

# Quality Assurance Mechanisms in Agrifood: The Case of the Spanish Fresh Meat Sector\*

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## Abstract

The largest fresh meat brand names in Spain are analyzed here to study how quality is signaled in agribusiness and how the underlying quality-assurance organizations work. Results show, first, that organizational form varies according to the specialization of the brand name. Publicly-controlled brand names are grounded on market contracting with individual producers, providing stronger incentives. In contrast, private brands rely more on hierarchy, taking advantage of its superiority in solving specific coordination problems. Second, the seemingly redundant coexistence of several quality indicators for a given product is explained in efficiency terms. Multiple brands are shown to be complementary, given their specialization in guaranteeing different attributes of the product.

**Key words:** quality assurance, co-branding, agriculture, vertical integration, contracts.

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## **1. Introduction**

Brand names have become surprisingly important in the fresh meat market. Fresh meat has traditionally been sold mainly without brand name. However, 5-10% out of the fresh meat is now sold as quality meat.<sup>1</sup> In this, up to three simultaneous brand names are used, referring meat's origin and quality. It seems, therefore, that brands have replaced the traditional butcher's role in guaranteeing meat quality with his own reputation. This is probably due to two causes. First, the increase in the opportunity cost of the traditional housewife has changed shopping habits from the traditional butcher model towards the supermarket and hypermarket model.<sup>2</sup> Second, health scares such as the "BSE crisis", the "Belgium chickens" or the "foot-and-mouth disease fever" are just some of the terms which European consumers associate with fraud in meat products in the last five years. In fact, although total fresh meat consumption has increased by 1.4% from 1994 to 1999, beef and chicken consumption have decreased in 9% and 7%, respectively.<sup>3</sup> Consequently, brand names have become the main quality signal for consumers, motivating the establishment of numerous new brands.

Those brand names differ substantially among them. On one side, they signal different dimensions of quality. In fact, some of them do not indicate "high quality" attributes,

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<sup>1</sup> Internal estimations of Empresa Asturiana de Servicios Agrarios for 1999.

<sup>2</sup> In 1994, purchases of fresh meat in major retail outlets (supermarkets and hypermarkets) were at 47.85%, rising to 49.19% in 1999. Likewise, shopping in traditional shops decreased in the same period from 41.26% to 38.27% (MAPYA, 2000, p. 207). The same tendencies have been maintained since the eighties.

<sup>3</sup> MAPYA (2000, pp. 59-60).

but only the homogeneity of their products. In this sense, it is not difficult to find reputable brand names in which awareness comes mainly from the homogeneity of the product instead of its organoleptic attributes (McDonalds' hamburgers could be an example). On the other side we can differentiate two types of brand names, depending on who guarantees the quality. First, when the guarantee comes from a private firm, the quality signal is the typical private brand name. For example, in agribusiness, it is frequent that the distribution companies, usually the larger ones, launch their own brands, guaranteeing product quality themselves (such as the Spanish "Corte Inglés" or the French "Carrefour").<sup>4</sup> A variation of this type of brand name comes about when a well-reputed company is hired to guarantee consumers the quality of other product. This is the case of the of quality certificates, such as those of Lloyds or AENOR, which guarantee to the consumer that the producer follows certain rules and procedures to detect and avoid bad quality output. Second, a public or governmental institution can guarantee consumers the quality of the product. It is when a company sells its product sheltered by the prestige of some specific geographical spheres and/or production methods related to a superior product quality. In this case, we refer to this quality signal as "Geographical Indicators" from here on out, including Protected Denomination of Origin (PDO),<sup>5</sup> Protected Geographical Indicator (PGI) and the Guarantee Brand Name. Although there are some differences among them regarding the degree of exclusiveness within a territory, all are brand names protected by the European Union.<sup>6</sup> Both

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<sup>4</sup> The owner can also adopt other legal forms, such as co-operatives or associations of producers. In those hybrid cases the only difference lies in the collective ownership of the brand name that guarantee the quality to the consumers.

<sup>5</sup> See on this, Castillo (2002).

<sup>6</sup> The process undergone by a hypothetical product with denomination could be as follows: an Autonomous Region grants the Guarantee Brand Name. The product is therefore accepted

categories of brand names, private and public, are however nonexclusive, overlapping subsets: we observe that one single product could be retailed with more than one brand name.

The aim of this paper is twofold. On one hand we want to analyze which mechanisms of governance are used to solve different dimensions of the information asymmetry (high attributes and their homogeneity). On the other hand, we want to explain the economic rationale of “co-branding”: the concurrence of more than one brand name on the same product.<sup>7</sup>

The remaining of the article is organized as follows. First, we describe the typical problems and solutions involved in guaranteeing the quality of products. Section three defines our two hypotheses: First, the mechanisms of governance chosen to manage a brand name will depend on the objective of each brand. Second, the different types of brands that we observe are complementary in assuring quality. These hypotheses are tested using six case studies, which are described in section four. The empirical test is discussed in section five. Section six concludes.

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within the regional territory. As long as the product is suitable, the Autonomous Region proposes it as a Specific Denomination or as Denomination of Origin, depending on the nature of the product, being confirmed by the Ministerio de Agricultura, Pesca y Alimentación (Spanish Ministry of Agriculture). In this case, the product is accepted at both the national and international levels. To be a product with a Specific Denomination or Denomination of Origin, the product does not have to have first been a product with a Guarantee Brand Name. The products recognized by the Spanish nation are also recognized by the EU as products with a Protected Geographical Indicator, Protected Denomination of Origin or Guaranteed Traditional Specialty.

<sup>7</sup> Co-branding is not exclusive of agrifood products. Credit cards and computers are other well-known examples. See Blackett and Boad (1999) for an extensive overview on this topic.

## 2. Quality Assurance

### 2.1. The Problem

The problem of quality lies in the fact that the consumer cannot always determine the quality level of a product before purchasing it. This information asymmetry increases the chances of opportunism,<sup>8</sup> which can even prevent the transaction from taking place.<sup>9</sup> The intensity of this problem depends on the characteristics of the product. On this subject, three types of product attributes that determine their potential controversial nature have been identified: search, experience and confidence,<sup>10</sup> of which only search attributes can be determined before purchasing. The larger the influence of experience and confidence attributes into the consumer utility function, the bigger will be the information asymmetry problem and the more interested the producer will be in assuring the product's real quality.

On the other hand, the information asymmetry of a product's quality presents two dimensions: the average or expected quality of a producer or brand and the deviation of each product from that average value.

The first dimension refers to the qualities consumers may notice in the different attributes that form the product and the way they value them. This is often called "subjective" or "design" quality and is related to the degree to which they satisfy the

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<sup>8</sup> See, for example, Williamson (1985, pp. 47-48).

<sup>9</sup> See, for example, Akerlof's classic work (1970).

<sup>10</sup> See Nelson (1970) and Darby and Karni (1973).

customer's preferences.<sup>11</sup> They usually coincide with the more limited and difficult-to-obtain attributes, at least among regular or experienced consumers. Agrifood products are no exception, and although it is commonly said that “there is no accounting for taste”, consumer preferences are far from being determined by chance, usually concentrating on well-known and defined organoleptic characteristics.

The second quality dimension refers to the homogeneity between products of the same producer, or protected by the same brand. This dimension is related to the degree to which the pre-established design conditions are observed and is often called “objective” or “conformance” quality.<sup>12</sup> In the agrifood sector, these aspects were not traditionally of concern, and were more typical of industrial products than of agricultural or cattle products. However, the success of products considered as low-quality at first but very homogeneous—such as hamburgers and sausages—shows the importance that the consumer of foodstuffs gives to being sure about the quality of the products purchased, regardless of their organoleptic attributes. Nevertheless, this difficulty has a technological origin since it is hard to know how the different variables affect the final quality of the product. This makes homogeneity one of the main concerns for producers.

## 2.2. The Solution

The most common way of solving the problems caused by informational asymmetry on quality is that the informed party (the producer) signals its private information by adopting a behavior (by *investing* in brand name) that, properly interpreted, reveals their information to the non informed party (the consumer). This signaling involves

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<sup>11</sup> See Edwards (1968).

committing the quasi-rent from his reputational capital in every exchange.<sup>13</sup> In this sense, the producer must first create a reputation for his brand name in order to be able to use it later as a guarantee. For that purpose, he must start offering high quality in repeated transactions. Only in that way, after repeated purchases of experimented or confidence goods, will consumers gradually realize that the quality offered is suitable and consistent with the passing of time, being confident that they will not be deceived. In exchange for that superior quality, consumers are willing to gradually pay for that brand name a price increase or “premium” with regard to other products that have not been signaled and do not offer these guarantees.

In perfect competitive markets, this premium represent the normal profitability of the investment made by the company in its reputational capital, and will depend on the problems it resolves for the consumer. Thus, it is likely that the consumer dislikes both a low average quality of the products and a high deviation from expected or mean quality. Thus, a high average quality would imply that the consumer is willing to pay a positive “quality premium”, and a low variance from that mean would cause a “homogeneity premium” (see Table 1).

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<sup>12</sup> See Crosby (1979, p.15).

<sup>13</sup> See Klein and Leffler (1981) and Shapiro (1983) for two pioneer models of this process.

**Table 1: Quality Premiums in Agrifood Products**

		<i>Subjective quality (organoleptic attributes)</i>	
		<i>superior</i>	<i>Standard</i>
<i>Objective quality (homogeneity)</i>	High	Ideal situation: “quality premium” plus “homogeneity premium”	“Homogeneity premium” (but no “quality premium”)
	Low	“Quality premium” (but no “homogeneity premium”)	The worst situation: neither “quality premium” nor “homogeneity premium”

The combination of quality premiums, the specificity of reputational capital and repeated transactions make the producer's signaling credible. Consumers know that if they are deceived, the present value of the company's reputational capital decreases because its future transactions would be endangered if their clients do not trust them. The business of the producer is not to take advantage in a short-run, but to obtain “normal” profits from his investments from many long-run exchanges. In other words, the producer would lose the value of his quasi-rents, generated from the investments made to create his reputation.

### **3. Hypotheses**

#### **3.1. Specialization and Contract Design**

Our first hypothesis argues that depending on the objective of each brand name in solving quality problems (low mean quality and product heterogeneity), the mechanisms



of governance selected and the contract design will be different. Brands that place more emphasis on the homogeneity of the product (i.e. they are seeking to reduce the variance of the attributes of the product) display governance mechanisms similar to hierarchies. Conversely, those that attempt to guarantee mainly the average characteristics of the brand are more likely to be based on the market.

The theoretical justification for this argument is based on the conjecture that some mechanisms are more appropriate for solving coordination problems (hierarchies) while others are for solving motivation problems (markets). Where the aim is to obtain a homogeneous product, the chief goal is a good coordination of inputs, even more than having a perfectly designed product or the avoidance of small local imbalances in the inputs. For this kind of decision, in which the main problem is the timely synchronization of activities and resources, transaction cost literature argues that it is more costly to coordinate activities through the market than through hierarchy.<sup>14</sup> On one hand, probably the best information about coordination is only available to the party that is central to all the other agents involved. However, in order to make the market work, it would be necessary to transmit all that key information to each decision-maker and this would entail important transfer costs. On the other hand, it is also feasible that the reaction of each agent to changes in prices would depend on their wealth and risk preferences, hindering the coordination goal.

The market offers better results when the characteristics sought are not so much the coordination and homogeneity as the superiority of the specific organoleptic attributes. In this case, the relevant information (how to obtain the best attributes) does not come

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<sup>14</sup> See Williamson (1985 and 1991) and Milgrom and Roberts (1990 and 1992, pp. 91-92).

from this central party, but is dispersed throughout the organization or even among the different producers (the specific know-how of each producer). Moreover, in this case, according to the theory of incentives, it is possible to offer internal incentives to the different agents so that they feel appropriately motivated to seek these attributes. Market transactions usually provide this kind of incentive.

We can also anticipate the characteristics of the contracts used in these two types of transactions. We expect more complete contracts in those brands that aim mainly at homogenous products, since it is necessary that the performance of each agent be precise and coordinated. This requires detailed performance guidelines for the parties, whether they are employees or external business associates. On the contrary, when the objective of the brand is a high subjective quality based on organoleptic attributes, it is common to use relatively incomplete contracts, in which only general performance guidelines and the mechanisms for solving problems are established, without specifying *ex ante* specific performances.

On the other hand, the decision-making capacity of the agents will be much higher for those brands that seek the superiority of their organoleptic attributes than for those that try to guarantee a homogeneous product. In the first ones, specific local knowledge is fundamental in order to develop high-quality products. This is difficult to transmit given the great variety of conditions each farming enterprise has to face. On the contrary, when the basic aim is to guarantee the homogeneity of a product, all the agents must act in coordination in order to offer identical answers to the same problems.

### 3.2. Complementarities between Geographical Indicators and Private Brand Names

Products with a Geographical Indicator also show the brand name of the associated producer. This coexistence of quality signals raises a question about its economic rationality, specially when they are compared with a product with just a private brand name. There seems to be a redundancy in those two quality signals—the Geographical Indicator and the name of the producer—, missing the economies of scale that could be reached by using only one. It is frequently asserted that the most important benefits of brand extension —the introduction of a new product under a well known brand name— against the decision to launch a new brand are the lower costs to build-up awareness, achieve the target trial levels and communication efficiencies.<sup>15</sup> Consequently, why do we observe several brands for the same product within geographical indicator schemes?

Our hypothesis is that the different brands we observe are complementary in assuring quality and, therefore, are not redundant. On the contrary, an investment in one of the brands increases the value of the others, a situation from which a private brand could benefit. The reason for this complementary lies in the specialization of functions which gives rise to an ideal assignment of property rights over the different attributes or dimensions of quality. This could make up for the possible advantages of using only one brand.

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<sup>15</sup> See, for instance, Keller (1998, p. 455) and Ambler and Styles (1997, p. 224), and their references to empirical studies on the matter.

To understand this point requires, first, explaining that Geographical Indicators provide a safeguard against the expropriation of specific investments.<sup>16</sup> Hypothetically, if all producers in an area were allowed to use the geographical name (i.e., if property rights on those names remain in the public domain), there would not be any incentive to invest neither in the reputational capital of that geographical name nor in associated private brand names. The reason is that the investments could be easily expropriated. The answer is the creation of a legal independent entity, the Geographical Indicator. This entity then holds the property rights on that geographical reference. This protects both the producers who use that brand as the basis of their own reputation and the reputation of the geographical name itself.

On one hand, producers are interested in punishing those of them who do not abide by the quality standards. Thus, the value of the geographic name is protected from damage, enhancing the investments of the associated producers in their own brand names. These latter investments are specific to the continuity of the Geographical Indicator on which they are based. They, therefore, can be expropriated by other producers, a problem mostly absent for products sold under a private brand.

On the other hand, producers are also interested in separating the control of the Geographical Indicator from its management. In their analysis of hierarchies, Fama and Jensen (1983) find that a common pattern consists of dividing the decision process in a way that management and control functions are separated in different individuals unless they are compensated with the residual rent. This allocation of functions applies, for instance, to the separation of ownership and control in open corporations. Its main

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<sup>16</sup> The analysis of asset specificity was pioneered by Williamson (1975 and 1979) and Klein,

advantage is to contain the moral hazard plaguing any agency relationship, developing a special kind of specialization: managers act as decision controllers and are themselves controlled by other managers, in a hierarchical fashion, and, eventually, by owners paid with the residual rent.

The Fama and Jensen framework is applicable to our case. Geographical Indicators play the role of decision controllers, whereas private brands adhering to them are equivalent to managers. Thus, owners would care that private producers do not expropriate the investments they have made in the reputational capital of the Geographical Indicator. Otherwise, producers would be interested in doing so because they would not have to totally sustain the cost of their decisions. For example, when selling under the same geographical name, if a private brand lowers the quality of its product, it would totally benefit from the cost savings. The negative consequences, however, would be shared among all the producers who used that geographical reference in their brand name.

#### **4. Case Description**

The production process of fresh meat begins with the breeding of the different animal species and breeds, fed in farming enterprises until they reach the appropriate slaughter age (variable according to the species, breed and type of meat). Slaughtering can only be done in centers authorized by the health authorities, called slaughterhouses. The resulting product, the carcass, is carried to the quartering rooms where it is cut into quarters. Finally, the distributors carry out the final cutting work and presentation once

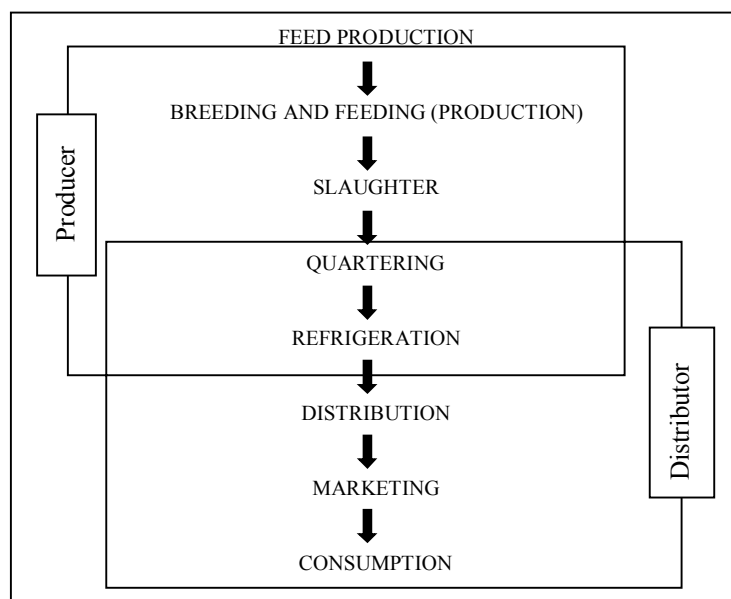
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Crawford and Alchian (1978).

the product has reached its optimum point of maturity after the pertinent airing (distributed among the slaughter houses, the refrigerating rooms and the distributors).

Figure 1 represents the different phases in the supply chain of fresh meat.

**Figure 1: Supply Chain of Fresh Meat**



The maturing period and the breed are probably the most important factors determining the organoleptic characteristics. The reason is that, according to some studies, the most valued characteristic by consumers and what most affects future purchases is the tenderness (Barton-Gade, Cross, Jons and Winger, 1988; Monin, 1991 and Love, 1994). Conducted studies show that the beef appreciated by tasters is more sensible to the period of meat maturing than to the own breed. In fact, the tasters do not appreciate differences among breeds when maturing periods are long enough (more than 21

days).<sup>17</sup> However, breed significantly affects the tenderness in short maturing periods. Color is another valued characteristic in beef (Barton-Gade, Cross, Jons and Winger, 1988; Monin, 1991). In this case, breed is probably the main factor determining the color but the problem is that there is no clear preference for any color: in France red meat is valued higher than in Spain, where pink meat is associated with tender, fresh and natural meat.<sup>18</sup>

#### 4.1. The sample

The test of the hypotheses presented in the previous section has been carried out on a sample of quality sign cases (different brand names) in the fresh beef sector. The cases were selected with a double objective. First, the sample had to be representative of the market quality signals. In this sense, our sample represent 65% of the whole labeled beef sold in Spain in 1999.<sup>19</sup> Second, we tried to include all types of brand names, from private brand names to the different types of geographical indicators, such as PGI and Guarantee Brand Name).<sup>20</sup> On the one side, we have selected three out of the four private brand names which operate at national level (*Calicarne*, *Calidad Tradición Carrefour*, and *Corporación Alimentaria Guissona*). Their market share (the three brands) is around 80% of private beef brand names. The first, *Calicarne* is a pseudonym

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<sup>17</sup> See Campo *et al.* (1999, p. 387).

<sup>18</sup> See Fernández (1991) and Sañudo *et al.* (1999). According to these studies, the belief that older animals have more red meat is inaccurate.

<sup>19</sup> We have estimated that all labeled beef is around 8.2% out of total beef consumption in Spain in 1999. EASA, a Spanish agricultural consultant firm had estimated 5% in 1998.

<sup>20</sup> Based on the Sylvander's Classification (1995), we have left only one aspect uncovered, specifically the UNE, ISO, NE standards or the health and industrial standards. However, these brands are present in the majority of the main economic agents that take part in the sample brands.

for a beef brand name launched in 1994 by the third distributor in Spain. The sales of this quality signal in 1999 were 35,000 carcasses (around 6,860 tons), distributed at the 74 integrated sales points of the firm. The second, *Calidad Tradición Carrefour (CTC)*, is a brand name of the biggest distributor in Spain (*Carrefour*). Actually, it is an umbrella name used from 1994 in Spain (in France since 1991), which includes several healthy, tasteful and environmentally friendly products. As for beef, 8,000 carcasses (around 1,570 tons) of this quality signal were sold in the 112 hypermarkets that *Carrefour* holds in Spain in 1999. Finally, *Corporación Alimentaria de Guissona (CAG)* is a new close corporation (established in December 1999) owned by the cooperative *Agropecuaria de Guissona*. An idea of the relevance of this brand name can be given by the 23,000 calves slaughtered (around 4,508 tm) in the year 2000 (added to 630,000 pigs, 104,000 lambs, 18.4 million chickens, 1 million turkeys, 6 million quails and 228,000 hens), sold to other national distributors or to its 165 national outlets (most of them franchised).<sup>21</sup>

On the other side, we have selected the biggest and most aware geographical indicator in each category: *Ternera Gallega* as an IGP and *Ternera Asturiana* as a Guarantee Brand Name. We have also considered a small IGP, *Carne de Morucha de Salamanca*, in order to control the influence of size. The first, *Ternera Gallega*, has been considered as a PGI since December 1996 and it is the biggest non-private brand name in Spain. Its 9,967 associated producers yielded 7,291 tm (37,780 carcasses) of beef in 1999, selling all around Spain. *Ternera Asturiana* is the new brand name of *Carne de Asturias Calidad Controlada* that is a Guarantee Brand Name officially recognized in the

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<sup>21</sup> Source: personal interviews with product managers of the companies.



Principality of Asturias since 1996. Its sales were 3,917 tm (15,546 carcasses) in 1999, involving 8,626 associated producers. Finally, *Carne de Morucha de Salamanca* has also received the official recognition as PGI from the EU since June 1996. It is the smallest Spanish IGP, selling 177 tm. (625 carcasses) of beef in 1999.<sup>22</sup>

The main production aspects explicitly controlled by each brand are summarized in Table 2. It seems clear that the goals sought by both types of brands (private vs. geographical indicators) differ significantly. First, geographical indicators put special emphasis on aspects such as the selection of the best breeds and their characteristics, the health inspections during the entire process and the natural feed and suckle. The final goal of all these elements is to achieve higher organoleptic characteristics. However, private brands put more emphasis on another type of attributes, such as maturing, filleting, packaging and price. In this sense, although they do not neglect the organoleptic attributes (especially the retailers' brand names: *CTC* and *Calicarne*), their main concern is that their products are homogeneous through time and for the different production batches.

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<sup>22</sup> Sources: Regulatory Council of the Geographical indicators and [www.mapya.es](http://www.mapya.es) (accessed March 19, 2002).

**Table 2: Main Production Aspects Explicitly Controlled by the Owner**

	<i>Ternera Gallega</i>	<i>Ternera Asturiana</i>	<i>Carne Morucha de Salamanca</i>	<i>Calidad Tradición Carrefour</i>	<i>Calicarne</i>	<i>Guissona (CAG)</i>
Breed and Origin	√	√	√	No	No	No
Natural Feeding	√	√	√	√	√	No
Natural sucking	√	√	√	No	No	No
Slaughtering	√	√	√	√	√	√
Maturing (conditions)	No	No	No	√	√	√
Price	No	No	No	√	√	√
Presentation (filleting and packaging)	No	No	No	√	√	√
Traceability	√	√	√	√	√	√

Finally, pricing policy is another important field with substantial differences among selected brand names. Table 3 shows these differences by type of product. We observe that prices of Geographical Indicators are always higher than prices of private brand names. Additionally, price differences within each category are narrower than between categories.

**Table 3: Price Per Kilogram (€) of Different Beef Brand Names**

<i>Product</i>	<i>Geographical indicators</i>			<i>Private brands</i>			
	<i>Ternera Gallega</i>	<i>Ternera Asturiana</i>	<i>Average</i>	<i>Calicarne</i>	<i>CTC</i>	<i>CAG</i>	<i>Average</i>
<i>Steaks</i>	18,91	16,2	17,56	15,6	11,63	9,98	12,40
<i>Stew meat</i>	10,13	8,38	9,26	7,38	6,65	5,79	6,61
<i>Average</i>	14,52	12,29	13,41	11,49	9,14	7,89	9,51

Source: Consumer prices at March 19<sup>th</sup>, 2002. Data come from web site of Carrefour ([www.carrefour.es](http://www.carrefour.es), accessed March 19, 2002) for *Ternera Gallega* and *CTC* prices, web site of Corporación Alimentaria Guissona ([www.cag.es](http://www.cag.es), accessed March 19, 2002) for *CAG* prices, and stores of Calicarne for *Calicarne* and *Ternera Asturiana*.

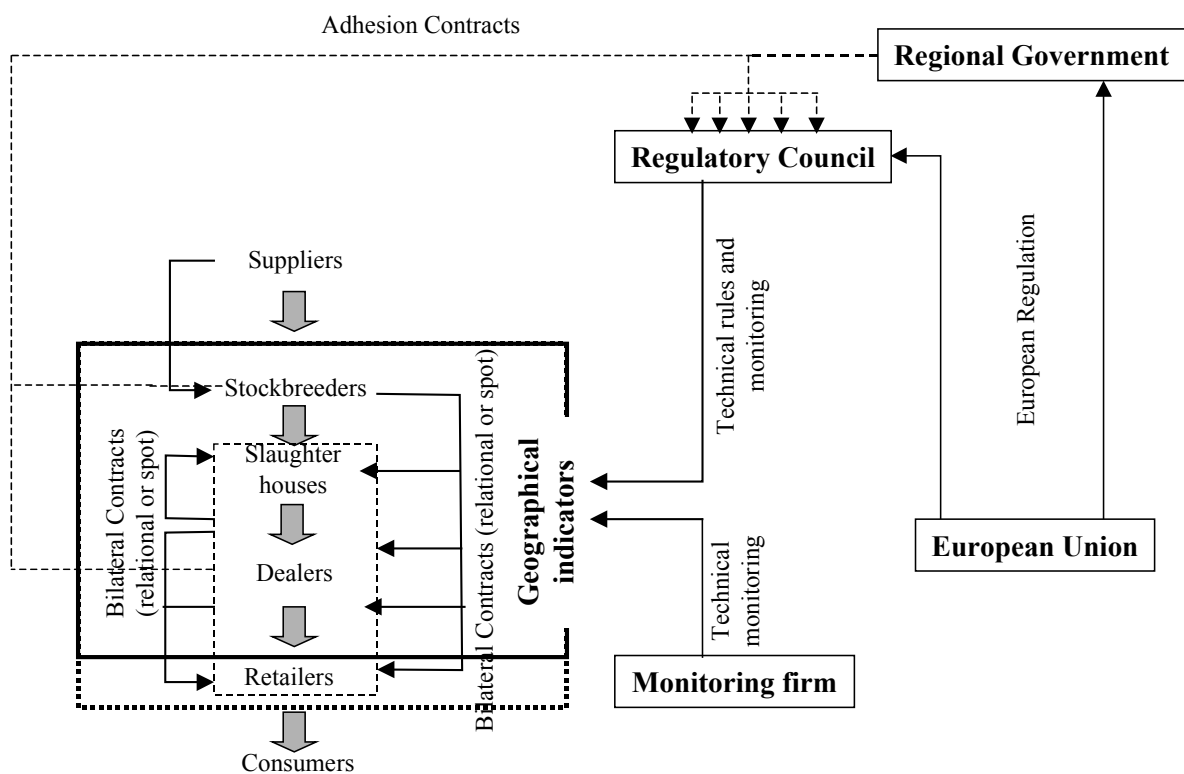
#### 4.2. Mechanisms of Governance and Organizational Patterns

Although the product is always beef, the underlying organizations behind each brand name are substantially different. We have clustered all quality signals in two categories, according to type of owner (private or public). The reason is that geographical indicators display many similarities among themselves and they can be analyzed altogether. Agents and institutions which take part in a typical geographic indicator are summarized in Figure 2. On the other hand, we have clustered all the private brand names, despite being a bit more different.

## Geographical Indicators

We can easily distinguish two types of participants within a geographical indicator. On one hand, the economic agents related to meat production, distribution and marketing and, on the other hand, the companies and institutions related to the control and regulation of all those activities. Thus, the ownership of the production factors and the quality control of the final product of geographical indicators are clearly separated. That is to say, while independent entrepreneurs are the owners of the production resources, brand control is carried out by independent institutions.

**Figure 2: Contractual and institutional organization in geographical indicators**



The first agents, companies that take part directly in the production process, have to be authorized to use the geographical indicator by the seconds, particularly the Regulatory Council. The granting of that authorization is conditional on the fulfillment of the requirements stipulated in the brand usage regulations, which focus mainly on technical and health aspects and on a higher control of the animals that are going to be labeled with the Geographical Indicator. Once those requirements are fulfilled, each company (especially producers) applies its own experience to the production and sells to other agents employing its own name. At the end, the consumer could see up to four brand names: the geographical indicator and the names of the producer, the slaughterhouse and the retailer. This is because only the biggest producers vertically integrate other production stages and, even this type of producers are not big enough to reach awareness as a private brand name.

Within the institutions in charge of the control and regulation of the geographical indicator, the Regulatory Council is the most important. The Government, the real owner, delegates to this entity the rights of admission, exclusion and penalty of its participants. It plays a triple role. Firstly, it is in charge of the elaboration and approval of the technical rules. Secondly, it is in charge of assuring that all the agents protected by the brand name abide by the regulations, guaranteeing that the product remains in line with the pre-established quality standards in every phase of the production process. Although this monitoring control is normally subcontracted to an independent and specialized firm, Regulatory Council employees also carry out this monitoring task. Finally, Regulatory Council deals with all the brand promotion and development activities.

### *Private Brand Names*

Private quality signals present a simpler organization of agents and institutions than the geographical indicators. The reason is, first, that the Administration is not directly present and, second, that the owners of the brand name are also involved in the production process, being also more vertically integrated than associated producers in the Geographical Indicators. We can also differentiate two types of organizations. First, *CAG* was in its origin the typical cooperative of producers which decided to forward integrate all the production stages in different types of fresh meat (beef included). Second, *Calicarne* and *CTC* are the other way round. Owners of both quality signs were among the biggest food distributors in Spain, who decided to backward quasi-integrate other stages of the production process in different fresh products.<sup>23</sup> Figure 3 summarize those differences.

On one hand, *CAG* actively intervenes in the whole production process. Thus, although its main areas of competence are feed production and livestock breeding, the company also fattens, slaughters and sells the animals. First, cooperative partners produce feeds, following the *CAG*'s procedures and directions, and fatten up the calves. Second, the company owns its own slaughterhouses. Third, some slaughtered animals are transformed in the company facilities and finally, the distribution and marketing (fresh and transformed meat) is largely carried out by its own refrigerated fleet, cash-sales

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<sup>23</sup> Quasi-integration is based here more on the length and duration and interaction of the transaction, as in Blois (1972), Dietrich (1994) and Fernandez, Arruñada and González-Díaz (2000), than on asset ownership, as in Monteverde and Teece (1982) and Masten, Meehan, and Snyder (1989). Both dimensions of quasi-integration refer to a kind of hybrid form for Williamson (1991).

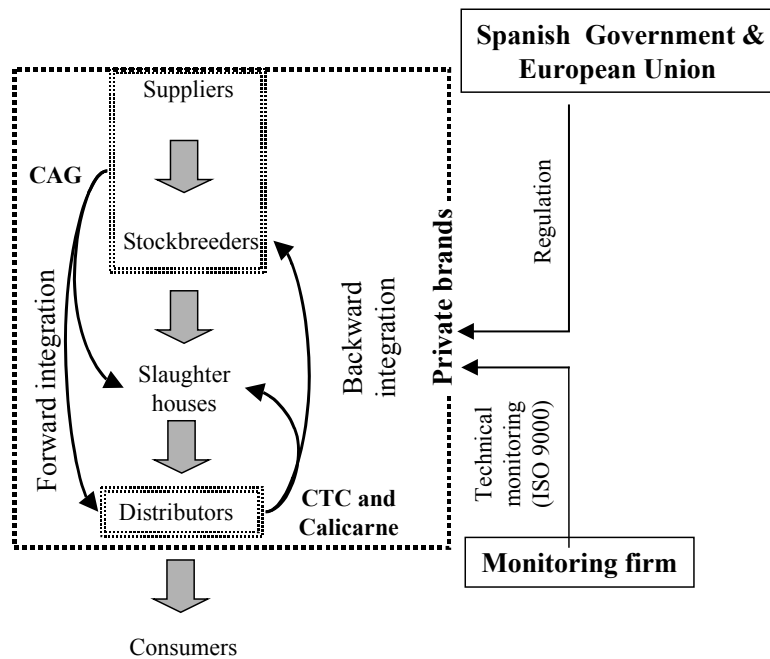
rooms and the network of stores *Area de Guissona (AGSA)*. In short, *CAG* is now a highly centralized company with a high degree of vertical integration.

The two main actors taking part in the *CAG* are the cooperative and the producers-members. Within the latter, we can differentiate two types of members, called “free” and “integrated” members. The first one, the minority, represents the traditional case. They fatten their own livestock and “make use” of the cooperative to sell, without being obliged to do so (they may sell direct to the market if they get better prices). The integrated members represent the nucleus of *CAG*. They fatten livestock owned by the cooperative under conditions stipulated in a contract that individually binds each partner to the cooperative. The control of tasks focuses on “subcontracted“ activities: the fattening. The control of other activities is mainly internalized by means of the requirements of the ISO 9002 standards. Moreover, the ISO standards require an auditory put into effect periodically for an independent and specialized firm. Control of *AGSA* stores is carried out by studying the degree of customer satisfaction by means of surveys and claim analyses.

The other two quality signal, *Calicarne* and *CTC*, are slightly different from *CAG* but similar between them. The owners of both brand names establish long term agreements with all backward firms in the supply chain: cattle breeders, slaughterhouses and wholesalers. Although they are legally independent firms and they do not sign the exclusiveness, the relationship with the owner of the quality signal is tight: they have to adapt their facilities, the way of fattening up the animals, the feeds and, in general, everything to the long and detailed brand name specifications. The owners are in charge of monitoring all the process and of commercialization (filleting, packaging, labeling

and fixing prices). This quality control of the brands is both internal and external. The former is done through direct and random supervision of cattle breeders, slaughterhouses and wholesalers by owners' employees. On the other hand, distributors also control all stages of the production process subcontracting this task to an independent and specialized firm (*Société Générale de Surveillance* (SGS) in both cases).

**Figure 3: Institutional organization in private brands**





### 4.3. Characteristics of Contracts

#### *Geographical Indicators*

Formal contracts backing transactions between parties in Geographical Indicators are, in general terms, little used and are relational in nature, leaving basic aspects such as price and quantity to negotiation (see Table 4). Nevertheless, we may distinguish between two types of contracts from the formalization point of view. On one hand, the owner of the brand name (normally the local government or a delegated entity such a Regulatory Council) formalize its relationship with all the participants in the supply chain. So, they must enter into a written adhesion contract and obey every rule included in the Geographical Indicator usage regulation. The second type of contract, those among the supply chain members, are less detailed and are generally not written, even though the relationship is long term. In general, the market determines the price. Supply and demand at each moment, as well as animal quality and category, determine the price per kilo. Agreements between the distributors (usually small) and the producers are variable, in quantities (distributors do not buy everything offered) as well as in prices (they do not necessarily maintain prices from one day to another). Likewise, distributors are flexible in relation to price adjustments in quality (not every calf of a specific breed is equally good).

**Table 4: Contract Characteristics**

	<i>Agents involved</i>				
	<i>Food providers- Producers</i>	<i>Distributors- Retailers</i>	<i>Producers- Distributors</i>	<i>Producers- Retailers</i>	<i>Producers or Distributors- Slaughterhouses</i>
<i>Formalization</i>	Null	Occasionally	Occasionally	Occasionally	Null/Occasionally
<i>Object</i>	Feed	Carcasses and meat	Calves or carcasses	Calves or carcasses	Slaughtering, quartering and airing
<i>Frequency</i>	Short term repeated relations	Short term repeated relations	Short term repeated relations	Short term repeated relations	Short term repeated relations
<i>Price</i>	Market	Market	Market	Market	Market
<i>Quantity</i>	Variable	Variable	Variable	Variable	Variable
<i>Commitment on Specifications</i>	Natural content	Conformation	Conformation	Conformation	Stabling, feed, airing
<i>Quality control</i>	Regulatory Council	Regulatory Council	Regulatory Council	Regulatory Council	Regulatory Council
<i>Termination</i>	At will	At will	At will	At will	At will

### *Private Brands*

Contracts in private brand name organizations are slightly different. The main difference is that contracts are much more detailed and complete, even though some times are not formalized. Additionally, the owner of the brand is always the central point of the organization. When they are integrated, as in *CAG*, the owner elaborates the procedures and directions that must be observed by all the participants (employees and partners) in the supply chain. However, when the organization is hybrid, as in *Calicarne* and *CTC*, the owner is the common part to all contracts with each participant in the supply chain. This means that, for example, the relationship between a cattle breeder and a slaughterhouse is through the owner, never directly.

Both *Calicarne* and *CTC* write down a long and detailed list of specifications for the raw materials, the production process and the final products. These specifications must be observed by all the providers (cattle breeders and/or wholesalers), who the owner establish long term written contracts with (six and four suppliers respectively). Once agreements are established, the distributors only negotiate with those wholesalers or cattle breeders. These can also subcontract with other cattle breeders and slaughterhouses. There are, however, details that are not fixed in the agreement. For example, price and quantity are determined at the moment of exchange, depending on market conditions. However, price and quantity fluctuations are sometimes attenuated, i. e. this risk is shared among all the participants. In this sense, *CTC* guarantees a price to its suppliers to avoid losses or even a bankrupt on its small (comparing with the financial capacity of *Carrefour*) providers. *Calicarne* does not hold this purchase commitment, but it has kept its relationship with all the wholesalers despite the BSE

crisis. Finally, a contract sometimes became a tripartite agreement because both a cattle breeder/ wholesaler and a slaughterhouse agree altogether in a transaction. Table 5 summarizes the main characteristics of those contracts.<sup>24</sup>

*CAG* contracts are hardly different from those of *CTC* and *Calicarne*, even though market contracts are only present between the co-operative and the integrated partners (for breeding and fattening). The remaining activities are vertically integrated. These contracts present the same characteristics as in the other private brands: there is a list of specifications which always have to be complied with and other details which are negotiated on a regular basis. The distinctive feature in *CAG* is that there is a menu of contracts, which offer different combinations of risk and price between the stockbreeder (an integrated partner) and the cooperative. These risks are basically the possibility of some setback (outside the efforts of the actors) during breeding and fattening, and market price fluctuation of products. The different kinds of contracts are analogous in the definition of rights and duties of parties but they differ in the payment form to the stockbreeder, with very different formulas (see Table 6). The different contracts contemplate specific aspects, such as payment of pre-established fixed prices to a progressive liquidation system. The latter has a medium-term horizon that lessens the impact of market price fluctuations. In any case, every contract is settled in writing. Not every contract possibility is used for all livestock species, especially the simplest kinds of contracts. The choice of contract type depends, to a great extent, on the characteristics of each species and the activity (breeding or fattening). Thus, in pig, calf and chicken fattening (the ones that involve more risk, especially the first ones),

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<sup>24</sup> Carrefour buys all the marked animals to its suppliers, but not all of them for *CTC* brand. If

contracts where the cooperative assumes more risk are common. In the majority of contracts duration is indefinite, its cancellation being subject to advance notice.

**Table 5: Contract Characteristics in *Calicarne* and *CTC***

	<i>Agents involved</i>		
	<i>Stockbreeders-Distributor</i>	<i>Wholesalers-Distributor</i>	<i>Slaughterhouses-Distributor</i>
<i>Formalization</i>	Written	Written	Written
<i>Object</i>	Meat	Carcasses	Calves or carcasses
<i>Frequency</i>	Long term	Long term	Long term
<i>Price</i>	Market/ Minimum profit guaranteed	Market/ Minimum profit guaranteed	Market/ Minimum profit guaranteed
<i>Quantity</i>	Variable/ Fixed	Variable	Variable
<i>Commitment on Specifications</i>	Meat aptitude, age, hygienic and environmental conditions	Meat aptitude, age, hygienic and environmental conditions	Hygienic and environmental conditions
<i>Quality control</i>	Distributor/ Independent specialized firm	Distributor/ Independent specialized firm	Distributor/ Independent specialized firm
<i>Termination</i>	Settled date	Settled date	Settled date

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the animal overpasses the adequate age it is bought as a yearling at a lower price than if it was a *CTC* product.

**Table 6: Rights and obligations of the parties in CAG contracts**

<i>Cooperative</i>	<i>Integrated partner</i>
<ul style="list-style-type: none"> <li>• Obtaining and supplying brood herds to members (preestablished number of units for each individual case).</li> <li>• In some cases, breed and sex of animals supplied may be decided by the cooperative.</li> <li>• Supply of feed, vaccines, medicines, technical monitoring and management rules.</li> <li>• Livestock withdrawal. The number withdrawn must agree with the Control Sheet (members cannot sell or transfer livestock to third parties).</li> <li>• Responsibility of deaths during transport, unless they are produced because of disorders or diseases.</li> <li>• Livestock weighing.</li> <li>• Choice of the most suitable destination for the livestock.</li> </ul>	<ul style="list-style-type: none"> <li>• Control Sheet where every delivery, incident and livestock death is shown. Revised periodically by the cooperative.</li> <li>• Commitment to not feed livestock with any product except for the ones supplied or recommended by the cooperative, as well as following the management standards, vaccination and treatments recommended by it.</li> <li>• Maintenance of facilities in good condition. Cleaning and disinfecting after each herd removal.</li> <li>• Availability and maximum collaboration in withdrawal.</li> </ul>

## 5. Discussion of Hypotheses

Our first hypothesis states that Geographical Indicators should make use of the market as the main mechanism of governance, whereas private brand names should be organized more like a hierarchy. Consistent with this hypothesis, we observe that *Calicarne*, *CTC* and *CAG* are centralized organizations, whereas *Tenera Gallega*, *Tenera Asturiana* and *Morucha* are much more decentralized. On one hand, *CAG* integrate many stages of the production process, being its own employees who do all the tasks. Furthermore, non-integrated activities are rigorously described in quite complete

contracts, which must be fulfilled by suppliers (Table 6). As for the *CTC* and *Calicarne*, the discretion of the supply providers (wholesalers, stockbreeders and slaughterhouses) is also minimum, because contracts are very detailed and all the relevant aspects, such as prices, quantities, risk distribution, delivery terms, food and age are negotiated in advance (Table 5). The only organizational difference between *CAG* and the other private brands lies in ownership: *CTC* and *Calicarne* are the typical hybrid organization with long term contracts (quasi-integration), while *CAG* is the traditional hierarchy. On the other hand, vertical integration on the supply chain in *Ternera Gallega*, *Ternera Asturiana* and *Carne de Morucha* is hardly non-existent. All transactions are among independent companies (stockbreeders, slaughterhouses, distributors and retailers) specializing in the different stages of the beef production process and they trust the market in order to determine the most important exchange aspects, such as prices, quantities and risk (see Figure 2 and Table 4).

We also observe that contracts are much more detailed and formalized in those brands where product homogeneity is sought. For that purpose, we need only to analyze the contents of Tables 2 to 6. First, from Table 2, we can conclude that private quality signals are more interested in homogeneity than Geographical Indicators. The latter focus on those production aspects that encourage high organoleptic attributes, such as breed, natural feeding and suckling. Conversely, private quality signals emphasize aspects oriented towards product homogeneity. This relationship is not perfect, as we observe some differences between *CAG* and the other two brand names. In this sense, *CAG* does not pay special attention to natural feeding while the others do. This exception is explained by the fact that *CAG*'s competitive strategy focuses more on prices and homogeneity than on high quality (manufactured feed is cheaper and yields

high homogeneity). Conversely, *CTC* and *Calicarne* pay more attention to this aspect, but they do not emphasize other important points for the organoleptic attributes such as breed, origin and natural suckling. We could say that they are halfway between homogeneity and high quality. Their price strategies are also midway: higher than the *CAG* one and lower than Geographical Indicators prices (see Table 3).

It is also revealing the differences between each type of brand name with respect to their internal procedures. Thus, a series of restrictions and control mechanisms are established in production system of all private firms, aimed at achieving producer standardization: They allow only a specific type of feed, they establish strict delivery terms and the slaughtered animals must belong to a small range of age and weight. The companies control, directly or indirectly, phytosanitary products, medications, veterinary services and all the stockbreeding and farming materials used in each farm or slaughterhouse. On the contrary, producers associated to Geographical Indicators enjoy greater discretion, provided that the minimum specifications are met. With the exception of minimum quality, there is not any effort or regulation to make the product homogeneous among different associated producers for a Geographical Indicator. In fact, each associated producer focuses on those attributes that he considers more interesting according to his own competitive strategy and provides them at the level it suit him best.

Second, Tables 5 to 6 show for private brands that every aspect relevant for animal breeding and fattening (even the specific feeds) is written down in a contract between the brand owner and suppliers. The aim is probably to avoid problems of coordination that would generate a greater decentralization in situations where the synchronization of



activities is the most important point to achieve product homogeneity. However, neither formalized nor detailed contracts are usual for Geographical Indicators (see Table 4). Relational or spot contracts predominate although they usually involve long-term relationships. They imply establishing commitments for the mechanisms used in determining relevant aspects of the transaction, such as prices or conflicts. Thus, high power incentives based on the market may be introduced that motivate parties to seek the specific information necessary to obtain high quality products.

As for the second hypothesis, the complementary aspect of quality signals is observable only within Geographical Indicators. In them, consumers are assured about quality by two names: the public Geographical Indicator and the private brand name of the associated producer or distributor. The history and relative importance of public and private brand names varies largely across industries. In the case of beef, both types of brands are just starting and their relative importance is unclear. In other agrifood sectors, public and private brands have a long tradition and are much more developed (cheese and wine are the main examples). Whatever their relative importance, the simultaneous presence of both kinds of brands for the same product poses a puzzle. The willingness of producers to spend resources in developing and maintaining the public brand clearly means that products retailed under both brand names obtain a higher price premium than products labeled only with a single brand name (see Table 3). According to our Table 1, they earn both the quality and the homogeneity premium.

The explanation for this co-branding is that both brands complement each other: geographical indicators guarantee a minimum level of organoleptic attributes and private brands guarantee product homogeneity. The role of Geographical Indicators is

also to safeguard the investments made by its own associated producers. To do this, all the Geographical Indicators hold exclusive rights to use the geographical name: unless the regulatory council expressly authorizes it, nobody can freely use that name. Moreover, the Geographical Indicator fulfills a second economic function: control of the collective action among associated producers. In this sense, it has been proven that Geographical Indicators carry out control tasks over the quality obtained by individual associated producers. That is to say, once every producer has agreed on the Geographical Indicator characteristics, an organization made up by representatives from all sector bodies (the Regulating Council) is responsible for ensuring the implementation of that regulation. Thus, it makes it difficult for individual producers to expropriate the investments in the reputational capital of the Geographical Indicator, historical as well as of the other participants.<sup>25</sup>

## **6. Concluding remarks**

The specialization of brand names in solving different information asymmetry problems influences which mechanisms of governance are chosen. If the main problem is about average level of organoleptic attributes, the organizational form chosen (Geographical Indicators) tends to be more similar to the market than if the problem to be resolved is one of homogeneity (private brands), where hierarchy seems to be more efficient. Likewise, the type of contractual relationship between the participants in any type of

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<sup>25</sup> This is similar to the way co-operatives and professional firms solve their collective action problem (Fama and Jensen, 1983).

quality signal differs substantially. More formalization and detail appear in cases where greater homogeneity must be achieved than in those where the main variable to be assured is the presence of high quality organoleptic attributes.

The article also shows that Geographical Indicators are not redundant with associated private brand names when both are present on the same product. The efficiency of this double signaling is driven by the specialization of these two kinds of signals in different dimensions of quality. Geographical Indicators seemingly guarantee a high average level of quality whereas private signals ensure homogeneity among the different products of each specific producer. Furthermore, the organization of Geographical Indicators is such that functions are specialized and decision rights allocated among the different participating agents to avoid opportunism. This holds mainly for the separation of quality control and quality management within the Geographical Indicator. Quality control is in the hands of a board (the regulatory council) that also holds residual decision rights on the Geographical Indicator. Quality management is the responsibility of individual producers.

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