Private Ordering, Collective Action, and the Self-Enforcing Range of Contracts. The Case of French Livestock Industry.

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Abstract :

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1. Introduction

Adequate devices for enforcing contracts condition the efficiency of economic exchanges. Modern economies are characterized by the existence of layers of legal institutions supporting contractual commitment, an aspect that has increasingly attracted the attention of scholars (Schwarz, 2003, 2004; Hadfield, 2005; Rubin 2005). Most of the economic literature on this issue has focused on the role of judges and the optimal design of judicial institutions, with the objective of better delineating the class of problems over which courts should have some discretionary power (Tirole, 1992). More recently, Schwartz (1999, 2003) suggested broadening this perspective by taking into account contract regulation, i.e., supports that states should provide to firms in the contractual organization of their transactions. A theory of contract regulation would have a substantive as well as an institutional dimension; the former specifying what states should do while the latter would determine which legal institutions should perform the required tasks.

However, there is another trend in recent research that emphasizes the role of private micro-institutions in contract enforcement (Milgrom, North, Weingast, 1990; Clay, 1997; Greif, 1993, 2005). These studies have essentially examined situations in which the absence of formal laws or state-enforcing capabilities leads agents to develop private mechanisms for guaranteeing contracts. Greif (2005) tentatively captured the difference between the two approaches through a distinction between intentionally *designed* private institutions and spontaneous *organic* institutions.[1] He also noted that we do not yet have a much needed body of knowledge about the respective efficiency of these devices, especially with regards to the functioning of *quasi-private* institutions.

[1] The delineation of "private" and "public" institutions remains controversial in the literature. In what follows we adopt the distinction proposed by Greif (2005), with public institutions relying on order and sanctions imposed by the state while private institutions are defined and implemented by economic agents themselves.

In this paper we explore the possibility of bridging these two approaches. In doing so, we consider the complementary perspective in contrast to the substitution perspective. The "substitution" perspective compares the efficiency of private (extra-legal) contract enforcement with the traditional role of public law and state-run courts (Richman, 2005). Comparing the respective costs of public and private systems, this perspective suggests that private enforcement mechanisms can be superior to public ones (Berstein, 1992, 1996, 2001). McMillan and Woodruff (2000) substantiated this view, showing the key role of private ordering under dysfunctional public order, while Richman (2005) went a step further, arguing that agents deliberately avoid relying on courts for enforcing agreements. It could be so because formal rules are at risk of undermining social norms that support most deals which involve forms of reciprocity among participants (Clay, 1997). Opposing this "substitution" perspective, the "complement" perspective rather view joint uses of formal/public and informal/private arrangements as guarantees of more efficient outcomes (Klein, 1992, 1996; Lazzarini et al. 2004). The underlying assumption is that formal contract laws provide support to private ordering mechanisms, preventing *ex ante* potential source of litigations and reducing *ex post* enforcement and litigation costs. In what follows, we suggest that in many situations, hybrid institutions prevail that combine both private and public ordering, so that complementarities dominate.

In order to substantiate our analysis, we start with a model proposed by Klein (1992, 1996) in which there are complementarities between formal contract laws and reputation based mechanisms in enforcing private contracts. However, Klein's model was focusing on bilateral agreements. We extend the reasoning to multilateral agreements, as it often prevails in collective action (Greif, 2005). We illustrate with an example from the agricultural sector, the cattle industry. We think that the agricultural sector provides particularly relevant examples since contracts in that sector often remain informal and involve collective

organizations of producers, so that arrangements rely on a mix of formal contract laws framing these organizations and of private rules guiding their interactions with agri-food firms, as it is the case in the French cattle industry. At the same time, transactions in many productions, such as poultry or pig breeding, are organized along more classical forms, with "integration" contracts that largely rely on formal contract laws. This heterogeneity of arrangements provides a nice opportunity to compare the respective role of public and private ordering. Our choice of focusing on the cattle industry is motivated by the coexistence in this sector of both forms of enforcement mechanisms, with a predominance of hybrid arrangements (Williamson, 1991; Ménard, 1996).

The paper is organized as follows. Section 2 develops our analytical framework, extending Klein's model to multilateral agreements required in the context of collective actions. Section 3 substantiates the analysis with data about the evolution of formal contract laws framing the collective organization of producers (the "interprofession" mode of organization) with an important role left for private ordering. Although the legal framework described in this section is applicable to all French agricultural sectors, empirical data are essentially from the cattle industry. Section 4 discusses consequences and potential problems of the extension of a bilateral approach to a multilateral reputation model that intends to clarify the role of collective organizations as complementing formal contract laws. Section 5 concludes in emphasizing how the model can help explaining (and predicting) conditions under which parties will prefer private ordering for enforcing their agreements.

2. Our Analytical Framework

The analytical background of our analysis is a blend of Klein's reputational model with Greif's model on how institutions frame collective actions. Klein (1992; 1996) focused on the role of reputation as a mechanism of self-enforcement that would significantly extend

the range of contractual arrangements. However, this view has been challenged by contributors who emphasized that the development of formal legal systems for enforcing contracts may significantly reduce if not eliminate the role of informal reputation-based mechanisms (Clay, 1997). The agricultural sector provides a good opportunity to confront these views since contracts in that sector are confronted to transactions that often have relatively small value while they are highly sensitive to the perishable nature of the products traded and to the possibility of fraud because of severe measurement problems due to characteristics hardly observable (Barzel, 1982). These properties challenge the enforcement of contracts by public courts and are often used for legitimating collective organizations such as the French "interprofessions" (Danet, 1982).

2.1: Some preliminary observations.

A non negligible body of literature on enforcement issues has shown that trade associations frequently rely on agreements among members to bring contract disputes under arbitration regulated by "laws" and procedures established by the trade association itself (Milgrom, North and Weingast, 1989; Bernstein, 1992; Pirrong, 1995). This is so either because formal rules of the game are absent or cannot rely on credible public institutions to be enforced, or because public courts cannot efficiently play their role, due to substantial procedural delays, overload, etc. Private dispute resolution mechanisms would provide complementary solutions to formal regimes for reducing contractual costs and increasing credible commitments by overcoming failures of institutions needed to support public contract law regime.

One of the most elaborate arguments supporting this "complementary" perspective is based on the idea that (incomplete) formal contracts can significantly extend the self-enforcing range of informal agreements. This approach departs from the premise of many self-enforcement models that informal deals would be stable only when the long term pay-off

associated to cooperative behavior would exceed gains from short term defection (Klein, 1992; Lazzarini et al. 2004; Greif, 2005). It rather emphasizes the need to equally focus on *ex ante* prevention of litigations as well as on their *ex post* resolution. Reputation mechanisms provide incentives not to cheat ex post. Formal institutions generate administrative costs that can be compensated only through total collective gains made possible by the reduction of conflicts and distrust among parties, thus providing ex ante incentives to comply with contractual agreements. This cost-benefit equilibrium requires that all parties take advantage from formal trading rules complementing private agreements and that institutional framing allows a « win-win» solution (Pirrong, 1995)[2].

In a premonitory study focusing on the legal foundations and judicial implications on such formal institutions in French agriculture, Danet (1982) introduced a distinction between two forms of collective organizations relying alternatively on formal principles of discipline rooted in public rules and on private self-regulation among members. On one hand, there is what he called "*intra-professionnal"* arrangements, such as cooperatives or producers organizations, which heavily rely on discipline among members of the private self-regulation type. Credibility of parties is crucial here: it often depends on the relative homogeneity of stakeholders, e.g., farmers operating in the same area or developing similar activities.[3] In a certain sense, this is quite close to the analysis of Maghrebi traders provided by Greif (1994). On the other hand, there are "*inter-professionnal"* arrangements that require a more formal, often state-based, type of rules. Examples provided by Danet are large formal associations with representatives of farmers' unions, cooperatives, private middlemen, agro-food firms, and even representatives of retailers. Such complex arrangements need to be framed by

[2] In his analysis of the private enforcement mechanisms and rules designed by the Chicago Board of Trade, Pirrong (1995) shows that the implementation of new rules that could increase the transactions of the Board still required legal intervention of the state to impose them, since some participants were loosing part of their bargaining power, and their profits, due to better delineated property rights and transparency of transactions.
[3] Based on the example of cooperatives, Hendrikse (2004) provides interesting elements in that perspective.

formal rules going beyond bi- or multilateral agreements. The French system of quality certification in the agricultural sector would provide a relevant illustration.

Both modes of arrangement require self-regulation. However, the underlying rationale is different. "Intra-professional" groups develop with expectations of increased benefits due to enhanced bargaining power in *bilateral* negotiations with large agro-food firms, compared to what individual farmers could do, as well as to potential market power that would allow influencing market prices by rounding up larger quantities.[4] Quite differently, the creation and sustainability of "inter-professional" associations is based on a more formal setting and rather focuses on coordination among otherwise competing actors, in order to monitor transitions in the agricultural sector through organized dialogues among parties. Obviously, the reputation mechanism does not play the same role here and tends to be superseded by formal rules. *Our central proposition is that formally embedded collective organizations such as these "inter-professions" are complementing private institutions of the "intra-profession" type, and that this combination extends the self enforcing range of contracts*. The next subsections substantiate this proposition.

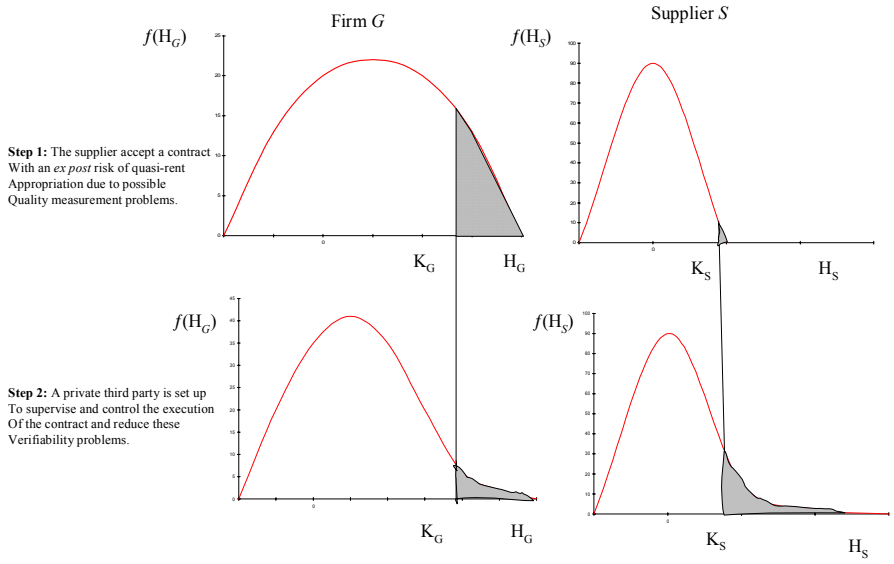
2.2: Private institutions as a support for multilateral reputation mechanisms

Our starting point is the analytical framework developed Klein (1992, 1996). This model intended to explore the self-enforcing range of contracts in the context of bilateral agreements. Its underlying idea is that contract terms should provide incentives for parties to the arrangement to commit and not deviate. Let H be the expected gains from cheating or behaving opportunistically and K the private sanction imposed by the other party if she discover this mischief or if contractual clauses are not applied. The self-enforcing range of the

[4] There is usually a trade-off in that farmers have to accept restrictions, such as following technical rules and requirements defined by the group, committing to an "*exclusivity rule*" by delivering all their production for a specific product, and even delegating price determination to the group. At the same time, the "intra-professional" organization can take advantage of partial "*territorial exclusivity"* in representing farmers, which allow providing a minimum level of activity to its members while increasing bargaining power through collective action and reducing destructive competition while, as a group, remaining actor in a very competitive market.

contract is then defined by the difference between *H* and *K*: contracts are self-enforcing if and only if $K > H$. In the model, *K* can be interpreted as the discounted value of future returns on specific investments to be lost upon termination of the relationship, but also as the increased costs of purchasing inputs or supplying services through the market place once termination of the relationship as been imposed on the violator of the contractual agreement. Consider H_G et H_S , respectively the hold up potential of a firm *G* and of its supplier *S*, and K_G and K_S, their respective private enforcement capital, the following figure illustrates the adjustments provided by contract terms and the law on the self-enforcing range of contracts.

Figure 1: Reduction of "hold-up" probabilities.



Once contract terms are set up, the objective of the two parties is to minimize the value of the expected probability of "hold-up", that is, the sum of the areas in the tail of the two distributions where each transactor's potential hold-up is greater than its private enforcement capital. The self-enforcing range of contracts thus defined can be modified by introducing specific clauses enforceable by courts, either by higher penalties or by increasing

expected future streams of quasi-rents (Williamson, 1996). In other terms, formalizing contracts allow to economize on the level of reputation capital required for providing an adequate self-enforcing range for arrangements among parties, even in the absence of appropriate contract law.[5] However, such private reputation-based mechanisms can obviously be activated as well when there is a powerful legal system.

Klein's model is between two parties. Implementing multilateral reputation-based mechanisms involves much more complex rules (Greif, 2005). In multilateral reputation mechanisms, the amount of sanctions must equal the sum of individual penalties, defined by the loss of expected future streams of revenue obtainable by maintaining commercial relationships among N members. However, punishing a specific trader becomes a very costly process since it involves many participants who must all be informed adequately and who must follow collective discipline. The overall system then relies on the effectiveness of incentives for those applying sanctions (Greif, 1993). It requires that the net collective expected gains of reducing transactions costs at a bi- and multi-lateral level covers the administrative costs of implementing these multilateral mechanisms.

One main result of these models is to demonstrate that even in the absence of repeated interactions or observability/verifiability of individual behaviours, reputation mechanisms may still work and provide appropriate *ex ante* incentives for economic agents not to cheat *ex post*. However, full answer depends on the identification of adequate reputation-based mechanisms. Clay (1997) identifies several possible such organisational arrangements. Polar cases are: (a) decentralized ones such as informal *coalitions* of agents, e.g., family members (Clay, 1997) or religious groups (Greif, 1994) in which ostracism is easier to implement. The underlying logic here is one in which reputation depends on links between past behavior and future payoffs. A typical enforcement mechanism is *ostracism*, e.g., a merchant community

[5] Klein (1996) also considers possible strategic behaviour of contracting parties claiming from courts the complete execution of contracts in situations in which equilibrium between parties has changed.

punishing opportunist parties by denying them future business; (b) centralized ones, grounded in formal private institutions like guilds or clubs (Milgrom, North, Weingast, 1990). In this case, reputation is monitored by a central authority, e.g., private courts in Champagne's fairs, which identifies cheaters and has authority and enforcement capabilities to punish, such as ordering boycott at other fairs.

However, these reputation-based mechanisms have flaws. Informal coalitions in relatively small communities make ostracism as well as shared social norms efficient (Kandori, 1992; Greif, 1993; Aoki, 2002). For larger communities, these mechanisms require the design and implementation of increasingly costly information and communication systems among members, with simultaneously increasing administrative burden that seriously challenges their effectiveness (North et al. 1990; Greif et al. 1993; Greif 2005). This suggests that spontaneously *designed* private institutions may have to leave way to *organic* ones when the number of traders is large or when bilateral repeated interactions become rather rare (Greif, 2005). In other terms, when compared to bilateral relationships, multilateral settings change the landscape.

2.3 – Contract law and the stability of private institutions

Indeed, the existence of a legal framework supporting private institutions may improve the functioning of the latter and reduce transaction costs through a more favorable climate for trade. Central issues for the efficiency of reputation-based mechanisms are their stability over time and the extension of their membership. Richman (2005) suggests that mechanisms such as private laws are restricted to long term players and sizable entry barriers, which in turn may create incentives for collusion, generating costs that may effect negatively the total surplus to be shared in the long run (hence the final failure of Maghribis, as pointed out in Greif, 1994). Clay (1997) supports this view, showing that barriers to entry and exit were a necessary condition for coalitions to work, ensuring stable membership that supported the information

network mitigating asymmetries among parties and preserving the differential between earnings within or outside the coalition (Clay, 1997; see also Kenney and Klein, 1983).

These barriers are often not economically defined, but rather repose on ethnicity, language, etc. They tend to become porous in order to allow the expansion of the coalition. However, this expansion also involved relaxing the homogeneity in the utility functions of participating parties. Open networks may enjoy lower costs to entry; they also confront higher costs from one-time cheaters. This is very much of the nature of public goods: the larger the number of benefiting individuals while information about the individual value of a specific good is private, the lower the probability of finding adequate agreements extending the coercive power of these private institutions (Pirrong 1995).

With non-homogenous members, the possibility of common actions is reduced, as free rider problems arise and incentives to comply with collective discipline decline. In order to face these classical free-riding problems, private ordering institutions must meet two conditions: (1) they must ensure a sufficient degree of « *cohesiveness* » to implement collective self-regulation and improve collective sanctions, which is usually obtained through homogenization of members; (2) they must benefit from a sufficient level of *acceptability* and legitimacy to motivate voluntary adhesions, thus facilitating compliance to sanctions and willingness to impose sanctions on others.

In such situations of multilateral reputation-based mechanisms, Pirrong (1995) showed that law enforcement by a supportive state can legitimate private contracts, improving the efficiency of private institutions. Coercion by public institutions may extend the self-enforcing range of contracts (Barzel, 2002).

3. Empirical evidence: the role of interprofession in French cattle industry

Contract law as it has developed in European agriculture has at least two specific aspects: i) a special legal status for '*integration'* contracts as distinct from labor contracts which involve subordination; ii) a special status for collective organizations.[6] Both aspects were introduced in contract laws in the 1960's and 1970's, mainly for protecting small scattered farmers facing drastic market concentration and the consolidation of agro-food industries (Danet, 1982).

3.1: Balancing bargaining power through laws and collective organizations.

This situation is not typically European per se. Collective organizations in agriculture is pervasive in agriculture, as a major tool for framing the development of agricultural markets (Pirrong, 1995). The role of cooperatives, marketing association, producer's groups, marketing boards, and so on, has been extensively used to facilitate the development of food production and the organization of marketing channels. Moreover, rapid modernization and changing technologies in agriculture have generated uncertainties, particularly among farmers, and the simultaneous development of collective organizations and new contractual forms may be viewed as a way for redefining new risk sharing rules in this context (Ménard, 1996).

Legal changes of the 1960s in France regarding contract regulation provide some evidence. The so-called '*integration contracts'* were intended to protect small farmers becoming increasingly dependent of large agro-food firms for their technology, the provision of animal feeding and medication etc., against possible *abuse of power* and "*unfair"* contractual agreements. The law actually targeted mostly the indoor production of pig, veal, and poultry. Similarly, legal incentives to use *standard contracts ('contrat-type')* and *campaign contracts* negotiated between farmer's unions and agro-food firms intended to

[6] In France, this legal framework was implemented through several laws, particularly: Law nr. 60-808 of 05/08/1960, on standard contracts ("contrats-types"); Law of 08/08/1962, on collective organisations and producer groups; Law nr. 64-678 of 06/07/1964, on "integration" contracts and "campaign" contracts; and more recently Law nr. 75-600 of 10/07/1975, providing support to "interprofessional" associations in agriculture.

provide some guarantees for equal treatment of farmers while simultaneously reduction the total negotiation costs of individual contracts. These contracts specify prices and quality standards at the beginning of each production campaign, establishing a benchmark for the definition of all individual contracts.[7] They were initially implemented in the sector of processed vegetables.

However, one major problem faced with the implementation of these new forms of contract was the absence of a formal administrative authority that would support negotiations *ex ante* and monitor *ex post* the effective implementation of these agreements (Danet, 1982). The problem was particularly severe with respect to the definition of quality standards and their evaluation in the determination of prices to be paid to farmers, since most potential cheating and opportunistic behavior from farmers as well as from agro-food firms would happen at this stage of the contracting process (see Chalfant, Sexton, 2004).

It took almost fifteen years before the legislator finally looked for a solution in establishing, in 1975, a dedicated legal framework supporting the creation of collective organizations, namely "interprofessional" organization in agriculture. This law came out of the experience of a specific sector, processed vegetable, in which contracts with farmers committing to sell all their production at the end of the production campaign are dominant. The law adopted in 1964 to provide a legal framework for these contracts did not specify rules of renegotiation nor mechanisms for controlling the effective compliance to 'contrats-types'. The law of 1975, formalizing interprofessional organizations, intended to facilitate the solution of these problems. This legal framework support the definition of rules originated and put into force by private actors themselves pursuant to governmental delegation and its supervision. Nevertheless, there is an open access, but no constraint, to using this framework.

[7] This sharply contrasts with predictions from agency theory which focuses on the optimal design of individual incentives contracts. One possible interpretation is that gains in reduction of negotiation costs from standardized contracts by far exceed losses from of incentive intensity of individually tailored contracts (Allen and Lueck, 2002).

Three major benefits could be expected for those endorsing this arrangement. *First*, using this legal framework reinforces the legitimacy of the contracts at stake since it formalizes agreements involving representatives of all professional organizations of one specific sector, including farmer's union, cooperatives, large and small retailers, middlemen, agro-industries and manufacturers. *Second*, participants to an interprofessional organization can take advantage of special funding rules, i.e., a compulsory tax contribution for all firms involved in the sector. This significantly reduces the costs of collecting contributions while providing funds for the administrative costs of supervising the implementation of interprofessional agreements. *Third*, interprofessional associations can define agreements with a provisional "*clause of extension"* which makes these agreements legally compulsory for all firms involved in the sector. However, notwithstanding this legal framework, the enforcement of these "agreements" remains under the sole responsibility of the interprofession and not under the control of public bureaus.[8]

In return, beneficiaries must comply with very restrictive conditions, which may challenge the attractiveness of this arrangement for many economic agents and threaten its implementation in many agricultural sectors. One major limitation is that there can be only one interprofessional association for each specific agricultural production at the national level (Danet, 1982). A central issue then becomes the delineation of the appropriate perimeter of what is a dedicated agricultural sector.[9] As a result, there is heterogeneity among sectors that have adopted or rejected this mode of organization.

3.2: Collective organization in the cattle industry

In order to better understand the role of collective organizations framed by this legal environment, we now focus on a specific sector, the cattle sector. In order to collect data on

[8] Interprofessional associations are therefore providing all the functions identified by Schwarz (2000) as characteristic of contract regulation, that is: i) enforcing verifiable terms, ii) providing vocabulary, iii) interpreting agreements, and iv) supplying default rules.

[9] For example, can organic producers involved in multi-product activities be organized in one single representative interprofessional association?

this interprofession, we interviewed extensively the administrators of the National interprofession as well as of the three leading Local Committees, located in western France (Brittany, Normandy and the Loire valley). We also analyzed all documents available either from these organizations or from public authorities: decrees, legal statutes, agreements signed by the interprofession, meeting minutes and so forth.

Formally, the national interprofessional association system was created by a legal decree on November 18th, 1980, although it became really effective a few years later, after the imposition of fees on all participants, which allowed the organization to hire a staff for monitoring the arrangement and to cover administrative costs. In the cattle industry, the creation of the National interprofession followed less formal experiences developed in the 1970s in the three regions mentioned above, which represent 40 % of the total French production, for cattle breeding as well as for slaughtering activities. Several other regions were reluctant to adopt this mode of organization. The motivation behind the formal creation of the National interprofession resulted from difficulties met by cattle raisers from the Loire valley in agreements among parties without a formal organization. Normandy had developed an administrative organization (CIRVIANDE) with the status of a union as early as 1970, while Brittany had created a nonprofit association (INTERBOVI) in 1977. In the Loire valley, representative organizations initially choose a very different strategy: they adopted agreements intended to regulate private contracts without any administrative support for enforcing these arrangements. The first such agreement was reached in 1976.

It is only after the adoption of the 1980 Law formally authorizing and organizing interprofession, that a Local Interprofessional Committee, *Boviloire*, was created in the Loire valley, with similarities with what already existed in Normandy and Brittany. This decision was motivated by major difficulties met with the less formal agreements experimented in the previous years. A *first* difficulty had to do with the size of multilateral agreements under the

previous arrangement. Over 300 bilateral contracts would have had to be signed between farmers, slaughtering firms, and individual merchants or cooperatives. This involved significant negotiation and administrative costs, without guarantee that all parties would accept and, even more important, would actually follow the rules. A *second* difficulty was financial. Administrative costs related to the negotiation, monitoring and enforcement of the initial agreements were funded by the regional professional organizations and farmers' unions. Their financial resources were limited and free riding developed rapidly, particularly among small operators and notwithstanding the benefits generated for all parties to the agreements. A *third* difficulty had to do with the existence of an inter-regional trade between Brittany and the Loire Valley, which generated tensions since the former region was imposing stricter rules than the latter so that individual farmers and some slaughtering firms refused to sell or process animals that were coming from the more latitudinarian region.

The national harmonization provided by the framework defined by the Law of 1980 became viewed as a solution to these difficulties. Indeed, this law delineates relatively strict rules regarding: (i) The definition and enforcement of interprofessional agreements, which include mechanisms for solving disputes; (ii) Financial participation of all parties to R & D, particularly oriented towards quality control, improvement of production systems, etc.;: (iii) The development of collective campaign of information and communication with consumers.[10]

Clearly, these functions relate to the discussion from our previous section on the problems associated to multilateral reputation mechanisms. Indeed, a major role of interprofessional arrangements is to facilitate contract regulation and enforcement through the development of *transparency* in the organization of transactions and the allocation of quasi-

[10] This last function became particularly significant in the cattle sector after the BSE crisis since the Interprofession took a very active role in managing public relations, collecting scientific information and communicating with consumers.

rents. The first formal agreement in the cattle sector was signed in 1988, several years after the creation of the interprofession and it illustrates quite well what is expected from this mode of organization. The agreement is about marketing conditions of animals over six months of age, rules of access to specialized market places in order to improve security of payments, risk sharing, etc. After BSE crisis of 1996, it was extended to rules intended to improve consumers' information on the origin, breed, and types of animals. Details are provided in Table 1 below.[11]

Content of the Interprofessional agreement on the marketing of cattle above 6 months of age.

a- Transfer of property rights: Rules fixing delays between sale agreements and animals removal at the farm, the lenght of the period between removal from the farm and slaughter, and standards for carcass presentation and weighting after slaughter.

b- Transfer of risks : Clauses concern responsabilities in case of the acidental death of the animal during transportation or transfer to the slaughter house, as well as provisions regarding veterinary interventions by public authorities (Local Interprofessional Committees provide mediation when needed ij order to guarantee the rapid intervention of veterinary experts since this is a very perishable product).

c- Indidvidual Animal identification : Standards establishing traceability systems in slaughter house, which is central for sanitary purposes as well for payments to farmers (messing up animals is quite common in slaughterhouses so that farmers did not necessarily got paid for the 'right' animal).

d- Conditions under which animals are weighted at the slaughter house: Clauses specify norms related to characteristics of carcass as well as delays between slaughtering and weighting.

e- Standardization of Information on 'weighting tickets' delivered to the seller: Detailed information must be provided to farmers in order to allow them to check that it corresponds to their animal and make possible claims to be monitored by the interprofession in a very short delay. Some local committees even require slaughter houses to keep carcasses at least 24 hours in order to make verification possible before the animal is delivered.

f- Delays for payments to farmers: The agreement specified it should be within three weeks.

Table 1 : Main clauses of a typical agreement

3.3 – Major sources of contract litigation and their resolution

Most clauses unambiguously relate to problems of specification and verifiability. Indeed, incomplete specification of what is traded and problems of transfer of property rights

[11] Dramatic changes in R&D funding of French agriculture since 2002 have spread the adoption of interprofessional organizations over most sectors. However, most recent organizations are not involved in contract enforcement. An example of a R&D project funded by the cattle interprofession is the design and implementation of an automatic grading system for beef carcasses, with the expectations of a more objective measurement than the one realized by employees of slaughtering firms.

among contracting parties are identified as major sources of litigations (Pirrong, 1995). Transactors must therefore invest in order to delineate their property rights, to transfer them and to enforce the deal (Barzel, 1989). A particularly significant issue for agricultural products is that contracts involve complex problems of quality, making measurement and/or verification in a timely period particularly critical. These difficulties impose serious limitations to the role of courts because of this combination of technical expertise and very short delays imposed by food safety constraints.

Hence the role of these interprofessional associations created in the context of rapid changes in the organization of transaction between slaughtering firms and their suppliers. In the cattle industry, the major change was the adoption of new pricing rules, with a switch from bilateral negotiations of prices on traditional livestock markets to posted prices fixed directly by slaughtering firms. At the end of the 1990s, two third of the transactions were already done along this mode (Mazé, 2000). The underlying rationale was that it would reduce search costs for animals dispersed over small, geographically scattered farms, as well as bargaining and measurement costs for the highly variable quality attributes of animals. However, these new rules raise severe problems of quality measurement, which is central for price determination, since this is done *ex post,* when animals are already in the slaughter house, opening the door to opportunistic behavior or beliefs of opportunistic behavior.

Quality measurement is well documented as a major source of litigations and distrust between farmers and agro-food firms (Feusti and Feuz, 1993; Hobbs, 1997). It is particularly so because it is a major source of quasi-rent (Barzel, 1982). Notwithstanding the fact that standardized carcass grading[12] significantly reduces measurement errors compare to the

[12] A 1977 decree, later modified and largely picked up in a European regulation adopted on 12/08/1981, defined dressing and weighing rules for carcasses. However, the existence of this standard, which was mainly introduced for facilitating the implementation of a European statistical system for market regulation, does not mean its effective use as a contracting clause. From a legal point of view, the slaughter house is strictly speaking fully responsible for grading carcasses. It must be reminded that slaughter houses are private property, to which access can be restricted.

traditional method of evaluating living animals, the new pricing method remains open to *ex post* opportunism, with slaughtering firms downgrading animals. Errors on grading can lead to as much as a loss of 15 to 20% of the value to be paid to the breeder. Although aggregating errors on a large number of animals considerably reduce their statistical significance, they still seriously affect perception of fairness.

As a result, besides the difficulty of direct observation of frauds by farmers, reputation mechanisms and the activation of bilateral sanctions by individual farmers has no chance to deter such abuses and to discourage such behavior among slaughtering firms. Of course, controls by parties external to the transactions are possible. In France, in the cattle industry, there is a quasi-public organization, the Meat and Livestock Commission (OFIVAL), which operates controls under formal delegation from the state. There is also the possible although quite exceptional intervention of the bureau in charge of repressing frauds on products and services.[13] However, these organizations suffer from limitations similar to those mentioned for courts. This likely explains why breeders who initiated the movement towards an interprofessional organization rapidly got their Local Committees involved in the provision of inspection services. These services are offered to help implementing interprofessional agreements and to provide expertise on grading and quality measurement. For example, in Brittany, a pioneering region in that respect, this inspection service make unexpected visits in each slaughter house of its jurisdiction at least once a week, with an extensive review with the manager of all carcasses recently graded. If differences are identified, the expert can require an adjustment in the payment to the farmer, and the slaughter house must comply. Such action is almost impossible for individual farmers. In regions where these services are not offered by local committees, farmers can turn to the quasi-public agency (OFIVAL). Statistics are not available at the national level, regarding the frequency and sources of litigations. However,

[13] The formal name of this agency is: *Direction Générale de la Consommation, de la Concurrence et de la Répression des Fraudes.*

we were able to get from the Local Committee of Brittany detailed data that provide very significant indications on litigious factors between farmers and slaughtering houses (see Table 2).

Motivation of request / %	Litigation on carcass weight	Litigations on carcass grading	Responsibility in case of animal mortality or sanitary seizure by public authorities	Litigations on animal identification or loss of official weight tickets
256 interventions	31%	15%	33%	16%

Table 2: Causes of interventions requested from the Local Interprofessional Committee of Brittany

(Source : Original data computed from phone records of CIR Bretagne over a period of 18 months in 1994-95)

The total number of requested interventions (256 over 18 months) may appear almost insignificant when compared to the total number of transactions in this region (over 4 millions animals are annually slaughtered). However, our theoretical framework suggests, and this was confirmed by all our interviews, that what matters is that it is enough to activate reputation mechanisms, deterring slaughtering houses to behave opportunistically and improving mutual trust among parties. One could even interpret the small number of requests as a signal that the reputation mechanism implemented by the interprofessional organization works well. It operates more as a preventive system than as a coercive one, minimizing the number of potential disputes and economizing on transaction costs.

3.4: The threat of collective boycott

Another tool in the hands of interprofessional associations in their role as private contract enforcement institutions lies in their capacity to activate retaliation. As emphasized by Greif (2005), multilateral reputation mechanisms depend on dedicated information and communication systems and on the capacity to punish deviants. With the interprofession of our case study, this takes two concrete forms: (a) *Procedural and formal* agreement

coordinated directly by the interprofession, as the example of inspection services well illustrates; and (b) *Informal* mechanisms that take the form of *extra-legal* boycott actions. As noticed by Clay (1997), one striking thing about private institutions is the infrequent use of collective punishment. When it happens, it usually signals the urgent need for adjustments and changes in the equilibrium among parties.

In the interprofession of our cattle sector, procedural forms are of the following type. If repeated non compliances to interprofessional agreements are observed, the Local Interprofessional Committee can introduce a formal procedure of information, eventually leading to the publication in specialized magazines of appropriate information. This can obviously alter seriously the reputation of the deviant. Before going public, intermediate steps are built in to allow adjustment. Once an 'information' is opened, a first step is to address a formal report on deviant behaviors to the board of directors of the interprofessional association so that informal signals can be sent to the deviant. In case of repeated offences, a written injunction is sent to the deviant. Without appropriate changes, a third step is the invoice of a formal letter to the chairman of the professional union to which the deviant belongs. This person, or his board, can then engage disciplinary sanctions against the deviant, possibly up to banishment from the union (which is part of the interprofession, as it must be remembered). This is of course an extreme measure that has never been applied to our knowledge in the sector under review. And the impact of banishment would be less dramatic than with other situations based on private ordering (e.g., the one described in Milgrom at al., 1990; or Greif, 1994), since the opportunist could continue its activities, although without the 'label' of the interprofession. Still, one may wonder why slaughtering firms that have no incentive to accept the intrusion of a private enforcing institution in their business, restricting their capacity to extract a more substantial part of the quasi rent. The only strong justification we can see is that the creation of a collective organization contributes to the pacification and

institutionalization of contractual relations, opening the way to dialogue among parties and reducing incentives to impose solutions through violent actions (Barzel, 2002).

This does not preclude the possibility of such events, which correspond to the second class of mechanisms identified above. We can even argue that the success of the Interprofession as a private ordering mechanism results from the anticipation by participants, in our case particularly slaughtering firms, of the risk of much more costly enforcement mechanisms, especially the threat of massive sanctions such as boycott or economic blockade (North et al. 1990; Greif, 1993). [14] Confronted to that risk, it becomes less costly for parties to accept control through mechanisms mutually defined. However, in order to work adequately, such private institutions need powerful mechanisms guaranteeing coherent collective actions and effective implementation of sanctions by all members, even if they are costly for individual members at least for a certain time.

In the agricultural sector, at least in France, farmers' unions seem to have assumed the role of these informal mechanisms, thus implicitly complementing interprofessional organizations by taking over the active coordination of collective boycotts (Duclos, 1998). Boycotts and temporary blockades have been common in agricultural sectors since the 60's. One major advantage of this strategy is that it requires a limited number of persons (and trucks, tractors, etc.), organized commando-like, thus reducing risks of defection and free-riding.[15] However, collective sanctions of this type need remaining exceptional, although episodic activation without specific reasons has been reported, likely responding to a strategy for maintaining credible threat to deter abuse of power or opportunistic behavior (Greif et al. 1994). In the long run, procedural conflict resolution of the first type has clearly prevailed in

[14] In 1994, a complete physical blockade of the main slaughtering firms located in the Loire valley was implemented by coordinated groups of farmers. It was stopped three weeks later, after the accidental death of an employee of one of the slaughtering firms.

[15] It is easier for cattle breeders to use blockade than for producers of more perishable goods like, say, tomatoes. Indeed, cattle breeders are less time constrained, with marginal loss in animals' quality and marginal costs feeding them if they deliver animals later on.

interprofessions, thus comforting the hypothesis that private ordering develops as a mean for solving disputes, reducing conflicts, and minimizing transaction costs.

4. Discussion

The decision to have recourse to interprofessional organizations or, in that respect, to other modes of collective organizations that are 'private institutions' formally acknowledged by a legal status, cannot be imposed. It remains a private initiative, in the hands of economic actors of the different sectors. The question then becomes why they chose this mode of self-enforcing arrangement or why they decide to proceed along other ways. From an economic point of view,[16] the answer must lie in the balance between gains and costs the latter being mainly due to the limitations of collective arrangements. The interprofession implemented in the cattle industry provides us with a *natural experiment* for exploring these issues.

4.1: Gains expected from collective action as framed by the Interprofession.

The creation of private contract-enforcement institutions is one option among others. When effective public institutions exist, parties may choose to face enforcement issues by appropriately structuring their contractual relationships (Greif, 2005). In a first step, bilateral arrangements defining property rights distribution and the adequate organizational form among contractors may provide adequate tools, e.g., hostage clauses, vertical integration, corporate governance, for narrowing or even eliminating sources of contractual hazards (Williamson, 1985, Klein, 1992). In the cattle industry, this option developed before that of interprofession organizations, with the privatization of slaughtering houses and the accompanying expansion of producers' groups, mostly cooperatives.

Privatization of slaughterhouses in the 1970s was mainly motivated by the large investments required for meeting the new European sanitary standards. Producers' groups,

[16] Other approaches may be relevant here, e.g., political science or sociology.

mostly organized as cooperatives, played an important role in that privatization movement: about 50 % of the remaining 291 slaughtering houses in France[17] are under the control of cooperatives, while 25 % remain under public control (mostly 'regies' administered by local authorities), the rest being in the hands of private firms. This represents a significant involvement of producers' groups, clearly motivated by the search by farmers of adequate legal tools for reinforcing their bargaining power in their negotiations with highly concentrated agro-food firms (Danet, 1982). However, it rapidly became obvious that collective action under forms such as cooperatives had its own limitations. First, they represent only half of the slaughtering houses and about one third of the transactions. [18] In a competitive environment, this represented an important limit on the impact of their collective action. Moreover, it is well know that rules governing cooperatives (almost always one person, one vote) generate important distortions in the decision-making process (Cook, 1995; Hendrikse and Bijman, 2000). In the cattle industry, these distortions particularly affected the grading system, plagued with disparities among cooperatives. Third, these distortions in the implementation of the grading system revealed the relative inadequacy of this arrangement for dealing with the problems of verifiability, quality measurement and price determination that we have identified as crucial in the sector.

The combination of these factors help explaining why parties turned to a more constraining solution, the interprofessional organizations, which facilitated the adoption and enforcement by farmers of new rules, particularly switching from prices bilaterally negotiated on markets to prices posted by the slaughtering firms (Hobbs, 1997; Maze, 2003). However, gains obtainable by a reduction of information and bargaining costs that these arrangements

[17] Data from 2000.

[18] The French cattle market is mainly organized through intermediaries: transactions are processed by producers' groups (32%), private middlemen (34%), or directly with slaughtering firms (15%), the remaining 19 % being on traditional livestock markets. Less than 3% of transactions are done on markets through auctions. Producers' organizations played an important role in the privatization of slaughtering houses through support to the involvement of cooperatives in slaughter as well as meat packing activities.

make possible can be ruled out by *ex post* measurement and enforcement costs (Barzel, 1982, Wang, 1993). Hence the key role played by enforcement institutions, whether they are private or public (Greif, 2005). In other terms, In our case study the gains related to the adoption of the new pricing rules must be compared to the costs of organizing collective retaliation relatively to the costs of turning to enforcement by a third party. In our case study, we have shown that collective action is very difficult to build and tended to be taken over by the violent action of small groups. In that context, the costs of organizing collective action (on the sellers' side) added to the risk of costly retaliation by the commercial sector (on the buyers' side) have pushed partners to endorsing an alternative to violent coercion. The Interprofessional arrangements looked like such an alternative.

4.2: The changing nature of coalition as a major limitation to interprofession.

However, organizations of that type have their own limitation. In order to effectively monitor conflicts and guarantee the enforcement of contracts, they must be able to remain *neutral* regarding conflicting interests without being really *independent* since they are born out of a coalition among parties. These constraints point out the importance of their mode of governance. Lorvellec (1993) suggested that in order to be efficient, such organizations must submit to three basic rules: representativity, parity, and unanimity. These rules are not easily implemented. The effectiveness of private institutions relies less on coercion than on voluntary commitment and shared consensus among participating organizations that must themselves be representative and that have their own agenda. This explains the emphasis in most studies on private ordering on the homogeneity or cohesiveness, often related to the belonging to an ethnic community or a specific professional group (Greif, 1993, 2005).

This is not so with the national interprofessional association we have studied. It involves 11 organizations, including representatives of large and small retailers, farmers' unions, cooperatives, middlemen, private slaughtering firms, public slaughter houses, etc.

Hence the importance of the legal framework (the 1975 Law) which established the public legitimacy of interprofessional organizations while trying to provide some stability to the arrangement, particularly through the specific legal clause that impose that only one national interprofession can be formally agreed for each agricultural sector. Nevertheless, tensions have developed, fed by temporary strategic alliances among participating professional organizations as well as by regional specialization that followed the modernization and large investments of the 1980s and that has increased the dependence of local farmers on agro-food firms located in the same area. This regional specialization has ubiquitous effects on the Interprofessional organizations. On one hand, it increases the dependence of local farmers on specific firms, thus creating tensions amplified by competition among regions. On the other hand regional links develop that can be strong enough to supersede professional particularism and operate as a major force in the formation of coalitions. The equilibrium between intra and interregional competition then becomes central and may involve delegating some major decisions to a national level. Again, tradeoffs are involved.

This is well illustrated by a conflict that emerged between the National Interprofession and a Local Committee (namely, Brittany) regarding the collection of the fees (actually a tax since it is implemented by law) that finance the system. The standard mechanism is that the money collected is sent directly to the national organization that then redistributes resources to local organizations. However, Brittany rejected this solution and negotiated an alternative arrangement in which the money collected is channeled through the local organization that then forward the proportion agreed upon to the National level. Clearly, the choice of one solution rather than another changes the balance of power between the local and national level in that it gives financial leverage to different parties. This is especially so when some regions have a significant leadership either for economic or for political reasons. As argued by Greif et al. (1994), rulers tend to lean towards the rights of groups that are well organized and have

a large influence, turning away from groups less able to retaliate in case of opportunistic behavior from the dominant groups.[19] In other terms, politics is also involved.

5. Conclusion

Private institutions play a central role in the efficient organization of economic exchange and the regulation of markets. They contribute improving contractual performances and reducing transaction costs, for example through the definition of quality classification and through codification. Standard contract theory assumes that information available to contracting parties is fully verifiable by an independent third party and that court can enforce agreements without any costs or delays. However, recent studies illustrate the importance of private enforcement institutions supporting contracts and guaranteeing their potential benefits. First, private enforcement institutions may enjoy industry expertise and specialized knowledge regarding industry transactions. Second, private law can be tailored to idiosyncratic needs. Third, private systems are often able to act at lower costs than overloaded and procedure laden public courts. Fourth, they tend to produce more predictable outcomes.

Through the analysis of one such private institution, the Interprofessional Organization in the cattle industry, we have shown in this paper that they represent a powerful tool to reduce the costs of enforcement of contractual arrangements, particularly when we move from bilateral to multilateral agreements. We have also shown that there are limitations to the operability of private institutions when multiple parties are involved. In that respect, we have argued that the embeddedness of these private institutions in a legal framework can reduce their cost of governance. However, this is not always a sufficient condition to ensure the complete convergence of conflicting interests among members, and extra-legal action may

[19] Barriers to entry, if they are tight enough, may help keeping the coalition stable and facilitate enforcement (Bernstein 1992, Clay, 1997, Richman 2005). However, they need also being porous enough to allow the gradual expansion of the coalition over time which is a condition for capturing gains from a better matching of agents to market opportunities (Clay, 1997). Moreover, they must confront competition policies.

play a role as a credible threat of retaliation. Last, we suggest that our case study delivers some general lessons regarding the complementarity between private institutions and public order when the analysis switches from bilateral to *multilateral* agreements. In that latter situation, transactors are confronted to coalitions: a legal framework imposing some public order can then complement the role of private institutions, increasing the self-enforcing range of contracts through improved credibility at lower transaction costs.

REFERENCES

Allen D., Lueck D. (2002) *The Nature of the Farm*, MIT press.

Alston L., Libecap G., B. Mueller (1999) "A model of Rural conflict: violence and Land reform Policy in Brazil", *Environmental and development Economics*, 4, 135-160.

Barzel Y. (1982) " Measurement cost and the organization of markets *", Journal of Law and Economics*, 25, 27-48.

Barzel Y. (1989) *Economic Analysis of Property Rights*, Cambridge University Press.

Chalfant J., Sexton R. (2002) Marketing Orders, Grading Errors and price discrimination, American Journal of Agricultural Economics, 84, 1, 53-66.

Clay (1997) « Trade without law : private-order institutions in Mexican California », *Journal of Law, Economics and Organization*, 13, 1, 202-231.

Clay K., WrightG. (2005) Order without Law? Property Rights during the California Gold Rush, Explorations in economic History, 42, 155-183.

Crespi J., Sexton R. (2003) Concurrence, coopératives de producteurs et Marketing Orders aux Etats-Unis, *Economie Rurale*, 277-279, 135-151.

Danet J. (1982) *Droit et Disciplines de production et de commercialisation en agriculture*. Thèse de doctorat d'état en droit, Université Paris I Panthéon-Sorbonne.

Duclos N. (1998) *Les violences paysannes sous la Vème République*, Economica, Paris.

Ellickson R. (1989) "A Hypothesis of wealth-maximising norms : evidence from the whaling industry", Journal of Law, Economics and Organization, 5, 83.

Fausti S., Feuz D. (1995) "Production Uncertainty and Factor Price Disparity in the Slaughter Cattle Market: Theory and Evidence", *American Journal of Agricultural Economics*, 77, 533-540.

Feuz D., Fausti S., Wagner J. (1993) Analysis of the efficiency of four marketing methods for slaughter cattle, *Agribusiness*, 9, 5, 453-463.

Gallick (1984) "Exclusive Dealing and Vertical Integration: the efficiency of contracts in the tuna industry", in *Case Studies in Contracting and Organization*, ed. by S.Masten, (1996) Oxford University Press, p3-25.

Gow H., Streeter D., Swinnen J. (2000) "How private enforcement mechanisms can succeed where public institutions fail : the case of Juhocukor a.s.", *Agricultural Economics*, 23, 253-265.

Hadfield G. (2005) The many legal institutions that support contractual commitment, in Ménard C., Shirley M. (eds) Handbook of New Institutional Economics, Springer, p.175-204.

Greif A. (1989) "Reputation and coalitions in Medieval Trade: evidence on Maghribi traders", *Journal of Economic History*, 49, 857-882.

Greif A. (1993) "Contract enforceability and Economic institutions in Early Trade : the maghribi trader's coalition, American Economic review, 83, 3, 230-253.

Greif A. Milgrom P. North D. (1990) "Coordination, Commitment and Enforcement : the case of merchant guild", *Journal of Political Economy*, 102, 4, 745-776.

Greif A. (2005) "Commitment, Coercion, and Markets: The nature and Dynamics of Institutions supporting exchange", in C. Ménard, M. Shirley (eds) *Handbook of New Institutional Analysis*, 727-786. Springer.

Hendrikse G., Bijman, J. (2002) "On the Emergence of new Growers' Association: Self-selection versus countervailing power". Eur. Rev of agricultural Economics. 29, 2, 255-269.

Hobbs J. (1997) "Measuring the importance of transaction cost in cattle marketing", *American Journal of Agricultural Economics*, 77, 1083-1095.

Johnson R., Libecap G. 2003 Transaction Costs and Coalition Stability under majority rules, Economic Inquiry, 41, 193-207.

Klein B., Crawford R., Alchian A. (1978) "Vertical Integration, Appropriable Rents and competitive contracts, Journal of Law and Economics, 21, 2, 297-326.

Klein B. (1980) “Transaction Costs Determinants of “unfair” contractual arrangements”, American Economic Review, 70, 356-362.

Klein B. (1996) “Why Hold-Up occur: the self-enforcing range of contractual relationships”, *Economic Inquiry*, 34, 444-463.

Lazzarini S., Miller G., Zenger T. (2004) Order with some Law: complementarity versus substitution of formal and informal arrangements, *Journal of Law, Economics and Organization*, 20, 2, 261-294.

Leffler K., Rucker R., Munn I. (2000) „Transaction costs and the collection of information: presale-measurement on private timber sales“, *Journal of Law, Economics and Organization*, 16, 1, 166-188.

Libecap G. (1992) The rise of Chicago meat packers and the origin of meat inspection and antitrust, Economic inquiry, 30, 2, 242-262.

Libecap G., Smith J. (1999) “The self-enforcing provision of oil and gas unit operating agreements : Theory and Evidence”, *Journal of Law, Economics and Organization*,

Lorvellec L. (1993) « Organisations et Accords Interprofessionnels », Juri-Classeurs Agro-Alimentaire, Editions Techniques, fascicule 830, 1, 2.

Mazé A. (2002) “Retailer’s branding strategies : contract design, organizational change and learning”, *Journal on Chain and Network Science*, 2, 1, 33-45.

Mazé A. (2003) Negotiated versus Posted price. Theory and empirical evidence, Mimeo.

Ménard C. (1996) “The Economics of Hybrid Organizations”, *Journal of Institutional and Theoretical Economics*, 160, 1-32.

Ménard C. (1998) “The Maladaptation of Regulation to Hybrid Organizational Forms”, *International Review of Law and economics*, 18, 4, 403-417.

McMillan J., Woodruf C. (1999) « Dispute Prevention Without Courts in Vietnam », *Journal of Law, Economics and Organisation*, 15, 3, 637-657.

McMillan J., Woodruff C., (2000) “Private Ordering Under Dysfunctional Public order, 98, Michigan Law Review, 2421.

Milgrom P., North D., Weingast (1990) “The role of institutions in the revival of trade: tle Law Merchant, private judges and the Champagne Fairs”, *Economics and Politics*, 2, 1, 1-23.

North D. (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge University Press.

North D Institutions and a transaction cost theory of exchange in J.E Alt, K.A. Shepsle, Perspectives on positive political economyCmabridgeuniversity Press

Pirrong G. (1995) The Efficient Scope of private transaction-cost-reducing institutions : the successes and failure of commodity exchange, *Journal of Legal Studies*, 24, 229-255.

Richman B. (2005) Firms, courts and reputation mechanism : towards a positive theory of private ordering, Working Paper, Duke university college

Rubin P. (2005) Legal systems as framework for market exchange, in Ménard C., Shirley M. (eds) Handbook of New Institutional Economics, Springer, p. 205-228
Schwarcz S. (2002) Private ordering, Northern University Law Review, 97, 1, 319-350.

Schwartz A. (1992) Legal contracts theories and incomplete contracts, in Werin L., Wijkander H. contracts economics, 76-108

Schwartz A. (2000) "Contract Theory and Theories of contract regulation", Revue d'Economie Industrielle,

Schwartz A, Scott R. (2003) "Contract Theory and the Limit of Contract Law", Yale Law Journal , 113, 541.

Schwartz A., Watson J. (2004) "The Law and Economics of Costly Contracting", Journal of Law, Economics and Organization, 2, …v

Wang R. (1993) « Bargaining versus Posted-Price selling », European economic Review, 39, 1747-1764.

Williamson O. (1996) *The Mechanisms of Governance*, Oxford University Press.

Zago A. (1999) "Quality and self-regulation in agricultural markets: how do producer organizations make the rules?", *European Review of Agricultural Economics*, 26, 2, 199-218.