productivity: labour productivity indices.

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