

The Diversity of Products' Quality Enforcement Devices and their Interactions¹

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Abstract:

The aim of this paper is to survey and analyze how the information asymmetry about quality is solved using the appropriate combination of enforcement devices. Economic literature considers two general action lines for mitigating that asymmetric information problem. On the one hand, parties try to obtain the hidden information by measuring the real quality. In this sense, the regulator helps to attenuate the measurement costs by introducing norms and standards and by controlling their fulfilment. On the other hand, parties try to align their interest to develop self-enforcement incentives. Brand names and reputation mechanism are the canonical examples. However, these two directions do not totally solve the quality problem. We argue that organizational form also affects the perceived quality because of different problems in upstream transactions. These problems relate with *a*) the credibility of the internal quality control, *b*) the ignorance of externalities within a chain and *c*) the public character of the ownership of a valuable geographical name. We think that the complex system of quality enforcement we observe in the real world is a joint response to all these problems.

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1. Introduction

Quality assurance has become increasingly more important during the last decades, especially in the foodstuff sector. Fresh products had traditionally been sold mainly without paying too much attention to quality. However, this tendency has changed nowadays and many products have begun to be sold with one or more quality signs (brand names, ISO certifications, etc.). 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 food products in the last years. All these problems and the own development of the markets have encouraged authorities and citizens to pay more attention to quality and to how market transactions should be ensured. Therefore, we may estate that the protection of quality is nowadays in the public interest. Although not all of the fraud quality examples are as important as those related to foodstuff quoted above (because they cost human lives), all, even the deceit in a fake CD, provoke important cost for the society in terms of losing the gains from the exchanges.

The aim of this paper is to survey and analyze how the information asymmetry about quality is solved using the appropriate combination of enforcement devices. Many papers have focused on how this problem is solved in classical market transactions (Akerlof, 1970; Klein, and Leffler, 1981; Shapiro, 1983). Both Shapiro’s and Akerlof’s models just consider two independent parties in which one buys and the other sells. However, they do not consider what is behind the seller, i.e. how the vertical chain is organized for yielding the final product. We may then extend the traditional analysis by introducing the effect of organizational form on the selection of quality enforcement devices. We argue that hybrid forms such as franchising and Geographical Indicators² face peculiar problems in upstream transactions that may affect the quality of the product perceived by the final consumer.

² By Geographical Indicators we mainly refer to Protected Denomination of Origin (PDO), Protected Geographical Indicator (PGI) and Traditional Speciality Guaranteed (TSG). See Castillo (2002) and Bureau and Valceschini (2003).

Foodstuffs have been selected as the main sector to apply our analysis for several reasons. In most agrifood sectors in developed countries, we observed a shift from price-based competition among firms to more quality-based competitions. Furthermore, the same pattern emerges in the retailing market with a new emphasis on products' quality and a bigger implication of (large) retailers in the governance of supply chains. In addition, agrifood sectors, in particular fresh food products, are characterized by natural variability and heterogeneity of raw products that translate into uncertainty on products' quality for consumers. Finally, as pointed out before, several "crisis" had damage consumers' confidence on the product they buy and trigger new reflections on the regulation of products quality (Law and Libecap, 2003).

This paper is organized as follows. First, we describe the typical problem regarding the enforcement of quality and then we introduce classical solutions: monitoring and self-enforcement devices (credible signaling). Second, we analyze the influence of the seller's governance form on the quality by showing other relevant problems which may affect the quality perceived by the consumers. This analysis is performed through several cases which offer nice examples of three alternative governance mechanisms of the seller: hierarchy, franchising and PDO's. Finally, main conclusions derived are highlighted.

2. Quality-related Contractual Hazards and Solutions

In this section, we analyze the main contractual hazards for consumers related to quality and their origins and we relate this problem with the dimension of the transactions that seems more relevant to deal with the problem: the measurement cost. Second, we discuss theoretical solutions to the problem of ensuring the quality and mitigating measurement problems.

2.1. Quality Uncertainty and Related Measurement Problems

One of the most salient traits in developed economies is the diversity of available alternatives to satisfy a particular need of a consumer.³ However, this increasing diversity is not free of costs for consumers. Even if we assume that they are able to correctly measure the various attributes that make up a product —i.e. if the “quality” is correctly evaluated—, they have to bear the cost of searching and obtaining information (Stigler, 1961). In addition, considering the consumers’ bounded rationality (Simon, 1978), these costs are always present because parties are unable to perfectly process all the relevant information, especially for composite or complex products (for example, a computer, a car). This type of cost is what Barzel (1982) refers as measurement costs and Williamson (1996) and Milgrom and Roberts (1992) identify as a particular dimension of the transaction (similar to asset specificity, uncertainty, etc.).⁴ Measurement problems arise because it is costly to obtain accurate information about products characteristics (Barzel, 1982; Foss, 1996).

The presence of this type of costs creates an adverse selection problem. Given that information is not symmetrically allocated among transactors due to different reasons (knowledge, expertise, opportunity cost of time, natural skills, etc.), less informed party should bear search and information cost to solve this disadvantage. Akerlof (1970) showed that this is a classical marketing problem because the seller usually has more information about the product than the buyer, which can even prevent the transaction from taking place.

The intensity of this problem depends on the characteristics of the product (i.e on the measurement costs). Three types of product attributes that determine their

³ This diversity can be seen through a Lancasterian’s perspective (Lancaster, 1966) in which each product is seen as a set of attributes. The increasing range of available products is therefore the result of an extended space of products’ characteristics (addition of new characteristics) and/or new combinations of characteristics that already exist. Even for a space with given dimensions, purchase decisions are complex for the consumer because it is in the firms’ interest to specialize their products with different combinations of the same characteristics.

⁴ Williamson (1991b) rapidly suggested the notion of “ease of measurement” as a potentially important transactional attribute.

potential controversial nature have been identified: search, experience and confidence⁵. Search attributes are those that the consumer can determine before purchasing (observing whether the product has them or not), by means of a process of searching for and comparing the necessary information (for example, color or shape). Experience attributes are those with which the consumer can determine the product's real quality only once he has used or consumed it (for example, taste). Finally, there is a third category, credence attributes, that are those in which the consumer cannot determine the real quality level or, at the very best, can only do so in the long run (for example, the effect that consumption of a product has on one's health). Most of agrifood products have experience and/or credence attributes which make asymmetric information a great concern, especially when food safety issues are at stake (Foss, 1996).

2.2. The Solution(s)

As pointed out by Williamson (1991a, 1996), economic agents have an incentive to develop safeguard mechanisms to mitigate contractual hazards. They generate transaction costs which reduce the total exchange surplus. Parties are then interested in attenuate those transaction costs by investing resources. The informational asymmetry regarding quality is one of these contractual hazards which may be solved through two different ways: the obtention of the hidden information and/or creating a situation in which the informed party is not interested in taking advantage of her private information (Milgrom and Roberts, 1992).

Monitoring

On the one hand, the potentially damaged party should invest resources (monitoring devices) to obtain the private information of the other party. This will be the case of the monitoring effort exerted by the buyer (or other economic agent who plays this role in his behalf) to avoid being cheated. Monitoring here means the assessment (or measurement) of quality through several means: inspecting, metering, grading and sorting.

⁵ See Nelson (1970) and Darby and Karni (1973).

This monitoring activity requires two steps: first, to have something to compare with (a grading system) and, second, the action of comparing individual products quality with that standard or grading system. The former, the definition of (quality) standards, is widespread nowadays. The economics of standards usually unravel several type of standards (Kindleberger, 1983, David, 1987). First, there are definitional or measurement standards like currency, weights, measure. Second, there are standards for minimal admissible attributes or minimum quality standards, like safety level or minimal educational requirement in some professions. Finally there are standards assuring technical compatibility like the physical design of interfaces. As pointed out by Barzel (2004), both definitional and minimum quality standards reduce buyers' measurement costs. On the one hand, the definitional standard ease the measure and the comparison among products and, on the other hand, minimum quality standards reduce the variance in product quality because they truncate the distribution of quality refusing the worst products and then mitigate search and measurement costs borne by individual consumers (Jones and Hudson, 1996).

Government Regulations: Food Safety and Minimum Quality Standards

In most developed countries, the main principles concerning food safety and consumer protection are established in national legislation. Most of the time, the state provides both minimum quality requirement and definition of quality, *i.e.* devices to assess and meter quality allowing to define a quality ranking. It also controls and sanctions firms that do not respect the requirement. We can think of these regulatory devices as an “administrative contract” analyzed by Goldberg (1976). Individual consumers “delegate” to the regulator the task of mitigating part of the quality uncertainty problem through regulation, which is setting a frame for many bilateral relationships between private parties. Later these bilateral transactions may be based on individual monitoring and self-enforcing agreements. Then, the regulator provides private parties with both tools to mitigate some measurement problems (for example producing grades and standards).

Voluntary Standardization and Certification

Mandatory regulation on products quality does not exhaust the set of “monitoring-based” devices used in modern economy to mitigate quality uncertainty. There also exist “markets for certification” where individual or collective profit-oriented organizations ease the working of competition by providing information on quality to consumers. Here again, the literature in industrial organization is large dealing with issues such as the revelation of information by certifiers (sometimes called middleman), the welfare implications of provision of information on quality by a third-party certification and so on (see for instance, Biglaiser and Friedman, 1994).

Such certifications are also important in agrifood sectors. On the one hand, some firms specialize in providing consumers some information about the quality of particular products and/or the reliability of particular firms. For instance, in the wine sector, the annual guide by Robert Parker is an important source of information for consumers with poor knowledge of the quality of wine.⁶ The Michelin guidebook is another example. On the other hand, other firms may also decide to adopt a quality assurance scheme like International Organization for Standardization (ISO) norms. These schemes are on a voluntary basis and certified by a third party. ISO is the world's largest developer of standards and its principal activity is the development of technical standards and the provision of a technical base for health, safety and environmental legislation to governments.⁷ ISO standards also serve to safeguard consumers, and users in general, of products and services.

Another interesting voluntary quality assurance device in the agribusiness sector is the EurepGAP system. It was founded in 1997 as an initiative of some retailers belonging to the Euro-Retailer Produce Working Group (EUREP). EurepGAP members include retailers, producers/farmers and associate members from the input and service side of agriculture. Its mission is to develop widely accepted standards and

⁶ With significant effects on market price. See Hadj Ali, Lecoq and Visser (2005) for an empirical analysis in the case of Bordeaux wine.

⁷ The ISO 9000 and ISO 14000 families are among ISO's most widely known standards ever. ISO 9000 and ISO 14000 standards are implemented by some 634.000 organizations in 152 countries.

procedures for the global certification of “Good Agricultural Practices” (GAP). It also helps to reduce the costs of monitoring by individual retailers and to ensure compliance with national liability rules (Codron *et al.*, 2005).⁸

Incentive Devices: Branding and Self-enforcement based mechanisms

On the other hand, agency theory proposes to implement mechanisms to align individual incentives. This is the case of incentive systems which make the potentially opportunistic agent bears the financial consequences of his actions and decisions. Then, the agent (informed party) has no incentives to behave opportunistically (by taking advantage of his private information. Although incentive contracts are commonly use between firms or employers and employees, several scholars, like Barzel (1982) and Klein and Leffler (1981), pointed out that self-enforcing agreements (especially reputational mechanisms linked to branding) are also available in transactions between firms and consumers because they guarantee quality.

When informational asymmetry on the quality is relevant, the informed party (the producer) may signal his private information (actual quality) by adopting behavior (for example, investing in a quality sign) that, properly interpreted (he would not invest in client-specific assets if he were not offering the quality promised), reveals the information to the non-informed party (the consumer). Signalling quality through a brand name is an option.⁹ Brand names are cognitive support devices which summarize the information of a product (or group of products) and give it (or them) an “identity”. This allows both the producer to differentiate his product from the competence and the consumer to save on transaction costs *ex ante* for searching for information and to simplify the procedures he uses to decide his consumption profile.

However, once quality signs are on place, there is also a moral hazard problem. The producer may cheat about the quality of his product. How is then ensured the

⁸ For instance, U.K. retailers are governed by a due diligence liability rule.

⁹ A signaling effect may be identified in a certification. Being certified for a well-known certification body or being listed among the best restaurants in the Michelin guidebook may clearly work as credible signal for the consumers.

credibility of these signs or labels? The reputational capital associated to brand names solve this problem. What the producer is doing by fulfilling the promised quality in repeated transactions is creating a reputation for his quality sign (brand name) that will be used later as a guarantee for future consumers. Thus, after repeated purchases of goods (with experience and credence attributes), consumers gradually realize that the quality offered is suitable and consistent over time, and can trust that they will not be deceived. The consumers value the information (and are ready to pay for it) because it economizes on their transaction costs by reducing search and measurement costs. The economic value of reputation acts as a “hostage” to support the transaction (Williamson, 1985).¹⁰

Klein and Leffler (1981) studied the conditions under which sellers have no incentives to cheat on quality. Two complementary conditions should appear simultaneously (similarly to the role of the “carrot” and the “stick” to move forward the donkey).¹¹ First, the seller commits in every exchange the quasi-rents generated from his specific investments made to create his reputational capital. He realizes that his business is not to take advantage in a short-run, but to obtain “normal” profits from his investments from many long-run exchanges (Shapiro, 1983). The present value of the reputation coming from a market price “premium” (what Klein, 1996, calls “reputational capital” of a firm) is then the carrot. Second, the threat that the consumer may terminate at will the relationship disciplines the seller’s opportunistic behaviour (this would be the “stick”). Thus it is the fear of losing the consumer’s patronage and the corresponding loss of reputation that make the promise on quality send by the brand name credible without any intervention by a third-party.

The ability of reputation-based mechanisms to safeguard quality is however limited.¹² The more severe the asymmetric information on quality, the higher the

¹⁰ A related literature, not reviewed here, studies self-enforcing agreements in multilateral context like groups of traders (see for instance Greif, 1993).

¹¹ The efficiency wage model of Shapiro and Stiglitz (1984) is similar in spirit to this analysis.

¹² More generally, see Williamson (1991c) for a study of the limits of reputation as contractual safeguards.

reputational capital must be in order to safeguard quality. In Klein and Leffler 's paper (see also Shapiro, 1983), the price premium necessary to provide sellers with the correct incentives increases with the lag between two transactions and the time needed to discover the "true" attributes. A transaction repeated only occasionally commands a higher premium. Similarly, if most of the relevant attributes of a product to assess its quality are credence attributes, the necessary price premium may be large. Put it differently, the more severe the quality measurement problem is, the higher the reputational capital must be. Furthermore, if competition among firms increases, the necessary price premium may become difficult to sustain. Some cheaper way to enforce quality may become relevant.

3. Mechanisms of Governance and their Effects on Quality

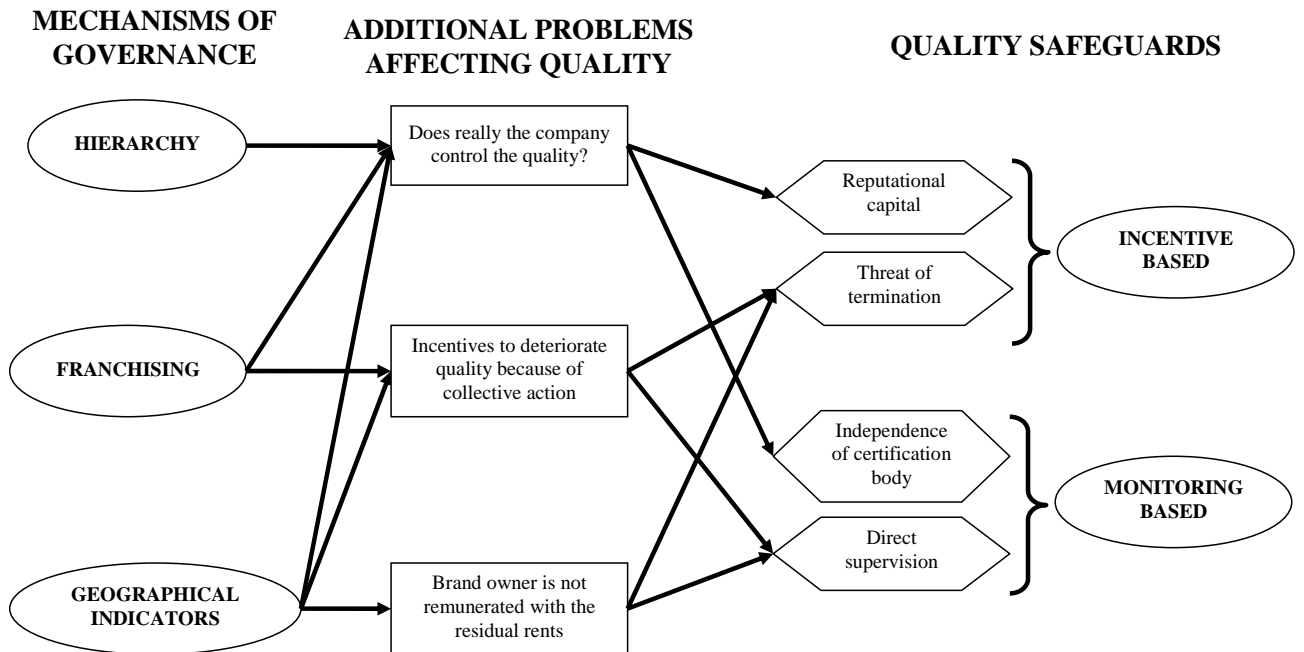
We have exclusively analyzed above the classical quality problem based on the informational asymmetry, which is common to any transaction between a buyer and a seller. However, the mechanism of governance chosen by the seller may provoke other problems that influence the product quality.¹³ In other words, we argue that vertical chain organization affects the quality of the final product due to different reasons such as the introduction of high-powered incentives, the presence of collective action and the hazard of collusion between the company and quality controller. In this section we analyze through several cases how these additional problems are solved and which safeguard mechanism should be introduced. The cases refer to different types of brand names in the agrifood sector.

Figure 1 summarizes the arguments in this section. Starting from the idea that the design of the quality enforcement devices does not finish by solving the classical informational problem between the buyer and the seller, we identify the main problems that each governance form highlights. Furthermore, it should be noticed that when the

¹³ Michael (2000) develops this argument for franchising. He argues, and finds empirical support, that franchised chains offer lower quality than integrated chains.

organizational form increase in complexity (from hierarchy to geographical indicators), more problems are present and, consequently, more safeguards should be introduced.

Figure 1: Quality safeguards and mechanisms of governance



3.1. The Hierarchy and the Independence of the Controller

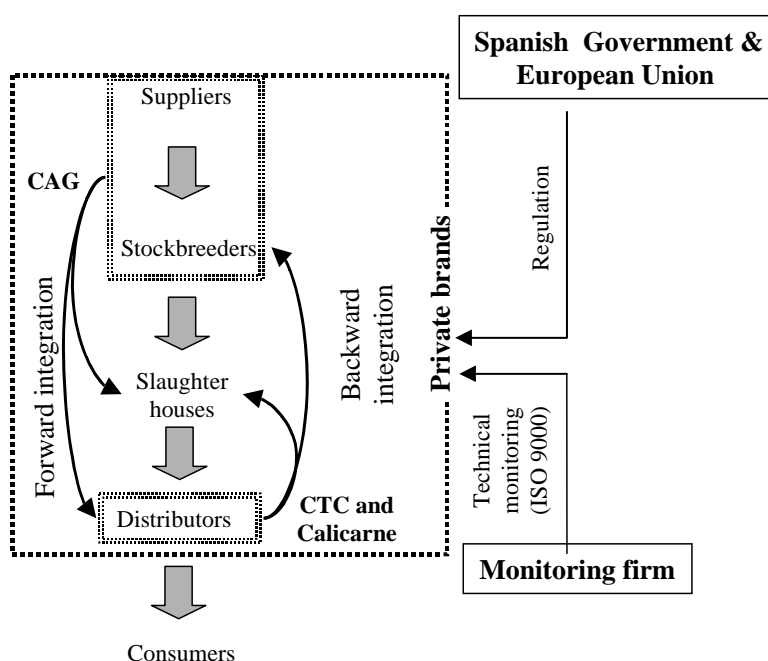
We start our analysis by a situation in which brand names are offered by one of the most pure mechanisms of governance: the hierarchy (Williamson, 1991a). This organizational form, which is characterized by the vertical integration of the main productions stages, creates an additional problem regarding the quality: how do we make credible the internal control when the controller belongs to the same company? The analysis of some private meat brand names (*Calicarne*, *Calidad Tradición Carrefour*, and *Corporación Alimentaria Guissona*) could offer some clues.¹⁴

We have selected meat industry because quality uncertainty is high for consumers and the raw material is very heterogeneous which pose problems of quality measurement and standardization. *Calicarne* is a pseudonym for a beef brand name

¹⁴ The combined market share of the three brands is around 80% of private beef brand names in Spain.

launched in 1994 by the third distributor in Spain. Similarly, *Calidad Tradición Carrefour* (CTC), is also a brand name of a retailer (Carrefour). However, *Corporación Alimentaria de Guissona* (CAG) is a close corporation (established in December 1999) owned by the Cooperative Agropecuaria de Guissona, which have been a group of farmers until it decided to forward integrate all the production stages in different types of fresh meat (beef included). *Calicarne* and *CTC*, originally retailers, are the other way around. They decided to backward quasi-integrate other stages of the production process in different fresh products.¹⁵ Figure 2 summarizes those differences.

Figure 2: Institutional organization in private brands



CAG is a company with a high degree of vertical integration and it 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

¹⁵ 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). However, both refer to hybrid form in Williamson typology (1991a).

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 rooms and the network of stores *Area de Guissona (AGSA)*. The other two quality signal, *Calicarne* and *CTC*, are not so integrated because participants are legally independent firms. However, 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 do not sign any exclusive agreements, 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 technical specifications. In all the cases, 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 only quasi-integrated, as in *Calicarne* and *CTC*, the owner is the common part to all contracts with each participant in the supply chain. For instance, transactions between retailers and slaughterhouses and between cattle breeders and slaughterhouses are governed by a tripartite or trilateral contract involving the three parties. The relationship between a cattle breeder and a slaughterhouse is through the brand owner, never directly.¹⁶

The quality control is similar in all cases. The internal *CAG* control mainly focuses on livestock fattening because this is the most critical activity in the production process and it is performed by the partners of the cooperative. Other control activities concentrate on the requirements of the ISO 9002 standards and on the performance of *AGSA* stores (customer satisfaction using polls and claim analyses). Similarly, the other two brand owners (*Calicarne* and *CTC*) monitor all the production process and commercialization (filleting, packaging, labeling and fixing prices) through internal and external controls. The former is done through direct and random supervision of cattle breeders, slaughterhouses and wholesalers by owners' employees (*Calicarne* and *CTC*) meanwhile the external is performed simultaneously by an independent and specialized

¹⁶ Similar pattern is observed in the transactions between Carrefour in France and its suppliers (see, Mazé, 2002).

firm. Finally, all brand names (*CAG*, *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 participants (cattle breeders, slaughterhouses and/or wholesalers), regardless their degree of integration with the owner of the brand name.

A conclusion can easily be drawn from the observation of these cases.¹⁷ All of them keep internal and external control devices. Why do they simultaneously maintain both systems? One plausible explanation is that they keep the external quality control as a credible signal that the control is real and effective. The internal quality control raises suspicions of collusion between the inspector and the inspected agent because both belong to the same company. In fact, it was only after the mad cows crisis, when these companies decide massively to introduce external controls. It seems that it was more a response to consumers' claims than to the greater effectiveness of external controls.

This problem, however, does not only seem typical from the hierarchy. It is probably more important in vertically integrated companies in which the consumer might think that a single company is the whole owner of the production chain. However, this problem may be also present when the consumer buys a McDonalds hamburger. Despite the McDonald's great effort in signaling its important internal quality control, the credibility of this signal is lower. Consumers are reluctant to believe that companies punish themselves to solve any quality problem. In the case of franchising, the problem seems weaker than in a hierarchy because the controller (the franchisor) does not always bear the cost of solving quality problems. The franchisee may support these costs if he creates the problem. Equally, the buyer of a bottle of wine with a PDO may doubt about effectiveness of the enforcement mechanism within a PDO. Does really PDO monitoring body force a producer to throw away the wine because it is discovered that a small amount of non-authorized grapes were used?

¹⁷ A more detailed analysis for these cases is available in Valceschini (2002) and González Díaz *et al.* (2003).

3.2. Franchising and Collective Action on Quality

The second problem clearly appears when the seller is a franchise chain. This hybrid form, in Williamson's terms (1991a), is featured by the use of the brand name by agents who are not its owner (this is also a feature of Geographical Indicators). Conversely, they only have a temporal right of using the brand name (the franchisees). This may lead to an upstream conflict of interest between franchisees and the owner of the brand name (franchisor): the franchisee do not fully bear the financial consequences of reducing the quality of the product and damaging the reputation of the brand name. Consequently, franchisees (and associated producers in Geographical Indicators) will be inclined to ignore the externalities they cause to the franchisor (to the reputational capital of the geographical name) and other members of their chain affecting the final quality (Rubin, 1978, Brickley and Dark, 1987, Michael, 2000).

The solution to this additional problem relies on the implementation of a set of monitoring devices and incentives to mitigate these hazards (see Lafontaine and Raynaud, 2002, for a broader discussion of this issue). On the one hand, franchisors use a variety of mechanisms to check and guarantee that such franchisee fulfill with the standards and norms developed by themselves.¹⁸ Most of them are "contractual" in the sense that they are part of the package individual franchisees agree on when they sign the contract.¹⁹

- *Field audits.* Franchise contracts allow franchisors to directly observe some of the inputs and outputs of the production process, by providing for *in situ* franchisee inspections. In most chains, franchise consultants conduct regular field audits of the franchisee's outlets to ensure compliance with the obligations related to the provision of an adequate service level. These audits focus, among other things, on quality, service and cleanliness (QSC), following McDonald's

¹⁸ Given that the same problem is present in Geographical Indicators, these safeguards are also applied by the monitoring body to control associated agents within the Geographical Indicator.

¹⁹ Since we do not have here detailed case studies, we rely on the study by Bradach (1997) in the U.S. fast-food industry.

standards (nowadays Q.S.C. & V., Quality, Service, Cleanliness and Value)²⁰. This enterprise was pioneering in quality controls and its procedures have been largely imitated. These inspections are important for the franchisee because they are inputs in termination decisions and determine whether the franchisee is permitted to grow by adding new units.

- *Mystery shoppers.* The franchisor also observes an important output of the franchisee actions: customer satisfaction. With this aim in mind, several chains use mystery shoppers. In these chains, evaluators make unannounced, anonymous visits to franchised outlets and assess the shopping experience from the customer's perspective. Even some franchisees that have several outlets perform these purchases on their own to make self-correction. The scores obtained are significant for franchisees because they influence the possibility of adding new outlets and are also used in termination decisions.
- *Polls.* Many franchisors also monitor customer satisfaction by polling clients. As with the previous mechanisms, the scores obtained in these polls are used in termination decisions and determine whether franchisees are permitted to grow by adding new units.
- *Management information systems.* This control tool links all the franchised units to franchisor headquarters. Through this mechanism franchisors closely monitor the financial situation of franchisees, knowing on line the evolution of sales and costs of each franchised outlet. As with the previous mechanisms, data obtained through management information systems are relevant because they are inputs in

²⁰ Some important QSC points are for instance (<http://www.zarcolaw.com/CM/Articles/Articles140.asp>):

- Cooked product is meeting the correct minimum temperatures and the grill is calibrated properly;
- Cooked product is being stored at the proper temperature for no longer than the maximum amount of time allowed
- There is no expired product of any type in the coolers or elsewhere
- Spatulas are colour coded and are not being used for improper purposes (i.e., threat of cross-contamination)
- The shake machine and coolers are operating at proper temperatures, the machine is being cleaned regularly, and the necessary cleaning tools (i.e., brushes, etc.) are present
- Employees are washing their hands regularly and documenting this practice
- The Food Safety Checklist is completed by the employees on a daily basis with accurate information

termination decisions and determine whether the franchisee is permitted to add new outlets.

On the other hand, an incentive system is developed to avoid free riding on quality. They rely on linking the termination of the contract to the discovery of opportunism by the franchisee (Arruñada *et al.* 2001). This device discipline franchisee behaviour because he could lose the quasi-rents derived of his chain-specific investment.²¹ Additionally, if the franchisee is earning an abnormal return, he would also lose its present value. Another device used by chains to curb free riding, in particular on dimensions that are difficult to verify such as quality, is the allocation of more than one unit to a franchisee. A franchisee that own several units has less incentives to free ride because he would internalize externalities to a greater extent. Empirical evidences in Kalnins and Lafontaine (2004) are consistent with this view.

Finally, if the free riding problem on quality is very severe, franchisor may extent the vertical integration of the chain, *i.e.* the proportion of company-owned units and the allocation of new units to existing franchisees (multi-units ownership). Several empirical studies showed that the extent of vertical integration is related to the value of the brand name and the prospect for quality debasement (see for instance Lafontaine and Shaw, 2005). This reflects the influence of the mechanism of governance on the quality assessment. Considered globally, the company-owned units preserve the system's uniformity and the franchised ones enhance its innovativeness and make a sales effort that requires less control of the franchisor (Bradach, 1997). Company managers receive low-powered incentives and it is considered that they accomplish their work when they follow franchisor standards. Their main incentive is based on a promotion system that motivates long-term goals, aligned with those of the franchisor, instead of pursuing sales in detriment of quality (Brown, 1998). This replacement of high powered incentives in some units with low-powered incentives may mitigate the free riding problem on products' quality.

²¹ This self-enforcing mechanisms is also used by the monitoring body in a Geographical Indicator to reduce opportunistic behavior on the geographical name.

3.3. Geographical Indicators and Public Domain Property Rights

Finally, Geographical indicators also face an additional problem which may affect the quality. These indicators are created because of the popular believe that the particular geographical conditions of an area influence product quality. This develops a reputational capital associated with the name of the area (the origins) and make them valuable²². The effect on the quality is due to the public (governmental) character of the ownership of a valuable geographical name. This means that politics play the role of the entrepreneur but they do not earn the residual rents. This lack of owner and of a well-motivated controller may relax the quality control.²³

To analyze this governance form, we have selected three geographical indicators in the meat sector in Spain: *Ternera Gallega*, *Ternera Asturiana* and *Carne de Morucha de Salamanca*. The first, *Ternera Gallega*, has been considered as a PGI since December 1996 and it is the biggest non-private brand name in the meat sector in Spain. *Ternera Asturiana* is the new brand name of *Carne de Asturias Calidad Controlada* which was a Guarantee Brand Name (and now a PGI) officially recognized in the Principality of Asturias since 1996. 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 meat PGI.

We can easily distinguish the two types of participants within a geographical indicator (see Figure 3).²⁴ 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. 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

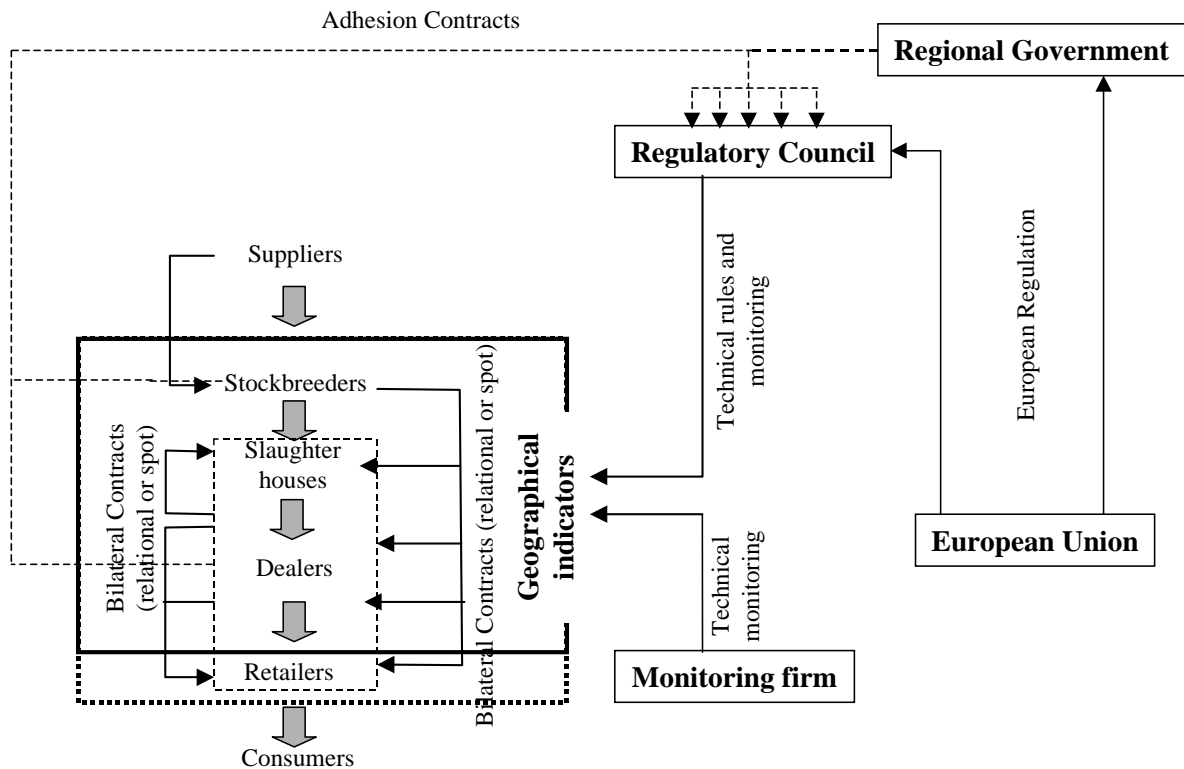
²² Consumers are ready to pay a premium for them. See Loureiro and McCluskey (2000) for an empirical analysis in the Spanish beef market.

²³ Alchian and Demsetz (1972).

²⁴ A more detailed analysis for these cases is available in Valceschini (2002) and González Díaz *et al.* (2003).

owners of the production resources, brand control is carried out by independent institutions.

Figure 3: 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, frequently, this type of producers is not big enough to reach awareness as a private brand name.

Within the institutions in charge of the monitoring 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.

We think that the case analysis offers a clear conclusion about Geographical Indicators. They may be understood as a safeguard against the expropriation of specific investments. Hypothetically, if any producer 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 either in improving the reputational capital of the geographical name or in associated private brand names. This is because any producer may easily expropriate that investment by free riding on quality using that geographical name. The solution 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 (for example an entrepreneur). This allocation of functions applies, for instance, to the separation of ownership and control in open corporations. Its main advantage is to contain the moral hazard through a hierarchical monitoring system: managers act as decision controllers of their subordinates but they are themselves controlled by other managers, in a hierarchical fashion. 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. Conclusions

The aim of this paper has been to survey and analyze how the information asymmetry about quality is solved using the appropriate combination of enforcement devices. Economic literature has traditionally considered two ways to solve the informational asymmetry problem. On the one hand, the non-informed party should invest resources in obtaining the hidden information. Apart from consumer direct supervision, the most important mechanisms are certifications and standardization, such as ISO certifications or rating companies, which try to reduce measurement costs. The second solution relies on an alignment of parties interest in such a way that the well informed party is not interested in an opportunistic behavior. Credible signaling is

probably the main safeguard. The credibility is usually reached by risking the quasi-rents associated to the reputational capital of a brand name.

However, the quality problem is not totally solved in this point. The reality we have observed is more complex because in the classical arguments is not considered what is behind the seller, i.e. how the vertical chain is organized for yielding the final product. We argue that each organizational form faces peculiar problems in upstream transactions that may affect the quality of the product perceived by the final consumer. The first problem relates with the credibility of the internal quality control. Although it is probably more important in vertical integrated chains, it is also present in franchising and Geographical indicators. In all of them, consumers may have doubts about the effectiveness of the control because both the inspector and the inspected agent belong to the same company. We argue that the external quality control works as a credible signal of the controller independency to overcome this problem.

The second problem appears when the quality sign is not only used its the owner but also for other agents like for example franchisees and associated producers in a Geographical Indicator. This may lead to an upstream conflict of interest because franchisees (or associated producers in Geographical Indicators) will be inclined to ignore the externalities they cause to the franchisor (or to the reputational capital of the geographical name) and other members of their chain when they reduce the quality. This problem force the introduction of two different enforcement devices: direct monitoring by the owner (such as field audits, mystery shoppers, etc.) and incentive systems which link the termination of the contract to opportunistic behavior by the franchisee/associated producers. This device discipline franchisee/associated producers behaviour because he could lose the quasi-rents (and rents) derived of his chain-specific investment.

The third problem appears when the ownership of a valuable quality sign is public (governmental) and then the owner is not compensated with the residual rent. This a differential feature of Geographical Indicators. This reduces the interest in properly monitoring which could create a collective action problem. We argue that the observed specialization and separation of tasks (management and control) in Geographical Indicators responses to the idea of dividing the decision process in a way

that management and control functions are performed by different agents. This separation contains opportunism because it facilitates a hierarchical monitoring system: managers act as decision controllers of their subordinates but they are themselves controlled by other managers, in a hierarchical fashion.

Summing up, the complex system of quality enforcement we observe in the real world may be a joint response to all these problems. We observe the coexistence of monitoring and self-enforcement devices because they are probably complementary: self-enforcement mechanisms work because they rely on monitoring devices. Furthermore, it seems that the higher the complexity of the organization adopted along the production chain, the higher is also the complexity of the quality enforcement due to the presence of more organizational problems which affects the product quality.

5. References

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