THE ROLE OF PRODUCER GROUPS IN MAINTAINING FAMILY-RUN BEEF FARMING. FROM COOPERATIVE PRINCIPLES TO MARKET PRACTICES : THE EXAMPLE OF CHAROLAIS FARMING IN BURGUNDY

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Abstract

Cet article porte sur le rôle tenu par les groupements de producteurs, coopératives de commercialisation des produits des éleveurs dans la régulation du marché de la viande bovine et la pérennisation des petites structures d'élevage bovin. Nous montrerons que l'intervention des groupements de producteurs, par leurs rôles d'intermédiaire des pouvoirs publics, mais également par leurs activités commerciales et leurs implications dans la gestion des signes officiels de qualité, a davantage contribué à favoriser les exploitations les plus performantes, plutôt qu'à assurer la pérennité de l'ensemble des exploitations existantes. L'incomplétude des contrats d'adhésion des éleveurs à leurs coopératives caractérisée par l'absence d'engagement sur les prix au moment de la signature du contrat, a constitué pour les éleveurs l'opportunité de se soustraire à la règle « d'apport total » en vigueur dans les groupements de producteurs et a obligé ces derniers à mettre en œuvre des mécanismes incitatifs discriminatoires pour fidéliser leurs éleveurs adhérents. La transgression des principes coopératifs initiaux au profit de pratiques marchandes, en favorisant certaines catégories d'éleveurs aptes à y répondre, a contribué à creuser un écart entre les éleveurs. La réforme des organisations de producteurs, volet de la loi d'orientation de juillet 1999, en adaptant les règles de fonctionnement des coopératives aux pratiques existantes, tout en conservant les valeurs coopératives, devrait tendre à restaurer une certaine équité dans le traitement des éleveurs par leurs groupements de producteurs.

This paper examines the role played by producer groups —marketing cooperatives for farmers' output—in regulating the bovine meat market and ensuring the sustainability of small beef holdings. We show that producer groups, through their roles as intermediaries for the authorities, and through their commercial activities and involvement in the management of quality indicators, have favoured the more successful holdings rather than ensuring the sustainability of existing farms. The incomplete nature of membership contracts of cooperatives characterized by the absence of commitment on prices at the time the contracts are signed, provides farmers with a loophole to escape from the requirement on them to contribute all of their output to the producer group, and has compelled the groups to introduce discriminatory incentives to secure the loyalty of their members. The infringement of the initial cooperative principles to the benefit of commercial practices, by favouring some categories of farmers, has driven farmers apart. The reform of producer organizations introduced by the outline legislation of July 1999 has amended the rules by which cooperatives operate and their existing practices while reasserting their cooperative values and so should restore a degree of equity in the way producer groups treat farmers.

Key words: Contracts, Bovine production, Producer group, Discrimination.

Beef farms in the Charolais area typically have very fragmented production structures and are relatively varied in terms of their physical and economic size, their production choices (standardized or diversified), and in the way they market their livestock (markets, private dealers, or producer groups). By proposing partial integration contracts, producer groups—cooperatives for marketing agricultural output—have allowed partners in the beef industry to organize trade while leaving farmers some degree of control over what they produce and how they produce it. However, producer groups have been slow to challenge the large number of well-established private dealers on what is a relatively competitive market characterized by high "market" values (Soufflet, 1988). The crises that have hit the beef industry have helped strengthen the hand of producer groups in organizing and regulating this market. The principle of payments "on trust" prevalent in producer groups—implying that there is no undertaking as to prices between the parties at the time they enter into the contract—makes the membership agreement fundamentally incomplete. Until recently informal "arrangements" between farmers and their producer groups replaced the contractual clauses initially provided for by the membership agreements so as to alleviate the inefficiencies resulting from the contracts being incomplete. The reform of producer organizations—one aspect of the outline legislation on agriculture of July 1999—purports to reinstate the cooperative principles, which had largely been disregarded until then, so as to enhance the regulatory role of producer groups on what has become an increasingly unstable market. This paper looks at the role played by producer groups in regulating markets and sustaining small beef farms. We show that, ever since they were first set up, producer groups, in spite of their cooperative values, have helped the more efficient farms to thrive rather than ensuring the sustainability of all existing farms. The first section reviews the main functions of producer groups, namely their commercial functions and especially their recent increasing roles in managing quality indicators and their roles as intermediaries for the authorities in attributing certain public aid packages. We show that the contracts by which farmers join producer groups are incomplete and that this has provided some farmers with a loophole through which to escape from existing regulations and has forced producer groups to implement discriminatory incentive mechanisms to secure farmers' loyalty to their marketing cooperatives. The second section looks again at why the membership contracts by which farmers sign up to producer groups are incomplete and we show how this makes performance of the contracts inefficient by creating surplus transaction costs. The third section describes the changes brought about by the reform of producer organizations (July 1999 outline legislation on agriculture) with regard to the commitments of farmers toward their cooperatives. We then try to gauge the consequences of the reform on the discriminatory procedures practiced by producer groups in an attempt to secure farmers' loyalty. We show that by changing the rules on contributions to groups and by introducing systematic controls over the activities of groups and their members, the reform seeks to alleviate the inefficiencies engendered by the membership contracts being incomplete. This reform should restore a measure of equity in the way farmers are treated by their producer groups and help maintain small beef farms. In fourth section we discuss our results for different types of farming system.

Section 1: The economic organization of dealings between farmers and their producer groups

This section attempts to show that the way in which trade between farmers and their cooperatives is organized and regulated both by the authorities and by the cooperative managers has, in different ways, engendered discriminatory practices against those farmers who perform least efficiently. The concept of performance refers here to farmers' capacity to meet their customers' demand and in particular demand from producer groups, but it refers also to each farmer's individual bargaining power with his producer group or on the market and to the holding's financial standing. This section is divided into three subsections : the first briefly reviews the role of the authorities in "managing" cooperatives since they were first set up ; the second sets out the commercial functions of producer groups; the third looks at the role of producer groups in managing official quality indicators.

The role of the authorities in the contractual relationship between the farmer and his producer group.

The emergence of producer groups was part of a general movement from the 1960s onward involving the creation of farming cooperatives to counter the trend of capitalist integration in agriculture (by livestock feed manufacturers, slaughterers, dairies). The legislation on farming cooperatives served from the outset to regulate market supply. The August 1962 legislation, supplementing the 1960 outline legislation on agriculture, providing for the creation of producer groups was devised as "modernization selection" legislation (Nicolas, 1995). Debatisse— one of the founders of the CNJA (National Confederation of young farmers), then FNSEA president (National Federation of Farmers'Unions), secretary of state for agriculture and the food industries 1979-1981, and president of the SODIAAL dairy cooperative group (Yoplait) —argues "(…) key ideas arise from the supplementary legislation and in particular the idea that the improvement of farmers' living conditions supposes measures designed to : 1. reduce production costs by remodeling structures. 2. increase farmers' profit margins through the economic organization of producers. 3. increase everyone's share in the distribution of national agricultural income by the departure of a number of workers to other sectors" (Debatisse, 1963, cited by Nicolas, 1995). One of the specific features of producer group membership contracts is the role of the authorities in private business agreements. As well as marketing farmers' products, producer groups act as intermediaries between farmers and the authorities. It is a prior condition for farmers seeking to obtain OFIVAL subsidies (National Interprofessional Bureau for meat production, livestock farming and aviculture) for constructing or renovating buildings, or restructuring herds that they should belong to a producer organization (producer group or farmers' association). This role of intermediary conferred on producer groups by the authorities is not new as, from the time they were first set up, membership of these organizations was a prerequisite for obtaining public aids from OFIVAL. Government intervention in these organizations was originally intended to serve as an incentive to farmers to join such organizations. Preferential support by government for producer groups distorted competition on the market and provoked sharp reactions from the industry. Only producer groups could allow their members to benefit from FORMA (Farm market Regulation Fund) contracts providing them with short-term advances (80% of the guaranteed price) and guaranteeing a minimum price for fattening steers or bullocks, provided they kept to a production and marketing schedule. The same is true today of OFIVAL aids for constructing or renovating buildings, which are reserved for members of producer groups or farmers associations. "Some even denounced 'the infringement of freedom' of all the pressure exerted on farmers virtually compelling many of them to join producer groups" (Soufflet, 1988). The obtention of public aids was a forceful argument in ensuring farmers' loyalty to their producer group because, if the operating principles were overstrained (particularly the principle of total contribution), any breach of contract might mean the farmer would have to reimburse OFIVAL for the aid received. These organizations, which benefited greatly from government backing, have gradually freed themselves from public control while attempting to retain government financial support. From the 1970s onward, against a background of increased international competition, the requirements for cooperatives to be economically efficient further reinforced the process of selection of farmers, as emphasized by Chomel and Viennet : "Cooperatives are not immune to the change experienced by large businesses organized as companies, characterized by the reinforcement of managers' powers. Their authority is rooted in and derives its legitimacy from their managerial skills rather than from any elective representation. Dynamically, this power depends on their ability to draw up and implement business strategies. Ultimately, these reflect a reversal in the relations between the business and its members, whose aspirations are supposedly expressed and whose needs are met by the managers. Breaking away from the balanced relations between members' needs and the resources made available to them by the business, it is the business that selects the membership suitable for its own development" (Chomel and Viennet, 1995, p. 136).

The commercial functions of producer groups

As dealings on the beef market have grown more complex with the globalization of trade and with food safety requirements, farmers have had to delegate some or all of their marketing functions to more effective structures. In attempting to bring farmers together, producer groups confer collective bargaining power on farmers with respect to upstream structures which evolve on an increasingly oligopolistic market because of concentration among large groups in the distribution sector and in the food industry. The bargaining power of producer groups with independent farmers is strengthened by shareholding interests of producer groups in the capital of downstream processing industries. Under the contract entered into between the farmer and his producer group the farmer delegates his commercial functions to the producer group. Being a member of a producer group ensures the farmer of outlets for his products and guarantees payment. The farmer saves on the costs of putting his output on the market (costs of seeking out customers, logistics costs, bad debts, etc.). The levy on the farmer's sales corresponds to the transaction costs associated with the delegation of his commercial activities.

Principles of farmer's membership of a producer group :

1. Principle of contribution of total output.

2. Principle of payment on trust.

3. Principle of transparency : the price paid to the farmer for animal i: $p_i = P_i - tP_i$ *or* $p_i = P_i - K$ *where* P_i *is the price received by the producer group,* t_i *the rate levied on every sale by the producer group for the payment of its services and the constitution of the farmer's shares and* K *a fix costs levied on every sale for the same payment (producer group's services and constitution of the farmer's shares)..*

4. Individualization of payments "animal by animal".

The principles on which farmers' join producer groups are not fully respected in reality because of the market mechanisms and of the incomplete nature of the contracts, characterized by the absence of any commitment as to prices. The initial principles of membership have been superseded gradually by business "practices" between the farmer and his producer group. The main changes from cooperative principles to business practices concern the level of contribution, the practice of price bargaining but especially, the trend toward standardization of prices. In fact, the need for producer groups to create lots of uniform quality to meet customer demand compels producer groups to distribute livestock among such lots and tends to standardize prices according to the lot to which the animal is assigned. This lack of enhancement of individual value of animals in line with certain properties defining the quality of meat is the main criticism that farmers make of the payment system of producer groups. This criticism is muted by "breeders" (lean cattle farmers) whose output and remuneration are more standardized. "Breeder-fattener" farmers (producers of finished cattle) prefer a strategy of diversified outlets where competition among purchasers provides scope to negotiate the price of animals individually.

The commercial "practices" between farmers and producer groups :

1. *"Practice" of partial contribution of output.*
2. *"Practice" of price bargaining.*
3. *Unchanged principle of transparency.*
4. *Trend toward standardization of prices.*

The advantages of membership of a producer group (obtaining public aids, outlets for livestock through supply chains with official quality indicators) explain why farmers participate in a system that is only partly satisfactory for them. The inefficiency of commercial relations between farmers and producer groups, which is almost unanimously acknowledged, explains the tolerance of the different players (producer group managers, authorities) with respect to departures from the rules laid down. Exceptions to the rule of full contributions are nonetheless limited by the discrimination of producer groups differentiating among their members depending on their degree of loyalty as measured by the volume and regularity of their contributions to the cooperative. This discrimination is expressed by the preferential attribution of the output from the most "loyal" farmers' to the supply chains that pay best. Members must therefore choose between a strategy of large and regular inputs to the cooperative *(strategy 1)* and a strategy of diversification of outlets to other customers *(strategy 2)*. The first strategy ensures farmers of the highest possible payment by the producer group and guarantees those payments. The second strategy ensures farmers of payment of a minimum price for their output by the producer group, whilst sales outside the group, because of better individual enhancement of their product supposedly provide a satisfactory level of income. The strategy chosen by each farmer depends on a large number of criteria : the level of specialization of his production (diversified or standardized), the "bargaining power" he can exert over his producer group and over the market, the financial position of the holding, behaviour relative to the risk of variable income, and so on. The large number of criteria to be considered precludes us from drawing any conclusions here about farmers' choices. However, two typical profiles can be identified : farmers with highly standardized output (mainly lean bovine animals) opt for the first strategy ; farmers with highly diversified output and who have other outlets choose the second strategy. Discriminatory practices introduced by producer groups to ensure their members' loyalty are reinforced by the role played by producer groups in managing official quality indicators.

The role of producer groups in managing official quality indicators

The growing importance of quality indicators—which concerns only the finished cattle market— and the requirement for farmers to go through producer organizations and farmers associations to commercialize livestock under quality labels more or less compel "breeder fattener" farmers to join these marketing structures. Producer organizations (producer groups and farmers associations) have a virtual monopoly over the implementation of official quality indicators. In addition to their functions representing farmers in collective bargaining on official quality indicators, producer groups, by characterizing livestock, control the attribution of official quality indicators. Price discrimination by producer groups has been reinforced and facilitated by the system of payment of official quality indicators since only a limited number of official quality indicators command a surplus value —Red Labels and some product conformity certificates— and since it is for the producer group to decide whether or not to market an animal through a quality supply chain commanding surplus value. The problems of adjusting supply and demand at producer group level —particularly planning difficulties— contribute to local and episodic surplus supplies of animals under official quality indicators even if producer group managers claim that the overall supply is still inadequate. According to producer group managers in the department of Saône et Loire, for product conformity certificates, the proportion of certified animals to the number of certifiable ones reaches a maximum of 75%. This state of affairs has led producer group managers to pick and choose which farmers' output can be awarded certification or quality labels. The most "loyal" members take precedence. The "rules" of the quality market are a further arm with which producer groups can secure the loyalty of their members.

Discrimination by attributing animals to supply chains with official quality indicators tends nonetheless to modify farmers' behaviour in their choice of strategies as to their contribution to groups. "Breeder-fattener" farmers, who favour a strategy of diversification of outlets *(strategy 2)* have a greater incentive to comply with the loyalty mechanisms put in place by producer groups *(strategy 1)* so as to benefit from the surplus values associated with a number of official quality indicators.

Section 2: The incomplete nature of producer group membership contracts

In section 1 we saw how producer groups have managed to alleviate the difficulties of insufficient contributions from farmers by introducing incentives for farmers to remain loyal. In this section, we look again at the causes of economic inefficiency in the farmers' membership contracts of producer groups within the theoretical framework of incomplete contracts. We show that the incomplete nature of the membership contract characterized by the absence of any undertaking as to prices gives rise to extra transaction costs over and above the initial costs measured by the commission levied by the producer group on sales of farmers' output and provides a further reason for farmers not to fulfil their commitments toward their groups.

The basis for the incomplete nature of producer group membership contracts

If we refer to the definition of a complete contract formulated by Milgrom and Roberts (1992)—" A complete contract is a hypothetical contract which describes the actions and the payments made in all the possible contingencies " (Milgrom and Roberts, 1992, p. 597)—the lack of any commitment as to prices characterized by the principle of payment on trust is the foundation stone of the incompleteness of the producer group membership contract. Once the contract has been signed, the producer group exercises its monopsonistic power by imposing its price on the farmer. The theory of incomplete contracts (Grossman and Hart, 1986 ; Hart and Moore, 1999) has looked primarily at the shortcomings in the definition of contractual clauses to explain a number of inefficiencies observed in long-term contractual relations. As an extension of developments of the transaction cost theory (Williamson, 1975, 1985), the theory of incomplete contracts initially concentrated on the *ex ante* causes of contractual incompleteness. The impossibility of drafting contracts *ex ante* to allow for all contingencies in view of the prohibitive costs of such drafting justifies contracts being incomplete (*ex ante* costs). The theory then turned to the absence of information and jurisdiction of institutions to explain why institutions were unable to act as final arbiters and to enforce contracts. It is pointless drawing up complete contracts as no institution has sufficient means to enforce them (*ex post* costs). The incomplete nature of producer group membership contracts derives from the imprecision of the contractual terms and conditions and from the absence of any outside authority to enforce those terms and conditions. The failure of farmers and producer groups to agree on a price line at the time the agreement is signed (definition of minimum price, payment of average market price at the time of the transaction) in view of the way farmers are paid by producer groups, results in increased transaction costs associated with the farmer's delegation of his commercial functions to the producer group *(table1)*. In terms of the trading relationship between farmers and producer groups, we find the four fundamental assumptions underlying the existence of transaction costs : uncertainty, limited rationality of agents,

specificity of assets, and opportunism. Uncertainty refers to the amount of future remuneration ; the limited rationality of agents reflects the fact that it is impossible for them to foresee the level of this variable ; the specificity of the assets in the relationship can be measured by the number of shares the farmer holds in the cooperative, which is similar to an entry fee, but also by the farmer's tangible and intangible investment in highly specialized production (production under quality indicators) : there is an opportunity cost for the farmer to sell his livestock on another market; opportunism characterizes the behaviour of farmers who choose to diversify their outlets.
The assumptions of limited rationality and of specificity of assets deserve some discussion: the specificity of assets in the relationship between farmer and producer group does not seem a sufficient argument to ensure that farmers comply with their commitments since in practice a relatively large number of farmers do not apply for their shareholding to be refunded when they break off their contract with the producer group. The assumption of limited rationality of farmers no longer holds when we consider that the farmer can anticipate the prices offered by his producer group. The farmer who sells an animal to a third party rather than to his group anticipates that the price that the group would offer will be lower that the price that an other buyer could offer.

The relational contract : an answer to incomplete contracts

Because it is impossible to agree on prices, the signatories have to find other arrangements. The formal contract of undertaking between the two parties has been replaced by an informal contract or "relational contract" (MacNeil, 1974) between the farmer and his group. Such relational contracts or contractual arrangements are based on implicit agreements between the two parties, agreements which can only be established over the long term. The deviations from the initial contractual clauses are individualized depending on the capital of trust and reputation that each farmer has earned with his producer group. To cope with the incomplete nature of membership contracts, farmers and producer groups have introduced individualized relational contracts relying on market mechanisms that are very similar to those of the market.
The relationship between the farmer and the producer group is akin to a conventional business relationship together with an incentive mechanism based on farmer loyalty, a relationship which is somewhat removed from the original cooperative principles. Because of the malfunctions indicated, the transaction costs associated with sale to the cooperative, which were initially lower than market transaction costs, may exceed the transaction costs for direct sales on a market or to a private dealer.

Section 3: The reform of producer organizations (outline legislation on agriculture of July 1999)

The reform of producer organizations provided for by the outline legislation on agriculture of July 1999 contemplates altering the ground rules for these organizations so as to make the operating procedures of the organizations more consistent with the practices reported above. First we present the principles underlying the reform and then we discuss how effective the reform has been in resolving the problems related to farmers meeting their commitments and to the discriminatory procedures set up by producer groups.

Principles and implementation of the reform

The reform defines two levels of commitment of the farmer to his producer group. The basic level or *level 1* provides for the commitment from the farmer to deliver at least 50% of his output to the producer group and to subscribe to the corresponding number of shares. The higher level, *level 2*, adds to the constraints defined at *level 1* the obligation for the farmer to sell as his contribution all of one or more categories of livestock including the predominant category on his holding. Each level determines the amount of aid (OFIVAL subsidies for construction, extension or renovation of buildings) that the farmer may claim. The volume of the actual contribution for *level 2* depends on the farmer's degree of specialization. The more specialized the farmer, the greater the volume of his contribution to the group will be. Producer group managers estimate that the mean volume of contribution from farmers will vary from 70 to 80% of a farmer's output depending on his degree of specialization. In addition to the definition of two levels of commitment, the reform of producer organizations provides for the implementation of regular and systematic controls of farmers' commitments to their cooperatives by the producer groups themselves (internal controls) and also by outside institutional bodies.

Evaluating the effects of the reform

Disregard by both farmers and organization managers for cooperative principles and the concern of government, in the light of recent events, to see better market regulation has led the legislator to amend the rules on producer groups. By imposing external control procedures, this reform attributes authority to a third party with the power to enforce the agreement. In redefining the contract in this way, the legislator has sought to minimize the inefficiencies of the contractual relationship, which is incomplete by design. Government involvement in the contractual relationship between the farmer and the producer group is not only an incentive (distribution of public aid) but is also interventionist (control) and may even be punitive (sanctions). This situation is analogous to that described by neo-institutional economists (North, 1990). Through its intervention, government seeks to minimize transaction costs arising because the contract is incomplete. "Thus, the more effectively institutions resolve problems of creditability of commitment, of authority, the lower transaction costs will be and the more agents can sign contracts close to the first rank optimum. […] In an environment where the existence of *ex ante* costs precludes parties from signing a complete contract, recourse to the hierarchy is, all else being equal, easier to enforce through the institutional environment and may thus fit in with the framework of its limited competence" (Chambolle, 2000). By defining two levels of farmers' commitment, the reform tends to adapt the definition of the volume of contribution to the actual volumes contributed and so affords farmers some flexibility in managing their commercial affairs. This flexibility leaves farmers free to market certain livestock through other supply chains and so cuts opportunity costs related to the absence of individual valuation of animals. By leaving farmers the choice between two levels of contribution and by assuming that the planned controls and sanctions will be applied, the reform should improve the volume of farmers' contributions. This improvement should mean that producer groups resort less to incentive mechanisms and so should alleviate the discriminatory procedures against farmers (table1).

Table1: Principles of trade and transactions costs associated.

	C0: Markets and/or private traders	C1: Principles of Producer group membership contracts (before the reform)	C2: "Relational" membership contracts (before the reform)	C3: Producer group membership contracts (after the reform)
Principles of trade	Direct negotiation : Bargaining system.	Total contribution Payment on trust No discrimination among farmers Internal controls and operating report to outside bodies	Customized level of contribution according to the reputation of each farmer. Price negotiation and /or payment on trust Intense discrimination among farmers No controls	Choice of level of commitment (level 1 or level 2). Payment on trust Partial discrimination among farmers Systematic procedure of internal and external controls.
Transaction Costs (Average transaction costs per animal)	Direct negotiation costs (Costs of seeking out customers, logistic costs, potential cost of bad debts) c^0	Costs of total delegation of commercial functions to the producer group c^1	Costs of partial delegation of commercial functions to the producer group + Costs of direct bargaining + Cost of opportunity due to poor value enhancement c^2	Costs of partial delegation of commercial functions to the producer group + Costs of direct bargaining. c^3

For simplicity sale on the market and sale to private dealers, based on the direct negotiation principle are combined in the same column. The three columns on the right of the table show the principles and the transaction costs associated with the farmer's formal (theoretical) membership contract of his producer group (column 3), the relational contract between the farmer and his group (column 4), and the membership contract provided for by the reform (column 5). In view of what was said above, $c^0 \geq c^2 \geq c^3 \geq c^1$.

Section 4: Consequences for different types of farming systems.

We have seen in *section 1* that the choice between a strategy of large and regular inputs to the cooperative and a strategy of diversification of outlets to other customers will depend on the level of specialization of the farmer's production. In *section 3,* we saw that the transaction costs associated with different trade mechanisms —cooperative mechanism, relational mechanism, and institutional arrangement of cooperative mechanism — were different ($c^0 \geq c^2 \geq c^3 \geq c^1$). We are now going to gauge the impact of these three types of exchange and of these two strategies on different types of farming systems. We will consider six different types *(table 2)* of farming system by considering, on one hand, the produced categories of animals— lean production for males and females, lean production for males and finished production for females, finished production for males and females— and on the other hand, the size of the holding. We will consider two main "sizes" of farming system evaluated

by the number of suckler cows: the "small size" (from 40 to 70 suckler cows) and the "large size" (from 70 to 150 suckler cows). We will now consider the transaction costs associated to each types of farming systems. We will call c_i^j transaction costs paid by farmer of type *i* when the producers group respects the principle of trade *j* with $i = \{1,...,6\}$ and $j = \{1,2,3\}$.
We suppose that the volume of contribution of each farmer to the producers group will depend on his own volume of production. We make the hypothesis that transaction costs associated with the strategy of diversification of outlets are less high for finished cattle farmers than for lean cattle farmers.

Table 2: Different types of farming system in Charolais production area

Volume of production

Type 1: Large farming system. Lean cattle for males and females	Type 3: Large farming system Lean cattle for males and finished cattle for females	Type 5: Large farming system Finished cattle for males and females.
Type 2: Small farming system. Lean cattle for males and females	Type 4: Small farming system. Lean cattle for males and finished cattle for females	Type 6: Small farming system. Finished cattle for males and females.

Types of production

In the case C0, which corresponds to market mechanisms, each farmer will try to choose the best outlets for his product and transaction costs associated are directly linked to the ability of each farmer to negotiate. In the case C1 with cooperative mechanisms, there is no discrimination among farmers then $c_1^1 \approx c_2^1 \approx c_3^1 \approx c_4^1 \approx c_5^1 \approx c_6^1$. In the case C2, with a strong discrimination among farmers, transaction costs c^2 will depend on the farmers' type of production and on their level of contribution to the producer groups. Considering that it is usually easier for large farmers than for small farmers to sell high quantities of products to the producer group, we have $c_2^2 \geq c_1^2, c_4^2 \geq c_3^2, c_6^2 \geq c_5^2$. Considering that breeder-fattener farmers (farmers of type 5,6, and 3, 4) have usually more interest to diversify their production, then : $c_1^2 \geq c_3^2 \geq c_5^2$ or $c_2^2 \geq c_4^2 \geq c_6^2$. Finally, we have: $c_2^2 \geq c_1^2 \geq c_4^2 \geq c_3^2 \geq c_5^2 \geq c_6^2$. In the case C3 with partial discrimination among farmers, we still have competition between the small and the large farming system but the possibility for farmers to choose *ex ante* their level of contribution reduces the differences of transaction costs associated with the two strategies of production. The "size effect" is less important and we can almost consider that: $c_1^3 \approx c_2^3; c_3^3 \approx c_4^3; c_5^3 \approx c_6^3$ but it is always in the interest of breeder-fattener farmers to diversify their production. Finally, we have: $c_1^3 \approx c_2^3 \geq c_3^3 \approx c_4^3 \geq c_5^3 \approx c_6^3$. We have seen here that different trade mechanisms do not have the same impact (in term of transaction costs) for different types of farmers. Nevertheless, we don't have taken account here the specificity of each producer group and specially their aptitude to have better outlet (in price) for some categories of animals (good outlets for lean cattle or for finished cattle). We could then suppose that transaction costs will depend on the specificity of outlet of each producer group.

The choice of the producer group made *ex ante* by each farmer, in view of his type could become a strategic choice. Nevertheless these results depend only on the types of animals and the size of the cattle farm. Other criteria can explain farmer's bargaining power towards their producer group : information such as creation date of the cattle farm, reputation of the farmer, knowledge of the market, holding's financial status, and so on.

In conclusion

This article has shown how market practices gradually replaced the initial cooperative principles between farmers and producer groups. These practices based on incentive mechanisms to gain farmers' loyalty led to the introduction of discriminatory selection procedures among farmers by producer groups. Such selection was based more on the farmers aptitude to adapt to the requirements of their groups than on their real "loyalty", at the risk of endangering certain categories of farmers. The reform of producer organizations by the July 1999 outline legislation on agriculture aimed to end such practices and to reinstate cooperative principles. The reform should restore certain equity —in term of transactions costs—between the “small” and the “big” farmers. Nevertheless, the effects of the reform are difficult to gauge at present in view of the lack of hindsight since it was introduced and the fact that it coincided with the "winter 2000 crises" (BSE and foot-and-mouth). The crises of winter 2000, marked by a sharp decline in consumption of beef, a significant fall in prices, and fragilization of the market (bankruptcy of private dealers), restricted the potential outlets for farmers and so reinforced the power of producer groups on the market. Producer groups have a strong hand to force farmers to abide by their commitments as laid down in the membership contracts. The increased volume of contributions to producer groups should "theoretically" help remove the incentive mechanisms and the discriminatory procedures that result from them. However, there are still questions about the behaviour of producer groups with respect to such "market practices", which were attributed initially to farmers' behaviour.

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