

# Why are cooperatives important in agriculture? An organizational economics perspective

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**Abstract:** This paper develops an organizational economics explanation for agricultural cooperatives by building upon the transaction cost theory of family farms. According to this theory, the importance of family farms in Western agriculture is a result of the low feasibility of hierarchical organization in agricultural production due to supervision and monitoring difficulties. This paper argues that the transaction cost-economizing effect of family farms has a price in the form of their limited ability to realize economies of scale and to develop market power comparable to that of their up- and downstream trading partners. The role of agricultural cooperatives is shown to help overcome these limitations in order to take advantage of the transaction-cost economizing properties of family farms. This explanation of agricultural cooperatives is sector-specific in the sense that it traces the benefits of cooperative organization back to the organizational attributes of agricultural production.

## 1. Introduction

Organizational economics literature explains the existence of cooperative organizations in agriculture, as well as in other sectors, through their ability to economize on transaction costs and to develop ‘countervailing power’ (Bonus, 1986; Staatz, 1987; Hansmann, 1988, 1996). However, by revealing the institutional advantages of cooperatives, these explanations provoke the question of why specific transaction costs and imbalances in market power have actually emerged. As long as any systematic reasons behind their emergence in specific sectors can be identified, an organizational economics explanation of cooperatives operating in these sectors can be deepened by including a theoretical account of these reasons. It is the main contention of this paper that such reasons do exist in the agricultural sector, and can be identified by reconsidering the old

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puzzle of the persistent dominance of family farms in the organization of Western agriculture, in spite of the pressures of structural change in the agri-food systems.

In a general sense, examinations of this puzzle have resulted in recognition of the fact that efficiency of agricultural organization is determined by two orthogonal criteria: efficiency of division of labor in agricultural production and efficiency of monitoring activity. The significance of the second criterion has been shown to be conditioned by the sector-specific organizational characteristics of agricultural production. This paper will demonstrate that these characteristics, in addition to explaining the superiority of family-based organization in agriculture, also provide a clue to rationalizing the reasons behind the emergence of transaction costs and imbalances in market power, which create a functional niche for agricultural cooperatives.

In itself, the rationale behind the dominance of family farms in Western agriculture is distinctly different from that behind the existence of agricultural cooperatives. Yet, this paper will argue that there exists an implicit relationship between them. Consideration of this relationship can extend the organizational economics rationale of agricultural cooperatives to the point of understanding them in a manner similar to understanding family farms, i.e. as essential ingredients of agricultural organization. By implication, the argumentation in this paper will refer to the institutional context of Western countries, where family farming is a dominant form of agricultural organization.

The paper will proceed as follows: Section 2 reviews some of the major organizational economics explanations of cooperatives in order to identify the institutional determinants of choosing the cooperative organizational form. Section 3 explains the advantages of agricultural cooperatives in terms of the sector-specific organizational characteristics of agriculture, thus showing cooperatives as necessary supplements to family farms. Section 4 analyzes this argumentation in the context of structural change in Western agri-food sectors. Section 5 concludes.

## **2. Institutional determinants of the choice of the cooperative organizational form**

Economists' interest in the organization of economic activity was, in a general sense, awakened by the seminal insights of Coase (1937), who argued that whether a particular transaction is organized within a firm or through the market depends on the relative costs of alternative modes of organization. Since then, the organizational economics literature has further extended and enriched the understanding of alternative forms of business organization for economic performance. Within this literature, explicit focus on comparative institutional analysis at the enterprise level has been particularly characteristic of transaction cost economics (e.g. Williamson, 1975, 1985, 1996) and agency theory (e.g. Jensen and Meckling, 1976, 1979; Fama and Jensen, 1983, 1985).

Organizational economics studies that specifically deal with cooperative organization contain three distinct viewpoints regarding whether it is more

efficient compared with other organizational forms. One viewpoint emphasizes the institutional advantage created by cooperatives for their members, mainly by economizing on transaction costs and developing countervailing power (Bonus, 1986; Staatz, 1987). A contrary viewpoint, advanced by agency theorists, identifies the incentive problems and hence the institutional disadvantages of cooperatives (e.g. Jensen and Meckling, 1979; Schmitt, 1993a; Vitaliano, 1983). Yet another viewpoint suggests that the actual extent of the existence of cooperatives is determined by the balance of market contracting costs and ownership costs borne by cooperative members (Hansmann, 1988, 1996). In the following, the argumentation underlying these viewpoints will be briefly reviewed in order to analyze the extent to which they take account of agriculture's sector-specific organizational attributes.

A general analysis of transaction cost advantages of the cooperative organizational form, without references to sectoral specificities, was proposed by Bonus (1986: 335), whose basic argument is that 'the main benefits of collective organization derived by cooperatives are achieved by internalizing crucial transactions into a firm jointly owned by the holders of transaction-specific resources, who thereby avoid potential threats to the quasi-rent of their investment by outside opportunists'. In an example of dairy cooperatives analyzed by the author, dairy farmers are highly dependent on their local milk processors for carrying out regular and timely purchases of the produced milk. This dependence creates the possibility for the processors to opportunistically expropriate the farmers' quasi-rents. Dairy cooperatives allow farmers to avoid this expropriation by means of internalizing the milk-processing transactions, i.e. transferring them under the farmers' control.

Bonus's analysis reveals a general mechanism through which cooperatives economize on transaction costs. But the generality of his approach represents also its potential weakness: cooperatives are clearly more widespread in some institutional contexts (such as sectors, regions, historical periods) than others, yet the variation in the importance of cooperatives remains unexplained. Specifically, Bonus's analysis cannot provide insight into why, in modern Western economies, cooperatives are more important in agriculture than in most industrial sectors. What is missing is the theoretical rationalization of the emergence of those transaction costs that are economized by cooperatives.

In seeking to develop a transaction cost rationale specifically for agricultural cooperatives, Staatz (1987) emphasized the relationship between economizing on transaction costs and creating 'countervailing power'. Similar to Bonus (1986), Staatz also indicates that the specificity of assets owned by farmers creates incentives for protecting their quasi-rents, which can be captured by their opportunistically acting trading partners. Developing 'countervailing power' in the form of market power is a form of protection from this opportunism on the part of farmers. An additional opportunity for agricultural cooperatives to economize on transaction costs is created by the riskiness inherent

in agricultural markets. Cooperatives address this problem by internalizing transactions characterized by high uncertainty, primarily through their ability to practice contingency pricing via patronage refunds, thus offering members some degree of revenue insurance. Finally, farmers may need to incur high transaction costs to ensure that the high quality of agricultural products is maintained as these products move through the marketing system and to ascertain the true quality of production inputs that they purchase. Forward and backward integration by agricultural cooperatives makes quality control in these cases less costly.

Staatz's approach to agricultural cooperatives certainly does take account of the sector-specific organizational characteristics of agriculture by pointing out that agriculture is associated with high asset specificity, high uncertainty, and the existence of externalities. Yet Staatz merely assumes these characteristics of agriculture without trying to explain their origin. Without this explanation, though, it cannot be clear why these characteristics are more specific to agriculture than other sectors. A truly sector-specific explanation of agricultural cooperatives cannot thereby be achieved.

The studies emphasizing the institutional disadvantages of cooperatives have argued that this organizational form is plagued by a number of incentive problems, such as the common property problem (the members' equity contribution may not be proportionate to the distribution of resulting benefits); the horizon problem (members can capture benefits from their investment only over the time horizons of their expected membership in the organization, which causes bias toward short-term investment and/or under-investment); the monitoring problem (decision management is allocated to decision specialists who are not residual claimants); the influence cost problem (some groups of members may have opposing interests and thus engage in costly lobbying activities); the decision problem (the large number and heterogeneity of members complicate reaching consensual decisions) (see Jensen and Meckling, 1979; Schmitt, 1993a; Vitaliano, 1983). These incentive problems are evidently characteristic of cooperatives regardless of their sectoral field, yet Cook (1995, also Cook and Iliopoulos, 2000) emphasized that they are particularly pronounced among many US agricultural cooperatives, thereby causing transformations in the cooperatives' property rights structures and the emergence of new cooperative models (Chaddad and Cook, 2004).

Achieving a balanced view of the institutional advantages and disadvantages of cooperatives was the objective of Hansmann's theory of enterprise ownership (1988, 1996). Hansmann explained the existence of different organizational forms such as investor-owned firms, employee-owned firms, cooperatives, and mutual and nonprofit enterprises by comparing market contracting costs and ownership costs faced by their 'patrons' (i.e., agents transacting with the firm). Applying this framework to agricultural cooperatives, he argued that farmers generally face high market contracting costs for two major reasons: (1) they have weak market power compared with their up- and downstream trading partners;

(2) in dealing with these partners, they may be confronted with information asymmetries. On the other hand, ownership costs for farmers are generally low, mainly because farmers can often effectively monitor the operation of their cooperatives, and, given the homogeneity of their interests, face relatively low costs of collective decision making. This framework explains why, in the US, cooperatives are popular in marketing agricultural products and procuring farm supplies, but rare, for example in purchasing farm machinery, since in the latter case, given the idiosyncratic needs of different farmers, the homogeneity of interests is not present.

With regard to the sectoral specificity of agriculture, Hansmann's framework, similar to that of Staatz, recognizes that farmers often find themselves in a disadvantageous position in relation to their trading partners and can use cooperative organization to compensate for these disadvantages. In this sense, both authors ultimately trace the advantages of agricultural cooperatives back to some sector-specific organizational attributes of agriculture. These attributes, therefore, appear to generate systematic incentives for farmers to form cooperatives. However, given the existence of this systematic tendency, an organizational economics explanation of agricultural cooperatives is not logically complete if it merely states that these cooperatives economize on certain transaction costs or help create 'countervailing power'. The missing link in such an explanation is the question of what makes agriculture so conducive to the formation of cooperatives. Specifically, what is the nature of those sector-specific organizational attributes of agriculture, which dictate the efficiency of cooperative organization? In the following section, these attributes will be identified and the question will be posed of why specific types of transaction costs and market power asymmetries that can be addressed by agricultural cooperatives emerge in agriculture rather than other sectors.

### **3. The special case of agricultural cooperatives**

This section presents the major argumentation of this paper: it reviews the relevant sector-specific organizational characteristics of agriculture, identifies the resulting disadvantages for agricultural producers, and demonstrates the way in which cooperatives can compensate for these disadvantages. The central place in this argumentation belongs to the concept of family-based organization on which family farms are based. In fact, the sector-specific explanation of agricultural cooperatives that will be proposed represents a logical continuation of the transaction cost of family farms.

#### ***3.1. Organizational characteristics of agriculture and the rationale for family farms***

Agriculture as an area of productive activity has a number of general attributes that distinguish it from other sectors of the economy, including high asset

specificity, which impedes resource mobility out of agriculture (see Hathaway 1963); inelastic demand for agricultural products and inputs; the special role of land as a production factor, etc. However, the most fundamental sector-specific attribute that has dramatic implications for agricultural organization is the significant dependence of agricultural production on nature, including biological and climatic factors.

A high dependence on nature means that agricultural producers have relatively low control over the processes and results of production, which complicates its planning, monitoring, and supervision (Schmitt, 1993b: 57). The problem of supervision becomes particularly acute in the case of using hired labor for the following reasons: (1) workers, for technological reasons, cannot be gathered together in a single location (Pollak, 1985: 591) and therefore cannot be effectively monitored; (2) the outcomes of production are inherently uncertain due to unpredictable natural phenomena, and therefore are not unambiguously related to efforts expended by workers, which means that these workers cannot be held fully accountable for their work. Both of these reasons generate an asymmetric distribution of information between employer and employee, which can be opportunistically used by the latter, representing a typical principal-agent problem (see also Binswanger and Rosenzweig, 1986: 519; Schmitt, 1993a).

Since the effects of natural phenomena on the outcomes of agricultural production are not necessarily verifiable, it is sensible to assume that agents must be risk-averse. Indeed, they cannot assume risk for controlling those natural processes which, by definition, they cannot control. Yet agents are clearly effort-averse as well, and, as shown by Harris and Raviv (1979), it is the combination of risk- and effort-aversion that underlies the efficiency of monitoring activity in the principal-agent relationship. Since monitoring in agricultural production is very costly for the above-mentioned reasons, this production can be organized efficiently only if it minimizes the need for monitoring. In turn, the need for monitoring can be effectively minimized only if agents exhibit significant loyalty to their principals. This loyalty cannot be guaranteed by the hierarchical mode of organization, but it is clearly present within the framework of the family-based mode. In fact, the ability of family-based organization to use kinship-based loyalty to reduce the need for monitoring constitutes the thrust of the organizational economics explanation of the dominance of family farms on the one hand, and the rarity of hierarchical structures in the organization of agricultural production in Western countries on the other.

In the words of Pollak, 'the family farm can be regarded as an organizational solution to the difficulty of monitoring and supervising workers' (1985: 591), which also seems to be accepted by most other writers on the subject. Yet, as noted by the author, it is not always so that agricultural tasks cannot be monitored in terms of inputs and outputs; whenever it is possible, family farms are 'overshadowed by other forms of agricultural organization' (*ibid.*: 591).

For some crops (e.g. cotton and corn) and some tasks (particularly harvesting) hired labor can be concentrated into work gangs and supervised directly, thereby making plantation agriculture possible (ibid: 591). For most other crops, however, monitoring is very costly, which explains the central role of family farms in the organization of agricultural production.

The main advantages of family-based organization in addressing monitoring difficulties, according to Pollak, include: all family members have claims on the family's resources, which creates a residual interest in expending proper work efforts; information is not so asymmetrically distributed within families due to easier monitoring and intra-family communication; families are characterized by affectional relationships, which limit opportunistic behavior; finally, working diligently forms a part of maintaining 'family loyalty', which often represents an important value in social settings. Due to these characteristics of family governance, family workers choose not to take advantage of ample shirking opportunities, which would otherwise be used by hired workers.

The important consequence of the low feasibility of hierarchical organization in agriculture and the resulting optimality of family farms is the fact that the size of production units in agriculture is limited by the size of family. This limitation follows directly from the above-mentioned difficulties in supervision and monitoring, since minimizing the use of hired labor on the farm implies constraining the farm size to that which can be effectively controlled by one family. Hence, the low feasibility of hierarchical organization in agriculture underlies the known tendency of family farms to preserve small sizes (see e.g. Johnson and Ruttan, 1994).

The latter tendency has been traditionally discussed in connection with the issue of the existence of economies of scale in agriculture. Johnson and Ruttan (1994: 693) identify two types of these economies: internal, which is related solely to the agricultural production process, and external, which is observed when larger farms experience advantages in terms of access to inputs, credits, services, storage facilities, marketing and distribution opportunities as well as the ability to ensure more economical use of 'lumpy' inputs, such as machinery or management. Whereas the existence of internal economies of scale in agriculture is often called into question, the same cannot be said about external economies of scale (ibid).

### *3.2. The organizational disadvantages of family farms*

The fact that the efficient size of production units in agriculture is limited by the size of the family generates two basic organizational disadvantages faced by individual agricultural producers. As will be shown below, these disadvantages represent the major motives for the creation of agricultural cooperatives.

The first disadvantage of small size lies in the inability to realize the external economies of scale discussed in the previous section. Although, in the opinion of Johnson and Ruttan (1994: 693) these economies may emerge due to pecuniary



economies or policy distortions, they nevertheless represent a real source of cutting production costs and improving access to markets. Yet realization of these economies is limited by the size of the farm that can be effectively managed by one family, as well as by the size that a family can reach.

The second disadvantage relates to the fact that firms occupying up- and downstream positions with respect to farmers do not experience the monitoring and supervision difficulties characteristic of agriculture and are therefore hierarchically organized. Hierarchical organization, however, presupposes much weaker constraints on firm expansion than family-based organization. Consequently, up- and downstream firms have significantly larger sizes than individual family farms. Historically, this has resulted in the tendency of family farms to exhibit a much more competitive industry structure than the up- and downstream firms in the agri-food sector, whereby farmers have been put at an increasing disadvantage in terms of their ability to bargain with up- and downstream trading partners on an equitable basis. Moreover, the farmers' disadvantage resides not only in the danger of monopolistic pricing by up- and downstream firms, but also in their lower ability to combat opportunistic behavior on the part of these firms. As was indicated by Staatz (1987), farmers face significant risks of their trading partners exercising opportunistic expropriation of quasi-rents on their specific assets.

Whereas the *hierarchical* organization of agriculture is hardly feasible due to the above-mentioned supervision and monitoring problems, the power asymmetries between farmers and their trading partners also make the *market* organization of inter-sectoral linkages sub-optimal from the viewpoint of farmers' interests. In this sense, farmers find themselves in a situation of 'double' organizational failure, with both major types of economic coordination – markets and hierarchies – being sub-optimal for organizing business activities in agriculture. More specifically, hierarchical organization is too expensive for the production activity, and market organization is too hazardous (and hence, also too expensive) for the marketing activity, whereby the sub-optimality of markets is indirectly caused by the sub-optimality of hierarchical organization through the inability of the agricultural firm to reach a size comparable with that of its up- and downstream trading partners.

The recognition that both market and hierarchical types of organization may perform unsatisfactorily at the same time has been increasingly characteristic of the development of organizational economics research in the last decade. Indeed, this research has undergone a remarkable shift from the paradigmatic dichotomy between markets and hierarchies to the study of a broad set of hybrid organizational arrangements, which cannot be attributed to any of the former (Menard, 2004; Williamson, 1991). Cooperatives have also been recognized as hybrid organizations combining the attributes of markets and hierarchies in such a way as to eliminate the inefficiencies occurring in specific situations (Menard, 2004; Bonus, 1986). The way agricultural cooperatives address the disadvantages



of market and hierarchical types of organization in agriculture is discussed in the next section.

### 3.3. *The role of agricultural cooperatives*

Whereas family-based organization does permit economizing on the costs of monitoring, which would be prohibitively high for hierarchical organization, it suffers from problems associated with its limited ability to achieve the efficient size of family farms. For family farming to become a viable alternative to the hierarchical organization of agricultural production, these problems need to be addressed, and agricultural cooperatives represent an organizational device for achieving precisely this objective.

The first disadvantage of family farms, their inability to capture external economies of scale, is overcome by machinery-pooling cooperatives, specialized service cooperatives, credit cooperatives, as well as a variety of rural cooperatives providing benefits to rural households. Such cooperatives represent an extension of individual family farms, which makes it possible to combine the advantages of family-based organization with the economies of large-scale production of required goods and services. The second disadvantage of family farms, their low market power compared with that of their up- and downstream trading partners, is overcome by marketing, purchasing, and bargaining cooperatives and associations. These cooperatives, too, manage to capture the economies of large-scale business organization, while retaining the economic and legal independence of their members (which of course have to fulfill their obligations toward their cooperatives).

Needless to say, the disadvantages of family farms exhibit significant variability across the types of production specialization, as well as institutional contexts in which the family farms are located. The actual extent of these disadvantages determines the extent of benefits achievable through agricultural cooperatives in each specific case. Yet the actual extent of the existence of agricultural cooperatives depends not only on their benefits, but also on their costs, represented by the transaction costs of their internal governance. These costs have been shown by property rights and agency theorists to be non-trivial due to the existence of the above-mentioned incentive problems of cooperatives, such as the common property problem, horizon problem, monitoring problem, influence cost problem, and decision problem. As a consequence of these problems, Cook and Iliopoulos (2000) designate the property rights in agricultural cooperatives as 'ill-defined' compared with investor-oriented firms.

Similar to the benefits of agricultural cooperatives, their costs too may vary widely, basically depending on the homogeneity of interests among cooperative members, as was emphasized by Hansmann (1996). If member interests happen to be fairly homogeneous, the incentive problems are substantially alleviated. Moreover, these problems may be reduced by redefining the property rights structures of agricultural cooperatives. Indeed, if cooperative members perceive

the property rights structure of their cooperative as being too vaguely defined, they can expend efforts to define them more clearly, leading to the emergence of new cooperative models, which can be represented in the form of a continuum delimited by the polar cases of the traditional cooperative and the investor-oriented firm (Chaddad and Cook, 2004).<sup>1</sup> Of course, in a world of positive transaction costs, any movement from the state of vaguely defined property rights to that of well-defined property rights must be costly. Therefore, the total level of transaction costs of governing agricultural cooperatives is determined by two factors: (1) the extent of occurrence of the incentive problems in the form of the vague definition of property rights and (2) the costs associated with transferring to more well-delineated property rights within cooperatives.

The identification of benefits and costs of agricultural cooperatives provides a useful framework for comparing their organizational economics rationale with that of family farms. Whereas family farms are viable primarily due to their ability to integrate agricultural production with pre-existing, ongoing, and significant personal relationships (Pollak, 1985: 585ff.), the viability of agricultural cooperatives is based on their instrumental role in securing the advantages of large size for family farms. While failure in securing these advantages represents the major cost of family-based organization in agriculture, the comparable cost of agricultural cooperatives consists of the occurrence of their incentive problems. Both of these costs may be reduced by employing appropriate governance instruments, such as establishment of agricultural cooperatives for family farms and redefinition of property rights structures for agricultural cooperatives.

On the whole, the patterns of formation and organizational restructuring of agricultural cooperatives depend on specific constellations of their benefits and costs, which in turn are subject to change over time. The benefits can be expected to condition the volume of cooperative activities, whereas the costs are likely to affect the choice of cooperative organizational models. A detailed theoretical and empirical analysis of both benefits and costs of agricultural cooperatives, using the example of the US, has been undertaken by Hansmann (1996) within the framework of his theory of enterprise ownership. The contribution of this discussion is to suggest that the source of these benefits consists of the family farms' organizational disadvantages, which represent a price that needs to be paid in order to enable the transaction cost-economizing role of family farms in the organization of agricultural production.

#### **4. Agricultural cooperatives and structural change in the agri-food sector**

The previous discussion has suggested that the organizational economics rationale for agricultural cooperatives is closely interrelated with that for family

<sup>1</sup> According to Chaddad and Cook (2004), this continuum includes the following organizational models of agricultural cooperatives: proportional investment cooperatives, member-investor cooperatives, new generation cooperatives, cooperatives with capital-seeking entities, and investor-share cooperatives.

farms. This implies that as long as family farms continue their existence as players in the agri-food sector, cooperatives are bound to preserve their basic role. However, in order to realize that role, cooperatives may resort to a very diverse spectrum of organizational strategies. The choice of specific strategies is importantly determined by the ongoing processes of structural change that are dramatically transforming the organizational structure of the agri-food sectors of Western countries.

Basically, structural change in Western agri-food sectors involves increasing concentration in all of their major components, such as food retailing, food processing, handling and transportation, input supply, and agricultural production.<sup>2</sup> Yet, even though the average size of family farms is rising, concerns are being increasingly voiced about the weakening of market power of family farms and the gradual elimination of competition in nonagricultural components of the agri-food sectors (Heffernan, 1999; Harkin, 2004). This suggests that concentration processes in agricultural production are being increasingly outpaced by those occurring in the rest of the agri-food sectors. The widening of this divergence is fully consistent with the existence of the above-discussed constraints on the ability of family farms to reach large sizes. Even though the technological progress allows ever-more expansion in the volume of production activities that can be conducted by one family, the need to preserve family-based organization prevents the process of structural change from unfolding at a pace that can be accommodated by those industries that are based on hierarchical organization and are therefore free from any comparable size limitations.

The growing gap between sizes of family farms and their up- and downstream trading partners dictates the increasing need for intersectoral coordination within the agri-food sectors and thereby enhances the potential role that can be played by cooperatives. Yet, coordination in the agri-food sector can be achieved by both cooperative and non-cooperative means,<sup>3</sup> and the extent to which the former are likely to be used depends on their competitive advantage. Sykuta and Cook (2001) argue that the strength of cooperatives in effecting coordination resides in their tendency to involve lower information asymmetries and greater trust in their relationships with farmers than would be the case with investor-oriented firms. In contrast, agricultural cooperatives are exposed

<sup>2</sup> For example, in the US retail food market from 1991 to 2001, the four-firm share increased from 23.3% to 27.8%, while the eight-firm share increased from 35.2% to 43.6% (USDA, 2002: 6). According to the information of the Committee on Agriculture, Nutrition, and Forestry of the United States Senate, in the US in 2003 the four-firm ratio in the packing industry was 84% for steer and heifer slaughter and 64% for hog slaughter; in 2004, four companies controlled 89% of the breakfast cereals market; in 2002, the four-firm ratio for terminal elevators was 60%; in 2004, four large agrochemical/seed companies control more than 75% of the nation's seed corn sales and 60% of soybean seed sales (Harkin, 2004). Trends of increasing concentration in agribusiness are characteristic also for Europe (Buccirosi *et al.*, 2002).

<sup>3</sup> Sporleder (1992) lists the following institutional arrangements of coordination in the agri-food sector: market specification contracts, production management contracts, resource-providing contracts, forward pricing contracts, marketing orders, and agricultural cooperatives.

to increasingly intense competition and growing capital requirements; to take full advantage of this strength, they need to adopt organizational strategies that allow them to be flexible and responsive to member needs while simultaneously ensuring access to the required capital. These strategies often lead to the emergence of new cooperative models that look increasingly dissimilar to the traditional cooperative and increasingly similar to investor-oriented firms. Cook (1995) identifies three forms of this organizational adjustment of cooperatives: liquidation, conversion into investor-oriented firms, and restructuring based on redefining the underlying property rights structures.

The ongoing organizational adjustment of agricultural cooperatives naturally invokes the issue of the stability of the cooperative organizational form. Cooperatives have generally been shown to be less stable than investor-oriented firms, not only because of their competitive disadvantages, such as limited access to capital, limited ability to attract capable managers (Ben-Ner, 1987; Putterman, 1982) and incentive problems (Cook, 1995), but also due to the tendency of the incumbent members to use wage labor instead of admitting new members (e.g. Ben-Ner, 1984). Agricultural cooperatives have also been repeatedly conceptualized as not necessarily stable in the long run, but rather following life cycle dynamics (see Cook, 1995, for an overview of life cycle approaches).

The life cycle conceptualization of agricultural cooperatives suggests that the logical interrelationship between family-based and cooperative organization should be seen in a dynamic perspective. Cooperatives do compensate for the disadvantages of family-based organization, yet they can do this in a variety of ways, depending on the institutional context in which they are located. As this context evolves, so do organizational structures, policies, and practices of cooperatives. Moreover, as family farms are evolving themselves, their specific needs regarding services delivered by cooperatives are changing as well, which leads to the continuous restructuring, disappearance, and reappearance of the latter. This is fully consistent with the general argument that family farms need cooperatives in order to achieve the benefits of large size.

## 5. Concluding remarks

This paper has proposed an organizational economics rationale for agricultural cooperatives by means of a logical continuation of the organizational economics rationale for family farms. The importance of family farms has been traditionally explained in terms of the low feasibility of hierarchical organization of agricultural production due to supervision and monitoring difficulties. What these explanations tend to under-emphasize is that the transaction cost-economizing effect of family farms has a price in the form of their limited ability to achieve efficiently large sizes. This limitation gives rise to two organizational disadvantages of family farms: they find it difficult to realize external economies of scale and to develop market power comparable to that of their up- and

downstream trading partners. These disadvantages represent the major motives for the creation of agricultural cooperatives.

Thus, the role of agricultural cooperatives lies in enabling the realization of advantages of hierarchical organization in agriculture while avoiding the need to incur its transaction costs, which are prohibitively high in this sector. This explanation of agricultural cooperatives is sector-specific since it does not apply to sectors other than agriculture, as compared with other explanations, which point out the general abilities of cooperatives to economize on transaction costs and to develop 'countervailing power'. While the latter explanations effectively reveal the general institutional advantage of cooperative organization, the account of sectoral specificity clarifies why this advantage is of particular relevance for agriculture.

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