European Geographical Indications: more than just a brand name

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ABSTRACT

The success of European Geographical Indications (GIs) has a more complex explanation than the traditional one emphasizing their role as quality signs. It also stems from a combination of two complementary, specialized mechanisms of governance that reduce transaction cost in overcoming particular organizational problems related to the use of geographical names as brands (free-riding and quality enhancement). Based on a set of case studies in European countries, we show that the "first-level" mechanism mitigates free-riding and coordinates quality enhancement along the vertical chain. It does so by reallocating the geographical names' property rights, which were originally in the public domain, to a governing body which sets quality specifications, performs quality controls and decides on membership. The "second-level" mechanism governs bilateral relationships among members and motivates them to enhance quality. It does so by allowing individual members to identify (co-branding) and implement valuable quality improvements above the minimum specifications while maintaining the residual claims of these improvements. These two mechanisms complement each other in the sense that only in combination do they align participants' incentives. All parties are interested in being entitled to use GI membership to protect their rents and quasi-rents. Some refutable propositions as well as policy implications are analyzed in the conclusions.

Key words: Agrifood; Geographical Indications; mechanisms of governance; free-riding; quality; complements.

1. INTRODUCTION

GIs for agricultural products and foodstuffs in Europe seem to be a success story and a growing phenomenon. The number of registered GIs exceeded 1,100 in 2012 (see http://ec.europa.eu/agriculture/quality/door/list.html). The success stories include products such as Roquefort cheese in France and Tuscany olives in Italy. Chever *et al.*, (2012; p. 16) show that GIs for agricultural products and foodstuffs had a wholesale turnover of €15.79 billion in 2010 and, perhaps more relevantly, enjoyed significant price premiums. The economic success of the GI has been mainly explained by considering GI as a quality signal that acts as a valuable quality assurance device for consumers.[1] This explanation focuses on the demand side and justifies the regulation of GI because they mitigate quality uncertainty for consumers. While true, it also seems clear that such guarantees to consumers could be achieved by any kind of brand name, so this does not explain either GI regulations nor widespread adoption of GIs by supply chain participants. There must be additional explanations for the proliferation and long term survival of GIs.

We argue that the governance of GIs, *i.e.* their distinctive features as a vertical chain organization, is a key factor to explain and understand their successes. This organizational economics perspective on GI has not been considered before. Vertical organization is however relevant because it affects the value of the final quality signal (the price premium) and thus the value added to be shared among members of the supply chain (Goldsmith and Gow, 2005; Giner, 2009). Furthermore, the quality of the final product is highly sensitive to how each step of the supply chain is governed and how quality-related problems are solved. This means that the choice of vertical organization is a critical factor explaining the success of any quality-signalling tool (Raynaud *et al.*, 2005; Skilton and Wu, 2013; Wever *et al.*, 2010).

We argue that GI can therefore be seen as a supply chain governance structure which mitigates the incentive misalignment derived from the collective nature of the geographical name and other quality-related coordination issues. We perform a case analysis because the lack of previous studies and the need for an explicit description of this type of governance require an exploratory study with a qualitative focus. We selected relevant European GI cases and also used private-owned brand name cases as a control group to ascertain the differences between these two types of vertical organization.

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[1] See, among others, Bouamra-Mechemache, and Chaaban, 2010; Costanigro *et al.*, 2010; Dentoni *et al.*, 2012; Dimara *et al.*, 2004; Fernández-Barcala and González-Díaz, 2006; Holleran *et al.*, 1999; Loureiro and McCluskey, 2000; Menapace and Moschini, 2012; Resano *et al.*, 2012.

The case study shows that governance of GIs combines overlapping governance layers that complement each other, making the whole system more effective. Each level compensates for the relative weaknesses of the other and their combination mitigates two organizational problems that are particularly relevant in this type of collective brand: free-riding and quality enhancement. We first show that GIs reallocate property rights on geographical names to public and private agents, aligning the participants' incentives. Second, we show that GIs enhance quality because they both improve coordination and motivate their members.[2] In terms of transaction costs, this means that GIs simultaneously reduce what Milgrom and Roberts (1992) called coordination and motivation costs by: a) creating governing rules such as minimum specifications, quality controls and basic technology; b) maintaining participants' residual claimancy; and c) allowing co-branding between GIs and (specific) investments in individual brands within the GI.[3]

The rest of the paper is organized as follows. First, we describe GI institutional structure and their quantitative importance and explain the organizational challenges they face. Second, we explain the case selection. Third, we describe the cases, showing vertical organization and controls in GIs compared to private-owned brands. Fourth, we describe how GI governance mitigates the problem of free-riding and improves quality. Finally, we draw some conclusions and hypotheses, formulate some insights for policy-makers and explain the limitations of our research.

2. EU GEOGRAPHICAL INDICATIONS: STRUCTURE, SUCCESS AND CHALLENGES

2.1 Institutional Structure

We label as GI two different legal forms in the EU: a) Protected Designation of Origin (PDO): the name of a product that is produced, processed and prepared in a determined geographical area using recognized know-how, and b) Protected Geographical Indicator (PGI): used to denote agricultural products and foods closely linked to a geographical area, where they are produced and/or processed and/or prepared. They are regulated by Regulation (EU) No 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality

[2] Like the marketing and quality management literatures we also distinguish two dimensions of products quality (Juran, 1989): the target or expected quality of a producer or brand (often called "subjective" or "design" quality), and the deviation of each product within a brand from that target (often called "objective" or "conformance" quality). See Ishikawa (1985) and Crosby (1979; p. 15).

[3] See Blackett and Boad (1999) for an extensive overview on this topic.

schemes for agricultural products and foodstuffs.[4]

The European regulation on GI products is similar to trademark registration that protects property rights on brand names. The difference is that the brand name contains a geographical name. To register a product, a group of producers or processors have to apply for entry in the EU registry, following the regulatory procedure. This protection is given under strict conditions that highlight the public and collective nature of a GI label (see Bureau and Valceschini, 2003 and the Regulation above for a fuller description of the GI system):

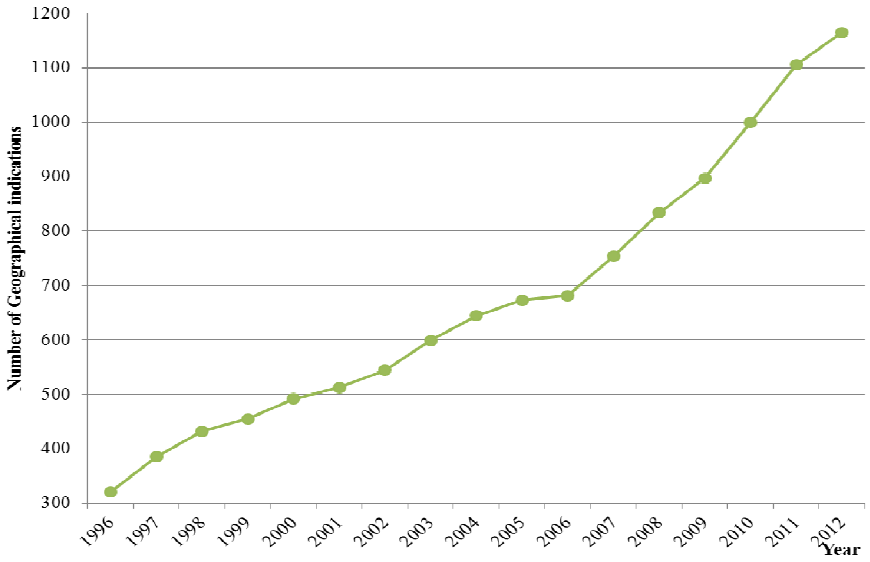
- Proof must be given that the product's characteristics are linked to the geographical location with its inherent natural and human factors.
- The geographical area of production/transformation has to be delimited.
- The product's main specifications are given in a "list of specifications" collectively drawn up by the firms involved in the supply chain.
- The firms involved in a GI application for registration have to be organized in a collective organization.
- Verification of compliance with the specifications has to be ensured by: a) Competent authorities in Member States and/or; b) Control bodies to which the competent authorities have delegated specific tasks related to the official controls of the quality schemes.

2.2 Market Success

Figure 1 shows the number of GIs for agricultural farm products and foodstuffs in the EU from 1996 to 2012. The wholesale value of agricultural products and foodstuffs sold under GIs in Europe from 2005 to 2010 is shown in Table 1.

[4] The EU policy quality is deeply rooted since the 1980s, with the publication of the Green Paper in 1985 and the Communication on "The future of rural society" in 1988, which talks about the responsibility of the agricultural world: food quality, environment and ecosystem preservation (available at http://ec.europa.eu/agriculture/quality/policy/index_en.htm). Before 1992 there was no common legal framework in the EU and different EC Member States had a diversity of national laws. In 1992, the regulations 2081 and 2082 had been adopted. The EU has endowed itself with a legally progressive tool of protection, which is also complete and deeply rooted in all the Member States (Rosati, 2009). Today specific measures for the recognition and the preservation of quality products are provided by the regulation 1151/2012 on quality schemes for agricultural products and foodstuffs, annulling the previous ones (509 and 510 of 2006).

Figure 1: Evolution in the number of GI for agricultural farm products and foodstuffs in EU



Source: DOOR database (http://ec.europa.eu/agriculture/quality/door/list.html, accessed on March 15th 2013).

Table 1: Sales value of agricultural products and foodstuffs under GI in the EU 27 (M€)

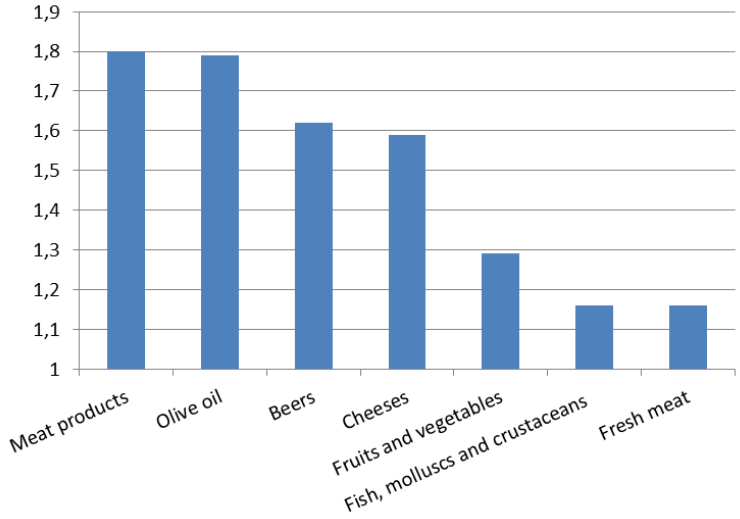
Product	Year					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Cheese	5,276	5,289	5,489	5,651	5,778	6,307
Meat products	2,395	2,451	2,579	2,759	3,095	3,157
Beer	2,301	2,407	2,361	2,390	2,390	2,364
Fresh meat	1037	1011	1095	1116	1155	1244
Fruit, vegetables and cereals	771	764	901	849	849	978
Fresh fish, molluscs, and crustaceans	-	-	-	-	-	443
Other products of Annex I	107	102	124	134	134	369
Oils and fats	359	377	335	348	343	346
Bread, pastry, cakes…	291	268	280	284	272	279
Natural mineral and spring waters	145	146	144	145	143	143
Other products of animal origin	48	45	47	49	68	71
Others	25	68	71	73	55	87
TOTAL	**13,284**	**13,457**	**13,891**	**14,238**	**14,525**	**15,790**

Source: Chever *et al.* 2012; p. 51.

Analysis of price data shows that producer returns for GI products are higher than for standard products (Chever, *et al.*, 2012; pp. 70-77). The total value premium and the whole value premium rate of EU-27 GIs were estimated at €29.8 billion and 2.23 respectively.[5] Meat products present the highest value premium rate among agricultural products and foodstuffs (Figure 2)

[5] Value premium = ∑ (GI volume x GI price) - ∑ (GI volume x non GI price); Value premium rate = ∑ (GI volume x GI price) / ∑ (GI volume x non GI price). A 2.23 value premium rate means that GI products were sold 2.23 times as high as the same quantity of non-GI products.

Figure 2: Value premium rate for agricultural products and foodstuffs scheme.



Source: Chever *et al.* 2012; p. 72.

2.3 Organizational challenges

Explaining this proliferation and success of European GI initially requires an understanding of the organizational challenges that GIs have to overcome.

2.3.1 Free-riding problems

First, by its very nature, a geographical name is a public good. Providing there is no particular regulation, property rights on the name are in the public domain (*i.e.* freely available to everyone). What the EU regulation does is to turn this public good into a club good. A GI, however, remains a collective brand because its use cannot be denied to potential members, that is, producers using input with the required geographical linkage and following the traditional production methods who operate within the restricted geographical area. Given the collective nature of the brand, economic theory suggests that individual members have the incentive to free ride over the quality requirements.[6] Each firm has incentives to encourage the others to make the costly investments required to maintain quality and build collective reputation while shading their own efforts to do so. We call this "internal" free-riding because it refers only to members' behavior.[7] Moreover, GIs also have to be protected against the opportunistic behavior of producers selling products under a GI in order to take advantage of its goodwill but without using the traditional production methods or without using input with the proper territorial linkage. In other words, it is necessary to avoid free riders who appropriate the name

[6] This is a variation of the "team production" problem analyzed by Alchian and Demsetz (1972).

[7] In the context of branding products, a very similar issue arises in franchised chains (Blair and Lafontaine, 2005).

of the GI and offer a lower quality product that may damage brand reputation. We refer to this as “external” free-riding.

2.3.2 Quality enhancement

Second, GIs have to combine territorial linkage and traditional production methods with the inducements for continuous quality improvement and innovation that are required for competitive success in the long term. These are traditional products whose organoleptic characteristics are directly linked with the territory. By their very nature, such products compete through a differentiation strategy. Their competitiveness improves if customers are confident that they can buy such superior products on a continuous basis and, specially, if they can expect improvements and innovations that enhance their organoleptic characteristics. Therefore, the challenge is not solely to ensure a sustained level of the required organoleptic attributes of products under the GI (“conformance quality”) but also to encourage improvements without violating the traditions on which the GI is based (“design quality”). This means that agents must be encouraged to improve their products and processes to have success in the long run.

3. CASE ANALYSIS

We study GIs from an organizational economics perspective, in which no previous research has been done. So we use a qualitative approach based on the case study method. The advantage of case analysis is that it allows us to understand small details which may become very relevant for explaining a situation. The disadvantage, however, is that only with a large number of cases is it possible to draw statistical, objective conclusions (Van Maanen, 1979; Shah and Corley, 2006). This is why case study is considered a valid approach and an appropriate tool when we do not fully understand the problem (Eisenhardt, 1989) and we want to discover new variables and relationships to reveal and understand complex processes (Glaser and Strauss, 1967; Shah and Corley, 2006; Yin, 2003) or we aim to apply existing theory to new contexts (Barratt *et al.*, 2011). Our aim is thus not to econometrically test hypotheses that have already been proposed but to formulate them based on our qualitative analysis.

We triangulated our data using different stakeholders’ perspectives in a cross-case pattern (Easterby-Smith and Lowe, 1991), and fulfil the recommendations of Barratt *et al.* (2011; p. 338) for a more rigorous, inductive, qualitative case study: a) justification for choice of case-based research methodology, b) clearly stated unit of analysis, and c) the use of multiple case studies leading to both within and cross-case analysis.

3.1 Case selection

Case selection followed theoretical sampling (Eisenhardt, 1989; p. 533) because we were looking for polar types of brand organization. We expected to highlight the distinct organizational characteristics of GI versus private brands and their implications for mitigating the organizational challenges stressed above. We identified the cases through the product brand name at retail establishments. Our sampling followed two requirements:

a) Cases had to help provide a broad overview of the most prevalent mechanisms of governance for meat supply chains in Europe. We selected the meat sector for two reasons. First, health scares such as the BSE crisis have been associated by European consumers with fraud and quality problems in meat products in recent years. This is a situation in which GIs can play a major role. Second, the quantitative importance of meat products in the GI field (see Table 1 and Figure 2). We therefore selected different meat products produced in four EU countries (France, Italy, Spain and the United Kingdom) that involve GI and private brand organization. Private brands work as a control group. This heterogeneity in part guarantees that the product and the country do not bias the conclusions.

b) Cases had to involve well-known brand names. We therefore selected only brand names with a relevant market share that were well-known, at least at a national level.

The data were obtained from several complementary sources. First, various kinds of secondary information (government statistics, industry and market reports, participants' web sites, etc.) were collected in order to understand the structure of the industry and the relevant market and to assess the economic importance of the selected brand names. Second, primary data were obtained in each case mainly through interviews and from internal company reports. Interviewees were selected among key agents in the supply chain and taking into account that we need several stakeholders' perspectives to be able to triangulate the information in each case. Interviews followed a semi-structured questionnaire based on the identification of quality control, coordination and motivation devices and brand name performance. Another set of interviews was conducted with the main suppliers, retailers, and quality controllers to check the owner information and to find out their problems and complaints. On average, five interviews were conducted to build each case. Each interview took about two hours and answers were taken down in writing. The interviews took place in France, Italy, Spain and UK and were conducted by a team of previously trained researchers. All the information on each case was summarized in a structured report. In the end, we selected five cases comprising three GIs and

two private brands. A brief description of selected cases is shown in Table 2.

Table 2: Selected cases

Brand name	Product	Owner	Country	Mechanism of governance
Prosciutto di Parma	Ham	Consorzio del Prosciutto di Parma (consortium)	Italy	GI (PDO)
Scotch Beef	Beef	Quality Meet Scotland (association)	United Kingdom	GI (PGI)
Ternera Asturiana	Beef	Consejo Regulador de Ternera Asturiana (council)	Spain	GI (PGI)
BonÀrea	Varied meat products	Corporación Alimentaria de Guissona (private firm)	Spain	Private brand
Filière Qualité Carrefour (FQC)	Beef	Carrefour (private firm)	France	Private brand

4. CASE DESCRIPTION

4.1 GI cases

I. *Prosciutto di Parma*: registered on 12 June 1996 as PDO in the EU. The Parma Ham Consortium, an organization of producers who use and safeguard the traditional processing method, was set up in 1963 to defend and protect the quality of their hams. The Consortium ensures compliance with production specifications so as to guarantee a good, genuine and completely natural product, including an accurate selection of the pigs. The entire process takes place in a restricted area of Italy, where climate conditions are ideal for drying ham. In 2011, more than nine million hams from 160 producers were branded by Consortium, obtaining a consumer turnover of €1,500 million (www.prosciuttodiparma.com, accessed on June 15th of 2012).

The vertical chain in Prosciutto di Parma has the following characteristics. The first stage (pig breeding) is typically highly competitive and market-oriented: a large number of small producers - 4,781 in 2011 - produce a relatively homogeneous product, and all producers are clearly price-takers. The next industrial stage (pig slaughtering) is more concentrated, with 109 abattoirs in 2011. Later, the chain comprises the “prosciuttifici”, the actual producers of aged hams (160 in 2011). In this vertical chain the only relevant vertical integration process has been developed between the slaughtering stage and ham production. In almost all cases, the initiative comes from agents at the first level because, while a number of small slaughtering plants are closing due to the need to satisfy EU health and hygiene requirements which implies new capital requirements, large slaughtering firms are showing increasing interest in controlling the following stage directly. In the remaining steps, the relationships are mainly market-oriented.

Prosciutto di Parma has established a set of specifications for products covered by the brand. The most outstanding are shown in Table 3. Likewise, a set of controls has been set up

to meet the required specifications. Istituto Parma Qualità (IPQ) is the public body in charge of all quality control activities. Companies wishing to participate in the Prosciutto di Parma supply chain must be authorised and recognized by IPQ. A "restricted" membership system allows membership to be withdrawn for non-compliance with the specifications. Supervision of observance of regulatory provisions takes place at all steps of the chain. Inspectors may carry out any type of verification, inspection or control of whoever produces, packages, keeps or sells hams in any type of establishment. The most significant controls are listed in Table 3.

II. *Scotch Beef*: registered as PGI in the EU on 12 June 1996. At the present time Quality Meat Scotland (QMS) is the organization that runs the brand. It is the public body responsible for helping the Scottish red meat sector improve its efficiency and profitability. Within the internal market, Scotch Beef sales were £364 million in 2011 (http://www.deadlinenews.co.uk/2012/01/18/scottish-beef-to-weigh-more-in-europe-after-government-grant, accessed on June 15th of 2012). The number of members of QMS in 2011 was 10,647. Of them, 10,148 were cattle or sheep breeders. In total, around 92% of beef produced in Scotland is assured through the supply chain from feed to slaughter. More than half a million beef cattle were slaughtered in 2010 under the QMS certification schemes (Quality Meat Scotland, 2011).

Livestock producers' transactions in the Scotch Beef supply chain (first stage) are characterised by a rather complex network of relationships, most of which are informal contracts. Livestock producers can sell directly to abattoirs or, alternatively, through auction markets. This choice mostly depends on price. The next step is the relationship between abattoirs/meat plants (second stage) and retailers (third stage). A distinction should be made between the abattoir/multiple retailers' relationships on the one hand and those between abattoirs with independent butchers on the other. The former are mainly dedicated partnerships, by which a meat processor becomes supplier of a retail chain and develops a stable, long-term relationship, which is generally regulated by verbal agreements on quantities, prices and frequency of delivery. The latter are more market-oriented.

Scotch Beef specifications are set at every step from feed producers to retailers. The scheme covers animals born in Scotland throughout their lifetime, every main input and the way in which farmers manage their farms. It also covers what happens to animals and the way they are treated when they leave the farm ensuring that, right up to the final point of sale, consumers can rely on the highest quality product. Table 3 covers the main specifications of

Scotch Beef. The assurance scheme is monitored by an independent certification body, Scottish Food Quality Certification Ltd (SFQC), and all participants in the supply chain have to comply with the requirements established at a previous step to become members. There are five main groups of members: producers, auction markets, abattoirs, meat plants and independent butchers. This means there is a restricted membership system. Admission and exclusion of members are determined by compliance with the process and product quality requirements. The frequency of inspections varies depending on the critical factors at each stage of the supply chain: once a year for feed suppliers, livestock producers, auction markets, processors and independent butchers; six times a year for abattoirs/meat plants. Slaughtering and subsequent meat processing operations are the most delicate stages that have an important impact on product quality and safety, so they are subject to more frequent inspections. Table 3 lists the main controls at Scotch Beef.

III. *Ternera Asturiana*: registered as PGI in the EU on 20 August 2004. The Regulatory Council of Ternera Asturiana controls the various operators involved. Through its records and control over farms, slaughterhouses, cutting plants and butchers, it guarantees the origin and quality of the GI products. In 2011, there were 5,587 cattle farms registered and more than 5.3 million kilograms of meat were registered at ten authorized slaughterhouses. The number of calves slaughtered in 2011 in the IGP (19,829) accounts for 47.6% of all calves slaughtered in the Principality of Asturias and 1.9% of those slaughtered in Spain (www.terneraasturiana.org/estadisticas.html, accessed on January 13th of 2013 and Ministerio de Agricultura, Alimentación y Medioambiente, 2012).

Transactions in the vertical chain of Ternera Asturiana have a relational character, allowing parties to negotiate basic aspects such as price and quantity (spot contracts). In general, prices are determined by market factors. Supply and demand, as well as quality or category of the animal, determine the price per kilo. Agreements between smaller traders and producers are variable both in quantity (traders do not buy everything that is offered) and in price (they may change prices on a daily basis). Lastly, a local organised market is held every week where the majority of animals for meat change hands (including Asturian breeds) and where a reference price exists. The most vertical integrated situation in this chain is when distributors have their own cattle farm, but in no cases are they also the owners of slaughterhouses or cutting plants.

Ternera Asturiana has established a set of specifications from farming to sale. Thus,

Ternera Asturiana protects fresh bovine meat from animals born, reared and fattened in the Principality of Asturias belonging to certain breeds. Processing must be carried out in the same area. Additional specifications are set for such animals along the supply chain. These are shown in Table 3. The Council of Ternera Asturiana is in charge of control activities of the brand. All the economic agents involved in the GI must be registered and must meet brand specifications (restricted membership). Compliance with the specifications is checked by means of the control mechanisms listed in Table 3. Some controls are exhaustive, such as checking origin from registered farms with individual identification of each calf. Other controls are done randomly, such as DNA tests on of the meat sold.

Table 3: First-level devices of quality control in GI

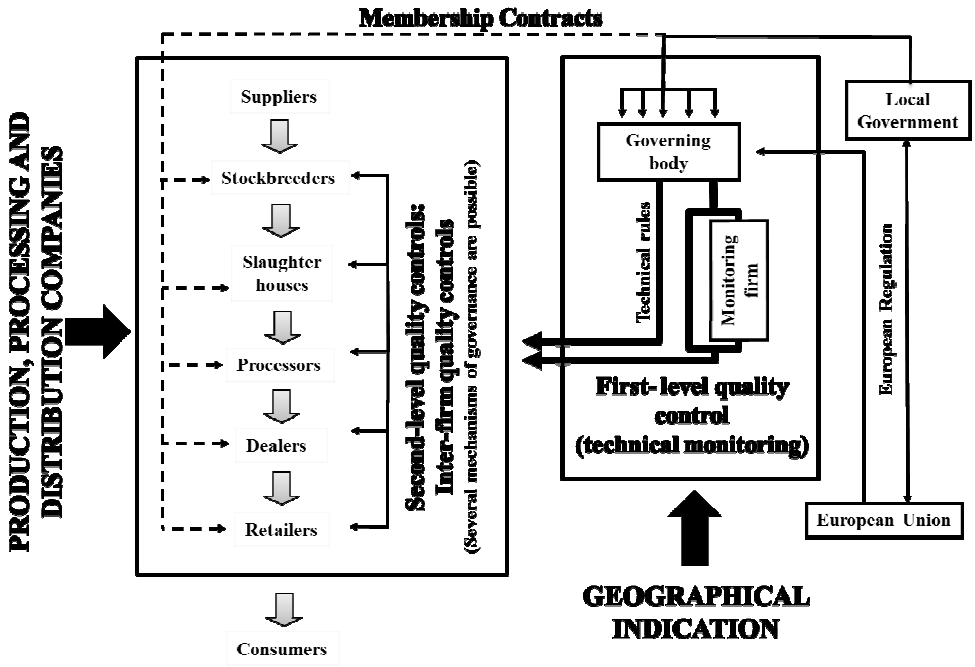
Brand name	Specifications and membership restrictions	First-level controls
Prosciutto di Parma	• Geographical origin • Breed • Breeding phase requirements (milking, weaning, fattening...) • Minimum fattening period • Minimum live weight of pigs before slaughtering • Maximum time for slaughtering • Quality scheme for pig carcass evaluation • Limited ingredients for seasoning and salting • Minimum period for ham maturation • Traceability • Official registers of members: stock farms, slaughterhouses, ham producers, managed by IPQ; membership may be withdrawn for non-compliance	• Identification of young pigs at farms by a tattoo on each back leg within 30 days of birth • Checking at slaughterhouse of written documentation of the breeder, certifying origin and tattoo and evaluation of carcasses • Identification at slaughterhouse by means of a fire brand on each leg, approval and completion of written documentation • Checking at the ham factory of fire brand and written documentation on each piece • New seal is applied to each fresh ham with a code indicating the starting date at the ham factory • Control of each mature ham and new, easy to see, fire brand is applied to each ham or printed on each pack of sliced ham
Scotch Beef	• Geographical origin • Feed composition and storage • Stockmanship and welfare: housing and handling facilities • Medicines and veterinary treatments: existence of a stock health plan • Livestock movement record book and medicines book must be up to date • Haulage conditions • Auction mart standards • Processors standards • Traceability • Commercialization standards • Official registers of members: stock farms, auction markets, slaughterhouses, meat plants and butchers managed by SFQC; membership may be withdrawn for non-compliance	• Control of origin of stock, housing and handling facilities, feed composition and storage, medicines and veterinary treatments, movement record and medicine book, stockmanship and welfare, and staff assessment at farm level once a year • Auction markets are controlled on a market day • In abattoirs and meat plants the production process, production environment, production and distribution facilities and records are verified • Butchers are monitored every year to guarantee product origin, authenticity of supply and product identification at point of sale
Ternera Asturiana	• Geographical origin • Breed • Minimum suckle period • Feed composition • Housing conditions • Maximum age of the animal at slaughter time • Pre-established conformation and fat cover of carcasses • Ph value after slaughtering and colour of meat • Labelling and commercialization standards • Traceability • Official registers of members: stock farms, slaughterhouses, cutting plants and wholesale suppliers, managed by the Council of Ternera Asturiana; membership may be withdrawn for non-compliance	• Identification of calves at farms by means of an eartag and an information sheet • Identification of animals at slaughterhouse • Classification of carcasses • Checking of data and documentation before certifying each carcass • Microbiological analyses • Labelling of cuts • Inspection of cold storage rooms, quartering houses and retailers • Control over carcasses or cuts sold at market level

From the above case description, it is clear that GI combines two types of participant (see figure 3). On the one hand are companies related to production, processing and

distribution, and, on the other, institutions for the control and regulation of these activities. This entails separation of ownership of production resources and quality control. Owners of production resources may, nevertheless, exert indirect control on these institutions through their representatives in them.

Within the institutions in charge of GI control and regulation, the governing body (consortium, council or association) is a key player. The (local or national) government, the real/ultimate owner of the brand, delegates many decision rights to it. The governing body is in charge of the drafting and approval of the technical rules. It sets a detailed list of specifications that define a distinctive quality (see table 3). It controls membership, by checking *ex ante* that any agents seeking to become members of the GI and the associated firms (producers, distributors, retailers, etc.) fulfil these requirements. It ensures *ex post* that all the members abide by the regulations, guaranteeing that the product remains in line with the pre-established quality standards. It has power to impose penalties in case of repeated breaches of the specifications, the harshest penalty being exclusion of a member from the GI. Finally, it deals with all the brand promotion and development activities.

Figure 3: GI case organization



4.2 Private Brand Cases

I. The *BonÁrea* brand is owned by Corporación Alimentaria Guissona (CAG), the second group in the meat sector in Spain. Its sales in 2011 were €1.295 million (www.cag.es, accessed on June 12th of 2012). CAG was founded in 1959 as the Cooperative Guissona and today has 3,300 employees, 12,000 partners and 4,500 shareholders. It sells a large proportion of its

livestock production directly, without intermediaries. CAG today has a high degree of vertical integration and actively participates in the whole production process. Today the cooperative partners produce feeds and reproduce and breed livestock, following CAG's procedures and instructions. Although these are its main areas of competence, the company also fattens young animals, slaughters them in its own slaughterhouses and obtains, after a transformation process in the company facilities, different meat products for distribution and sale through its franchised network of stores (BonÁrea).[8]

CAG sets its own specifications and checks compliance itself. There is practically no involvement of external agents in the supply chain. There are three basic raw materials in the meat production process: cattle, fodder and medications. These resources are controlled by means of upstream, practically complete, vertical integration. The most outstanding specifications and controls are summarized in Table 4.

II. The *Filière Qualité Carrefour* (FQC) is owned by Carrefour, the second largest retailer in the world in 2010 after Wal-Mart (Deloitte, 2012). Carrefour attracts more than 100 million customers every year, and generates close to three billion check-out transactions. Net sales in millions of euros in 2011 were 81,271 worldwide (www.carrefour.com, accessed on July 19th, 2012). Carrefour today has more than 460 dedicated supply chains worldwide ("quality chains") for various fresh products (http://www.carrefour.com/cdc/responsible-commerce/our-social-and-ethical-approach/the-group-and-its-suppliers, accessed on June 14th, 2012). The beef chain was the first to be implemented in France in 1992.

With its FQC brand, Carrefour decided to rely on tighter coordination with upstream firms (see Mazé, 2002). Carrefour establishes trilateral, long-term, formal agreements with cattle breeders and slaughterhouses.[9] Although no exclusive agreements are signed, the relationship with the retailer is close: the firms have to adapt their facilities to Carrefour's technical specifications as well as their fattening techniques, feeds, and slaughtering and maturation conditions. In all cases, Carrefour is always at the centre of the organization and figures in all contracts with each participant in the upstream supply chain. Furthermore, Carrefour has also promoted the creation of large farmers' associations in production areas

[8] CAG has 397 establishments "Bonarea" (www.cag.es, accessed on July 19th, 2012). In 2010, 97.4% outlets were franchises (www.franquiciashoy.es/revista-online/176, accessed on June 11th, 2012).

[9] It is interesting to contrast the actual governance of the supply chain with the one before the creation of the FQC brand. Before the implementation of the FCQ, spot market and informal agreements were the dominant modes of governance between Carrefour and backward agents. Carrefour was dealing on a regular basis with a set of slaughterhouses with agreements tacitly renewed if the providers were meeting the market price and the general safety requirement defined by public regulation.

where individual farmers were less organized. These producers' associations negotiate with Carrefour the definition of the specifications and quality control planning. They are involved in the registration of the feed providers for FCQ's farmers. Carrefour establishes lists of specifications that affect every step in the supply chain from beef production to sale. Carrefour controls all decisions on FQC beef products through an internal department that deals with all supply chain affairs. Carrefour has hired certifying companies to perform field audits and has a coordination unit to direct and supervise their work. The certifying controllers add independence to the monitoring process and perform the field work (*i.e.* visits, inspections, tests, etc.). The only control carried out directly by Carrefour is on the meat sent to the stores from slaughterhouses. The most significant specifications and control activities are shown in Table 4.

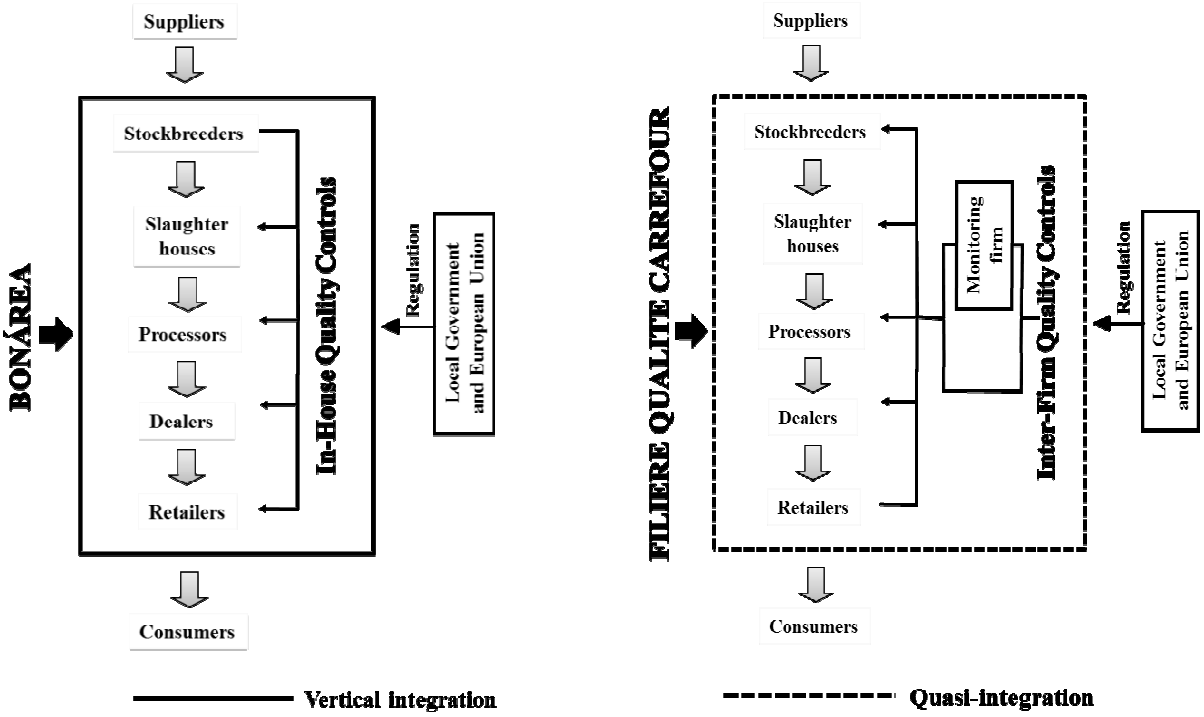
Table 4: Quality control mechanisms in private brands

Brand name	Specifications and selection of partners	In-house controls	Inter-firm controls
BonÁrea	• Production and provision of fertilizers and plant health products to fodder producers • Technical assistance in building and farm performance • Internal specifications • Controlled supply of feed • Training for cooperative members • Technical veterinary support • Traceability	• Lists recording all accidents and losses in herds • Cattle weight • State of animals arriving at slaughterhouse • Microbiological and physical-chemical checks on meat • Control of finished product • Study of clients' satisfaction through questionnaires • ISO 9002, ISO 22000 and ISO 14001 controls	• Control of external supply sources (of little significance because of almost complete vertical integration)
FQC	• Mixed breeds (no dairy breeds and no young bulls) and animal origin • Written and formalized list of specifications for beef production and slaughtering firms (includes maturation time) • Formalization of written tripartite contracts between Carrefour, a specific slaughtering firm and a producer's association • Formalization of control planning • Traceability • Register of authorized feed manufacturers and cattle dealers • Accreditation, by an audit before the start of the business relationship, for slaughterhouses, producers' associations, cattle dealers and feed firms	• Control at supermarkets	• Periodic audits of feed firms, local producers' groups, dealers and slaughterhouses • Quality controls at farm level (private cattle dealers) • Logbook at farm level • Control of meat shipped from slaughterhouses

The organization of private brands is shown in Figure 4. In BonÁrea, mechanisms to coordinate agents are mainly based on fiat. CAG establishes internal controls or tracking mechanisms (in-house controls). This means that the firm is authorized to decide whether the product has the necessary hygiene, health and appearance attributes to continue in the production process (compliance with predefined specifications). In FQC, where formal long-term contracts are the dominant mode of supply chain governance, new inter-firm controls are added to the in-house controls carried out by each firm. These controls are carried out by Carrefour, whose reputation

is at stake in the final market even though independent controllers have been hired. They aim to verify compliance with the specifications set by the owner of the brand, and to guarantee a standard production process and avoid opportunism.

Figure 4: Private brand cases organization



5. CASE DISCUSSION

Our aim in this section is, first, to present a set of regularities in GI governance, and second, to compare their vertical chain organization with private brand organization to stress key differences and to show how organizational challenges are solved.

If we observe Figure 3 and Figure 4, which show, respectively, GI and private brand organization, we see that the main organizational difference is the coexistence of two layers of governance in the GI cases. GIs combine a set of safeguards built around a collective geographical brand name (which we call "first-level" mechanism of governance) and around participants in the production process ("second-level" mechanisms of governance). The first level governs the GI through a collective decision-making body (the governing body). EU and local regulations require a board of directors for the governing body (constituted by local authorities and industry representatives), which manages and enforces the collective rules. The second level governs the production process (vertical chain) through any type of traditional bilateral governance structures (from hierarchy to arm's-length transaction).

This maintains a dual and separate system for both quality control and decision-making. Decision rights over the brand are collectively defined and managed by the governing body while individual vertical chain members remain free to organize their bilateral transactions the way they want (as long as they respect quality specifications). For quality control issues, GIs also result in overlapping but independent quality control mechanisms. The governing body carries out quality controls, usually in parallel with private in-house and inter-firm quality controls along the vertical chain (see Figure 3).

From a theoretical perspective, the first level corresponds to what New Institutional Economists refer to as "public ordering", *i.e.* coordination achieved through public regulation (here the GI regulation) and/or by law (Dixit, 2004). The second level refers to what Williamson (2002) calls "private ordering", *i.e.* the rules adopted and enforced by private parties (such as private firms, business associations...). Therefore GI appears to be a mixed system where public and private ordering are combined (Ménard and Valceschini, 2005) to form what could be called "public-private partnerships" (Bult-Spiering and Dewulf, 2008; Yescombe, 2007). In the food sector, some studies have stressed the advantages of such a combination for the provision of food safety (García Martínez *et al.*, 2007; Narrod *et al.*, 2009). The private brand cases studied serve as an example of vertical chains where only private ordering, reached by agreements among parties or by vertical integration, operates.

Apart from the overlapping of layers, another striking difference between GI and private brands is the "second-level" mechanism. Vertical transactions are mostly governed by "market-like" modes of organization in GI cases. In contrast, explicit contracts and/or vertical integration are more prevalent in private brands. While this difference may reflect a selection bias due to the small number of cases, there is a general trend in many agrifood sectors, in the meat sector in particular, toward greater contractualization or, more generally, tighter vertical coordination (Díez-Vial, 2007; Hobbs and Young, 2000; Jang and Olson, 2010; Martinez, 2002). One possible explanation for this difference is that, in GI cases, part of the quality monitoring along the vertical chain is already dealt with by the governing body (first-level quality control). Members thus do not need to replicate explicit provisions to assure quality in their bilateral contractual arrangements (Raynaud *et al.*, 2005). On the other hand, owners of private brands whose quality heavily relies on other steps in the vertical chain need to explicitly stipulate how to prevent opportunistic behaviour by their suppliers and/or distributors in their contracts.

Another difference is that consumers clearly observe two different brand names on the GI

products. All GI cases present this co-branding and it seems that both brand names are relevant for consumers (Chever *et al.*, 2012; Fernández-Barcala and Gonzalez-Diaz, 2006).

5.1 How GIs attenuate free-riding

Free-riding is the first important organizational challenge that must be solved by all collective or shared brands. As described before, free-riding can be "external" and/or "internal".

The European regulation solution for mitigating "external" free-riding (misappropriation of the geographical name) was, first, to take the property rights over the geographical name out of the public domain and allocate them to the local or national government, which then delegates its control and management to a governing body and defines a geographical area of production/transformation. This (publicly enforced) area splits agents into potential members or non-members of the GI according to their location or the origin of their inputs. Table 3 shows that all GI cases define this geographical origin. Second, the governing bodies exert great efforts to differentiate their products and be identified by consumers by their own brand name (the GI official logo). Table 3 shows how each item has additional symbols that may be used on the label or packaging of products whose names have been registered as GI to protect "official" products from imitators. Prosciutto di Parma applies a tattoo on each back leg of pigs, identifies each leg at the slaughterhouse by means of a fire brand, a new seal is applied at the ham factory, a seal is printed on each mature ham and each pack of sliced ham is branded. Scotch Beef producers are the only ones in the United Kingdom that use the figure "1" at the beginning of the country code in their product labelling. Ternera Asturiana identifies each calf by means of an eartag that must accompany the animal until it is slaughtered. At the slaughterhouse, if evaluation shows the carcass to comply with the rules, it is then identified by marking and certifying each piece with a numbered label. A Certificate of Guarantee is also issued for each half carcass.

"Internal" free-riding is managed by granting the GI governing body the right to regulate access to the GI through control over membership. This is exerted by imposing *ex ante* criteria for applicants and carrying out *ex post* monitoring of members' behaviour. Applicants have to fulfil the criteria as well as any additional specifications for the production process (see Table 3 for additional information). Commitment is formalized through a membership contract between individual members and the governing body. Formalization is relevant here because it allows for verification of the commitment by a third party (Deaton, 2004; Hatanaka *et al.*, 2005), because it reduces parties' discretion (Aiken and Hage, 1966; Macneil, 1980) and, finally,

because it grants the governing body the right to terminate the contract. Once explicitly authorized, regular checks are made by the governing body (or by a hired company) to ensure compliance with the requirements and facilitate traceability in case of problems (see Table 3, right hand column for quality controls at each step). Any members who do not meet established requirements lose their membership.

The fear of exclusion, however, will act as a credible sanction only if excluded members suffer real economic losses. So, if participants in the vertical chain make private GI-specific investments whose value would be lost or reduced in case of exclusion, these act as a bonding device. Losing access to the GI may also have negative economic consequences for excluded members if their private brands are poorly recognized by consumers. It is clear from section 2 and from previous literature (Chever *et al.*, 2012; Fernandez-Barcala and Gonzalez-Díaz, 2006; Moschini *et al.*, 2008; Van Ittersum *et al.*, 2007) that co-branding and particularly GI brand name adds a price premium which will be lost, at least partially, if members are excluded. Also, entry requirements specifications, as well as other vertical restraints, favour the creation of *ex post* rents, which would also be lost in case of exclusion.[10]

Case analysis of private brands shows that the free-riding problem is less relevant for them. This is because all property rights are allocated to a single owner who is the residual claimant. The owner decides who may belong to its vertical chain and he may freely refuse membership, even for a company that fulfils brand specifications. CAG and Carrefour control both any external agents who might imitate the brand and "internal" participants who might breach their contractual commitments. Thus, CAG and Carrefour reserve the right to contract with the most suitable economic agents regardless of their linkage with territory or with traditional production methods. In FQC, which is less integrated that CAG, an audit of local producer groups and of dealers and slaughtering firms is performed by the certifying organization hired to accredit them. Once firms are registered, they become subject to periodic audits. As for CAG, external agents cause a minimal impact on its reputation because it is highly vertically-integrated.

5.2 How GIs promote quality enhancement

The second organizational challenge is how to preserve territorial linkage and traditional production methods while simultaneously inducing the continuous quality improvement and innovation that are required for economic sustainability. GI organizations achieve this dual aim

[10] There is obviously a tension between the implementation of these practices and competition policy, as exemplified by various legal cases in the agrifood sectors (see Buccirosi *et al.*, 2002).

by using both coordination and motivation mechanisms.

Coordination mechanisms refer to the governing body activity. As described above, it sets the specifications and quality controls for the "first-level" governance mechanism. Coordination is then raised by establishing in writing and subsequently verifying compliance with the general "rules of the game" and the minimum attributes (specifications) for all products sold under the GI brand name (see Table 3 for details). These requirements facilitate product homogeneity (conformance quality) by fixing the minimum features that are considered key for generating differential organoleptic attributes in the end product. This clearly reduces product heterogeneity, particularly amongst different producers, so enhances conformance quality among all GI producers.

Coordination in private brands also relies on a list of specifications and controls. Table 4 shows the specifications and quality controls applied in BonÁrea and FQC. Although private company controls are similar to the activities of the GI governing bodies, two important differences arise. First, the GI governing body is based on a collective decision-making system which increases its independence from individual producers (even if they have representatives on the governing body) while in private brands there may be conflicts of interest because the owner determines its own controls. Second, the GI brand name on the product adds information (value) to consumers (Chever *et al.*, 2012; Fernández-Barcala and Gonzalez-Diaz, 2006). Conversely, the private monitoring firms which are hired by CAG or Carrefour go unnoticed by consumers, so the potential benefits of co-branding are lost.

Motivation for continuous quality improvement and innovation is achieved by combining members' legal independence with GI-specific investments. All participants in the GI vertical chain are residual claimants and free to invest in improving their products (ecological aspects, packaging ...), bearing the financial consequences of their activities. As each product always carries two different brands, the GI and the producer's brand name, private efforts to improve quality can be identified by consumers and attached to a particular member. They thus have strong incentives to introduce product innovations. Furthermore, although such improvements initially only raise the design quality of the pioneering producer, they may end up also benefiting other GI members. If the governing body considers that such improvements do not affect the traditional attributes and clearly improve the final product, the initial innovation may be progressively adopted by the whole set of members.[11]

[11] Modifying the initial quality specification is not however always easy. Heterogeneous members will be differently impacted by the innovations and some may resist the implementation of these innovations. See Dentoni *et al.* (2012) for a detailed account of the Parma case.

However, the virtuous effect of residual claimancy, that of high-powered incentives to innovate, may also have negative consequences. Residual claimancy provides strong incentives to maximize individual profits, sometimes at the expense of the collective rules. As stressed before, free-riding on conformance quality is a real issue. There are at least two mechanisms in GI that mitigates the negative side effects of legal independence. First, individual agents usually make GI-specific investments (e.g. land, breeds, co-branding, process innovations...) which guarantee the appropriate behaviour of the firms because of their bonding effects (Rokkan *et al.*, 2003). This is so especially if the goodwill of individual brands, thus their value, is positively correlated with the goodwill of the GI (and vice-versa). Any investment in brand improvement at the GI level will improve the returns on investing in individual brands (Santini and Gomez y Paloma, 2013). Second, another way to mitigate the negative side effects of each member's residual claimancy status is to provide them with a flow of profits no smaller than the profits they could have made without collective restrictions. Such profits could be lost if a member is excluded from the GI for non-compliance with the collective rules. Rules restricting entry and competition within a GI may thus be necessary for creating such profits (see Kranton, 2003, for a similar conclusion in the context of asymmetric information on quality for experienced goods).

6. CONCLUSIONS

The aim of this paper is to explain the success of GIs in agrifood sectors. We argue that part of this success stems from the appropriate combination of two mechanisms of governance which, by acting together, mitigate the organizational problems that using a geographical name as a brand name can cause. These problems are free-riding behaviour related to the collective nature of the GI and enhancing quality while preserving the traditional spirit of the products. We used a qualitative approach based on the case study method because of the exploratory nature of this work and the lack of previous studies about the organizational role of GI.

GI solves free-riding and achieves quality enhancement by relying on the overlapping of two specialized, complementary mechanisms of governance. The "first-level" mechanism requires the whole GI to be run by a governing body. By setting product and process specifications, performing quality controls and deciding on membership (*i.e.* the right to use the GI), this governing body improves vertical chain coordination, thus mitigating internal and external free-riding and enhancing conformance quality.

The "second-level" mechanism governs private agreements among participants in the vertical chain. It provides parties with private incentives to comply with collective rules and to

invest in enhancing quality. The former is achieved by controlling the GI membership based on the threat of exclusion, which might lead to the loss of rents or quasi-rents. The latter is achieved by allowing individual members to identify (co-branding) and implement valuable quality improvements (design quality) above the minimum specifications while retaining the residual claims of these improvements.

These mechanisms complement each other in that it is their coexistence which guarantees that parties adopt efficient solutions in the long run. Neither mechanism alone is able to offer similar incentives. First-level governance mitigates free- riding and enhances coordination but, without the private incentives of the second-level mechanism, it would not be able to motivate parties to invest in the brand and to meet requirements. On the other hand, second-level governance motivates members to innovate and improve design quality, but the high-powered incentive provided by residual claimancy also generates strong incentives to deviate from the collective rules, placing the value of the GI at risk

Comparing GI and private brand names, we obtain two appealing theoretical findings. First, the governance of transactions in the GI along the vertical chain is very "market-like" and dominated by informal agreements. This might be because the GI regulations and the governing body rules offer the necessary coordination (normalization and controls) that have to be reached by more vertically integrated solutions in private brands. In a sense, GI regulation crowds out vertical integration. A related finding is that, contrary to what might be expected, the GI's combination of two mechanisms of governance does not make quality controls redundant. This is because first-level controls substitute second-level controls. Only if private GI participants do not trust their own governing body controls, should they introduce redundant quality controls and, then, market-like solutions along the vertical chain would be more costly (Dentoni *et al.*, 2012).

Second, GIs and private brand names yield a similar level of resources coordination but we observe that GIs (co-branding) offer more information to consumers than private brand names. Co-branding offers two different, specialized labels or signs to consumers (the geographical brand name and the private brand name), information which is not usually available in private brand names. The latter frequently include other private quality control signs (such as Globalgap or IFS Food) but they are not so informative to consumers because they are not as easily recognized as geographical names are.

In sum, this GI governance analysis is valuable because it shows that GIs are more than just collective brands: GIs are a vertical chain governance solution for situations in which brand name property rights remain collective.

Given that GIs are the main quality scheme in the Common Agricultural Policy, it is also possible to extract some insights for policy makers. We stress that GIs only work when there is a misallocation of brand name property rights and when both governance mechanisms work together. The first-level mechanism may, however, come into conflict with competition rules and antitrust authorities (see Buccirosi *et al.*, 2002, for several examples). The consequences of typical GI practices, according to the competition authority, might be the creation of useless barriers to entry, price fixing and other forms of collusive behavior. While it is beyond the scope of this paper to delve deeper into this question, our results suggest that some of these restrictions aim only to avoid expropriation of participants' quasi-rents or rents by internal and external free riders and that these restrictions are necessary for solving problems in brand names where property rights are not allocated. Prohibiting these practices may endanger the governance of these quality schemes and, ultimately, their sustainability (see Ménard, 1998, for a similar conclusion).

Finally, we are aware that more research is needed to fully understand how quality brand names work, particularly GIs. The next step would be to corroborate our main conclusions by econometric analysis. This includes the observed dominance of market-like bilateral governance in GI as compared to private brands, the more informative capacity of GI co-branding, the complementarity effect between the two overlapping mechanisms of governance and the effectiveness of GI organization only when a problem of misallocation of brand name property rights is present. All these findings may be biased because we have selected mostly "successful" GIs, and the existence of *ex post* rents is key for explaining how they function. For example, GI members might invest more in their private brands if they perceive that the GI is not working as smoothly as it should.

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