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► **To cite this version:**

Emmanuel Raynaud, Loïc Sauvée, Egizio Valceschini. Aligning branding strategies and governance of business transactions in agrifood chains. *Industrial and Corporate Change*, 2009, 18 (5), pp.835-868. <10.1093/icc/dtp026>. <hal-04364447>

**HAL Id: hal-04364447**

**<https://hal.science/hal-04364447v1>**

Submitted on 27 Dec 2023

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HAL Authorization

Raynaud E., Sauvée L., Valceschini E., 2009. Aligning Branding Strategies with the Governance of Vertical Transactions. *Industrial & Corporate Change*, vol. 18, n°5, pp 835-868.

## Aligning Branding Strategies and Governance of Vertical Transactions in Agrifood Chains\*

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# Aligning Branding Strategies and Governance of Vertical Transactions

## **Abstract:**

This paper looks at the interactions between branding strategies and governance of vertical transactions. Branding strategy refers to the choice of information provided to consumers through a brand name. Governance refers to contractual agreements organizing transactions in vertical chains. We build on the logic of Transaction Costs Economics to analyze these interactions. We provide an empirical analysis based on case studies to illustrate how governance structures are aligned with branding strategies. We show that the governance will depend on the salience of transactions. Critical or quality-relevant transactions are more tightly controlled than the others. We also explore the consequences of our results for the alignment principle described in Williamson's work.

**JEL classification:** D23, L14, L21, L22

# I. Introduction

Product quality is an important consideration in many industries. Although quality is a rather fuzzy concept and difficult to define in abstract terms, firms often rely on it to explain their positioning on the market. It is a strategic tool used by firms to differentiate their products from their competitors. The design of products (called “strategic positioning” in management) and marketing strategies may have a great impact on consumer’s willingness to pay, demand and ultimately firms’ profits. At the same time, assuring product quality has been identified as a motivation for vertical coordination in agri-food sectors (Goodhue *et ali.*, 2003, Ménard and Valceschini, 2005). However we do not know much about the type of coordination devices used by firms to assure quality and their efficiency consequences. Do they mostly rely on contracts, on in-house production? Furthermore, following Chandler (1962) contribution, previous literature suggests that firms’ overall performance (and thus profit) is best explained by considering a “design perspective” focusing on the interactions between strategic and organizational decisions, or in the words of Chandler, by the fit between strategy and structure (see for instance Robert, 2004, Rumelt, 1974). This issue of fit has mostly been studied in the context of internal organization of firm. For instance, depending on the strategic positioning they rely on, firms should adopt a unitary or multidivisional form. There has been little attention to extending the question of fit for other organizational structures, and in particular the problem of coordination between a firm and other agents in the vertical chain.

The purpose of this article is to make progress in this direction by looking at the connection between, on the one hand, branding strategy that we define as the set of information regarding the quality or attributes of a product that firms choose to signal to consumers; on the other hand, the governance structures of the vertical chain (hereafter

referred to as vertical transactions) that we define as the contractual agreements used to frame vertical coordination. This coordination encompasses a variety of arrangements in the “market-hierarchy” continuum associated with Transaction Cost Economics (Williamson, 1991) from simple “hand-shake” agreements, formal written contracts to vertical integration. Can we analyze the governance structures we observe as a consequence of branding strategies?

We build on the logic of Transaction Costs Economics (TCE hereafter), to analyze this connection and its efficiency. TCE metric to assess organizational performance is based on the alignment between the attributes of transactions with their governance structures (Williamson, 1991, 1996). We claim that the choice of branding strategies influence governance decisions according to the following sequence: (i) the choice of information on products’ attributes signalled to consumers will influence transactional attributes and their related contractual hazards; (ii) the latter will in turn influence governance modes. However, not all vertical transactions are equally critical or “quality-relevant” for firms’ goodwill. For instance, organoleptic quality of vegetables sold in cans is heavily influenced by the activities of farmers and less by the retailers’ decisions. We thus expect critical vertical transactions to be more controlled than less important ones.

In order to look more closely on the nature of this alignment, we look at detailed case studies in different French agri-food sectors. Several reasons explain why these sectors are well-suited for our analysis. First, they have experienced worldwide (at least among developed countries) a significant shift from a price-based to a more quality-based competition. Branding and strategic positioning are therefore at the core of the competition among firms. At the same time, quality in the product market is quit often the outcome of complementary decisions by different firms in the vertical chain raising important coordination challenges. Second, because of the natural heterogeneity of raw materials for

most agricultural products, quality uncertainty and related asymmetric information are important concerns both for consumers and agents within the supply chains. It is also an issue for firms producing branded products because they must turn heterogeneous and uncertain raw materials into homogeneous products with regular quality. Vertical coordination mechanisms among firms might play a key role in this process. Furthermore, recent concerns on safety problems for some food products (e.g, the “mad cow crisis” in the European beef industry) have made consumers more sensitive to quality and safety concerns. At the same time, as large retailers have internationalized the procurement for their agrifood products, consumers rely less on the origin of products as a signal of their quality. This stresses the needs for additional tools to inform consumers and more devices to control quality all along the supply chains. Finally, the agri-food sectors of many developed countries have experienced a move toward tighter vertical coordination like a greater reliance on contracts or vertical integration (Hobbs and Young, 2000, and Martinez, 1999, for examples in the US pork and broiler industries). One possible explanation for this move toward more formal vertical coordination mechanisms is the expansion of branding for agricultural and food products.

The article is organized as follows. We first review the main literature related to our issues (II). We will then analyze the two “building blocks” of our framework, the branding strategies and the governance structures (III). An explanation on how these variables interact with each other is provided (IV). We then illustrate our framework by relying on the connections between branding strategies and governance structures in case studies (V). Finally, taking stock of our empirical results, we stress the consequences of our framework (VI). Conclusion follows.

## II. Related Literature

Our paper is related to different but connected strands of existing literature. A previous set of contributions highlighted the interactions between strategic decision and organizational design either to study the sequence of causation (strategy or organization first) or to assess the “fit” between these decisions. In a path-breaking contribution, Chandler (1962) suggested that “structure follows strategy”. Firms develop strategies to take advantage of profit opportunities. The implementation of these strategies affects the internal organization of the firm.<sup>1</sup> Milgrom and Roberts (1995) have developed an original formalization through the concept of complementarity to study the interactions between different dimensions of organizational structures. We share with these contributions the issue of fit. We will not deal however with its sequential nature. Whether strategy or structure comes first is not important for our analysis to hold. This paper seeks to contribute by expanding the issue of fit between strategy and organization to cover the “external” organization, namely the governance of vertical transactions. Two previous contributions are similar in spirit. Muris *et al.* (1992) looked at the change of governance in the soft drink distribution system of Coca-Cola and Pepsi-Cola following a shift in their marketing strategy. Yin and Zajac (2004) also studied how strategic positioning and governance of franchised chains are interlinked and analyzed the performance consequences of this fit. However these studies looked at the governance of only one step in the vertical chain. While this was probably relevant for the industries under consideration, it is not relevant in our case as the quality of branded products is influenced by several steps of the vertical chain. In our empirical analysis, we thus looked at the governance of several vertical transactions.

More recently, some scholars have expanded the traditional TCE to integrate strategic considerations by adding concepts from Porter's strategic positioning framework (Porter, 1996). For instance, Ghosh and John (1999) and Nickerson *et al.* (2001) studied the interactions among the strategic positioning in the final market, the set of resources available to firms, and the governance of transactions. However, we try less to combine different conceptual frameworks than to extend the TCE framework to integrate strategic reasoning. We feel that, for our purpose, importing additional concepts or additional assumptions are not necessarily useful to broaden TCE towards strategic considerations. In this respect, we treat branding as a "transaction cost-economizing" device.

This paper deals with the interactions that exist between the different strategic choices of a firm. As this is a very broad and complex theme, we restrict our analysis to the interactions between two specific and more narrowly defined strategic decisions. Furthermore our empirical analysis is based on a particular sector namely quality in agrifood sectors. While this might seem a specific topic, we feel that our analysis applies more generally in situations where (i) consumers are not able to fully assess before purchase the products or process attributes relevant to them (like for instance, animal-friendly processes, fair trade etc.); (ii) part of the quality of the products on the consumer markets is the results of decisions made at different steps of the vertical chain raising coordination and quality assurance challenges. Casual observations of many industries – such as apparel, automotive and many others- suggest that they share these two characteristics. Thus insights gleaned from our empirical analysis might have broader relevance than the specific sectors we investigate.

### **III. TCE Framework and Branding Strategies**

Our goal in this section is to look at the interactions between branding and governance. As TCE has been set out elsewhere (see Williamson, 1985, 1996) we will only briefly summarize its core elements that are relevant for our purpose (III.1). We then turn to the strategic side of our framework by defining branding strategy and the ways we integrate it in the traditional TCE framework (III.2).

### **III.1. The Alignment Principle at the Core of Firms' Performance**

Two of the path-breaking contributions of TCE were to acknowledge the diversity of modes of coordination and their governance structures in market economies (whose main properties are analyzed in details in Ménard, 2004, Williamson, 1985, 1991) and to provide an efficiency-based explanation for this diversity.<sup>2</sup> TCE asserts that economic transactions will be organized in governance structures based on their attributes, namely asset specificity, frequency and uncertainty. Another attribute, important in our context of product quality, is the difficulty to assess (or “measure”) the attributes of products or assets (Barzel, 1982). Coupled with bounded rationality and potential opportunism, these transactional attributes create various coordination problems or contractual hazards. Organizational efficiency is thus assessed through the alignment principle according to which “*transactions, which differ in their attributes, are aligned with governance structures which differ in their costs and competencies in a discriminating (mainly transaction-cost-economizing) way*” (Williamson, 1991, p. 277).<sup>3</sup> Firms’ incentive to economize on transaction costs is twofold. First, in the spirit of the Coase theorem, the parties have a common interest in exhausting all gains from trade in order to maximize the joint value (or profit) of their relationship. The mitigation of transaction costs is thus an integral part of this search for expected maximum joint profits (Ghosh and John, 1999, p. 132-133, Masten, 1996, p. 4).<sup>4</sup> In addition, competition pushes

agents toward adopting efficient governance structures because firms whose transactions are inappropriately governed will suffer poorer performances (Nickerson and Silverman, 2003).

### **III.2. Incorporating Branding Strategy in TCE**

One of the most salient traits in developed market economies is the abundance of alternative products. The increasing expansion and continual renewal of product lines give consumers more and more alternatives but at the same time imposes stronger constraints on its rationality.<sup>5</sup> Put it differently, consumers incur *ex ante* search costs. In addition, consumers must also spend time and money to assess and measure *ex ante* the quality of products (Barzel, 1982). This problem is critical considering that certain characteristics are mainly “experience characteristics” (Nelson, 1970), observable only after purchasing the product at the time it is used, or “credence characteristics” non identifiable even consumption (Darbi et Karni, 1973). These transaction costs are also an economic opportunity for firms able to mitigate them. In a Coasean perspective, the lemon problem identified by Akerlof (1970) leaves “money on the table” because valuable transactions are not implemented due to a lack of support devices. Brand name is such a transaction costs mitigating device as it operates both as a decision-support mechanism and as a commitment device (Fernandez-Barcala and Gonzalez-Diaz, 2006). A brand is a summary of information in the form of a logo, a symbol or a name on the product, or in the form of a prominent statement about one or more characteristics of the product.<sup>6</sup> A branding strategy is thus defined as the selection of (summarized) information transmitted to consumers. This summary may concern experience and/or search attributes related to the product itself (e.g, meat tenderness) and/or to the production process (for example, a pesticide-free vegetable).<sup>7</sup> If, in addition to its brand, a firm provides additional information (for instance “organically grown”) on the label of its

products, we include it in its branding strategy. Our definition of branding strategies implies that firms choose both their products “design” and the set of information they provide to consumers. However, this supply of information is only a necessary condition to mitigate consumer uncertainty on quality. The summarized information is mostly a promise. This fact therefore raises an enforcement issue and the need for safeguards. Two main families of quality safeguards have been disentangled in the industrial organization literature. The first one relies mostly on self-enforcement with reputation in a repeated-business context as the canonical example (Klein and Leffler, 1981, Shapiro, 1983). The value of the goodwill thus acts as a “hostage” (Williamson, 1985) or as a “bonding” device (Jensen and Meckling, 1976). Third-party enforcement like third-party certification is another means to assure quality. This mechanism rests on the formalization of (verifiable) contractual terms enforced by a third party. In many agrifood sectors (at least in Europe), some products are sold with “official labels” backed by public certification.<sup>8</sup> The two main mechanisms described above are just polar cases of quality enforcement mechanisms.<sup>9</sup> Intermediate mechanisms can mix these polar forms.

## **IV. Alignment between Branding and Governance.**

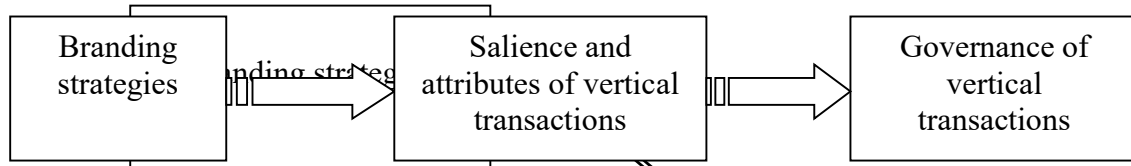
In this section, we study the interactions between governance and branding decisions. We start by presenting an overview of our framework (IV.1). Then we explain how branding strategy affects governance decisions (IV.2)

### **IV.1. Governance Value Analysis<sup>10</sup>**

As pointed out before, branding strategies are liable to generate expected value by providing cognitive tools and safeguard devices to mitigate transaction costs that consumers

have to incur. Once firms have selected what they expect to be relevant information, namely information that might increase consumers' willingness to pay, they also need to implement safeguard mechanisms. In the meantime, this will come at a cost. As pointed out before, for most products, final quality and brand goodwill are the outcome of complementary decisions made at various steps in the vertical chain. Developing (costly) information and monitoring systems in vertical transactions is thus a critical issue for the credibility of the brand and its goodwill. However, the need to control transactions is not homogeneous all along the vertical chain. Not all vertical transactions are equally salient or "critical" for a given branded strategy and for the sensibility of the brand goodwill to contractual hazards in this transaction. For instance, while the organoleptic quality of vegetables sold in cans is critically affected by the farmers' decisions, for instance through free riding potential, it depends less on the retailers' behavior.<sup>11</sup> Firms thus have to assess how the selected branding strategy affects the types and intensities of contractual hazards in the vertical transactions, controlling in particular the most critical vertical transactions. To put it differently, profit-maximising firms will select the branding strategy able to increase their revenues (thanks to an increase of the demand). However, they will incur additional transaction costs in the governance of vertical transactions in order to make their brand credible vis-à-vis consumers. Selecting appropriate governance structures that efficiently mitigate the contractual hazards allow firms to economize on these transaction costs.<sup>12</sup> In this framework, the alignment between branding strategies and governance structures means that firms match the type of governance structure with the "salience" of vertical transactions. "Core" transactions, namely vertical transactions that are critical for the value and goodwill of the brand, should be more controlled than more "peripheral" ones. This is represented in figure 1.

Figure 1: The analytical framework



Two consequences of including branding strategy in the “standard” alignment *à la* Williamson are interesting to note. Firstly, while this principle in itself does not tell (or recommend) what are (should be) the margins used by firms to reach or restore an efficient alignment, the vast majority of (mostly empirical) works consider the governance structure to be the only decision variable.<sup>13</sup> In our analysis, transactional attributes are derived from the selected branding strategy and thus are themselves endogenous. In the next section, we analyze various channels through which branding decisions affect the attributes of some transactions. Secondly, if branding strategies are also decision variables, this expands the set of instruments that may be used to find or restore an efficient alignment. We come back to this issue in the conclusion.

## IV.2. From Branding Strategies to Governance Modes

Three main contractual hazards have been identified as relevant in agrifood vertical transactions (Masten, 2000, Raynaud et al., 2005): quality cheating, the hold-up problem related to quality-relevant investments, and finally quality uncertainty and quality measurement issues. For each of these hazards, we investigate which governance modes may mitigate them.

### *Quality cheating in vertical chains*

Branding strategies involve significant investments in brand development and goodwill. The value of these investments depends on the behavior of agents within the various steps of the vertical chain. Each of these firms has incentives to encourage the others to make the costly investments required to maintain quality while shading one's own effort to do so and free ride. Furthermore, because of observability and measurement issues, this risk is higher when a large number of heterogeneous firms is involved. Accordingly, TCE suggests a shift from market-like governance to hybrid modes or even vertical integration.<sup>14</sup> Explicit contracts can be introduced with restrictions on the production process; for instance, restricting the set of inputs, monitoring the quality at several stages and conditioning the price paid to objective measures of quality (for instance quality bonuses).

### *Hazards related to specific investments*

Fear of quasi-rent expropriation and other maladaptation hazards related to asset specificity may also arise in significant respects. Hold-up problem can take many forms depending on the natural attributes of the technology or of the products. The most relevant types of specific assets in agricultural production that have been identified by previous papers are temporal, physical and site specificities (see for instance Masten, 2000). Most of raw agricultural products (such as fresh fruit and vegetables) are subject to strong climatic uncertainty that influences both the quality and the quantity of products available. They are also subject to strong perishability constraints. This raises the importance of the timing of performance in the chain and the related hazards of temporal specificity (Knoeber, 1983, Nickerson and Silverman, 2003). For instance, some products must be rapidly processed after harvest in order to avoid quality depletion. Perishability prevents a processor from holding inventories of fresh unprocessed inputs. This problem is less severe with storable products.<sup>15</sup>

Furthermore, the branded quality must be homogeneous. This homogeneity translates itself to a set of specifications often implemented through a (private) quality standard. Suppliers may need to invest or finely design their production process in order to meet this quality standard. These requirements may increase the physical specificity of assets (for instance, specific characteristics of the raw materials). Finally, location specificity is also likely to play a role. Processors facilities may be located close to the agricultural inputs. Note that the severity of this factor is also influenced by the perishability of products. If the lag between harvest and processing is short to assure high quality, the processor should be located close to the farmers.<sup>16</sup> As with quality cheating, market is expected not to be the lowest-cost governance mode. A shift from market-like governance to more formal governance is likely.

### *Quality uncertainty and measurement issues*

Finally, the degree of quality uncertainty at various stages of the chain also shapes governance choices. A salient aspect of many processed food products is the strong heterogeneity of raw materials. At the same time, the supply of raw material is still largely fragmented, with a national brand often purchased from hundred of suppliers. The owner of the brand must therefore deal with fragmented suppliers of variable qualities and, at the same time, be able to deliver a uniform and stable final product (or set of products). This can pose serious problems for evaluating and assessing each supplier's separate contributions to the final quality or individual liability. The issue here is related to the problems of evaluating individual performance (see Alchian and Demsetz, 1972, Anderson *et al.*, 1984) and measuring products or asset characteristics (Barzel, 1982). This implies some mechanisms to reduce observability and traceability problems (Spiller and Zelner, 1997, Ménard, 2004). Quality grading and the creation of quality standards are examples of such mechanisms (Foss,

1996). Furthermore, the brand owner can go a step further and directly try to control critical steps of the production chain by vertically integrating or by contractually specifying restraints on its suppliers' or retailers' behavior. And there is more than only uncertainty on quality along the chain. The brand must also react to several kinds of difficult-to-predict external shocks such as a food safety crisis, a new strategy or a new marketing campaign triggered by its competitors, and so on. The combination of specific assets and the need to adapt to new external circumstances raise important coordination problems (see Muris *et al.*, 1992). Here again, transaction cost economics predicts a shift from a market-like governance to a more hierarchical one.

To summarize, by committing its reputational capital to protect quality, by creating a quality standard to which its suppliers are supposed to conform, the brand owner puts itself at risk and increases potential contractual hazards in vertical transactions. It is not only the increase of each hazard but also their combination which make vertical coordination more problematic. Therefore, brand owners have strong incentives to implement governance structures that can mitigate these hazards (Furquim de Azevedo *et al.*, 2003). Note that for all the previous contractual hazards, we expect a shift from market-based governance towards structures allowing tighter control and coordination over the critical transactions. The results provided by the case studies will tell us if the more formal governance ends up being more contractual (coordination through written contracts) or hierarchical (vertical integration).

## **V. Fit in Agrifood Vertical Chains**

In this section we rely on several examples in agrifood sectors to illustrate the interactions between branding and governance decisions. More specifically, we analyze three

case studies in different French agrifood sectors: Carrefour in the fresh beef industry, Cassegrain in the processed vegetable sector and Saveol in the fresh tomato sector.<sup>17</sup> We start by describing our empirical methodology as well as the different cases (V.1). We then analyze for each case their branding strategy and the governance of vertical transactions (V.2).

## **V.1. Methods and Data of the Empirical Analysis**

This research involves a set of case studies. Following Yin (2003), we consider three steps in the definition of a case study research design: (i) definition of the unit of analysis; (ii) selection of case; (iii) data collection and analysis.

In our study, the unit of analysis (the case study) is a vertical chain in which one of the firms owns and manages a brand. More precisely, this is the association of, (i) a branding strategy, (ii) the corresponding set of transactions between the brand's owner and the other players in the chain, (iii) the governance of these vertical transactions.

The case studies we select come from different French agrifood sectors. We choose these cases for several reasons. Firstly, we deal with successful firms with well established brand goodwill at the national or European level. We might expect that part of the success of these firms come from a careful match between their branding and governance strategies. Secondly, all these brands are owned by firms at different stages of the vertical chain. Carrefour is a retailer, while the two others are respectively a processing firm (Bonduelle) and a cooperative (Saveol). We can check if the position within the chain influences the governance of vertical transactions. Thirdly, their branding strategies are based on partly different set of quality characteristics. By disentangling different quality attributes, we tried

to look at their individual effects on vertical governance. Finally, they all belong to sectors characterized by heterogeneous raw materials in terms of quality. Turning this upstream variability into downstream (branded) homogenous quality is a real challenge and we expect vertical coordination mechanisms to play a role in mitigating this challenge.

In case study, the step of “study protocol” is extremely important. According to Yin (2003), the study protocol stipulates not the survey or interview techniques (these techniques are simply the “tools” we will be using) but, at a meta level of thinking, what are the research questions that “*need to be addressed by the case to support the research hypotheses*” (Johnston *et al.* 1999, 207). Clearly, we must consider here our main goal: assessing the fit between branding strategies and the governance of vertical transactions. Accordingly, these two items were analyzed. Branding strategy was described by analyzing the sources of brand goodwill. As we claim in the previous section, a brand is a summary of information. We tried to “open the summary” by looking at the characteristics of the final product and/or the production process that were emphasized in the marketing communication. We also asked top managers of the brand what were the main attributes of the product at the core of the brand goodwill and what were the most critical steps in the vertical chains to control (or influence) in order to reach the desired level for these quality attributes. We conducted a series of on-site interviews with the staff in charge of the quality management. We asked them to describe the process and to qualitatively rank the salience of the different technological steps for the main attributes of the final product(s). We then checked their description and ranking with colleagues working in the relevant disciplines (animal science and beef production for Carrefour, crop science and agronomy for Cassegrain and Saveol). We disentangled four different intensities of influence: strong (+++), relatively strong (++) , relatively weak (+), nil (0).<sup>18</sup> As we are mainly interested in the way brand owners address

quality management with other agents in the vertical chain, we only analyze the salience of “external” vertical steps (and not “in-house” steps).

We based our description of governance modes in supply chains on the well-known typology provided by TCE that distinguishes between market, hybrids and hierarchical governance (Williamson, 1991). This typology describes and ranks the different bilateral governance structures. As we move away from spot market, control over a transaction becomes greater thanks to changes in the main coordination device (from price to hierarchy) and related governance instruments (incentive and control mechanisms). For each transaction within the supply chain, we thus looked at the type of contractual relations. However, we dig deeper in the governance design by looking more closely at some specific governance mechanisms. Developing efficient information and monitoring systems in vertical transactions appear as a critical issue when quality is at stake. We thus check in more details into the incentive and monitoring instruments.

Data collection was obtained from different and complementary methods. Firstly, various kinds of secondary information (industry and market reports, participants’ Web pages, etc.) were collected in order to understand the structure of the industry and the relevant market and to assess the economic importance of the selected brand names. Secondly, each case data was mainly obtained through interviews and internal company reports. The first step was to contact firms owning the brand to request their collaboration. They were the key agent in the value chain because they are usually interested in any aspect which might affect the value of their brand name. In each firm, we interviewed at least two main managers (sometimes several times): the manager in charge of the product quality and the head of the marketing department. In addition, in two out of three cases (Saveol and Bonduelle) we also interviewed the CEO. The interview followed a semi-structured survey on our various items

of interest, namely brand goodwill and quality definition, contractual relations with other agents in the supply chain, quality control and incentive devices. Each interview took about two hours and was written down. All this information was summarized in a report for each case based on a common structure. The following table summarizes the main data that we collected as well as the source of these data.

Table 1: items and source of information

	Description of the attributes	Source of data
Quality strategy	<ul style="list-style-type: none"> <li>• Quality attributes</li> <li>• Quality specification and critical steps of the vertical chain</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews, description of the label</li> <li>• Interviews</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Type of governance structure</li> <li>• Governance mechanisms (incentive &amp; monitoring devices)</li> </ul>	<ul style="list-style-type: none"> <li>• theory-based typology</li> <li>• theory-based + interviews</li> </ul>

**V.2. Case Studies**

V.2.1. Description of case studies

The Carrefour group is a leading international company in retail business. As the second largest retailer in the world and the largest in Europe, Carrefour now boasts over 12.500 stores operated directly or under franchising agreements in 29 countries. The 2006 annual sales were over €97.24 billion. Carrefour created its own private label for beef (“Filières Qualité Carrefour” or Carrefour Quality Chains - hereafter FQC) at the beginning of the 1990s but the label really took off after the 1996 BSE (or “mad cow”) crisis. In 2005, there were 363 FQC worldwide for a large range of products (seafood, cheese, fruit and vegetables, meat products etc.). In this study, we focus our inquiry on the beef vertical chain but our interviews reveal that all these FQC have the same organizational structure.

Cassegrain is a brand name created in 1962 and owned by the Bonduelle group since 1989. Bonduelle is a family firm which is the European leader for canned and frozen vegetables. Bonduelle generates in 2006 a net operating income of over €68 million. The canned vegetables account for 48% of its revenues. The case study describes the high-quality segment of Bonduelle sales, the canned vegetables sold under the brand Cassegrain. The main products sold under the brand are peas, flageolet beans, celery branches, chicory, carrots, potato grains and mixtures of these different products.

While the two previous firms are leaders at the international level, the last one has a more national scale. Saveol is one of the two national leading producers of fresh tomatoes. Its brand has been created in 1981 and the organization is made of 150 greenhouse operators. Saveol is based on an organization operating as an umbrella for four cooperatives. Initially based on a “joint-venture” type of agreement between the different cooperatives, the organization recently shifted toward a more integrated form with the merger of the different cooperatives and their subsidiary into a single (cooperative) firm. In 2006, Saveol generates €135 million sales; 80% of the sales are made in France and the rest in Europe. Fresh tomatoes account for more than 90% of the annual sales.

### V.2.2. Branding Strategies and Quality Definition

We now describe the branding strategies in each case study. A branding strategy is defined as the set of information provided by a brand on products (and / or process) attributes. As stressed in section (IV.1) we disentangle two dimensions: (i) what is shown to the consumer (the attributes at the origin of the goodwill emphasized through the branding marketing strategy) and, (ii) what the most critical steps in the vertical chain affecting these quality attributes are. Looking at these critical steps of the production process is a way to analyze the salience of vertical transactions for the brand goodwill. The implicit assumption

we had in mind is that even if consumers only buy a (sometimes fuzzy) summary of information, firms owning the brand are well aware of how to translate the desired final attributes into technological and contractual specifications. We start by describing the branding strategy of Carrefour in the fresh beef industry before turning to Cassegrain and Saveol.

Taking advantage of the 1996 “mad cow” sanitary crisis, the Carrefour marketing campaign on its high-quality beef supply chain was mostly motivated by the desire to restore consumer confidence. Carrefour believed that mitigating consumer uncertainty would allow for an increase in their willingness to pay. Specifically, Carrefour emphasized through marketing and advertising two main quality attributes for its fresh beef product: (i) its organoleptic quality (in particular the tenderness and color of meat) and, (ii) its safety. The second item was not directly advertised (it is prohibited by regulation on consumer information) but this was indirectly done by emphasizing the origin of the animal (born and raised in France). The credibility of this information heavily relied on the reputation of the retailer label and its related expenses in marketing. At the same time, most of the critical points of the quality specifications were monitored and certified by an independent third-party organization.<sup>19</sup> This branding strategy translates itself into a private standard aimed at technically defining the quality of the final product, the specification and fulfillment of several constraints all along the production process as well as an information system ensuring the traceability of the information and of individual lots of intermediate products (see annex 1). Table 1 summarizes the relative importance of several stages of the production process for the desired quality.

Table 1: Salient quality attributes and relative influence of vertical steps in Carrefour

Steps of the chain impacting the quality attributes	Farm level	Slaughterhouse level
<b>Quality attributes</b>		
<b>Organoleptic quality (tenderness)</b>	++	+++
<b>Safety</b>	+++	++

+++ : major influence / ++ : important influence / + : small influence / 0 no or very weak influence.

The quality of Cassegrain products rests mostly on the intrinsic quality of the raw materials. The choice of a relatively restricted pedo-climatic zone, homogeneous and favourable for growing vegetables, is the starting point for the quality of the products. We may summarize the essential attributes for quality in two main items: (i) high organoleptic and visual quality, thanks notably to a weak tenderometry, to a fine and extra fine calibre, and to a nice appearance, (ii) high safety for their products, thanks to the absence of inert foreign bodies, of vegetables unharmed by disease, parasites and certain residues (heavy metals). The specifications define the practices for growing and for harvesting susceptible to minimize these problems. Another dimension of quality for the Cassegrain brand name rests on packaging: a square can with a particular interior covering. The quality attributes at the core of the brand goodwill are translated into specifications for the production process. They are mainly directed toward farmers as this is the most critical step of the supply chain. Table 2 summarizes this. Another important aspect of the quality is the choice of seed varieties, each of them with different expected yields and maturity dates.

Table 2: Salient quality attributes and relative influence of vertical steps in Cassegrain

<b>Steps of the chain impacting the quality attributes</b>	<b>Input supplier level</b>	<b>Farm level</b>
<b>Quality attributes</b>		
<b>Organoleptic quality</b>	++	+++
<b>Safety (sanitary quality)</b>	0	+++

While the two previous brands emphasize attributes relevant for a vertical differentiation (in particular organoleptic characteristics), the Saveol case mixes both vertical and horizontal differentiation. The fresh tomato market is mainly segmented through visible (or search) attributes like size, type (“standard” tomato, cocktail and cherry tomato,...) and by the way the products are sold (loose tomatoes vs bunches). This is mainly a situation of horizontal differentiation. The major criteria in the definition of Saveol products’ quality are (i) a pesticide-free product, (ii) a visual quality above the “average” level found in the market (color, maturity, size of the fruits), (iii) an homogeneity of products all along the year for the previous visible attributes. For the consumer, the Saveol brand name also aims at showing the segmentation in products of distinct culinary usage (tomato to cook, to eat in salad etc.). It should be noted that Saveol is the initiator of an important innovation for this market, tomatoes in bunches, created in 1995. The Saveol brand name is indissociable for the consumers of this product. This is important as consumers used to rely on these visible attributes to form expectations on other (hidden or experience) ones like flavour, taste.<sup>20</sup>

Table 3: Salient quality attributes and relative influence of vertical steps in Saveol

Steps of the chain impacting the quality attributes	Farm level	Transportation level	Retailing level
Quality attributes			
Homogeneity	+++	+	0
Visual quality	+++	++	++
Safety (pesticide-free)	+++	0	0

These different tables summarize for each case study the influence of each step of the vertical chain on the quality relevant attributes. This gives us the most critical transactions for managing and controlling quality. We now turn to the governance of these vertical chains.

### V.2.3. Governance Structures within the Vertical Chain

As pointed out before, we describe the governance of vertical transactions by looking first at the type of contractual agreement (spot market, contract, and vertical integration) and then at the incentive and monitoring instruments embedded in these agreements. These instruments are more particularly described as they play a major role in the control of quality all along the chains (Hueth *et ali.*, 1999). This section focuses on the contractual relations whereas the next one will analyse the mechanisms of governance. Here again, we will respectively analyze Carrefour, Cassegain and Saveol.

The Carrefour case is particularly interesting in showing the connections between the governance of the vertical chains and the branding strategy. We observed the governance before and after the implementation of the FQC. It is a remarkable case because of its “natural experiment” nature. No one was able to predict the emergence of the “mad cow”

crisis and the resulting drop of consumption. As pointed out before, the new branding strategy of Carrefour was motivated by the desire to mitigate uncertainty on the safety and the quality of beef for consumers. As the origin of the animals, their feeding and processing were involved in the new strategy, farmers and slaughterhouses became critical players for the final quality.

This resulted in a significant reorganization of the governance of upstream transactions.<sup>21</sup> Before the implementation of the FQC, spot market and informal agreements were the dominant governance modes between Carrefour and backward agents. Carrefour was dealing on a regular basis with a set of slaughterhouses with agreements tacitly renewed if the providers were meeting the market prices and the general safety requirements defined by public regulation. Furthermore, it had at that time no influence on the relation between the slaughterhouses and their suppliers (individual or collective organization of farmers). With the creation of FQC, Carrefour implements explicit contracts with both slaughterhouses and farmers (see Mazé, 2002, and Codron *et al.*, 2005). The most critical vertical transactions, namely the transactions respectively between slaughterhouses and farmers and between slaughterhouses and the retailer are governed by formal contractual agreements. This contractual agreement takes the form of a trilateral contract between the retailer, a slaughtering plant and a farmers' association (one for each main area of production).<sup>22</sup> This contractual agreement is made of (i) a commercial blanket contract stressing the general contractual conditions like pricing formula, payment delay, termination provision,....(ii) the list of specifications and the quality control planning, (iii) the weekly command by individual Carrefour stores to the slaughtering firms. Thanks to these contractual provisions Carrefour indirectly controls the transaction between the slaughterhouses and their suppliers through restrictions on their respective decision rights. Furthermore, Carrefour has also promoted the creation of large farmers' associations in production areas where individual farmers were less

organized. These producers' associations negotiate with Carrefour about the definition of the list of specifications and quality control planning. They are involved in the registration of feed providers which can supply the FQC's farmers (for the non-use of meat flour and hormones). Finally they coordinate with the Carrefour central office local animations within the different stores. The rationale for the creation of these associations was twofold. First, Carrefour saved on negotiation costs. It has to negotiate with only a limited set of representatives instead of a larger set of individual (and most of the time) small farmers. Second, it has made easier the implementation of a traceability system all along the chain. By aggregating individual lots and controlling them at the collective level, measurement costs were reduced because the monitoring process was made only once instead of being repeated for each individual farmer.

The activities of farmers also have a deep influence in the Cassegrain case. Cassegrain has thus the most immediate interest in influencing the activities of farmers. It is therefore not surprising to find explicit contracts between farmers and Cassegrain. There are two contractual agreements. The first one is between individual farmers (more than 300) and a collective organization of producers (membership contract); the second one between this organization and Cassegrain. As in the Carrefour case, Cassegrain strongly promote the creation of a suppliers' organization. Individual farmers commit to supply all their output to the collective organization. They also delegate to this organization the negotiation on price and the organization of the production all along the year. The second agreement, the contract between the collective organization and Cassegrain, mostly specifies the qualitative characteristics of the vegetables, the global expected quantities of different products to be delivered, and the "payment system". One important aspect of this agreement is also the existence of a formal coordination device, a joint committee made of representatives of both

the suppliers and Cassegrain. This committee mostly “completes” the contract *ex post*. Because of biological and environmental uncertainty, it is basically impossible to completely control agricultural production *ex ante*. The agreement should allow for some flexibility *ex post*. For instance, harvesting perishable products creates a problem of synchronization. The products must be processed soon after harvest and will spoil if the harvest is not coordinated with the processor’s capacity. The harvest is therefore coordinated through instructions. The decision on the date of harvest is not included in the contract but is decided *ex post* by the joint committee. More generally, this committee deals also with technical coordination issues like cultural practices, adaptation to external shock (for instance disease), and organization of the harvest logistics. The contract does not specify the price paid for the vegetables as this will be negotiated each year by the committee. However, the “payment system” in the contract specifies the quality measurement device, namely the different attributes of the intermediate products that will be used in the price determination. To summarize, most of the decisions at the farm level that might have an influence on the quality of the deliveries are included in the agreements or are negotiated *ex post* in the joint committee. The only decision that is completely controlled by Cassegrain is the choice of seeds used by growers. Cassegrain selects and buys the seeds and resells them to the growers.

The governance landscape is more complex in Saveol. Table 3 reveals that several steps of the vertical chain are critical for the products’ quality and the brand goodwill. Let us start with the upstream steps. Saveol is organized as a cooperative. Each farmer has a stake in the company through his membership agreement. This agreement states the basic obligations of both parties. Saveol is responsible for controlling quality and the respect of the requirements contractually agreed upon. These requirements regulate all the stages of production of the greenhouses (choice of varieties, crop management, and use of

phytosanitary products). Like in Cassegrain, Saveol directly controls the choice of varieties by producing its own seeds and selling them to the growers. Furthermore, the group owns a firm which is the only supplier of auxiliary insects for integrated organic pest control. The firm is also in charge of the marketing of the products and of contract negotiations with large retailers and wholesalers. A critical aspect of the governance is about the selection of the quantities of different varieties (market segments) to produce. As previously stressed, Saveol sells various types of tomatoes. All the largest clients want to buy a portfolio of different segments and not just one specific type of tomato. At the same time, there is a significant price difference between these different segments on the final markets.<sup>23</sup> This means that all growers would like to produce as much as possible of the “high price” segment with the risk of over production. In order to overcome this problem, the group has created a committee made of representatives of the growers and of the marketing division whose main task is to manage the different quantities per market segment. The committee allocates the production and quantities of different segments among the growers according to expected sales in order to make sure that they all benefit from the most profitable segments. Past performance is also taken into account, providing inter-temporal incentives.

The governance of the other downstream critical transactions is “lighter” than the previous ones. Saveol uses trucking firms for the transportation of the products. The governance of this transaction is mostly based on implicit or relational agreements, namely long-term unwritten agreements with a few number of trucking firms. The main weakness to assure quality all along the chain is the transaction with the wholesalers and large retailers which are mostly govern through spot market and oral agreements. Saveol is unable to control, directly or indirectly, the quality-relevant decisions made by retailers. For instance, homogeneity and visual attributes might be damaged by the way the products are stored and manipulated.<sup>24</sup>

#### V.2.4. Quality Control and Incentive Mechanisms

Incentive and monitoring devices are key tools in the governance of the chain as they are responses to the challenges associated with quality management. In each case study, we focus on two main instruments: quality control procedures, and compensation scheme. The annex 2 provides a more detailed description of the quality control within each case study and distinguishes “internal” from “external” control. Internal control refers to quality control made by the brand owner whereas external control refers to control made by a third-party organization, either a private or a public body.

The FQC private standard (a part of the contractual agreement) sets complete traceability on meat safety as well as organoleptic quality. The internal control is not very developed in this case. Carrefour mostly relies on the official French certification system for its FQC products in order to control for meat safety and organoleptic attributes (here mainly meat tenderness). The tenderness of meat is measured according to a national public standard. The rationale behind the use of public certification was to facilitate the access to written and already formalized specifications for the beef production. In addition, a national program has been implemented after the BSE crisis in order to promote the “qualification” of breeding farms. As a publicly-certified product, the quality control of the FQC is designed according to general public rules for certification. The certifying organization defines the nature and the frequency of control for the agents involved in the supply chain. At the initial step of the certification process, one general audit of all the agents involved in the chain (local producer groups, dealers involved, and slaughtering firms) is realized by the certifying organization. In the current step, three audits each year are realized for the FQC producers’ associations, the slaughtering firms, feed suppliers and the local producer groups or

associations. The certifying organization also controls a proportion of members of these growers' associations (with the proportion depending on the number of growers in each group).

On the compensation issue, the price formula negotiated in each trilateral contract follows a "cost-plus" system. Slaughtering firms are paid the slaughtering costs plus two additional elements: a compensation for additional traceability costs and a negotiated margin (2-3%). Cattle farmers are paid the local or national market price for the type of animal and an additional price premium.<sup>25</sup> Cattle farmers' associations are also compensated for administrative expenses. Another aspect of the incentives provided by the agreement for the slaughterhouses is an exclusive dealing provision according to which the provision of beef for each retail store is done by one slaughterhouse plant only. This arrangement facilitates the identification and the allocation of liability for quality defects as well as planning of quantities needed. Furthermore, it also implicitly guarantees a minimum amount of yearly sales for the plants. As pointed out in the franchising literature, this exclusive dealing and the additional bonuses provide a flow of *ex post* rents (similar to an efficiency wage) that give them incentives to fulfil the quality specifications (Klein and Leffler, 1981, Lafontaine and Raynaud, 2002).

Quality control and incentive devices in the Cassegrain case mostly focus on the transaction between Cassegrain and the growers. Before harvest, the control of the vegetables quality in the field is mostly assured by technicians of the factory (field persons), during the entire growth process of the plants. They do a visual control of the appearance, the tenderness and the calibre as well as the sanitary status of the vegetable. These criteria must reach a minimum level, and the methods of production must respect the specifications connected with the contract. These agents primary function is not to monitor or police the farmer's activities

but to give technical and agronomical advices. Monitoring can be viewed as a by-product of their main functions. In addition, one can think of the supply of seeds by Cassegrain to the growers as an indirect form of quality control. By providing seeds of known quality, Cassegrain can limit the variation in seeds quality. The quality of bulk vegetables is measured upon reception at the factory: tenderometry, classes of calibre, proportion of vegetable wasted or not. The control in the factory is assured essentially at the end of trimming, before canning and after the sterilization of the cans. As part of the ISO 9002 certification, the Bonduelle group has implemented a method of traceability for its products. The distributors can control the quality of the cans, and carry out audits in the factory, within the context of this certification. Furthermore the factory subcontracts vegetable waste analyses to an authorized laboratory. The objective of this analysis is to assure the credibility of the farmers declarations recorded in the internal documents.

Grower compensation is awarded on the quantity delivered and the adjustment is based on the outcome of quality measurement. These measurements include (primarily) tenderometry, proportion of solid waste or inert foreign bodies and various types of damages. Each year the committee (made of representatives of the growers and of the factory) negotiates the “reference price” for different levels of measured quality and for different crops. The quantity delivered times the reference price will form the grower compensation. An interesting point to note is the very low turn-over between growers since the beginning of the brand (less than 5% of the number of growers). This low rate suggests that growers do not have incentives to exit the agreement.

Quality control in Saveol is mostly done at the greenhouse and at the firm levels. At the greenhouse level, most of the quality control is done indirectly by field persons who visit individual growers on a regular basis (once per week). Two main types of field persons are

involved. One category is mostly in charge of crop management, the other category mostly deals with integrated pest management. Like in the previous case, Saveol also provides its growers with seeds and/or young plants. Another indirect source of monitoring is more peer-based. “Study group” made of several growers meet on a regular basis. They share information on any relevant dimension of greenhouse and crop management. “Best practices” are more easily spread among the growers. This allows for a homogenization of production techniques and eases the work of the field persons as they make things more easily comparable.

At the firm level, the different packing stations are under ISO certification. The selection, packaging and shipping operations are certified and this allows a complete traceability for products. At the selection level, each lot of products is inspected. Employees check the color of the fruit, its ripeness, its size and its general appearance. If the product does not meet the standard, it is returned to the grower. At the grading level, tests are done regularly on samples of products to measure the sugar content and the firmness of fruits. “Standard” products like loose tomatoes are ranked into several grades according to their quality. The quality of other tomatoes like cherry tomatoes is also sorted into different grades according mostly to their visual appearance. Only “high-quality” products (color, size, shape) are sold under the brand name.

Individual growers are compensated according to the quality of their products (*i.e.* to the quality ranking of their individual productions) and to the market price. The marketing department gives weekly average price for each category of products and the growers receive this average market price time the quantity. Operating costs of the packing stations are deduced from these revenues. By making the grower’s compensation contingent on downstream prices, the grower can be made directly responsible for a poor expression of relevant quality dimensions. But there is more than compensation in the incentives provided

in this system. Another important element comes from the discretionary power of the firm to allocate the different segments of fruits among the growers. As we previously explained, the market price of tomatoes like cherry ones is significantly higher than the more basic products. While fairness concerns are a part of the allocation process, previous performance on quality-relevant dimensions also play an important role. A grower with a good record of past performance has a higher probability to receive the right to produce more profitable segments. Like in the Cassegrain case, we also observed very low turn-over among growers which suggests a low incentive to exit the system.

## **VI. Discussion**

The previous cases studies as well as the framework we designed to analyze them exhibit a number of interesting results that we describe now. We distinguish the results directly related to the alignment between branding strategies and governance structure (VI.1) to those that are relevant more generally to various branches of the economics of organization (VI.2).

### **VI.1. Matching Strategy and Governance**

In our case study, we characterize different vertical transactions according to their influence on branded quality. We expected firms to carefully design the governance of the most critical vertical transactions because a misalignment for these transactions may have higher consequences than misalignment for more “peripheral” ones (Nickerson and Silverman, 2003). This is what we observed for most of the vertical transactions. Critical transactions are not governed through market-like governance but mostly through explicit contracts. These empirical results suggest that firms align the governance of vertical transactions with branded strategies in an attempt to tightly control the most critical

transactions. The only exception is the governance of the transaction between Saveol and the large retailers which is mainly based on repeated spot contracts. Managers from Saveol explained us that it was nearly impossible to contract with large retailers except when they control (and own) the definition of the product (like in the Carrefour case). The role of bargaining power and its repartition among parties for the choice of governance thus emerges from these results.

Furthermore, the observation of the governance of vertical chains suggests that the main mechanisms implemented to coordinate participants combine contractual agreements (providing a blueprint for the relation) that is completed by formal *ex post* decision-making mechanisms. These decision-making mechanisms mostly take the form of a “formal body” made of representative of various agents with explicit power to produce *ex post* decision and adaptation to changing circumstances. Thus, without going as far as vertical integration, strong coordination mechanisms are implemented. These are all examples of hybrid modes (Ménard, 2004).

Our case studies also reveal the importance of third-party certification (like public certification or ISO norms) and traceability concerns. This is partly driven by the fact that food safety regulations are generally becoming more stringent in response to, both real and perceived, food safety problems.<sup>26</sup> In addition, the fear of safety accidents and related loss of reputation (as well as liability issue) give retailers and other agents of the supply chains a strong incentive to implement traceability systems aimed at mitigating the occurrence of problems *ex ante* and their consequences *ex post*. How does this impact on the match between branding and governance? Are branded strategies and vertical governance we observe in our case mainly driven by traceability issues? The first observation we can make is that, traceability and related external certification are less used as a quality signal (in

addition to brands) than as a “support” device helping the implementation of quality control. In none of our case studies, the label on the products (or the packaging) directly signals the existence of external certification. Thus it seems that branding strategies are more driven by business purposes than a response to regulatory or legal requirement.

The Cassegrain and Carrefour cases suggest that traceability requirements impacts on the concentration of suppliers with the creation of collective organization of suppliers (for reasons developed in section IV.2). Does it also impact on the type of contractual relations within the supply chains? In the short-run, it is true that the implementation of a traceability system by “large” players like dominant retailers or processing firms may require more formal governance modes to protect the specific investments made to meet the traceability constraints. In the long run however, when most or all firms within a given vertical chain are involved in a traceability system, firms’ investments in this system become less specific to bilateral requirement. This restores the relative efficiency of spot-market governance. The dominance of contractual agreements that we observe in our cases suggest either that we are still in a stage where governance modes other than market are needed to safeguard the investments made in traceability systems or that traceability is not the only drivers of governance decisions. A good way to sort these issues would have been to compare cases with and without traceability requirements. As our empirical analysis is only made of cases involved in traceability systems, we cannot have a definitive answer. However, all firms in our cases are used to traceability procedures as they have implemented them more than ten years ago. Furthermore, large retailers in Europe are nowadays the main channel to reach final consumers and have similar traceability requirements. This suggests that the governance structures we observe in our vertical chains are not driven only by this issue. What we claim is that, as firms implement new branding strategies, they will change the governance of

supply chains in an attempt to align them with the contractual hazards generated by these strategies.

In our case studies, we dealt with firms providing explicit information to consumers on quality attributes, at least information that can be read on the label or heard and seen on commercials. In many cases, firms do not explicitly signal particular attributes. For instance most of the advertising for Nike mostly tries to create a goodwill related to the “spirit” of the brand (“Just do it”). Does this invalidate our framework? The expected value of the Nike brand is directly related to consumers’ expectations. Some of them who enjoy the design of Nike’s products are looking forward to find this design or “style” in the forthcoming products. The critical asset or resource for the company is thus the design of products (a similar story might apply to the clothing and apparel industries, see Gereffi, 2001). What are the governance implications? Nike relies on in-house teams for the design of its products while most of the production is provided through market arrangements with suppliers. Nike directly controls and vertically integrates the most critical transaction while the other ones are out-sourced. Thus this is consistent with our analysis.

## **VI.2. Additional Findings on Governance**

Our case studies reveal the prevalence of contractualization as the main governance structure. This is especially true for most of the vertical transactions considered as critical for brand goodwill. This finding is on line with TCE analysis that predicts less reliance on market-like modes of governance for transaction with significant hazards. What our finding show is that firms rely more on contract than on vertical integration to control critical vertical transactions. This finding is interesting as alternative approaches of the boundaries of the firm (but expressed with different languages) predict that critical transactions should be

vertically integrated. For instance, in the “property rights” theory of the firm initiated by Grossman and Hart (1986), the most “critical” parties (namely the firm with the highest – marginal- impact on the surplus) should own the assets. If several distinct parties own critical or complementary assets, these assets should be grouped together through single ownership. A similar proposition is made by the “Resource-Based View” of the firm (Rumelt, 1974, Wernerfelt, 1984). In order to sustain competitive advantage, firms should own the critical assets for the creation of value. Brands are of course critical assets in our cases as they affect the consumers’ willingness to pay but they are not the only one. Assets owned by other parties like farmers also seem critical for the surplus because they may affect quality-related attributes in significant (and detrimental) ways. However, the ownership of these assets remains separate from the ownership of the brand. In the two previous theories, integrating these assets is important because it provides access to decision rights over them (“how to use them” in the property right theory, “preventing others from using them” in the Resource-Based View). What our empirical results suggest is that, even for critical steps of the vertical chains, firms rely on explicit contracts instead of vertical integration to control assets and decisions.<sup>27</sup> This idea supports recent contributions in the economics of organization that suggest that the control of decision rights is not only passed through reallocation of asset ownership but also through contracts with “fixed firm boundaries” (see for instance, Baker *et al*, 2006).

Another interesting finding in two of our case studies (Carrefour and Bonduelle) is the will of the brand owner to promote a collective organization of its main suppliers. From a standard industrial organization perspective, this sounds surprising as these buyers voluntarily reduce their bargaining power *vis-à-vis* their suppliers, turning a local monopsony position into a bilateral monopoly.<sup>28</sup> While we do not have a complete explanation, interviewed

managers as well as intuitions based on TCE suggested efficiency benefits of these suppliers' organizations on the efficiency of vertical coordination. It seems that *ex ante* the reduction in bargaining power is more than compensated by efficiency gains. Among them are the ability (stressed in section IV.2) to more easily implement collective traceability program, economies of scale in the management and assessment of inputs quality (by reducing the cost of reaching a standardized level of quality), the reduction of various transaction costs (costs of dealing with one instead of several agents, costs of tailoring bilateral contracts). *Ex post*, this farmers' organization also plays a role in running the traceability system (facilitating the detection of problems and speeding up their resolution). In addition, they are also actively involved in decision-making and adaptations to unpredicted contingencies. They can be seen as a form of credible commitment made by the brand owners' *vis-à-vis* their suppliers (Williamson, 1985). They are granted some decision rights over important decisions (like harvesting date) mitigating the buyers' incentive to behave opportunistically. In addition, the creation of these collective organizations allow for coordinated responses by the suppliers (under the form of retaliation or "embargo") in case of detrimental decisions or actions made by the buyers.

## **VII. Conclusion**

The purpose of this paper was to analyze the interactions between branding strategies and governance of vertical chains of transaction. We describe branding strategies as the selection of information on product quality that firms "send" to consumer. We show that, depending on the attributes of the product (and / or the production process) emphasized through the brands, some vertical transactions become more critical. Our case studies show that these critical transactions are more heavily controlled thanks to a shift from market-like governance to more explicit commitments. When final quality depends on the decisions made

by various agents at different stages of the vertical chain, the governance of transactions acts as a safeguard to mitigate contractual hazards and protect brands' goodwill.

At a theoretical level, our framework expands the set of decision variables at stake in the alignment criteria. If firms failed to “get the alignment right”, they will suffer some form of penalties. They thus have an incentive to undergo some sort of adaptive re-alignment. In most of Williamson's work, firms adapt their governance structures to the attributes of transactions. Transactional attributes are exogenous variables and the alignment is thus mostly based on governance shifts. Introducing strategic decisions offers another margin for maintaining or restoring an efficient alignment. If governance structures are exogenously fixed (*i.e.* because of regulatory constraints), firms can modify their strategic positioning in order to restore an efficient alignment. More generally, if competitive pressure pushes companies to tease out inefficient alignment, it is the alignment between strategic positioning, transactional attributes and modes of governance that should be analyzed.

Our work could be extended in different directions. First, we only looked at cases with private brands as quality signals and reputation as the main quality safeguard. Public certification of quality is however a widespread phenomenon in European agri-food sectors. What are the governance implications of these alternative quality enforcement devices? A previous analysis by Raynaud *et al.* (2005) show that the governance of vertical transactions in chains with private brands is much closer to vertical integration than governance in chains relying on public certification. Public certification of quality all along the chain (including the final transaction with consumers) reduces both the level of quality uncertainty in business transactions and the level of private reputational capital necessary to safeguard quality.

We also proceeded as if the governance of different business transactions were independent from each other. However, recent works suggest that the governance choices for

individual transaction are not independent from each other (Argyres and Liebeskind, 1999, Novak and Stern, 2004). This fact seems relevant for the governance of quality because a lack of quality provision in one transaction may have significant negative side effects on other transactions. The governance of interdependent or connected transactions is a research path that seems profitable but needs to be explored in more details (see for instance Wathne and Heide, 2004).

Finally, Figure 1 in the paper stresses only a one-way relation between branding strategies and governance. The possibility of feedback from governance to branding is also possible. This point was underdeveloped in the previous literature (see however the reference to Nelson and Winter, 1982, in footnote 1). Here, we just want to illustrate how governance of vertical chain may constraint the set of branding strategies. In our analysis, when deciding about their branding strategies, firms are looking for strategies that increase their profits. However, some revenue-enhancing strategy may be plague by additional transaction costs ending with (expected) low or negative profits. These high transaction costs may stem from inappropriate *ex ante* governance of vertical transactions. Firms may try to modify their existing governance modes in order to align them with the new branding strategy. However this modification might be costly and result in “adjustment costs” (Nickerson and Silverman, 2003). Firstly firms may not have the relevant knowledge or expertise to implement a new governance structure especially when they deal with transactions outside of their core competencies. It might take time to learn how to contract for a particular transaction when firms were not previously involved in its governance (Argyres and Mayer, 2004). Secondly, Argyres and Liebeskind (1999) suggested that the existing modes of governance may limit the set of governance adjustments (what they called “governance inseparability”). For instance, if firms are previously committed to long-term contractual agreements, it may be costly for them to shift to a different institutional arrangement.<sup>29</sup> In addition, even if the firms are able

to identify the efficient governance structure that fits with their branding strategies, some regulatory or other institutional constraints may prohibit its implementation. For instance, vertical integration may not be a feasible option under the existing regulations. In summary, because of adjustment costs and/or regulatory constraints in shifting governance, branding strategies with good revenue-enhancing potential may not be selected because the transaction costs are just too high.

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Annex 1: Quality specifications on the production process

	<b>CASSEGRAIN</b>	
<b>Steps of the chain impacting the quality attributes</b>	<b>Farm level</b>	
<b>Quality attributes</b>		
<b>Organoleptic quality</b>	<ul style="list-style-type: none"> <li>• choice of date for sowing and harvesting</li> <li>• choice of seeds and variety</li> <li>• crop management</li> </ul>	
<b>Sanitary quality</b>	<ul style="list-style-type: none"> <li>• choice of variety and plot</li> <li>• rotation</li> <li>• crop management</li> <li>• choice of phyto-sanitary treatments</li> </ul>	

	<b>CARREFOUR</b>	
<b>Steps of the chain impacting the quality attributes</b>	<b>Farm level</b>	<b>Slaughterhouse level</b>
<b>Quality attributes</b>		
<b>Organoleptic quality (tenderness)</b>	<ul style="list-style-type: none"> <li>• Feeding with specific feedstuffs (forage crops and no animal floor)</li> <li>• No antibiotics use</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum age at slaughter (no more than 9 years)</li> <li>• Specifications related to musculature and fat</li> <li>• Minimum carcass weight</li> <li>• Minimum aging period after slaughter</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Specification of the animal race and origin (animal born and raise in France)</li> <li>• Feeding with specific feedstuffs (forage crops and no animal floor)</li> </ul>	<ul style="list-style-type: none"> <li>• Animal slaughter in France</li> </ul>

	SAVEOL		
Steps of the chain impacting the quality attributes	Input supplier level	Farm level	Cooperative level
Quality attributes			
Pesticide free	<ul style="list-style-type: none"> <li>• Provision of insects by the cooperative</li> </ul>	<ul style="list-style-type: none"> <li>• Use of phytosanitary products               <ul style="list-style-type: none"> <li>• Recycling of residues</li> </ul> </li> <li>• Positive list of authorized pesticides</li> </ul>	
Visual quality	<ul style="list-style-type: none"> <li>• Seed selection</li> </ul>	<ul style="list-style-type: none"> <li>• Fertilizer / water regime               <ul style="list-style-type: none"> <li>• Crop management</li> <li>• Time of harvest</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspection and selection               <ul style="list-style-type: none"> <li>• Grading</li> </ul> </li> </ul>
Homogeneity	<ul style="list-style-type: none"> <li>• Seed selection</li> </ul>	<ul style="list-style-type: none"> <li>• Crop management               <ul style="list-style-type: none"> <li>• Time of harvest</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspection and selection               <ul style="list-style-type: none"> <li>• Grading</li> </ul> </li> </ul>

## Annex 2. Quality control in each case study

<b>Carrefour</b>	<b>Cassegrain</b>	<b>Saveol</b>
<p style="text-align: center;"><i>Internal control</i></p> <ul style="list-style-type: none"> <li>• Complete delegation to third parties</li> </ul> <p style="text-align: center;"><i>Third-party control</i></p> <p>Official certification (Certification Conformité Produits – CCP)</p> <ul style="list-style-type: none"> <li>• Preliminary audit: one audit of each agents involved in the chain (slaughterhouse plants, feed providers, individual growers, growers' associations)</li> </ul> <p>Follow-up audit: annual audit for individual farmers, feed suppliers, 3 audit per year for growers' associations and slaughterhouse plants.</p>	<p style="text-align: center;"><i>Internal control</i></p> <ul style="list-style-type: none"> <li>• Selection of new varieties,</li> <li>• Close supervision of farmers field operations by Bonduelle agents,</li> <li>• Controls at the delivery to the factory,</li> <li>• Tenderometry analysis when entering the factory,</li> <li>• Quality control during the processing operations</li> </ul> <p style="text-align: center;"><i>Third-party control</i></p> <p>ISO 9002 certification : traceability of products</p>	<p style="text-align: center;"><i>Internal control</i></p> <ul style="list-style-type: none"> <li>• Visual control of products by producer and Saveol along the production, sorting and packaging process; traceability of products from producer to clients,</li> <li>• Control of specification for BIPC (biological and integrated pest control) at production level,</li> </ul> <p style="text-align: center;"><i>Third-party control</i></p> <ul style="list-style-type: none"> <li>• ISO 9002 certification of the packing station,</li> <li>• Some product analysis for pesticides by independent laboratories.</li> </ul>

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\* A first version of this paper was presented at the 8<sup>th</sup> ISNIE conference, at the ATOM seminar and at INRA MOISA. We thank the participants in these seminars as well as Jean Deflacière, Fathiha Fort, Claude Ménard, Joanne Oxley, Florent Saucède and especially Brian Silverman for useful comments. We also thank the anonymous referees for very insightful comments that greatly improve the paper. Finally, the authors thank the executives and managers of the investigated firms for their time, patience and other valuable inputs allowing a deeper understanding of both the context of their decisions as well as their strategies.

<sup>1</sup> Note that the sequence of causation emphasized by Chandler has been criticized by Nelson and Winter (1982). In their contribution, strategy can follow structure just as easily as structure can follow strategy.

<sup>2</sup> Whereas the analysis in Williamson (1991) is mostly developed in a context of bilateral relations, Ménard (2004) focuses exclusively on multilateral agreements.

<sup>3</sup> The great strength of this framework is the construction of refutable propositions. As shown by numerous empirical studies, this alignment principle seems to be a strong empirical proposition (Shelanski and Klein, 1995).

<sup>4</sup> See the joint profit maximization criteria used by Williamson (1985, chap. 7) and the criteria use for selecting a particular governance structure in Grossman and Hart (1986).

<sup>5</sup> Unless they heavily invest to improve their competencies and are able to correctly assess the characteristics, in a way, to become an expert.

<sup>6</sup> As nicely pointed out by a French scholar in Marketing, a brand is a “mental patent”.

<sup>7</sup> We only deal with this part of information that is provided by firms without any kind of mandatory constraints. Public regulation may ask for specific information to be provided in order to enter the market.

<sup>8</sup> Of particular importance in these sectors is the system of “geographical indicators”, *i.e.* linking products’ quality to their geographical origin. The official names for the two main public labels at the EU level are respectively “Protected Designation of Origin” (PDO) and “Protected Geographical Indicators” (PGI). See the following link for more information ([http://ec.europa.eu/agriculture/foodqual/quali1\\_en.htm](http://ec.europa.eu/agriculture/foodqual/quali1_en.htm)).

<sup>9</sup> For instance, the ISO norms system allows producers to be certified by an independent private organization (see also the Underwriters laboratory in the USA), audit companies inspect and certify the accounts of firms. Such a private organization gets its legitimacy (and its profits) from the reputation it acquires.

<sup>10</sup> The title is a reference to the paper by Ghosh and John (1999).

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<sup>11</sup> Things would be different, for fresh vegetable. The decisions made by retailers would critically affect the value of the products and ultimately the profits of the selling its products to retailers.

<sup>12</sup> Here, we implicitly argue that there is no incentive conflicts among employees of the firm and the firm related to quality. If the owner of the brand has an incentive to protect the value of its brand, so do its employees.

<sup>13</sup> The model provided by Riordan and Williamson (1985) and Helper and Levine (1992) are exceptions.

<sup>14</sup> This kind of free-riding problem is similar to the one describe in the literature on franchising. Mitigating free riding is an important driver of both the decision to franchise or to integrate an outlet and of the design of franchise contracts (Blair and Lafontaine, 2005).

<sup>15</sup> On the other hand, the firm may also try to be opportunist vis-à-vis its suppliers and/or its retailer and take advantage of the perishability of inputs, for example by trying to delay the processing in order to elicit price concession. In this respect, the hazards of temporal specificity can work both ways.

<sup>16</sup> However, the location aggravates contractual hazards only to the extent that both parties have limited number of alternatives. If farmers have alternative processing companies to deal with within the same distance, the bilateral dependency is limited.

<sup>17</sup> Saveol and Carrefour are both brand names and the name of the firms. Cassegrain is one of the two brands own by the Bonduelle Group.

<sup>18</sup> For instance, in the Cassegrain case, the retailer has no impact on the quality attributes. Being sold in cans, the products' attributes can not be damaged by the retailer. This is not true with farmers decisions.

<sup>19</sup> Interestingly, this third-party certification was based on an official certification system with a specific public logo but Carrefour did not mention this logo as a co-brand in its marketing campaigns.

<sup>20</sup> Initially, tomatoes in bunch were of higher organoleptic quality than loose tomatoes thanks to the selection of specific varieties. This is less the case today as most producers shift to more productive varieties of tomatoes in bunch (but at the expense of organoleptic quality).

<sup>21</sup> Another modification that will not be studied in this paper is about the internal relations between the firm's headquarters and its individual stores (see Mazé, 2002, for more on this).

<sup>22</sup> Nowadays, there are more than 20 trilateral contracts in the beef sector in France. Carrefour deals with six main slaughterhouses and more than ten thousand growers (organized in more than twenty growers' associations). The size of these growers' associations ranges from 900 to more than 6900 members.

<sup>23</sup> For instance the price for cherry tomato is twice the price of "standard" tomato sold without any packaging (loose tomato).

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<sup>24</sup> For instance, organoleptic attributes like aroma and taste heavily depend on the storing conditions. Tomato stored in too cold warehouse lost most of their flavour. This might explain the prevalence of “long-life varieties” known to resist pretty well to thermic shocks (and also well known for their lack of taste). During our interviews, one person in charge of quality management also stressed the lack of knowledge of some managers of the fruit and vegetable department.

<sup>25</sup> The price on local or national market already includes quality concern as it is based on a quality standard ranking carcasses according to several criteria.

<sup>26</sup> The EU’s general food law entered into force in 2002 (regulation EC/178/2002) and make traceability compulsory for all food and feed businesses. It requires that all food and feed operators adopt special traceability systems. We thank a referee for emphasizing the importance of traceability in our context.

<sup>27</sup> It is fair to stress that this idea is everything but new. It is for instance at the core of the Bearle and Means contribution on the “separation of ownership and control”.

<sup>28</sup> This issue is not specific to our case as Holmström and Roberts (1998) also stressed the fact that Toyota itself organized an association for their leading suppliers.

<sup>29</sup> The severity of this problem probably depends on the existing governance structure. Intuitively, it seems easier to shift from market to vertical integration than the reverse. Commitment value of market governance is lower and firms may easily turn to other modes of governance without breaking initial commitments. Shifting from a market-based governance to a contract-based governance was relatively easy for Carrefour because it did not have previous strong contractual commitments.