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**Marketing Boards as Hybrid Governance:
A study of the Canadian hog industry**

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Abstract

Because of their perishable nature and the impact of their quality on consumers, agricultural products have always raised important problems of coordination and control with high transaction costs. The recent period in the agrifood industry has registered substantial evolution in devices intended to provide vertical coordination among the various agents of value chains. The most noticeable evolution might be the progressive dismantlement of collective organizations in favor of a contractual approach that would be more compatible with market-oriented policies. In this paper, we revisit the role of marketing boards, mainly through the Canadian experience, more specifically in the Province of Québec. Examining their nature and their role, we intend to better understand the type of problems marketing boards were trying to face and still do, and to assess their success and failures in organizing complex transactions with strong asymmetries among partners who need to coordinate while keeping decision rights distinct. We shall argue that their occurrence in very different contexts as well as their resilience is rooted in a relatively successful combination of organizational properties, embedded in their hybrid nature, and institutional legitimacy, thanks to the guarantees they provide.

Keywords: Hybrid Governance, Marketing Board, Institutions, Regulation, Transaction Costs.

JEL: D 02, D 23, L 38, Q 10, Q13

1. Introduction.

Because of their perishable nature on the one hand and the impact of their quality on consumers on the other hand, agricultural products have always raised important problems of coordination and control across the different stages of the chain value, with high transaction costs as a result. The traditional polar modes of governance provide limited tools in that respect: vertical integration in large business firms confronts acute problems of monitoring and incentives, particularly at the production stage; fully decentralized coordination through the price mechanism face problems of coordination, quality control, and volatility of prices. It is noticeable that the agrifood sector has explored for decades alternative arrangements, which correspond neither to pure markets nor integration. Following Williamson (1991/ 1996, chap. 6), we identify these alternative arrangements as hybrids. By hybrids, we understand arrangements in which several partners pool strategic decision rights as well as some property rights while simultaneously keeping distinct ownership over key assets, so that they require specific devices to coordinate their joint activities and arbitrate the allocation of payoffs (Ménard, 2012).

In the agrifood industry, the recent period has registered substantial evolution in devices of this type, intended to provide vertical coordination among the various agents of value chains. The most noticeable evolution might be the progressive dismantlement of collective organizations in favor of a contractual approach that would be more compatible with the requirements of a market-oriented policy. Impersonal market coordination, when it still exists in the agrifood sector, and above all collective organizations, would then be replaced by arrangements such as contracts, alliances, or even vertical integration that intend to guarantee the required vertical coordination while remaining compatible with the role of market forces (Hobbs and Young 2001; Boehlje and Schrader 1998; Royer, 2009).

One mode of organization that has been particularly challenged by this now prevailing contractual approach is the coordination and control operated through marketing boards (MBs), or variations on this form, e.g., ‘marketing orders’ in the US, ‘interprofessions’ in France, and so on. Marketing boards, once a dominating arrangement in Australia, New Zealand, the UK, and still prevalent in Canada, can be defined as “*legislatively specified compulsory marketing institutions which perform any of the functions of marketing on behalf of the producers of a particular agricultural commodity*” (Veeman 1987: 992). These arrangements were widely used in developed as well as developing countries in the 1960s and 70s, before experiencing extensive dismantlement during the 1980s and 90s. The rationale behind this shift in public policies is that marketing boards and similar arrangements are considered to behave as monopolies, interfering negatively with the efficient allocation of resource in developed countries, and serving as umbrellas to state organs of patronage and taxation in developing countries (Dorward et al. 2005).

In this paper, we revisit the role of marketing boards, mainly through the Canadian experience, more specifically in the Province of Québec. The reason for doing so is that critics or even hostility towards these arrangements tend to blur or even distort their role. The Canadian lasting experience with marketing boards is intriguing in that respect. Often criticized as mechanisms that favor coalition and anti-competitive behavior, they have nevertheless persisted for reasons that exceed the lobbying power of the parties involved.

In what follows, we endorse a non-normative approach to these arrangements. Examining their nature and their role, which goes beyond their coercive powers, we intend to better understand the type of problems they were trying to face and still do, and their success and failures in terms of an efficient organization of complex transactions with strong asymmetries among partners. We shall argue that their occurrence in very different contexts as well as their resilience is rooted in a relatively successful combination of organizational properties, embedded in their hybrid nature, and institutional legitimacy, thanks to the guarantees they provide. Our arguments are developed along a new institutional economics perspective. We substantiate our analysis mainly through the case of the hog marketing board in the Province of Québec, although we also refer to other and somewhat similar experiences.

The paper is organized as follows. Section 2 explores with more details marketing boards as alternative solutions implemented, beyond the standard polar cases of markets and integration, to face problems of coordination and control in the agrifood sector. Section 3 summarizes our theoretical framework, with an emphasis on the role of non-standard modes of governance in organizing complex transactions with high uncertainty and high risks of opportunistic behavior.

Section 4 revisits the role of the Québec hog marketing board with the tools provided by our model. Section 5 presents some results and discusses their interpretation, particularly with respect to the advantages and flaws of marketing boards as instruments for efficiently organizing transactions at stake. Section 6 concludes, raising some public policy issues.

2. Governing vertical coordination: Boards and similar arrangements.

Vertical coordination plays a particularly important role in the agrifood chains because of some specific characteristics of that sector. First, the nature of the activity (perishable products, storage etc.) requires a tight coordination among actors in the supply chain to preserve quality and allow a smooth and safe flow of products from farmers to consumers. Second, some organizational factors (increasing concentration of the distribution and processing sectors, increasing importance of credence attributes) create information asymmetries among parties that can be reduced by tighter vertical links. Third, institutional dimensions (food regulations on quality and safety, consumers demanding more guarantees) impose the need for arrangements signaling and monitoring quality. Again, tighter coordination may alleviate this new set of problems (Ménard and Klein 2004).

This vertical coordination along value chains can take various forms and imply different modes of organization intended to regulate marketing conditions. In this context, marketing is understood as the sequence of transactions required to transfer goods from producers to distributors and, ultimately, consumers. Marketing boards in Canada, marketing orders in the United States, and the interprofessions in France are examples of organizational arrangements developed to overcome the difficulties mentioned above and to ease coordination. Notwithstanding their differences, these organizations share important features, notably their functions, the hybrid characteristics of their governance, and their reliance on a legal framework to be effective. This section reviews briefly the nature of these organizations. We first examine the role they are assigned. We then recollect some factors that have pushed towards their creation. We thereafter look at the reasons for their partial dismantlement and modifications.

Main functions

Formerly, the main objectives of marketing boards and similar arrangements have been from the very beginning to improve producers' bargaining power and promote an orderly marketing of agrifood products, smoothening coordination of supply and demand in highly cyclical activities. These arrangements display a variety of forms along the vertical chains of transactions, ranging from negotiation between producers and transformers or distributors to centralized sales, supply management, or even generic advertisement activities.

Because of the properties of goods at stake, all types of agricultural products can be concerned by a marketing board. However, these arrangements are usually initiated by producers of a specific product, or family of products. Since risks of free-riding are very high if the organization remains based on purely voluntary producers participation, as it is the case for cooperatives, in most countries pressures have been strong to make these organizations mandatory. In Canada, marketing boards become mandatory to all agents involved in the product marketed, once approved by relevant authorities and two-third of voting producers. What makes boards fully operational is their embeddedness in an institutional framework combining legislation, tailored

differently among provinces since this is a federal regime, and a semi-public regulator that acts as a specialized court that administers marketing-related programs and is in charge of solving disputes that might arise among partners.

The American marketing orders share many characteristics with Canadian marketing boards. They are also initiated by producers and become effective when approved by related authorities and producers. Their effectiveness rely on a specific institutional framework, the Agricultural Marketing Agreement Act (1933; amended in 1937 to allow marketing orders), implemented under the authority of the Secretary of Agriculture. The main objectives of marketing orders are to stabilize market conditions for producers while guaranteeing adequate supply of food products to consumers. Their functions fall into three broad categories: quality control, quantity control, and market support (Anderson 1982). To reach these goals, Orders are allowed to set minimum quality standards, control volume marketed, pool prices, and carry out research and development activities. Marketing orders are mostly found in the milk, fruits and vegetables industries.

In France, an interprofession is defined as a private organization recognised by the State, that gathers all segments of an agrifood chain with the objective of elaborating contractual policies guaranteeing equity among partners and allowing the enhancement of chain performance (Coronel and Liagre 2006). Two periods in the emergence of the French interprofessions must be distinguished. The first interprofession was settled in 1936 in the wheat sector (Office national interprofessionnel du blé) as a tool to reduce price and supply variations. The second wave took place in the 1960s with the enactment of a series of agricultural laws ('loi d'orientation agricole' of 1960 and 1962). These "second generation" interprofessions do not put as much emphasis on producers' bargaining power as marketing boards and orders but rather on the improvement of coordination along the chain by improving partners' cooperative behavior and on carrying out actions of collective interest such as research and development and commercial advertising (Valceschini 2001). This motivation, distinct from the one that prevailed in the creation of boards and orders, correspond to a very different time: the sixties are not a period of economic crisis, as the 1930s, but a period of economic expansion. However, and somewhat paradoxically, it confronted some similar problems, e.g., problems of coordination in the chain of transactions to meet a rapidly changing demand with increasing attention to quality issues among consumers, problems of asymmetries among partners with the rapid concentration of processors and distributors, and the need to adapt to deep changes in the technology. The interprofessions are embedded in a legal framework that institutes a centralized and compulsory negotiation between partners and that imposes various conditions regarding product distribution and supply management. This institutional embeddedness gives interprofessions legitimacy in adopting and implementing measures that determine how the quasi-rent will be shared among partners as well as in closely monitoring supply. Similar to marketing boards and orders, once decisions have been approved by an interprofession, all producers and industrials must comply with them.

One common feature that these collective modes of organization share, and on which we will come back, is that they exhibit hybrid properties. By hybrid, in this context, we mean a arrangement that involves two dimensions: on the one hand, it is an organizational hybrid as understood in the tradition initiated by Williamson (1991), which is that partners with distinct property rights as well as decision rights build an agreement within which they pool some of these rights, thus abandoning part of their autonomy; on the other hand, this arrangement is also an institutional hybrid in that it mixes public and private interests in a very specific way, since it

combines self-regulation mechanisms operated by private partners in the chain of transactions, and a legal framework supervising and enforcing these mechanisms. An important characteristic of this feature is that the two dimensions are tightly interwoven, which might explain the stability (and possibly the success) of these forms over time, an issue to be discussed later on.

Why have they been put in place?

The creation of collective marketing organizations has at least two origins: (1) improve producers bargaining power, so as to create a flat field for players making it possible for them to act in a symmetrical position, and (2) better coordinate products along the transaction chains, in order to improve quality and quantity delivered while simultaneously generating extra value. Most collective marketing organizations emerged in the 1920s and 1930s, at a time of major tensions in the supply chains, of technological transformation of agriculture, and of rapid changes in the market structure of transformation and distribution.¹ They were first intended to be a response to the low farmer bargaining power and to supplement for dramatic market failures, notably highly unstable production flow and prices (Erba and Novakovic 1995). French (1982) explains *ex-post* the economic rationale behind conceding such powers to producers: “*the incompleteness of information, the uncertainty of prices and outputs, and the failure of the private sector to develop stabilizing institutions [resulted in] sub-optimal resource allocations, highly variable returns, average returns to growers of perennial crops that are depressed for extended periods, and occasional devastating losses*” (French 1982: 918).

Royer (2008) emphasizes that notwithstanding changes in the environment since they were created, marketing boards and similar arrangements remain organizational means for assuring farmer transactional security in the presence of perishable products (temporal specificity) and unbalanced bargaining power. Perishability and cyclicity on the one hand, asymmetries among parties on the other hand generate a high potential for the occurrence of opportunistic behaviour, particularly on the ‘strong’ side of the market, that of buyers. The market structure of modern agricultural economies, with buyers much more concentrated than producers, has increased this risk of opportunistic behaviour, which undermines trust and cooperation that could otherwise enforce agreements. In other terms, partners are facing important moral hazard, in a context in which markets cannot fully reveal the adequate information, provide adequate tools to coordinate, or discipline parties through intense competition. These collective marketing arrangements were, from the very beginning, and remain considered as costs minimizing enforcement devices in comparison to costly legal courts or contextually inefficient cooperatives (Royer 2008).²

Why have they been dismantled?

In the 1980s, changes in the economic and institutional environments have forced adjustments on many of these organizations. The main change in that respect is the build-up of a liberal paradigm embraced by many countries that concretely translated into the inclusion of the agricultural sector

¹ Marketing boards first appeared in New Zealand (1921) and then spread to Australia (1926), Britain (1931) and Canada (1927; Québec in 1956). Most marketing orders (17) were established within the five years following the amendment of the Agricultural Marketing Agreement Act in 1937. Interprofessions first appeared in France in 1936.

² For example, in the province of Québec (Canada), because of (i) capital access problems, (ii) competition from the introduction of margarine in the Canadian market in 1949, and (iii) free-riding problems, milk cooperatives experienced a slow development that prevented them to compete efficiently against private enterprises.

in the GATT negotiations in 1986.³ In the early 1980's many countries were facing national deficits, fast growing public debts, high inflation and increasing unemployment rate. Failing to improve the situation with Keynesians tools, many governments turned to market-oriented remedies. The capacity of public authorities to interfere adequately in the economy, especially the highly subsidized agricultural sector, became challenged. When the Uruguay Round started, many countries had already initiated reforms advocating the deregulation of the economy, and the inclusion of agriculture in the GATT negotiation was a pretext to start or accelerate reforms. The alleged end of the "agricultural exception", combined to a desire to reduce public intervention, pushed towards in-depth reforms of the organization of the agrifood sector generally, and of the existing arrangements structuring marketing of products more specifically.

Starting in the 1990s, massive dismantlement of marketing boards and the like in various countries, notably those that first introduced them, Australia and New Zealand, is perceived as the result of the new economic paradigm promoting the restoration of more active market forces in all sectors of the economy. In New Zealand, three areas of production (milk, eggs, and human consumption wheat) mainly supplying the domestic market have been fully deregulated after the implementation of various economic reforms in the mid 1980s. For example, the milk sector has been deregulated progressively and became a complete free market in 1993 (Gouin et al. 1994). The Australian dairy sector experienced the same fate in July 2000 after a long deregulation process initiated in 1986 in order to improve the sector competitiveness. In both countries, the abolishment of marketing boards was part of a more general process that affected all sectors of the economy. In the case of the United Kingdom, external forces played a more important role in the dismantlement of marketing boards and the radical restructuring of the agricultural sector over the period 1973-1994. It is generally agreed that the inadequacy of the British milk marketing boards' rules with the Common Agricultural Policy (CAP) when entering the European Union in 1973 and the introduction of European quotas in 1984 were the leading factors that finally ended the 60 years old institutions in 1994 (Doyon et al. 1999; Franks 2001). It must be added that the elimination of the boards found very favorable ground in the pro-market environment of the Thatcher era.

The recent evolution of marketing orders in the United States is not as extreme. The American government considered eliminating marketing orders in the mid-1990s as a move towards a more market-oriented policy. However, in the 1996 Farm Bill, authorities finally opted for relatively minor revisions, notably a consolidation from 31 to 11 Federal Milk Marketing Orders and a few modifications in the pricing system (Stuckenberg et al. 2006). These changes became effective in October 1998. Although only slightly altered until now, the future of marketing orders is far from being certain. Similar to marketing boards, they experience increasing pressures from international market liberalization and are regularly challenged by farmers and processors on the basis of the freedom of speech.⁴

In Europe, institutional changes imposed severe modifications on the interprofessions. The European Community Merger Regulation 4064/89, which became a law in 1990, made price

³Since the creation of the GATT in 1949, agriculture had been deliberately tucked away on the basis of economic, social and political specificities.

⁴One of the most famous lawsuits on this issue is the Glickman *versus* Wileman Brothers and Elliot on generic advertising (Schoen *et al.*, 2000).

fixing illegal in interprofessions, so that they lost an important element of their *raison d'être*.⁵ The new rule somehow destabilized interprofessions, calling their utility into question. However, most of them recovered and maintained some power by reorienting their objectives and strategies towards product traceability management and promotion (Coronel and Liagre 2006).

The planned elimination of milk supply management in Europe, scheduled for 2015, is triggering a major debate among those involved in agricultural policies. The underlying logic of the reform is to switch from a 'command-and-control' approach to contracting, viewed as the most adequate regulatory tool for the industry (European Commission 2010). However, there is some confusion in this debate between the use of contracts as a mode of coordination and contracting as a mode of regulation. Indeed, the relative instability of dairy and agricultural markets and the weak bargaining power of producers will likely require incorporating adaptation mechanisms between producers and industrials and/or large retailers that by far exceed what bilateral contracts as well as markets can offer. In that respect, interventions through public regulatory policies remain high on the agenda of policy makers, so that the case for marketing boards, marketing orders and interprofessions is far from being closed.⁶

Indeed, there are theoretical as well as empirical arguments⁷ about how boards and similar arrangements promoting self-regulation might well help framing products marketing in a way that could outperform command-and-control types of regulation by public authorities while avoiding the negative impacts of markets' cyclical evolution. These arrangements could reduce opportunistic behavior, enforce contractual arrangements, and improve coordination, the argument goes on, thanks to the knowledge the parties have of the industry, so that they can better adapt supply to demand in the long run. First, these governance mechanisms could mitigate transaction costs that would otherwise be carried by central governments (Johnson 2000). Second, they could also mitigate risks associated with contractual agreements. This is substantiated by a report from a high level group set up by the European Commission on the future of the European dairy policy, which emphasized precautions required in using contracts to regulate the agricultural sector (European Commission, 2010). The group especially puts forward the creation of guidelines or of a legislative proposal that would specify the content of contracts, as well as the need for a legislation that would exceptionally infringes the European competition law in order to allow farmers to negotiate contracts collectively (including prices) so as to strengthen producers' weak bargaining power.

To sum up, although many of the arrangements implemented over half a century ago were progressively dismantled or modified, many of them still remain active under various forms, including the traditional one, and /or are revisited as possible solutions to ongoing problems. This resilience tends to demonstrate that market failures characterizing agrifood supply chains remain significant and call out the attention of public authorities. They also suggest the difficulty of

⁵Regulations at the European level become law in all member states the moment they come into force, without the intervention of national authorities and automatically override conflicting domestic provisions (http://ec.europa.eu/eu_law/introduction/what_regulation_en.htm, consulted February 2011).

⁶ Explaining the persistence of these arrangements solely by the existence of powerful lobbies falls short of being satisfactory for at least two reasons: (1) Lobbies of industrials or distributors interested in dismantling these organizations are at least as powerful; and (2) Rent seeking strategies require significant rents to be expected, an assumption that remains to be demonstrated in these sectors.

⁷ See our next section.

avoiding the need for hybrid modes of governance in the agrifood sector. In that respect these issues are in line with some recent development in organization theory.

3. Marketing Boards as Hybrids: some theoretical considerations

In our overview of the emergence and transformation of marketing boards and the like, we have referred repeatedly to these arrangements as hybrids, without any more specification. We now turn to this concept and its underlying model in order to better understand the nature of this mode of organization and its properties. We do so in two steps. We first qualify what is meant by hybrids in organization theory. We then discuss the relevance of this concept to capture some central characteristics of marketing boards.

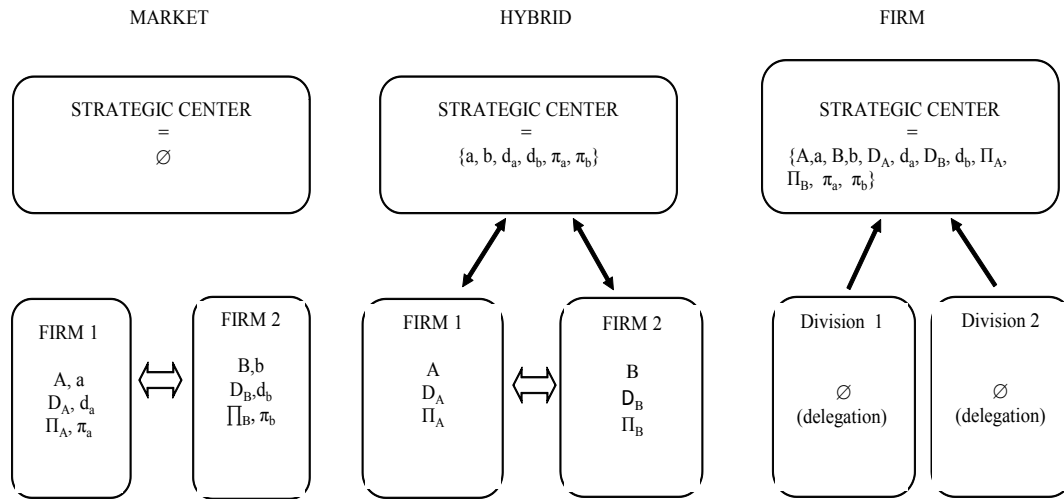
The logic of hybrids

In first approximation, hybrids can be defined as arrangements in which partners pool strategic decision rights while keeping simultaneously distinct ownership over key assets, so that they require specific devices to coordinate their joint activities and arbitrate the allocation of the resulting payoffs (Ménard, 2004; 2012). Initially viewed as ‘non-standard agreements’ that would tend to be unstable and transitory, ‘hybrids’ progressively became acknowledged as a class of organizations of its own (Williamson, 1985; 1991). There is now a booming literature in economics, managerial sciences, or sociology, about various forms of hybrids, such as strategic alliances, joint ventures, and networks. Through this diversity of arrangements, some regularity has been identified that might help understanding what marketing boards and the like are.

The starting point is that such arrangements exist as a specific way to organize transactions. Transactions in this context are understood as the transfer across technologically separable activities of rights to use goods or services. These transfers can be operated with the help of different supports, e.g., prices, contracts, command, which are associated to different modes of organization. In a simplified approach, we can model these alternatives as follows.⁸ Let us consider two firms, 1 and 2, and four assets $\{A,a; B,b\}$, with A and B related to the core activity of 1 and 2, respectively, and remaining within their boundaries, while a and b are assets valuable only if used jointly. Each firm holds full decision rights, D_A and D_B , while rights d_a and d_b require coordination since linked to the joint usage of a and b. The resulting payoffs are therefore Π_A , Π_B , π_a , and π_b , with the last two generated if and only if the corresponding assets are jointly used (profits are zero otherwise). Last, we identify the governing entity monitoring the joint use of assets, if this entity exists and whatever the form it takes, as the Strategic Center (SC). The three resulting “ideal types” identified in modern organization theory (markets, hierarchies, hybrids) are summarized in Figure 1.

⁸ This model is derived from Ménard (2012). See also Baker et al. (2008).

Figure 1: Modes of organization contrasted



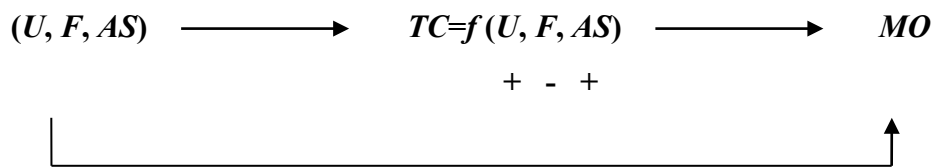
On markets, rights are allocated distinctly and partners process transactions through the price system, without interference of a joint strategic center. Cooperation that might be required to value some assets is monitored through contracts that do not encroach on rights of the parties. In firms, divisions hold rights under delegation: in last resort, they remain submitted to the control of their strategic center (the ‘headquarter’). In hybrids, key rights are in the hands of autonomous partners keeping title as residual claimants, while subsets of assets, rights, and associated payoffs are shared and monitored jointly.

What this suggests is that there are alternative ways to organize transactions, beyond purely competitive markets or integrated firms. We shall argue that marketing boards and the like fall into this category. Before going further in their characterization, there is one more important step, which is the explanation of why one type of arrangement would be preferred to others. The leading explanation to this trade-off in the existing literature is provided by transaction costs economics. Indeed, from an economic point of view these alternative modes of organizing transactions likely involve the consumption of different resources, therefore different costs. A major contribution of Williamson, co-Nobel Prize winner in economics in 2009, has been to identify the sources of these costs and their variations across arrangements. Three main sources of transaction costs have been identified, opening the way to hundreds empirical tests. They are: (1) The **uncertainty** surrounding a transaction, which can be generated by the institutional or physical environment or can emerge from the relationship among partners. The higher the uncertainty, the more safeguards parties to a transaction will look for, thus pushing transaction costs upward. (2) The **frequency** at which a transaction happens, with the hypothesis that more frequent transactions make parties involved more familiar with the characteristics of these transactions, thus facilitating their organization and lowering their costs. (3) Last, the **specificity of assets** (e.g., physical investments, human competences, etc.) required by the transaction at stake, which can also induce variable costs. The more specific the asset, the more risky it is for

partners to get engaged so that they will require more safeguards, thus pushing transaction costs upward.

These different determinants and their impact on alternative modes of organization through their effect on transaction costs can be encapsulated as follows (the underlying signs being that of the derivatives). If U stands for uncertainty, F for frequency, AS for asset specificity, TC for transaction costs and MO for modes of organization, the relationship between modes of organization and sources of transaction costs becomes:

Figure 2: Relationships linking determinants to modes of organization



If we assume that agents are ‘calculative’, yet with limited capacities, the model logically considers that under competitive pressures, agents will continuously look for the most adapted governance structure, which is the structure that fits the determinants of transaction costs in a way that minimizes these costs. The underlying assumption here is what Williamson has defined as the ‘discriminating alignment principle’ (1996, p. 378), according to which ‘the assignment of least-cost *governance structures* to manage *transactions*’ is what governs choices between making a product within an integrated firm, acquiring it on the markets, or producing it through interfirm agreements (the ‘hybrid’ arrangement).

Marketing Boards as Hybrids?

Until the mid 1990s, the transaction costs model was applied essentially to the explanation of the trade-off between processing a transaction through “markets” or organizing it within an integrated “firm.” In that perspective, most empirical tests exhibited the key role of the specificity of investments (assets) among the three sources of costs reviewed above (for a survey, see Klein 2005). However, the increasing concern about the need to take into account the variety of arrangements grouped under the umbrella of ‘hybrids’ (e.g. arrangements as diversified as franchising, strategic alliances, joint ventures, producers’ organizations)⁹ progressively put at the forefront of the analysis the role of another factor, that of uncertainty. By uncertainty, we mean contingencies that are difficult or impossible to predict and that generate adaptation problems. Uncertainty may be due to “the rate and unpredictability of change in an environment over time”; to “perceptions of the environment state irrespective of its change over time” (Carson et al., 2006, p. 1059); and/or to behavior of partners operating under these conditions. A key problem for hybrid arrangements is that they tend to cumulate these three dimensions. Indeed, why is it that parties endowed with autonomous property rights as well as decision rights engage in pooling

⁹ For surveys of hybrid arrangements, see Ménard, 2004, 2012; and Lafontaine and Slade, 2007.

strategic resources and abandon key decision rights without obligation to do so?¹⁰ Without ignoring the role of the two other sources (specificity of investments and frequency of transactions that push parties to cooperate), we shall argue that, at least in the agricultural sector, uncertainty coming out of the environment as well as of the perception of environmental changes combines to the existence of assets that can be a source of value if and only if they are used jointly. However, this pooling of resources and rights also exposes parties to free riding and, more generally, opportunistic strategies. In order to face these different sources of uncertainty, finding the right governance structure becomes crucial; but when uncertainty is too high, and/or when the number of parties involved and asymmetries among them weakens the stability of the arrangement, supportive institutions may become essential players.

This may explain the dual dimension of marketing boards and the like. They correspond to the organizational mode defined as hybrid in our model above; but they also exceed these modes by mixing private interests and public monitoring. In the remaining of this section, we explore further forces pushing so often towards the adoption of a hybrid mode of governance in the agrifood industry. In the next section we shall come back to the institutional dimension of these hybrid arrangements.

First, agricultural products might be subject to high quality variability, raising potentially severe problems of observability, and to tight constraints on their delivery because of their perishable character. If parties have an incentive to pool resources so as to create extra value, the outcome is conditional to their capacity of jointly guaranteeing the quality of output delivered. Thus, in determining standards of quality and controlling their compliance, marketing boards and the like intend to reduce the variability in the quality of outputs.

Second, marketing boards might also try to reduce output and price variability through collective surplus management. For instance, in the Québec apple sector, all producers, through their marketing board, recently agreed to compensate the few producers that invested in controlled atmosphere storage facilities since it contributes to stabilize prices to all producers (Gagné, 2012:10). This illustrates how producers may pool resources and even create joint assets, in this case through their subsidies to storage facilities, in order to create value. Through their hybrid organization, producers are willing to collectively manage surplus for the benefit of the whole, which would be unthinkable at the individual level or if they would rely solely on bilateral contracts.

Third, uncertainty may also come out of the technology involved and/or of technological change. Risks of opportunistic behavior in adopting an adequate technology or in its usage might command agreements that mitigate these hazards while preserving the autonomy of partners with respect to the way they organize their activities. In the hog industry for instance, marketing boards guarantee a market to all hogs produced, which reduces uncertainty and opportunistic behavior related to all-in/all-out production processes¹¹. Also, in the dairy industry, boards

¹⁰ It means that we exclude financial constraints as the core explanation to the decision to go hybrids. Empirical studies, particularly developed on franchise systems, confirm the relevance of this assumption (see Lafontaine and Slade, 2007)

¹¹ All-in/all-out swine production is a system that keeps animals together in groups so that animals from different groups do not mix during their stay at the farm. Although more efficient than traditional systems (better sanitation, reduced disease transmission, improved performance), the all-in/all-out system constrains the producer to a tight

reduce processors' uncertainty related to the constant volume of milk supplies required by dairy technologies by guarantying a stable and predictable supply of milk to dairy plants¹². In that respect marketing boards and the like share properties of coordination similar to those observed with other supply chain systems.

One last source of uncertainty has to do with market structures and, more precisely, the asymmetry between producers, processors and distributors. This asymmetry has been exacerbated by the concentration of the later and it played an important role in the emergence and resilience of marketing boards. In Canada, similar to many industrialized countries, the processing and distribution sectors are highly concentrated in several chains. For instance, in the province of Québec in the 2000s, the three largest dairies processed about 80% of the total milk production, the biggest hog buyer had 55% of the total market shares, and the food distribution sector was dominated by three companies, which had 93% of market shares in 2004 (MAPAQ, 2007). In dealing with powerful downstream firms, individual producers are typically confronted to a moral hazard problem, facing uncertainty over the outcomes and respect of their commercial agreements. Acting individually, they are also most exposed to the opportunistic behavior of these powerful partners. Marketing boards intend to reduce this uncertainty through collective bargaining and contract enforcement.

In developing joint strategies over the use of shared assets or newly created assets thanks to their pooled resources (e.g., a traceability system, research and development partnerships), in sharing knowledge and risks associated with observability problems, in implementing common standards, in reducing output/input variability, hybrid arrangements such as marketing boards and the like might provide solutions not available to alternative arrangements or available only at higher costs, thus outperforming markets as well as hierarchies. This could explain preferences for socially embedded relationships rather than arms' length relationships when uncertainty is high, when high adaptability is required, or when it is difficult to differentiate between poor performance and bad luck (Ménard, 2012). However, the success or failure of the arrangement is conditional to its internal governance as well as to its social legitimacy. Hybrid arrangements persist and succeed if (i) they can take advantage of an adequate governance structure; (ii) they find adequate support in their institutional environment; (iii) they can adapt to their changing economic environment.

As a result, hybrids often mix private interests embedded in public rules, which makes them particularly sensitive to policy issues. This is another dimension of hybrids regularly observed with marketing boards, of course, but also with many other arrangements involving several partners, as with certification systems etc.. It also illustrates the dual face of many hybrids, which are simultaneously arrangements among private partners and arrangements involving public authorities, particularly in the agricultural sector.

It might be so because the simultaneous combination of pooled rights and autonomy over strategic decisions increases the risk of free-riding, with negative spillover on the entire

schedule process that may lead to a more vulnerable position (hold-up) since all hogs are ready for slaughter at the same time.

¹² Milk marketing boards in Canada have been very active in reducing milk seasonality, notably through milk premiums during low production periods.

arrangement. Private order might be a solution, as illustrated by the creation of an internal ‘court’ to control deviants in a successful hybrid arrangement among 35 partners in the French milling industry (Ménard and Raynaud, 2012). However, there are often high costs in implementing private order and imposing decisions to partners who remain autonomous with respect to strategic decisions as well as property rights. And going to courts to solve problems is even more costly, with additional negative side effects since its signals poor adaptation capacities among partners, not to mention the uncertainty it generates about the issue, about what the court will decide. As far as producers are concerned, backing the arrangement with institutionally defined rules of the game might represent significant economies on transaction costs under such circumstances. Consumers can also benefit, since the arrangement and its institutional support might reduce search costs, through definition and implementation of standards and control, an important concern when quality is not observable, as it is often the case with agricultural products. Thus understood, the dual hybrid nature of marketing boards and the like, mixing private interests and public support through the definition of rules of the game and working as a specific mode of organization with its own governance structure, might well result from cost minimizing strategy rather from lobbying strategies as it is usually argued.

4. Duality at work: the running of Marketing Boards

The evolution of marketing boards in Canada illustrates the tensions hybrid arrangements have to overcome when pooling resources is a source of value among partners who nevertheless remain autonomous with respect to strategic decisions and face market conditions that exacerbate competition among them. To better understand this ‘coopetition’ (Nalebuff and Brandenburger, 1997) and the gains expected from rules of the game defined and partially enforced by public authorities, we come back to the development of these arrangements in Canada, with a special attention to one of its provinces, Québec, where almost 90% of the agricultural production is marketed through marketing boards.

An arrangement institutionally embedded.

Marketing boards appeared in Québec with the enactment in 1956 of the law on the marketing of agricultural products. This Act originated from recommendations from a public commission¹³ and established an institutional framework with four main components: (i) a marketing scheme; (ii) a marketing board; (iii) a law on the marketing of agricultural products; and (iv) a regulatory authority. The marketing scheme is a legally-sanctioned plan that determines the rules of the game for transactions between producers and their board, but also between buyers and the board. Once approved by a majority of producers, the marketing scheme becomes mandatory to all producers and is managed by a board of producers, the marketing board. By extension, the buyers of the product concerned are also constrained by the implementation of a marketing scheme. Buyers are not ‘partners’ to a scheme since they have no decision-making or management rights, but they are required to negotiate with the marketing board any conditions and terms of production and marketing of the product. Symmetrically to producers, buyers are allowed to form a board that represents them when dealing with the producers’ board. Actually buyers often

¹³ This Commission was the result of several years of lobbying from the main farmer union asking the government for a legislative framework that could allow “*collective schemes for the sale of agricultural products with mandatory arbitration, compulsory arbitration sentence and legal extension*” (Poulin 1953:11).

coordinate with marketing boards to improve quality and invest in joint activities, mainly in advertising and R&D.

The marketing board setting is framed by a regulatory body¹⁴, which performs various functions. It supervises the implementation of marketing schemes, approves regulations related to collective marketing, and resolves disputes between parties bound by a scheme (Royer 2009). At the request of either party to the negotiation, the regulator may appoint a mediator to reach an agreement. If no agreement can be obtained, either party may request the regulator to arbitrate the dispute, similarly to what a court would perform. The outcome of this arbitration process is binding and therefore applies to all stakeholders in the production and marketing of the product for the territory concerned (RMAAQ 2010, a. 115-118).

This constraining institutional framework does not always gain unanimous approval from all parties involved and is submitted to continuous challenged from within. All producers do not easily endorse the collective discipline and some may consider that they would be better off on their own in a free market. Similarly, buyers who have to deal with a collective organization may consider that it hinders the development of their business. In seeking to modify market powers, marketing boards change the established business practices or rules, thus almost always facing a strong opposition in the setting up process. Indeed, opportunistic behaviors have to be harnessed. The search for greater equity can lead to the loss of power for some individual producers, so that adhesion of all is far from guaranteed. Similarly, rebalancing power between farmers and buyers is often a source of confrontation. Establishing a marketing board often requires the regulatory body to intervene and impose a first marketing scheme, and once established free riding remains a continuous threat.

Hence, there is a need for these arrangements to gain legitimacy among stakeholders. Collaboration is more easily reached if collective marketing provides benefits to producers, but also to buyers. Achieving efficiency thus plays an important role in building legitimacy for a marketing board and in strengthening collaboration among stakeholders. For example, the objective of higher prices for producers is easier to attain with the consent of buyers if the implementation and the strategy of a board allows reducing transaction costs, rationalizing transportation costs or managing the supply variability collectively.

The various forms of marketing boards.

The legislation enabling marketing schemes provides a toolbox that boards can use. As a result, there is a variety of possible combination of these tools, which are about the degree of transfer of decision rights and even, in some cases, of property rights (as when a joint venture is created to do R&D).

The literature generally distinguishes four types of boards according to the degree of power they hold. At the most elementary level, *promotional* boards provide producers with information on markets, collect funds necessary to develop research programs, and pool funds to finance generic advertising campaigns. At a second level, *bargaining* boards allow farmers to negotiate collectively prices and sales conditions (classification, payment conditions, transportation costs, inspection costs, etc.) and can provide payment guarantees, collective transport organization,

¹⁴ Régie des Marchés agricoles et alimentaires du Québec (RMAAQ)

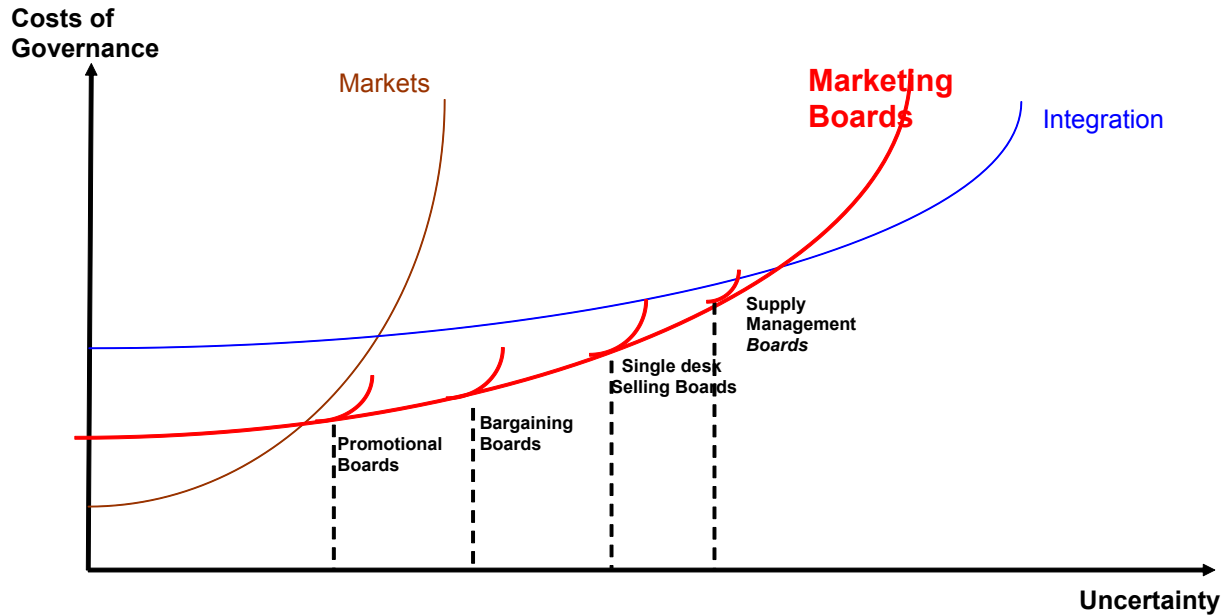
inventories management and product classification. At the third level of intervention, we find *single-desk selling* boards that can oblige producers to sell their products through the board, which makes the latter the unique supplier of a specific agricultural product. This type of board generally provides a guaranteed outlet, centralized supply, price pooling, and a centralized producer payment scheme. Last, boards with the highest level of intervention are *supply management* boards that can control the supply of their members, assign individual quotas, and fix prices through collective negotiation and/or based on production costs. All boards, except the promotional one, imply a collective negotiation of marketing contracts between the marketing board and the buyers. These contracts are called marketing agreements and must be approved by the regulatory body to become effective.

These various types of marketing boards imply different allocation of rights as well as different relationships between property rights and decision rights among stakeholders. From a transaction cost perspective, it is possible to view the various forms as alternative solutions in managing different intensity of uncertainty surrounding the transactions that parties to the agreement are trying to monitor and, if possible, to overcome. We have already discussed the importance of uncertainty as a leading factor in the decision to build and develop marketing boards (see section 3). However, we can go further. There is likely a relationship between the intensity of uncertainty that parties have to face, and the extension of rights they will accept to transfer to a joint entity. On the other hand, the more significant the rights transferred to a joint entity, the more complex the governance mechanisms needed, so that associated costs tend to increase.

Transforming a model that has initially been proposed by Williamson (1991; 1996, chap. 4)¹⁵ we can formalize these relations as follows. When uncertainty surrounding transactions at stake is relatively weak, incentive to coordinate is low. Still, if uncertainty (and possibly specific investments required) is significant enough to not fully rely on markets, parties have an incentive to adopt a weak form of marketing board: we are at the left end of the spectrum, close to market transactions, with promotional boards that keep separate most property and decision rights. In such a board, producers only delegate their decision rights over the financing of generic advertising and research. Buyers are usually not involved in such boards. However, when uncertainty increases, the costs of governance of a promotional tend to increase: free riding and opportunistic behavior tend to develop, each one trying to face uncertainty his own way, while the board has very limited power to discipline parties. Hence there are forces pushing towards the adoption of more constraining forms of governance. This is typically what we have at the other end of the spectrum, which is close to a hierarchical mode of governance. In this case, that of supply management board, producers are obliged to delegate all of their marketing and some of their production decision rights. Buyers are also constrained to buy through this type of board at a given price and product quality, which captures many of their buying decision rights. The theory also predicts that if the costs of monitoring such an arrangement become too high, the solution will be to integrate these activities within a firm. In between these two ‘extremes’ we find bargaining and single-desk selling marketing boards, which offer solutions corresponding to different intensity in the uncertainty surrounding the transactions. We can summarize the logic of this model in the following representation, which offers a rational classification to the variety of marketing boards.

¹⁵ See also Ménard (2006) for an extension of this model.

Figure 3: Types of Marketing Boards



In an environment in which competitive pressures remain powerful, which is the case in the Agrifood sector, parties will have an incentive to choose the arrangement that minimizes their costs of governance, conditional to the degree of uncertainty that determines these costs. Cost-minimizing parties will therefore have an incentive to remain on the inferior frontier, thus choosing the corresponding arrangement.

This typology presents the advantage of capturing some key features of the different types of marketing boards as arrangements designed to monitor different degrees of uncertainty surrounding the transactions at stake, e.g., important variations in production (as with the seasonal characteristics of milk), in distribution (e.g., problems of quality control) and/or in marketing (e.g., volatility of prices). However, it tends to ignore the other dimension of these hybrid arrangements, their embeddedness in specific institutional environments. Actually, this aspect is partially captured in the costs of governance and the shape of the associated curves. What the adoption of a legal framework to support marketing boards does is to introduce rules that modify the parameters of the curves (Williamson, 1991; Oxley, 1997): ideally, what an adequate legal framework should bring to parties is a downward shift in the costs of governance, making the choice of a hybrid arrangement more advantageous and also altering the choice of a specific form of marketing board. The counterpart is of course that the introduction or the modification of laws and procedures has its own costs and generate its own biases.

5. Coordination through Marketing Boards: strength and limits

The economic literature has identified several strengths and limits of marketing boards. The most often cited advantages for producers are to increase their bargaining power and to provide all of them with the same marketing conditions, thus reducing asymmetries among parties involved in the supply chain. From that perspective, marketing boards would rationalize marketing costs by gathering thousands of transactions and reducing the number of intermediaries (Westgren 1994). Partially related to this analysis focusing on the reduction of asymmetries, it has been argued, and we have adopted this view here, that marketing boards could reduce overall uncertainty in agricultural marketing such as uncertainty over the supply of agricultural products and uncertainty over agricultural product quality and prices, which could possibly lead to reduced transaction costs (Hobbs and Young 2001; Royer 2011). Downstream firms would also benefit from transaction costs reduction. With the presence of a marketing board, they do not have to find suppliers or compete to get agricultural inputs, manage contracts and payment of hundreds or thousands of suppliers, and invest in standardizing agricultural inputs' quality. On the other hand, flaws in this collective organization would mainly come out of their cumbersome and costly regulatory procedures (Veeman 1997) as well as their alleged inflexibility, less innovative and less responsive to market signals nature (Tamilia and Charlebois 2007).

In what follows, we revisit flaws and strengths of marketing board's settings viewed as hybrid arrangements mixing organizational and institutional components. We substantiate our analysis with information and data on the Québec hog marketing board. The reason for choosing this specific board is that it is a single-desk selling board evolving in an open economic environment. Therefore, it allows us to examine a case that is not submitted to the highly regulated environment that supports supply management, thus facilitating the observation of the effects of institutional and market changes and the comparison with other regions of Canada and the United States. We first review the recent history of these changes and then continue with an analysis of the advantages and flaws of such a collective marketing system from a new institutional perspective. Our intention is not to formally analyze the effect of the marketing board on the performance of the Québec hog sector but rather to present empirical evidences of their performance in facing coordination challenges as hybrid arrangements.

A case in point: the Québec hog marketing board

The Québec hog producer board was created in 1981 and started its operation as a promotional board, the first level of power. The third level of intervention took some years to be implemented when a single-desk selling agency with an electronic auction started its operations in 1989. The objective of the auction was to increase the competition among slaughterhouses/packers so as to increase the prices paid to producers. Hog producers however complained that prices from the auction, even if higher, were still too low while slaughterhouses/processors complained that they faced much uncertainty on their supply of hogs (Larue et al. 2000). In January 1994, the marketing board opted for a mixed system for determining prices. In that system, a share of hogs was pre-attributed to buyers at a negotiated pre-determined price while the remaining hogs were sold through an auction. After a few years of operation, slaughterhouses adjusted their strategies and prices through the auction declined. Between 1994 and 2009, the board modified a few times the share of pre-attributed hogs in order to foster competition at the auction. Also, in 2000, the board introduced short-term contracts for specialty hogs awarded through an auction in addition to the existing electronic auction and pre-attribution system.

Between 2005 and 2009, the economic environment started changing rapidly. First, the appreciation of the Canadian dollar relative to the US currency weakened the competitiveness of Canadian hog exports. Second, the most important slaughterhouse in Québec merged with another important processor in May 2005, increasing considerably the concentration of that segment of the chain. Third, in other Canadian provinces, chain partners of the hog sector had started moving away from spot market transactions towards bilateral contracting in order to lower transaction costs and respond to the new demand in specific products (Gervais and Lambert 2010).

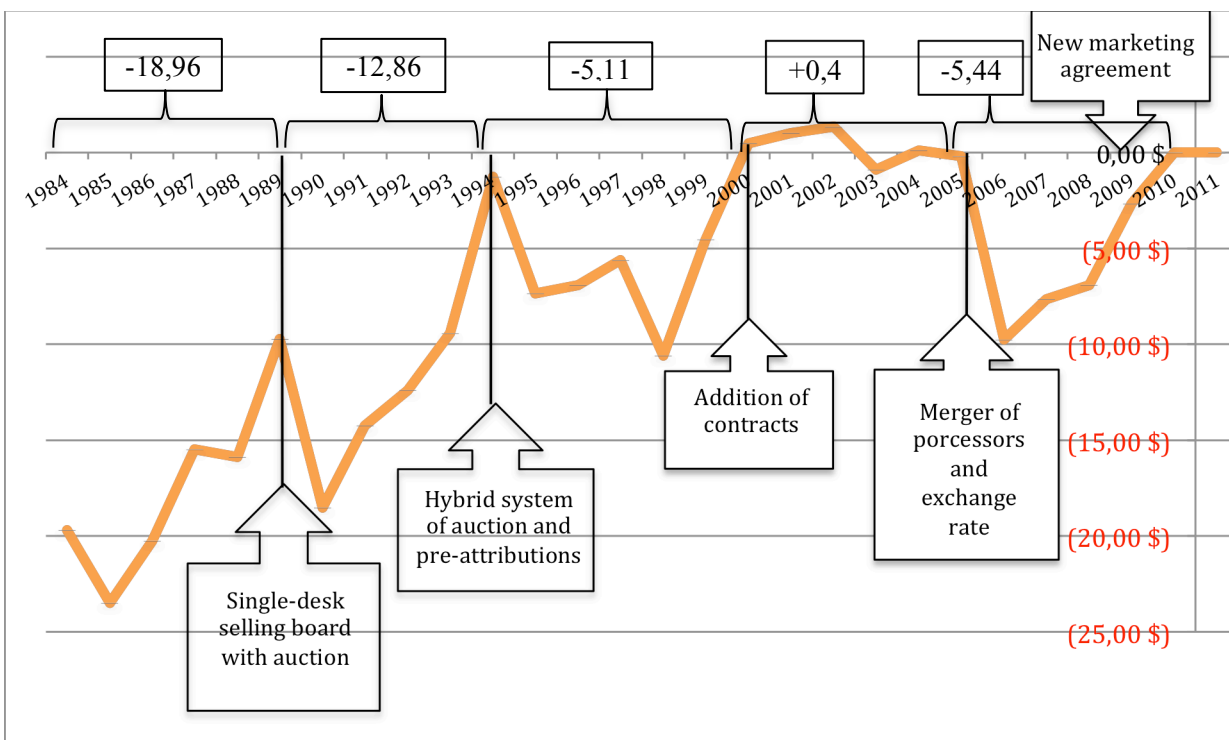
This new economic environment put a lot of pressure on the Québec auction mixed system, making both producers and buyers unsatisfied. It pushed hog prices down, much below the board's reference price and prevented buyers from developing high-value niche products by cutting the direct link between them and producers. Finally, after long and arduous negotiations, buyers and the hog marketing board agreed to reform the marketing system so as to address each party's concerns. They signed a new marketing agreement in May 2009. Producers kept their marketing board and allowed bilateral contracting between producers and buyers so that the quality of hogs as inputs could be tailored to buyers' requirements, eventually with premium over the reference price. In return, slaughterhouses/processors committed to buy all Québec hogs at the US price, reflecting the North American open market conditions.

Comparing performance through prices

As mentioned earlier, one of the central characteristics of hybrids is that they are arrangements in which partners pool decision rights while keeping distinct ownership rights over key assets. What does this imply for the Québec hog collective marketing and its performance? The delegation of stakeholders' decisions rights to the marketing board has the objective of reducing the overall uncertainty surrounding hog transactions. This is the fundamental motivation for creating collective organizations: to provide producers with a better bargaining position and therefore, reduce uncertainty related to an imperfect market structure, notably buyers' stronger bargaining power and potential opportunistic behaviour. From that perspective, the marketing board should have an impact on either price's level, price's volatility and/or rent sharing among partners. Because of data reliability problems, we can only present Québec hog prices relative to US prices¹⁶. Graph 1 shows the evolution of the differences of hog prices in Québec and the United States (US) as a ratio of Québec minus US price over the period 1982-2009. The graph also indicates the major institutional changes made to the hog board and the price difference for each institutional period.

¹⁶The use of the differential in prices instead of the prices themselves allows us to show the real evolution of Québec prices in North America. The use of prices only could not allow us to show the « improvement » of Québec prices.

Graph 1. Evolution of Québec and American hog prices (Québec – US), per carcass of 100 kg, Canadian dollars (CAD), 1984-2011*.



*1984-1994: US 1-2 with Bcost 51-52%; 1995-2002: Bcost 51-52%; January2003-March2004: CME constructed price X 0,989 %; From April 2004 and on: CME constructed price. The CME constructed price corresponds to the weighted mean price of hogs for price formula categories « negotiated » and « swine or pork market formula » of the LH201 reference.

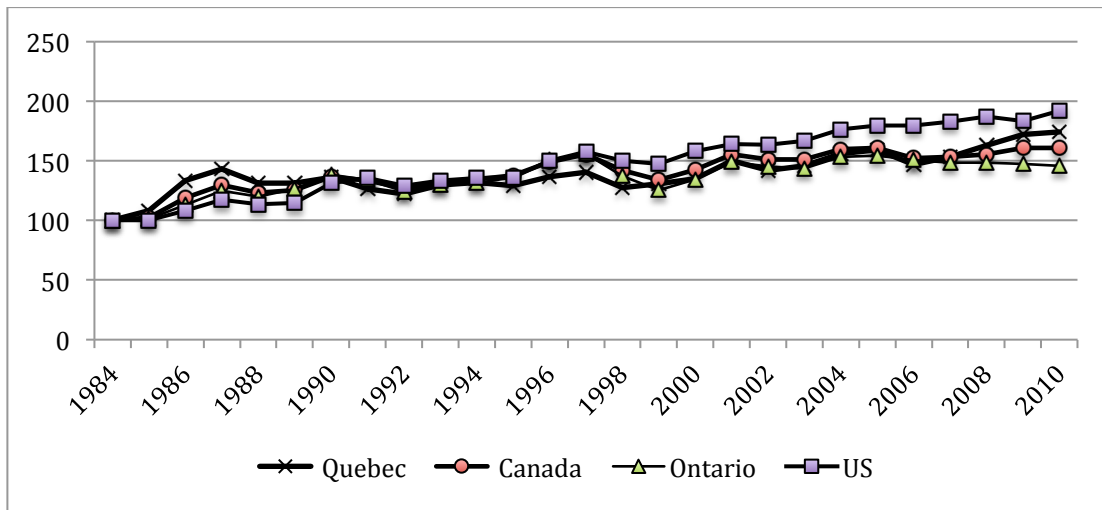
Source: Data provided and adapted from the Québec Hog Marketing Board, 2011.

Before the marketing board was actually implemented, from 1984 until 1989, the difference between the Québec and US price was -18,96 CAD. In other words, the price received by Québec producers was 18,96 CAD lower than the price paid to US producers. With the electronic auction, between 1989 and 1994, this difference reduced to -12,86 CAD. With the introduction of the hybrid auction and the pre-attribution system, the difference decreased again at -5,11 CAD. Between 2000 and 2004, the combination of an auction, pre-attribution and auctioned contracts increased the Québec price so that the 100 kg carcass price was 0,40 CAD higher in Québec than the US. The merger of important buyers in the province in 2005 might have increased processors' market power: that could explain why in our graph prices in Québec dropped abruptly in 2005. This observation must however be interpreted with caution since the Canadian dollar started appreciating relative to the US dollar in 2005. The appreciation of the Canadian dollar puts a downward pressure on domestic prices, which might have accentuated the effect of the merger on prices. The decrease in price differential from mid-2006 until 2009 is likely due to a combination of variations of the Canadian dollar, and the intervention of the regulator, which periodically

established a fix differential Québec-US of -4\$¹⁷. All in all, producers received -5,44 CAD for each hog on average compared to the US price over the 2005-2009 period. Since 2009, Québec producers receive a price equivalent to the US price for hogs of comparable quality to the US hogs.

What this graph basically tells us is that institutional changes to the board have gradually led to a reduction of the gap between the Québec and the US price, the Québec price catching up on the US one, except for the last period for reasons listed above. There are therefore empirical evidences that the time period, over which the marketing board and its mechanisms were created and developed, experienced a decrease in the hog prices' gap between Québec and the United States, reaching one of the board's primary goals of uncertainty reduction.¹⁸ The board might reduce price uncertainty for producers but does this reduction have a detrimental effect on consumer prices? In theory, the pork market being liberalized at the North American level, a higher price paid to Québec producers should not translate into a higher price paid by American and Canadian consumers. To look at this issue, we compared the CPI for fresh and frozen pork in Québec, Ontario, Canada and the United States (Graph 2). This comparison allows us to observe whether consumer prices have evolved differently across regions.

Graph 2. Consumer price index for fresh and frozen pork, Ontario, Québec, United States, 1984-2010 (1984=100).



Source: Cansim, table 326-0020 and Bureau of Labor statistics, United States, series CUUR0000SEFD.

According to these data, the CPI of fresh and frozen pork in Québec over the period observed has followed more or less the same tendency as the CPI for pork in Canada, Ontario and the United States. Pork consumer prices in Québec do not increase faster than in other regions of North America. We can therefore make the hypothesis that an increase in hog price at the producer level

¹⁷ The Québec price would then equals the US price minus 4 CAD\$.

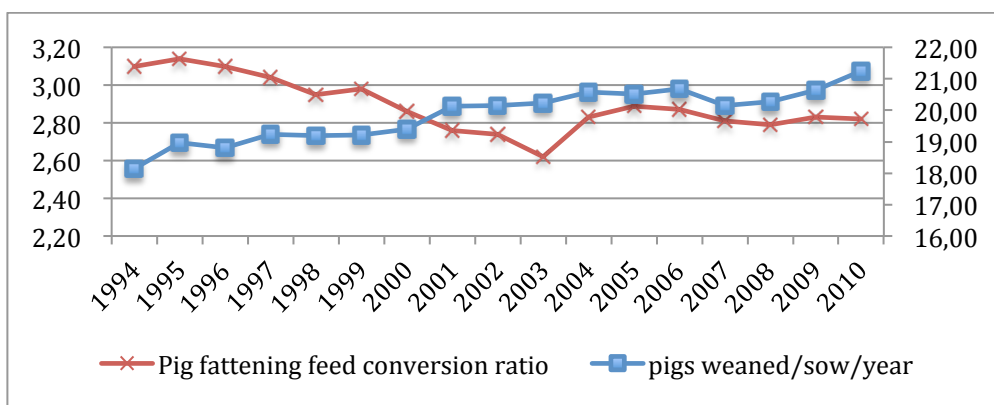
¹⁸ The hog industry has always been exposed to a relatively uncertain environment, especially price variability. Coase and Fowler had notably devoted a whole paper on the variability of pig prices in Great Britain in the 1930s (Coase and Fowler 1937).

in Québec is most probably due to a stronger competition among Québec slaughterhouses or, to a lesser extent, to the effect of a transaction cost reduction.

Productivity

Reduction in uncertainty may have an effect on productivity since a more stable environment provides incentives to invest in new technologies. Graph 3 shows the evolution of some technical productivity results of Québec hog farms: the number of pigs weaned per sow per year and the feed conversion ratio (FCR). Unfortunately, because of data availability, it was not possible to compare these data with another Canadian province or the United States¹⁹.

Graph 3. Evolution of technical results for feed conversion ratio and sows' productivity, Québec, 1994-2010.



Source: Québec hog marketing board (FPPQ), 2011

The data however show that the number of pigs weaned per sow per year in Québec has been steadily increasing from 1994 to 2010, passing from 18,14 piglets per sow in 1994 to 21,26 in 2010²⁰. The pig fattening feed conversion ratio indicates the weight of feed that a hog must eat to put on 1 kg of live weight. In Québec, this ratio has been decreasing over the period observed, from 3,10 in 1994 to 2,82 in 2010. The 'bad' performance registered between 2004 and 2010 is due to the hog changing weight in fattening farms. Pigs arrive in these farms heavier than before (25-26 kg compared to 12-13 kg before) and are also sent to slaughterhouses heavier (105 kg instead of 98 kg before), thus reducing their feed conversion ratio's performance. A standardized conversion ratio would be necessary to show the exact progression of Québec's producer performance but such a ratio is not publicly available. However, industry stakeholders interviewed mentioned that the standardized ratio would be around 2,3 in 2012 in Québec. Knowing that hogs that have a lower FCR are considered more efficient users of feed, these data mean that Québec hogs farms have increased their productivity overtime.

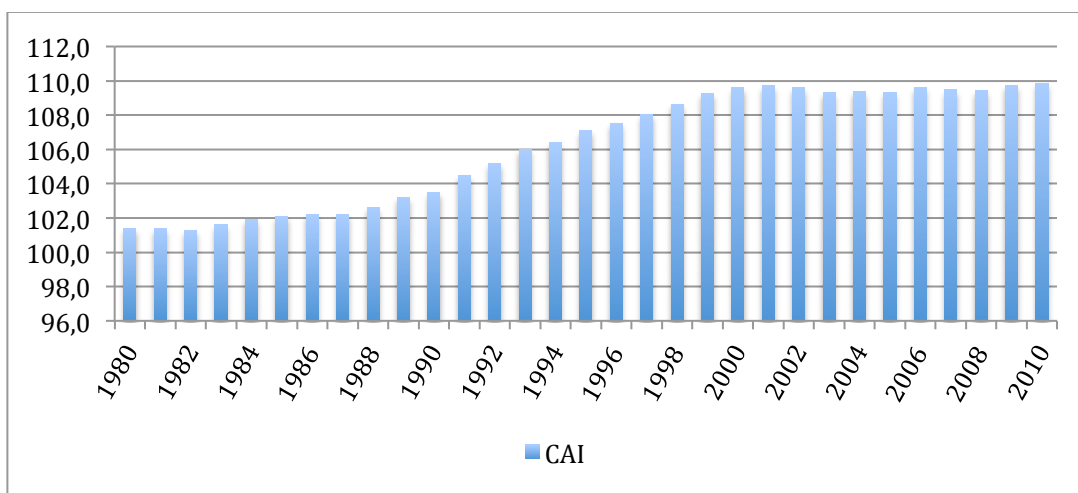
¹⁹ In the United States, hogs are largely produced through vertical integration or contracts, which reduces information transparency on production data.

²⁰ The Canadian sow herd have been historically more productive than the American sow herd and reasons for explaining that difference are still obscure (Sukumaranair and Deen, 2007).

...and quality

Another type of uncertainty that marketing boards and the like intent to reduce is variability in quality. There is empirical evidence that the delegation of producers' and buyers' decision rights over quality to the Québec hog board has improved quality and reduce variability. Canadian pork meat is widely regarded as being among the world leaders in terms of quality (Klein et al., 1996; CTAC, 2003:2). This is most probably due to the implementation of a stringent grid-based pricing system set by Canadian marketing boards and an effective system of slaughters' inspection. In Québec, the grading system with its grid of premiums and discounts is designed to communicate market (consumer) preferences and directly reward or penalize producers based on carcass values. Graph 4 shows the evolution of the Québec hogs quality between 1980 and 2010 based on the classification average index (CAI). Québec hogs are assigned a classification index based on a classification grid. This grid aims at adjusting the producer payment according to two criteria: the hog's weight and its estimated lean meat yield. This index can be considered as a percentage that expresses a quality premium in relation to the pool price (index 100).

Graph 4. Evolution of the classification average index for Québec hogs, 1980-2010.



Source: Québec hog marketing board (FPPQ), 2011

The data show that hog quality has started to increase significantly in 1988 and reached a peak around the years 2000s. The quality premium stabilization over the last decade is explained by genetic limitations and the fact that leaner meat would lead to dryer and less tasty meat. Although these data cannot show a direct link between the presence of the marketing board and quality enhancement, we can however observe that quality has started to improve as the board was implemented in 1989 and kept on improving as the board developed. Moreover, this success might be due to the pooling of resources from producers and buyers. Indeed, the hog board and slaughterhouses/processors agreed over the years to collectively implement stringent quality requirements, cutting-edge regulations such as antibiotic access on prescription only, they have developed a salmonella monitoring and control plan, and they have endorsed a voluntary quality improvement program.²¹ The success of these initiatives is strongly related to the control that a marketing board can impose on all partners, but also the public/private order and enforcement

²¹ Programme québécois d'amélioration de la qualité (PQAQ)

made possible by such an arrangement. Another example of pooled resources concerns research and development activities. The pooling of collective funds into the operation of a pig insemination center²² and a pig development center²³ contributed to produce pork meat of very high quality and uniformity that could meet the requirements collectively set.

Related constraints

The increase in bargaining power, the reduction of uncertainties related to opportunistic behavior and the decrease in quality variability comes however at a coordination cost. According to numerous contributions on hybrids, pooling decision rights while keeping property rights distinct has important implications (See Ménard, 2012, for a survey and discussion of this issue). Williamson (1991) argued that hybrids generally mix the two types of adaptation found in polar modes of organization: autonomous adaptation, as in markets, and cooperative adaptation, as in hierarchies. Adaptation of the cooperative type would be more efficient to manage transactions involving bilateral dependency since it reduces the uncertainty of potential opportunistic behaviour. In a marketing board setting, the predominant type of adaptation is cooperative since contracting partners' consent is required to modify marketing agreements. The maintenance of distinct property rights among parties in the hog board also implies that the board cannot use command, as in the case of a hierarchy, but rather relies on authority, understood as the exercise of delegated decision rights based on mutual consent. The use of authority within hybrids can be a source of instability because authority does not display a mandatory character, so that one party cannot use fiat to decide the appropriate response to disturbances.

There is however a major difference between hybrids of the purely private order type, to which the literature above refers, and hybrids of the public-private order type that we describe here. In a public-private order setting such as a marketing board, cooperative consent must be reached with the support of an institutionalized authority, which makes any changes to the rules particularly laborious. This characteristic of marketing boards involves some major drawbacks in terms of flexibility and responsiveness to environmental changes. Producers and buyers bonded by a marketing scheme cannot capture business opportunities as quickly and easily as a spot market or integrated firms could do since modifications to the marketing rules must be agreed upon by all partners and validated by the regulator. One recent example of this drawback in the Québec hog industry concerns hogs' weight. In the beginnings of the 2000s, many Québec slaughterhouses requested heavier hogs to the marketing board in order to improve their efficiency and satisfy their customers' demands. Their request was finally taken into account by the board, but only after many years. It is probably this aspect of marketing boards that Veeman criticized when she states: "*boards must seek to be more flexible and to foster rather than impede technical and pricing efficiency instead of focusing on regulatory processes and procedures*" (Veeman 1997: 419).

Closer to Québec boards, a recent governmental commission on the future of agriculture in Québec²⁴ noted, "*the marketing board reduces or eliminates the link between producers and processors which limits or slows down the development of differentiated products*" (CAAAQ 2008: 2.26). Since marketing boards are primarily based on the balance of power among partners

²² Centre d'insémination du porc du Québec (CIPQ)

²³ Centre de développement du porc du Québec (CDPQ)

²⁴ Commission sur l'avenir de l'agriculture et de l'agroalimentaire au Québec (CAAAQ).

and are led by producers' interests, they are often supply-oriented. Agrifood chains all around the world have however started shifting towards a demand driven focus in recent years, which conflicts with boards' traditional orientation. In the Québec hog industry, some stakeholders argued in the past that the quality grids used, although successful to improve quality, did not reflect consumer preferences anymore. Consumer preferences are becoming more complex, ranging from the color of the meat to the portion size (Klein et al. 1996). This critic has been addressed in the 2009 reform as mentioned previously.

Last, the pooling of marketing rights paired with autonomous strategic decisions increases the risk of free-riding, which may affect the positive effects of the combination. To reduce this risk, partners can create a private order and an enforcement mechanism, but this comes at a high cost, as already mentioned. In a marketing board setting, private rules are backed with institutionally defined ones and enforced through a specialized semi-public court managed by a regulatory authority. The efficiency of this apparatus has never been assessed, but the theory predicts that it can have a favourable impact on transaction costs. The recourse to a specialized private-public court allows a reduction of the uncertainty over the outcome of the dispute, increases the speed of conflict resolution, and reduces lawyers' fees (Richman 2004). The ultimate question then becomes: do these economies offset the creation and operation costs of the boards' legal framework? The answer to this question goes beyond the objective of this paper but research on the issue would certainly enlighten our knowledge on the overall efficiency of the marketing boards system.

6. Conclusion

The objective of this paper was to revisit the role of marketing boards in order to put into perspective the challenges they were set up to address. Most economists who criticized this mode of organization and the relatively few who supported them did so from a normative point of view. Our approach is different: we did not intend to promote or to demote an arrangement that has been quite resilient. We rather attempt to understand the problems that explain the emergence of marketing boards and the characteristics that allowed them to survive for a long period of time, notwithstanding changes in the rules of the game and attacks from insiders as well as outsiders, and under some conditions to have been quite successful.

Our main argument is that marketing boards are hybrid modes of organization that developed to face high uncertainties surrounding many different types of transactions in the agricultural sector and to reduce asymmetries among parties along the supply chain. Although we illustrated our analysis essentially through the example of Québec marketing boards, particularly in the hog sector, we are convinced that this sector is not the only one characterized by various uncertainties and coordination problems, and that the Québec experience is not unique. Coordinating agricultural products poses many challenges all around the world and countries have historically used different hybrid modes of organization to increase coordination efficiency. In Denmark for instance, the pork industry is tightly coordinated through a well-organized cooperative structure that link the production, processing and marketing segment of the chain (Hobbs et al., 1998).

We also argued that under some conditions, particularly with respect to the governance adopted and to the legal framework supporting them, these arrangements have often reached a relatively high level of effectiveness in enhancing productivity; improving the quality of products delivered; in opening the way to the establishment of standards that facilitate observability in

agricultural sectors; in stabilizing prices where volatility has long disrupted activities; in allowing a more equitable distribution of the rent among parties involved; and, all in all, in reducing often significantly the transaction costs coming out of the diversity of transactions and the multiplicity of parties involved along the supply chain in agriculture. However, we have also pointed out the numerous problems that can plague arrangement such as marketing boards and that can undermine those very elements that support their success. Among these factors are the risk of opportunistic behavior and free riding, which may devalue efforts to harmonize and guarantee quality; tensions among groups of interest along the chain of parties involved; constraints imposed by laws or regulations intended to overcome these difficulties, for example in making compulsory marketing through the arrangement once adopted by a majority of producers; the inefficiencies that may result from such rules, as when they impose restrictions that affect the most innovative parties.

The resulting tensions between the costs and benefits associated to arrangements such as marketing boards have translated in numerous changes over time. Among the most significant changes coming out of inside tensions as well as from outside pressures are: (1) a shift from activities coordinated through independent markets to tightly controlled supply chains paired with vertical coordination, often under integrated firms or powerful distributors; (2) new patterns of consumption; (3) technological changes, particularly with the development of biotechnology and; (4) continuous changes of the international trade rules towards greater market liberalization²⁵. Because of their hybrid governance, marketing boards seem to be lagging behind in terms of adaptation. As Royer (2009) argued and as our example shows, marketing boards can be a mechanism that lacks the flexibility, particularly when they are embedded in laws and regulation that provided them stability but also prevented them to adapt quickly to changing market conditions.

The introduction of mechanisms promoting greater vertical coordination with increased efficiency threatens the sustainability of these collective organizations. Examples tend to show that as a marketing board becomes more incentive-oriented and less equity oriented, their chances of survival lessens. Nevertheless, one can easily predict that the problems that explained the emergence of marketing boards, mainly related to uncertainties along the supply chain in agriculture and the asymmetries among parties, will remain and that either transformed marketing boards or other hybrid arrangements sharing some of their properties will persist or emerge. In that respect the dismantlement of the selling-desk hog board in the Canadian province of Ontario in 2010 while this arrangement persists in the neighbouring province of Québec should allow an interesting comparison of alternative modes of governance and their performance in the near future.

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²⁵See Ménard and Vavra (2008) for a more detailed review of these factors and how they pushed towards a contractual approach.

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