Governance Mechanisms in Specialty Beef Production: the case of Aveyron and Ségala Veal (ASV) in France.

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Abstract

To deal with challenges in agri-food chains, the French beef industry has developed differentiated subsystems involving greater asset specificity and difficult-to-measure dimensions. To guarantee information and property rights, it is fundamental an interaction between public and private mechanisms. This study aims to understand, from the Transaction Costs Economics and the Measurement Cost Economics perspectives, how private certification mechanisms enable value distribution among agents of a specialty beef chain in Aveyron and Ségala region (France), using a qualitative approach and face-to-face interviews. Results indicated high asset specificity and dimensions subjectively measured, such as organoleptic characteristics. We identified that the adoption of hybrid governance structures became feasible through certification, reducing transaction costs. We concluded that even under such conditions, certification allowed governance structures other than vertical integration.

Key-words: Certification, Governance Structure, Institutional Environment

JEL Numbers: Q13, Q18

1 Introduction

Agri-food chains face social, environmental and food security challenges (Kalfagianni, 2015). Particularly in the French beef chain there are problems associated with animal health, not differentiated remuneration depending on the characteristics of the final product due to lack of information about the chain, low return to producers, difficulty in creating value, and high production costs (Goy-Chavent, 2013). Beyond tackling the obstacles, agri-food chains need to offer products with superior quality associated with territory (PGI, PDO)[2], ethics (fair trade) and environment (organic and sustainable systems) (Spadoni, Lombardi, Canavari & Hingley, 2014). Consequently, differentiated subsystems have emerged, highlighting attributes beyond quality and safety concerns.

[1] Financial Support: Coordination for the Improvement of Higher Level Personnel - CAPES

[2] Protected Geographical Indication (PGI), Protected Designation of Origin (PGO).

Such arrangements, named Differentiated Agri-Food Systems (DAS), comprise agri-food subsystems in which organization of productive activities and agents is oriented towards differentiation at the farm level (Bánkuti, 2016). Malorgio, Camanzi & Grazia (2008) point out that the continuity of these subsystems based on quality depends on an appropriate reward, and therefore on the return on investments made by the producers. In addition, Trienekens, Wognum, Beulens & Vorst (2012) affirm that meeting the demand of the consumers demands the transparency of the information. To this, the authors argue that adequate governance mechanisms are fundamental to promoting this transparency (Trienekens et al., 2012).

In theory, as production turns to differentiation, instead of commoditization, there is greater asset specificity and difficult-to-measure dimensions, requiring governance structures of higher complexity (Caleman, Sproesser & Zylbersztajn, 2008). This implies an exchange of information between the actors in a chain, making the history and origin of the products visible and transparent. According to Barzel (2005), information coming from measurement enable the distribution of property rights among agents. Hence, in cases where measurement is costly, adopting a third-party certification with a high reputation can be effective in reducing measurement and transaction costs (Deaton, 2004; Caleman et al., 2008).

In this context, the European Union has been intensifying actions to promote consumer guarantees (Spadoni et al., 2014). Examples are “Parmigiano Reggiano” in Italy, “Jámon Serrano” in Spain, Feta chesse in Italy, and “Veau d’Aveyron et du Segala” in France. However, public mechanisms may not be effective in dealing with contingencies (Williamson, 1985), thus requiring private regulation. In such cases, according to Deaton (2004), information tends to be asymmetric, opening room for opportunistic behavior and rent appropriation. Thus, although legal framework has become stricter, it comes with more private standards.

These mechanisms are intended to ensure information on how a product was produced, transported and processed, generating traceability that links the chain, involving a third party to certify such processes (Henson & Humphrey, 2009). Such mechanisms complement the enforcement role of regulatory agencies while generating value in the product (Tanner, 2000). According to him, besides complementing the enforcement role of food agencies, such mechanisms create value to product. This value is linked to risk reduction and liability, higher trust in terms of legal conformity, competitive advantage, access to market,

acceptance in domestic and international market, cost reduction, increased profitability and more efficient management (Tanner, 2000).

Certification by third party, therefore, promote the transmission of information, and contributes to the increase the reliability with respect to the presence of the quality attributes. Thus, transactions comprising difficult-to-measure attributes and high levels of asset specificity may require less complex governance structures if supported on third-party certification (Caleman et al., 2008). That prevents vertical integration and avoids bureaucratic costs, besides reducing transaction and measurement costs (Williamson, 1985; Barzel, 2005; Hatanaka, Bain & Busch, 2005).

However, it was founded that such private standards involve disadvantages. Chkanikova and Lehner (2015), in regard with distribution segment, noticed a lack of motivation in retailing to spend resources with certifications, since this is available to other retailers and does not allow them to reach feasible returns. Nevertheless, it does not mean that certification itself is not worth, but that in some cases efficient results may require the development of trademarks for being used in combination with certifications, favoring differentiation for individual retailers (Chkanikova & Lehner, 2015).

Concerning rural production segment, Lee, Gereffi & Beauvais (2012) noticed that the adoption of third-party certification might represent a barrier to small-sized farmers, turning them to produce lower-quality product or even to leave market to due high certification costs (Lee et al., 2012). According to Hatanaka et al. (2005), certification generally fits for large-sized farmers, which can accomplish technologies and other necessary changes. On the other side, Kalfagianni (2015), while studying agri-food justice in sustainable chains, states that private governance institutions are especially important, since together with public institutions, they will outline the rules of the game, favoring small-sized farmers.

According to what was presented, it is important to conduct more studies on the role of certification in value distribution along the chain. In that sense, the objective of this study is to understand, from Transaction Cost Economics (TCE) and Measurement Costs Economics (MCE) perspectives, how private certification mechanisms enable value distribution among agents of specialty beef chain in the French region of Aveyron and Ségala, “Ayveron and Ségala Veal” (ASV).

This article is organized into five parts. Besides this introduction, the second one presents the methodological procedures; the third part addresses public and private

mechanisms; section four comprises the interaction between such mechanisms with a focus on governance and measurement; and the fifth section comprises results and conclusions.

2 Methodological Procedures

Following the criterion of accessibility, this qualitative and descriptive study consisted of semi-structured interviews with 12 producers participating in three of the four ASV chains in France. Additionally, we interviewed a director and a technician from ASV regional inter-professional organization (IRVA) and a representative from one of the retailing group included in that system, for data triangulation. The interviews were recorded and transcribed for analysis. Later, the information gathered from the interviews were complemented by institutional materials and public documents available in electronic media.

The choice was made based on the region representativeness for this type of beef production, the territorial characteristics, and the agents' expertise (*savoir faire*) of that region. Data analysis was performed using the content analysis technique (Bardin, 1979). The categories of analysis were: transaction's dimensions, transaction's attributes and governance structure.

3 Public and Private Standards in the Region Aveyron and Ségala

Among main agri-food products from Aveyron and Ségala region (Figure 1) (wine, apple, nuts, lamb, beef), we find Aveyon and Ségala Veal (ASV). ASV is a high-quality meat, specifically produced in the region of Aveyron and Ségala, in France. It particularly combines two official quality labels: *Label Rouge* (Red Label) and *Indication Géografique Protégée* (IGP) (Protected Geographical Indication). Figure 2 brings illustrations of certified products.

Calves, which reach a maximum age of 6 to 10 months and are mainly milk-fed, produce a meat with pink color and a superior flavor. More than 600 calf raisers are engaged in that system, with herd ranging from 10 to 160 animals by farm. It indicates that this certification system is suitable for small farmers.

To support the operation of this system, formal and informal institutions are necessary. Following North (1990), such institutions consist of people-created constraints to manage economic, social and political interactions, in order to create order and reduce uncertainties. From this institutional apparatus, different governance structures can be adopted (Williamson, 2000, Barzel, 2005).

Figure 01 : ASV region – France

Source: CARTE DE FRANCE, 2018; IRVA, 2017c.

Figure 02: ASV certified products

Source: IRVA (2017b).

In the present case, organizations involved are the French national institute for product origins and quality (INAO), *Qualisud* and *Regional Inter-professional organization "Veau d'Aveyron et du Ségala"* (IRVA). INAO, a public organization, sets requirements for origin labels (PGI) and quality labels (*Label Rouge*). *Qualisud* is a private organization for certification, inspection and auditing, also responsible for traceability control; and IRVA, also a private party, holds the name *Veau d'Aveyron et du Ségala* and is responsible for managing and protecting this chain.

INAO is the one responsible for defining requirements and good practices guidelines (*cahier des charges*) for ASV production. Besides defining parameters for carcass characteristics (such as color and meat and fat aspects, odor, flavor and texture), they also set the other requirements concerning the geographical zone, feeding, and environmental and animal welfare aspects. Chain agents must fulfill all the requirements for both labels (PGI and Label Rouge (Table 1).

Table 1 – INAO Requirements for *Label Rouge* and PGI fulfillment.

Criteria	Description	Requirement
Label Rouge		
Raw Product		
Meat aspect	*Texture*	*Fine texture*
	Color	Pink
Fat aspect	Firmness	Firm fat
	Color	White
Cooked Product		
Odor	Grilled meat	Intense
	Balanced	Balanced
Texture	Tenderness	Tender meat
	Juiceness	Juicy meat
Flavor	Intensity	Intense flavor
	Persistence	Persistent flavor
Fat aspect	Firmness	Consistent fat
Protected Geographical Indication (PGI)		
Geographic area		
Animal feeding		
Environmental rules		

Source: Elaborated by the authors based on INAO (2014; 2015)

IRVA is accredited by INAO as an organization to manage and protect the name "*Veau d'Aveyron et du Ségala*". INAO is responsible for accrediting all actors along the chain: input suppliers, farmers, buyers, slaughterhouses, meatpackers, processors and retail stores. Thus, a

single institution (IRVA) is responsible for managing, setting and controlling the adoption of ASV specific rules, from calf birth to final consumer market.

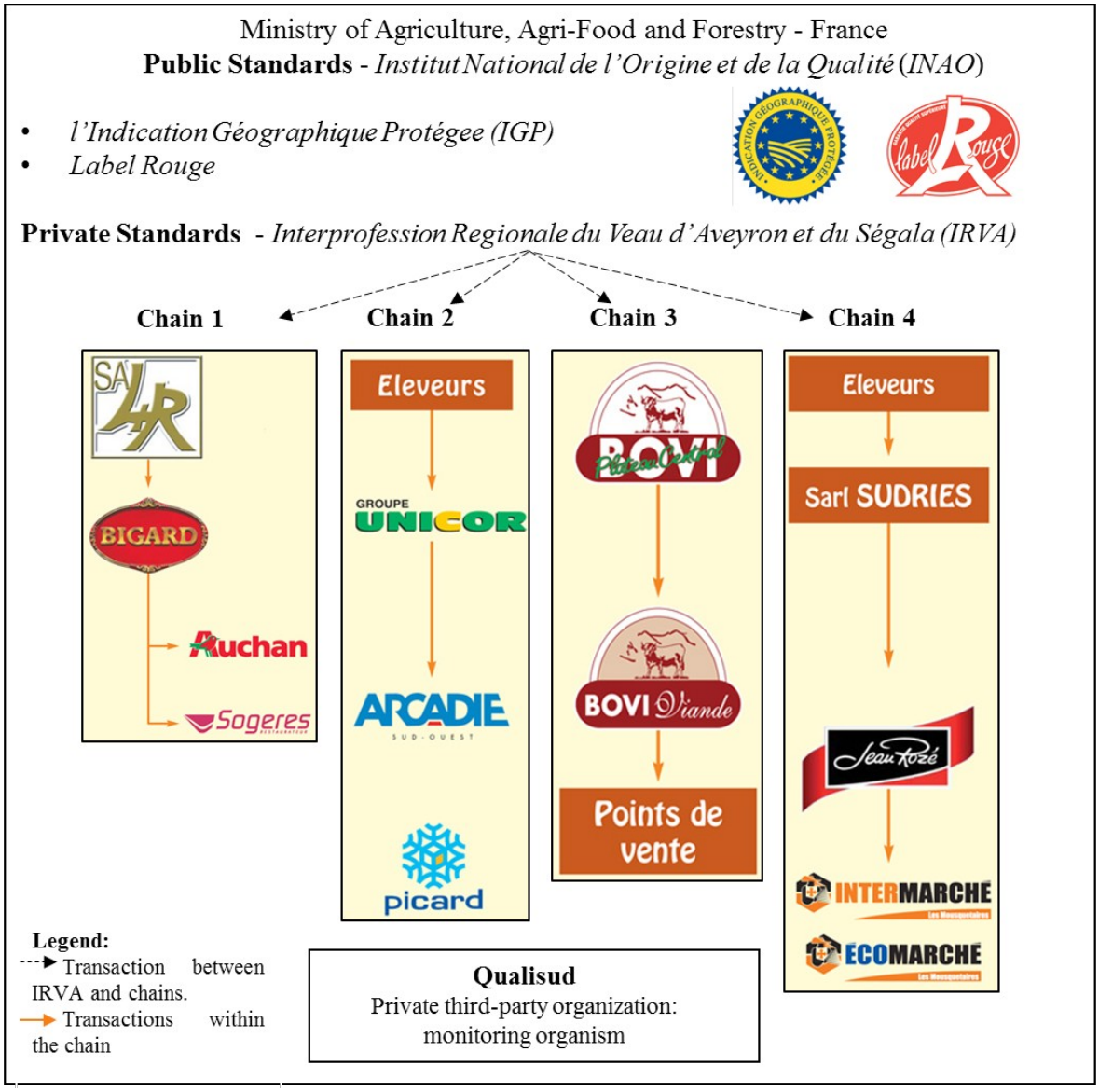
Such interaction between private (IRVA, Qualisud) and public (INAO) organizations favors the solutions for public mechanism failures, posing contractual duties to parties and enabling the system to answer chain's and consumers' requirements (Meulen, 2011).

4 Governance and Measurement

Despite the existence of many micro and small chains, ASV involves four main market chains, composed of producers, processors, and distributors (Figure 3). Consistent with Williamson (1991), ASV system involves temporal, site, physical, human, dedicated and brand specificities. Asset specificity concerning breed is important, since milk is the main food for calves and specific breeds produce milk of specific quality. At ASV system, required breeds are *Limousin* and *Blonde d'Aquitane*. Those are breeds typical from the region and produce a large quantity of milk. Thus, cows can feed their calves with more milk in a shorter period, favoring calves' fast growth. The faster calves grow, the earlier they will reach the required weight and the younger the calf, the tastier and more tender the meat.

We noticed that the good performance on breed raising depends on climate and region in which the animal is grown, linked to site specificity. Moreover, temporal specificity is due to animal's precocity requirements. Calves older than 10 months lose part of their differentiation, representation a loss of value. Production system requires a specific know-how (*savoir faire*), linked to human asset specificity. It also requires some high-specific infrastructure (construction, installation, equipment) for breasting twice a day and for routine weighing, comprising specific physical assets. Finally, farmers must fulfill schedule and quality requirements associated to both labels, in order to maintain their value, linked to brand name specificity.

Figure 03: ASV Organization



Source: Elaborated by the authors based on primary data and IRVA (2017a).

Regarding frequency of supply and payment, only one of the chains requires exclusivity. For the second chain, farmers need to deliver at least 85% of total production to the buyer. At the other chain, each farmer is free to decide the number of animals he/she is willing to deliver. We verified recurrent transactions, with a minimum price set by IRVA and payment period to pay off ranging from 8 to 21 days (compared to 30 days in conventional chain), depending on the chain.

Despite the set of a minimum price, interviewees highlighted uncertainties regarding final prices. Although farmers are sure they will receive a premium over the basis price, the final price depends on final product characteristics. It is important to mention that not all the

calves declared by farmers to be at the ASV system are certified: according to IRVA, from 28,000 animals declared on birth to be certified per year, only 19,400 fulfill all the requirements and receive the certification, thus reaching ASV price. Thus, we observed the existence of uncertainties regarding the amount to be received, because there is no accurate *ex ante* information about animal's final performance on quality attributes.

Once animals reach requirements, farmers rely they will supply ASV system and get a good price, those comprising main reasons for them to engage in ASV system. For all studied cases, transactions are hybrid, comprising formal contracts in one of the chains. According to IRVA, after 25 years of ASV certification, spot market (especially translated into local direct sales and biding) have practically disappeared, even for small local chains. Transaction attributes are summarized in table 2.

Concerning dimensions, main attributes transacted are: animal welfare; feeding system; geographical zone; environmental practices; breed; meat color and aspect; fat color and aspect; odor; tenderness; juiciness, animal's age and weigh. All attributes are set by INAO, yet they are measured by different private agencies.

Animal welfare, geographical zone and environmental practices are assessed by IRVA, through annual visits to audit farms. Feeding system and breed are assessed by Qualisud through biannual visits at farms. Calves must receive cow milk as feed, being possible to complement with certain types of cereals allowed by INAO. Concerning breed, they need to be *Limousin* and/or *Blonde d'Aquitaine*, two typical Southwestern French breeds.

Table 2: ASV's Transaction Attributes

	SA4R-Bigard-Auchan-Sugeres	**Eleveurs-Unicor-Arcadie-Picard**	**Eleveurs-Sudries-Jean Rozé-Intermarché**
Asset Specificity	Physical asset specificity (breed), locational (region), temporal (precocity), dedicated (facilities), human (savoir faire), and brand (ASV).		
Frequency	Price defined once a year by IRVA; Payment: 8-10 days; Requires 100% of the production	Price defined once a year by IRVA; Payment: 14-15 days; Requires 75-100% of the production	Price defined once a year by IRVA; Payment: 21 days; No minimum requirement
Uncertainty	Market uncertainty due to the difficulty of measuring before slaughtering; Price and sale warranties	Market uncertainty due to the difficulty of measuring before slaughtering; Price and sale warranties	Market uncertainty due to the difficulty of measuring before slaughtering; Price warranty
Governance Structure	Formal agreement	Trust-based agreement	Informal agreement

Source: Elaborated by the authors based on collected data.

Qualisud also assess attributes such as meat color and aspect, fat color and aspect, odor, tenderness, juiciness, flavor, texture and taste, through tasting tests. To do so, Qualisud accomplishes two tests in which it invites two groups of tasters, only one of them of experts on ASV. Qualisud offers people in both groups two types of meat, ASV and regular veal, and tasters assess the products. Raw meat is assessed for meat color and aspect, and for fat color and aspect. Prepared meat is assessed for odor, tenderness, juiciness, flavor and taste, and fat aspect (Table 3).

Farmers need to sign a term of agreement with IRVA, declaring the consent to fulfill INAO's requirements. Despite the assessment methodology adopted, there are no objective parameters for measuring organoleptic attributes (e.g. tenderness and flavor), since they are subjective and experienced during consumption.

Regarding age, animals must be between six and ten months-old, depending on the chain. Animals' weight differs according to the chain, ranging from 190 to 270 kilos for male calves, and from 170 to 250 kilos for females. To better control that important attribute, farmers follow up calves' weight along all production process, weighting animals at the farm every 15 days. Slaughterhouses are in responsible for assessing calves' age and weight. After slaughtering, farmers can access an internet report concerning carcass and slaughter (slaughtering time, weigh, fat aspects, meat color, and conformity).

Table 3: ASV's Dimensions

Attributes	Parameter	Measurament Responsibility
Animal welfare	Facility and animal hygiene, shed lightning	IRVA
Geographical area	Aveyron and Ségala	IRVA
Environmental norms	Federal laws	IRVA
Feeding	Nontransgenic	Qualisud
	Milk/Permmited cereals	Qualisud
Breed	Limousine and Blonde d'Aquitane	Qualisud
Meat color	Pink	Qualisud
Meat aspect	Fine texture	Qualisud
Fat color	Intense white	Qualisud
Fat aspect	Consistent fat	Qualisud
Odor	Intense and balanced	Qualisud
Tenderness	Tender meat	Qualisud
Juiceness	Juicy meat	Qualisud
Flavor	Intense and persistent	Qualisud
Age	6 to 10 months	Farmer / Slaughterhouse

Weight	190 to 270 kg - male 170 to 250 kg - female	Farmer / Slaughterhouse

Source: Elaborated by the authors.

Payment limited to a maximum weight makes farmers to focus not only on weight gain, but also on other quality attributes, such as meat color, fat and tenderness. Thus, besides being a mechanism to incentivize quality, restrictions of maximum weight may reduce farmers' opportunistic behavior to reach higher weight, which is typical in commodity beef and veal chains.

5 Discussion and Conclusions

ASV is considered a premium meat, thus comprising high-quality attributes. To reach standards, higher investments are needed, when compared to commodity chain. ASV system continuity demands value distribution along the chain and, consequently, appropriate rewards over efforts (Trienekens, 2011). Governance structures are of more complex forms, given the institutional environment.

AVS production comprises high asset specificity, especially regarding breed, geographical area and feeding practices. Concerning measurement, despite the assessment methodology, a large number of difficult-to-measure dimensions turn transactions more complex, especially when we consider that many dimensions are related to experience (e.g. taste and juiciness) or credence attributes (e.g. animal welfare and environmental practices), or are observable only after slaughter (e.g. meat color, fat and weight).

Williamson (1985) proposed the adoption of more complex governance structures as asset specificity rises. Complementarily, Barzel (2005) says that the choice of the governance structure depends on the assets measurement. Therefore, even under high asset specificity condition, if dimensions are measureable, less complex governance structures can be adopted (Barzel, 2005).

The ASV comprises high asset specificity, and difficult-to-measure dimensions. Nevertheless, ASV does not comprise vertical integration. Governance structures adopted between IRVA and chain's agents were of hybrid forms, through a formal contract. Additionally, hybrid forms of governance were adopted between buyers and producers within each chain, ranging from trust-based governance and informal agreement to formal contracts.

Results in this paper indicate that hybrid governance mechanisms are important to reduce transaction and measurement costs between farmers and buyers, as pointed out in Azevedo (2000). Labels and certifications are efficient mechanisms to transfer information along the chain to final consumers, bringing reliability in quality attributes and turning consumers more willing to pay for that (Tanner, 2000; Deaton, 2004; Trienekens et al., 2012).

Besides that, considering high bureaucratic costs and low incentives, vertical integration may not be the most appropriate governance structure in that case. The role of control and coordinated adaptations is given to public and private organizations, as third parties responsible for setting the rules, applying, managing and controlling its fulfillment, and auditing, monitoring and measuring dimensions linked quality attributes. Thus, following Kalfagianni (2015), private institutions are necessary in that process, once complementing public ones, they will set the rule of the game.

We have concluded that the adoption of less complex governance structures, instead of vertical integration, became feasible through the adoption of a private third-party certification. There was a reduction in transaction costs through the transfer of production process observation and dimensions measurement to a private organization. Vertical and horizontal coordination seems to favor supply chain's responsiveness to supply and demand gaps and oscillations.

This study indicated the importance of coordinating the chain by key organisms, such as IRVA. Once agents are under the same organization form, efforts for certification, such as training courses, are collective, dissipating total costs. Financial incentive, reflected into minimum prices and higher gains, is an important instrument for farmers' motivation.

Thus, replication of this study can provide contributions to the field. Moreover, there seems to be a need to understand the chains from the informal institutions in which they are inserted, complementing Transaction Cost Economics (TCE) (Williamson, 1985) and Measurement Cost Economics (MCE) (Barzel, 2005).

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