AGROINDUSTRIAL COOPERATIVE NETWORKS IN BRAZIL: COMPARING ORGANIZATIONAL STRATEGIES

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Abstract

Cooperatives are important organizations for increasing the bargaining power and added value of agricultural producers in Brazil. To enable growth and the resulting economic gains of scale and scope, cooperatives must consolidate or engage in interfirm collaboration strategies, such as in networks. This paper analyzes the case of two agricultural cooperative networks in Brazil, the Brazilian Agricultural Cooperative Consortium (Consórcio Cooperativo Agropecuário Brasileiro - CCAB) and National Agroindustrial Cooperative (Cooperativa National Agroindustrial - COONAGRO). Both networks of tier-1, local cooperatives arose from the same strategic necessity and were initially organized in consortia. However, after an initial, formative period, they realized the limitations of the consortium model and adopted different strategies and organizational structures. CCAB formed a holding company owned by cooperatives and outside investors, whereas COONAGRO opted for a tier-2, central cooperative model. This article describes these two cooperative network models and analyzes the reasons that led them to adopt different strategies and structures, with a focus on the allocation of residual claim and control rights. The paper concludes that both networks had the same origin and initial strategy, i.e., the need for growth and the pursuit of scale economies and bargaining power. However, the two networks differed in several aspects that affected their evolution. COONAGRO was formed in a traditional agricultural area in southern Brazil (Parana) with a large number of small- and medium-sized family farmers that historically relied on cooperatives for farm input purchases, credit, technical assistance and farm output marketing. Therefore, the network was organized as a tier-2, central cooperative due to the complexity of monitoring and coordinating central activities by a well-established group of local cooperatives. In

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contrast, CCAB emerged in the agricultural frontier state of Mato Grosso based on the collective entrepreneurship of medium- to large-scale commercial farmers. The cooperative footprint and market share in Mato Grosso were not as consolidated as in southern Brazil as these farmers started to form local cooperatives in the early 2000s. As a result, they opted to organize the network as a capital holding company, which is a more flexible structure to pursue growth, attract risk capital and meet the patronage and return-on-investment expectations of these commercial farmers.

Keywords: networks, agricultural cooperatives, agribusiness.

1. Introduction

Farmer collective action is important in agriculture because markets are organized in a concentrated manner both pre- and post-farm gate in agrifood value chains. Cooperatives are organizations that provide farmers with greater bargaining power when purchasing inputs and in marketing their produce. They often add value through the industrialization of production and enable farmers to benefit from economic gains of scale and scope while remaining independent.

According to the Organization of Brazilian Cooperatives (Organização das Cooperativas Brasileiras – OCB, 2012), there were 1,548 agricultural cooperatives in Brazil, with 943,054 member farmers in 2010. However, the number of cooperatives decreased by 36% and the number of members decreased by 25% between 2000 and 2009. These figures indicate a process of land concentration and possibly mergers between cooperatives, as the average number of producers in cooperatives grew by 17% in the same period.

Furthermore, exports by Brazilian agricultural cooperatives grew 290%, from 1.1 billion dollars in 2001 to 6.1 billion in 2011. These values indicate a higher growth rate than that of agribusiness, which was 220% for the same period. These numbers only indicate a trend because agricultural cooperative exports in Brazil are based on commodities such as green coffee and soybeans and there are specific price variations between these commodities and the agribusiness sector as a whole. During this period, agricultural cooperative exports represented an average of 5.2% of total agri-food exports from Brazil, with 0.78% standard deviation, indicating stability. However, in recent years, agricultural activity has grown significantly in Brazil and grain production has increased by 268%. These data represent continuous production growth accompanied by significant gains in productivity, with lower growth in terms of
cultivated area. New agricultural areas have been incorporated on new and dynamic agricultural frontiers. According to the Agricultural Census of the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística - IBGE), from 1970 to 2006, the number of farms in Brazil grew by only 5.7%, whereas the area of these establishments grew by 20% and the area planted with temporary crops, including grains, grew by 125%. For the agricultural frontier region, the Brazilian center-west, these numbers are 26%, 22% and an impressive 435%, respectively. (IBGE, 2012)

Agricultural production expansion took place in terms of area and productivity toward the Brazilian center-west region and in terms of productivity in traditional grain-producing areas in southern Brazil. The general characteristics of rural producers differ in these two distinct and important regions for Brazilian grain production. The average area of a farm in the state of Paraná - a traditional producer of soybeans in the southern region - is 78 hectares, whereas the average in the grain farming area of Mato Grosso State, characteristic of the agribusiness frontier, exceeds 2,270 hectares. Producers in the southern region are comparatively small and medium-sized, whereas those on the agricultural frontier are larger and more commercial.

Another important difference between the states of Paraná and Mato Grosso is the organization of farmers into cooperatives. In Paraná, cooperatives have been formed since the 1950s and have a significant market share in the purchase and distribution of inputs to farmers and in the marketing and processing of produce. Paraná State cooperatives tend to be multipurpose and adopt the traditional cooperative model with open membership, service at cost and passive member investment. The Mato Grosso cooperatives have been developed more recently, since the late 1990s; therefore, they have not yet reached the level of development and market share achieved by the Paraná cooperatives. However, they show a rapid growth rate, based on the organization of farm input buying and grain marketing pools. These agricultural frontier cooperatives tend to adopt less traditional cooperative structures with selective membership, active member investment and an individualized philosophy.

Despite these regional differences, two major cooperative networks have formed over the same period with the same strategic objectives and a similar number of associated farmers (approximately 60,000 in each network). The Brazilian Agricultural Cooperative Consortium (Consórcio Cooperativo Agropecuário Brasileiro - CCAB) is a holding company organized in agricultural frontier areas, and the National Agroindustrial Cooperative (Cooperativa National Agroindustrial - COONAGRO) is a
tier-2, central cooperative in the southern region. Both of these networks were initially formed through a consortium and then adopted distinct organizational forms to pursue different market strategies.

This phenomenon of network formation among Brazilian agricultural cooperatives leads to an important research question. Why has the same organizational strategy (i.e., the formation of consortia to purchase farm inputs) by the same economic actors (cooperative organizations), for the same economic reason (scale and scope economies and greater bargaining power), in the same institutional environment with the same culture and laws (Brazil), in the same economic sector (grain agribusiness) and with the same transaction characteristics (asset specificity, frequency and risk) unfolded in different organizational and contractual forms - COONAGRO as a central cooperative and the CCAB as a capital holding company?

In the following sections, the theory of plural contracts and networks (MENARD, 2004 and 2011) is presented. Then, the cases of COONAGRO and CCAB are described and analyzed with the lenses on transaction cost economics. The article concludes with a summary and queries for future research.

2. Plural Networks and Contracts

Todeva (2005) describes networks and strategic alliances as hybrid arrangements involving independent firms that are between markets and hierarchical structures, along the governance structure continuum described by Williamson (1975). According to the same author, who cites several other authors, networks of firms occur for several and diverse reasons such as market demand, acquisition of distribution facilities, access to new technologies, economies of scale, cost sharing and joint sharing of resources or assets, product development, among others.

Different types of networks or strategic alliances can arise with different intensities of joint action. This process begins in market organization and can lead to full and hierarchical vertical integration. Thus, it can have an initial stage of strategic alliances or incipient networks in which firms join to form only one interest lobby at any given time. The network can then develop to later stages in which groups of firms establish agreements for the use of a standard technology across an industry or groups of firms subcontract with suppliers at the same prices for the same inputs to equalize production costs. Ultimately, these networks can evolve into the most well-known forms, such as licensing of brands or products, franchising, strategic cooperation
agreements for certain tasks or markets, consortia, cooperative arrangements of small firms, joint investments in the same asset and joint ventures. Ultimately, the network can evolve and eventually disappear as inter-firm relationships become more hierarchical within the boundaries of a single firm. Between the initial market relationships and the ultimate hierarchical relationships, there is a series of hybrid network forms with different coordination and centralization intensities.

In this regard, Yoshino and Rangan (1995) state that in situations with multiple firms, a strategic alliance occurs when each firm remains independent even after the formation of the alliance and the firms share generated benefits, control of joint assets and common long-term strategies. The evolution of control and coordination functions of an inter-organizational is important because control tends to reduce agency costs and coordination allows inter-organizational management, facilitating the creation of value. Menard (2011) discusses and presents a conceptual model that classifies some types of organization within the market, hybrid or hierarchical form based on important parameters such as the distribution of decision rights, rights to results and how strategy is established (see Figure 1).

![Figure 1. Types of organizations in markets, hybrids and hierarchies. Based on Menard (2011).](image)

According to Menard (2011), some situations between firms, A and B, are considered according to their assets, decision rights and rights to the results. In this model, capital letters (A and B for assets, Da and Db for decisions and \( \Pi_A \) and \( \Pi_B \) for results) are related to the individual activity of each firm and the lowercase a and b (da...
and $\pi_a$ and $\pi_b$ only have value if used in a pooled or shared form between the two firms.

The first case shown in Figure 1 is organization via markets. In this case, the rights over assets, decisions and results belong exclusively to each firm and there is no common strategic policy. The relationship is exclusively coordinated by the invisible hand of the price mechanism. The second case is the hybrid, in which each firm remains independent and has autonomy, but there is also a common strategy with shared rights over assets, decisions and results. Coordination occurs with both the price system and some centralized structure. The last case is the hierarchical firm. This case is characterized by complete centralization of strategies and other rights over assets, decisions and results such that the firms no longer exist autonomously. In other words, the market is superseded by hierarchy.

Networks are a form of hybrid structure between firms, as shown in the second case in Figure 1. According to Menard (2011), there can be a number of different types of organizational intensities as a function of how shared resource strategies are established and centralized and how the decentralization of coordination and control or monitoring of inter-firm structures occurs (Figure 2).

![Figure 2](image-url)

**Figure 2.** Types of hybrids according to Menard (2011).

To understand these hybrid structures or networks, it is necessary to analyze the uncertainty and complexity of arrangements and contracts that enable the creation of joint asset value. Inter-organizational arrangements must necessarily share established
rules to maintain the cohesion of the network. As the intensity of joint strategic resources increases, the networks become more hierarchical (horizontal axis). The maintenance of the stability and/or sustainability of a network is also associated with the degree of concentration of coordination, monitoring and control. As this concentration increases, the network becomes more hierarchical, as shown on the vertical axis of Figure 2.

According to Menard (2011), there are several stages between markets and hierarchies, such as networks based on monitoring by information sharing, complex networks with contracts monitored by a third party and complex networks that share common strategies. Centralized control and common strategies over shared assets grow in this order. As trust/confidence is important in networks, there is a tolerance zone for defining the type of network directly according to the existence of relational contracts. Gulati (1995) states that in inter-organizational arrangements, formal written contracts are often replaced with confidence and trust as control mechanisms. This is an important feature in networks because various types of transaction costs resulting from contractual information asymmetry can be reduced or avoided.

Hybrid arrangements involving cooperatives display some idiosyncrasies. Cooperatives can be analyzed as private organizations formed by patron-members and as multi-headed organizations, in which members hold decision rights, perform management of the cooperative, hold residual claim and control rights and serve as customers. The same economic actor is the owner, manager and client of the cooperative enterprise. (BIALOSKORSKI NETO, 2012). According to Chaddad (2012), cooperatives can be considered true hybrids as they combine market-like governance features and hierarchical coordination, thereby displaying the whole gamut of contractual relationships.

According to Barroso et all (2007), the formation of collaborative arrangements between cooperatives, including networks of cooperative organizations, is an important strategy in the agrifood system because these organizations must establish strategies to gain bargaining power, size, scale and scope to better compete in highly concentrated and competitive markets. These arrangements have complex contractual governance and, therefore, are uncommon. In analyzing the case of agricultural cooperatives in the agro-industrial dairy system, the same authors indicate that these organizations evolve through several stages before the formation of a network, as may be the case with
consortia, which may disintegrate due to problems of control, management or asymmetric information.

In analyzing the case of a major European network, CEBECO in the Netherlands, Jos Bijman et al. (2012) suggest it was formed due to the need to gain bargaining power and positioning in markets to add value to the product. They suggest that the network’s disorganization occurred as a result of its ultimate complexity. This complexity generated problems of monitoring, management and information asymmetry due to the heterogeneity of network participants and the strong growth of some of its member cooperatives with the internalization of some activities previously conducted by the central organization in the network. This situation may include a path leading to increased levels of hierarchization in a heterogeneous network for each activity.

3. Cooperative Networks in Brazil: COONAGRO and CCAB

3.1. Consortia

The consortium is a strategy that cooperatives utilize to increase their bargaining power in markets. It is a means of focusing individual cooperative efforts through mutual association to adopt a particular strategy that these cooperatives would not have the economic, technical or financial conditions to accomplish alone. According to Brazilian law, cooperatives may constitute a consortium, a structure without legal personality. Cooperative consortia are structured according to specific contractual terms that bind each cooperative to its obligations. Therefore, the consortium comprises an association of cooperatives, which do not lose their legal personality and independence, for a common purpose that requires expertise to implement. The consortium is managed by a firm that is appointed as the leader. The entity that is named as the leader in the consortium contract is responsible for bookkeeping and custody of documents that evidence the consortium’s operations.

The main types of consortia are formed, among other reasons, for joint activity in the capital market, research activities or common use of technology, coordinated participation in markets, among others. It is illegal to form a consortium that aims to restrict trade, dominate the market, eliminate competition or create a monopoly to raise prices. However, the law allows the formation of a consortium to enable joint purchasing and coordinated operations of cooperative members.
Another important feature is that the potential liquidation of a cooperative consortium member may influence the scale of the consortium but does not influence the other members of the consortium. The consortium is, therefore, immune to an individual cooperative’s risk. Another advantage of the consortium’s lack of a legal personality is that it does not collect taxes. Rather, the respective cooperative consortium members collect taxes according to patronage volume or activities and assets when acting in the consortium. The consortium also does not bill, make profit or hire employees.

The adoption of the consortium model implies some limitations. For example, COONAGRO, created in 2008 by 21 cooperatives in the state of Paraná, began operating as a tier-2, central cooperative with its own legal personality in 2010. This occurred because the consortium form involved a rather bureaucratic accounting process and was unwieldy, thereby presenting an obstacle to more efficient market activity strategies. CCAB also went through the same process of organizational change, which transformed from the consortium form into a holding company.

3.2. The Brazilian Agricultural Cooperative Consortium (CCAB)

The CCAB was created in April 2006. It was initially formed by 14 tier-1, local cooperatives that produced cotton and soybeans in the states of Santa Catarina, Minas Gerais, Mato Grosso do Sul, Mato Grosso, Bahia and Goiás, with a total of 15,000 producers. The consortium was designed to negotiate better prices with pesticide suppliers, as pesticides had been increasing in price in the previous years and weighed heavily on the cost of inputs used in farming. Pesticide suppliers also obtained a large margin over farmers due to industry concentration and resulting market power.

The creation of the consortium led to improved competitiveness relative to single cooperatives because price, financing and deadlines were negotiated in a coordinated manner, resulting in positive impacts for the participating CCAB cooperatives. The consortium is a strategy that pools purchases and limits the price of market inputs. The end result of this network cooperation model is specifically to increase the bargaining power of the individual cooperatives that form the consortium.

The consortium of cooperatives generated more efficiency and bargaining power, producing positive results in the first years of operation. The group invested about US$ 1 billion in logistics, developed its own brand of pesticides and imported and distributed generic pesticides. With these investments, CCAB was able to perform the
function of price setter in the domestic market. Currently, the consortium sells a few products with third-party trademarks, primarily fungicides, herbicides and insecticides. These positive results led to the growth of CCAB. However, the economic results never reached the level originally expected due to logistical difficulties (despite the investment) that impacted the cost of production and marketing.

Figure 3. Representation of the CCAB network

In 2008, two years after the creation of the consortium, CCAB shifted to a holding company structure called CCAB Participações S/A, with the intention of expanding to the states of São Paulo, Paraná, Santa Catarina and Rio Grande do Sul and attracting new cooperatives to the consortium. CCAB S/A has an organizational structure that includes several operating entities (Figure 3), including CCAB Agro LTDA, CCAB Projetos e Soluções Financeiras LTDA (CCAB Projects and Financial Solutions LTDA), CCAB Logística (CCAB Logistics) and CCAB Compra LTDA (CCAB Purchasing LTDA).

Currently, CCAB system has 14 individual cooperatives and a federation of cooperatives called Coabraf that focuses on fertilizer imports and distribution. These cooperatives account for USD 9.0 billion in turnover, representing a market share of
20% of the soybean area, 70% of the cotton area and 16% of the corn production area in its trading territory. The consortium represents 69,000 associated farmers, with 0.4% of producers accounting for 50% of the total business volume of the network; 1.7% of the producers represent approximately 2/3 of the entire production value of the CCAB. Therefore, the structure is largely based on large, commercial farmers. This system consumes USD 2.0 billion in agrochemicals and USD 1.8 billion in fertilizers and produces 25% of Brazilian soybeans.

In the consortium model, the cooperatives found an innovative way to capture value and meet challenges in negotiating better prices for farm inputs, initiating a process of inter-cooperation. This inter-cooperative collaborative model led to the creation of strategic partnerships, but their original structural form of accounting and control proved inflexible and ill-suited to its strategic goals. Thus, the organization adopted another organizational form – the holding company – to facilitate market operations.

### 3.3. The National Agroindustrial Cooperative (COONAGRO)

Since 2003, the Organization of Cooperatives of the State of Paraná (Organização das Cooperativas do Estado do Paraná - OCEPAR) has conducted technical studies to identify the potential economic benefits of increased collaboration between its affiliated cooperatives. These technical studies fostered discussion among cooperative leaders that decided to join forces and form a consortium in the State of Paraná. COONAGRO was formed in September 2008 with the objective of joint cooperative action to reduce input costs and dependence on large multinationals that control farm input supply industries.

COONAGRO has 18 tier-1 agricultural cooperative members in Paraná and is the largest network of agricultural cooperatives in Latin America. These cooperatives represent 60,500 farmer members, primarily small- and medium-sized farmers, and generate approximately 27,000 direct jobs (Figure 4). COONAGRO represents 8% of the total Brazilian soybean production, 7% of corn and 20% of wheat. This represents 7.5% of Brazilian grain production and 5.2% of the planted area of Brazil, with a potential annual consumption of farm inputs around USD 2.0 billion.

Like other consortia, COONAGRO aimed to gain economies of scale and more bargaining power, making plans for the medium and long term to achieve benefits for the entire system within the consortium. The inter-cooperation group coordinates and
develops the negotiation, acquisition and distribution of agricultural inputs. The consortium also aims to seek suppliers of raw materials to directly produce fertilizers and pesticides, sell commodities with its own infrastructure or contract with processing companies to reduce costs.

In October 2009, COONAGRO, which was initially formed as a consortium, became a tier 2, central cooperative. This new legal configuration occurred because the consortium had no accounting autonomy to import and market products in its own name, which made operations rather cumbersome and inefficient. As a result, the group of cooperatives decided to change the organizational form, and the commercial activities of inter-cooperation became more simple and dynamic. Despite the change, the group’s objectives remain the same, i.e., to purchase pesticides at better prices and market the commodities produced by farmers in the future.

Figure 4. Representation of the COONAGRO network.

4. Discussion

In both cases, the organizational form of the consortium was an initial strategy of contractual relationship without direct transfer of rights, duties or financial liabilities and assets. This contractual arrangement was the initial form that enabled the start of inter-cooperation among the cooperatives. Thus, it provided the institutional security necessary for the initiation of activities without a degree of transfer of rights and responsibilities among the participants.

Initial economic success and ease of management highlight the advantages of this inter-cooperation strategy and help build a higher level of initial trust among the
participants in the consortium through a win-win recurring game. Through the strategic and market success of its strategies, both consortia transformed into more formal and hierarchical forms of business, such as a holding company (CCAB) or a tier-2, central cooperative (COONAGRO). Initial trust between network members does not necessarily continue to strengthen, as information asymmetries and various internal strategies in each of the networks can create situations in which the level of trust can be diluted over time.

The most refined forms of inter-cooperation are born of successful economic strategies and the building of trust enabled by the consortium arrangement. Initially, the entire decision-making process becomes fluid and the consortium structure allows greater delegation of decision rights to the “center” of the network, i.e., the direction of the consortium. Therefore, there are no obstacles to the adoption of organizational and more complex proposals in the general assemblies of the respective cooperative members of the consortium in a subsequent development phase. Furthermore, mutual trust allows strategies and organizational forms involving larger financial responsibilities, risk bearing and different division processes of ownership rights and control, without causing cooperative participants to lose their organizational identity.

There are, however, differences in the two forms. The holding company structure adopted by CCAB is more flexible in terms of risk capital acquisition and contracts between members. As a holding company, the CCAB became a network with clear market objectives that aimed to generate returns to the capital invested by its members. Thus, in addition to directly trading with large farmer members and shareholders, CCAB also trades with its cooperative members or directly with other market players.

In restructuring itself as a central cooperative, COONAGRO maintains exclusive transactions with its member cooperatives and remunerates the capital invested by the individual cooperatives in its structure with the distribution of surplus as patronage refunds. However, its business objective is to service at cost the small- to medium-sized farmer who is associated with the individual cooperatives.

Following the schema proposed by Ménard (2011), the likely location of each of these networks can be posited in Figure 5 below. Having the same type of asset specificity, as farmer-owned cooperatives in the grain sector, the two networks arise as hybrid structures between the market and the hierarchy. The CCAB is placed on the more flexible organization line and close to the market logic as determinant of its
decisions, with various types of contracts. By contrast, CCONAGRO is placed on the hybrid organization line, but has a greater concern with increased level of monitoring and is, thus, a more integrated organization with more centralized planning.

![Diagram](image)

**Figure 5.** Adoption of plural forms depending on complexity, uncertainty and monitoring based on Menard (2011).

This situation may occur in these cases due to a need to monitor the activities of the COONAGRO Central Cooperative with a logic of service to small and medium farmers. This may cause COONAGRO to incur higher transaction costs given the same level of asset specificity and maintain its cooperative structure and a higher level of monitoring of the center by the individual cooperatives. Management that participates in a cooperative manner but does not necessarily have the return-on-investment objective as an incentive can lead to various agency costs among agents and multiple major players and implies high transaction costs.

In the case of the CCAB, there was a perceived need to prioritize risk capital acquisition, the relationship with large farmers, and more aggressive growth strategies. In other words, an investor-oriented logic was followed. Thus, this organization will most likely retain lower levels of transaction costs for the same asset specificity, continuing as a hybrid structure. If this hypothesis is true, Williamson’s (1975) model explains the different position of the two networks, as explained by Menard (2011).
However, plural contractual forms occur in one case and not in the other. There is a different internal form in the hybrid depending on complexity monitoring and strategy. The two cases have similar asset specificities but different complexity monitoring problems and strategies.

When analyzing property rights allocation in the networks, related to both decision and residual claim rights, the two networks can be classified according to Menard (2011). Therefore, it is necessary to examine how the organizational structure of the network is established - or how it is centralized and to what extent coordination and monitoring are decentralized. Due to uncertainty and complexity, organizations in the network must share rules to maintain the cohesion of the network through devices that allow the creation of extra value of shared resources. Figure 6 shows the internal contractual relationships in both cases. It depicts the existence of different contracts in the CCAB network, which can be configured as plural forms. By contrast, in the case of COONAGRO, there is only one type of contractual relationship among participants in the distribution channel.

Figure 6. Representation of the position of each of the networks studied according to Menard's (2011) theory.

Analyzing the monitoring decentralization and network strategy formalization variables for the two cases, according to Figure 6, it is possible to allocate each studied network to different positions on the chart. The horizontal axis shows how the intensity of strategy centralization implies the variable density of pooled rights and strategies to
endorse specific modes of governance. As a central cooperative, COONAGRO strategies are conditioned by the general assemblies of its member cooperatives and thus are less influenced by market factors or other strategic partners. It is, therefore, considered a more centralized strategy. The CCAB, however, allows market strategies to develop based on market logic, its member cooperatives and even other market players that participate as shareholders in the holding company. Thus, the CCAB has a more flexible, decentralized strategy and governance characteristics that are closer to the market.

The other important variable is the sustainability of the arrangement of organizations that requires control instruments between partners who wish to preserve their autonomy, with various solutions to determine the degree of control and coordination. There is also a difference in this regard between the two networks studied. COONAGRO has a greater concern for and higher degree of monitoring. CCAB partly maintains shareholders and the market as monitors and, thus, organizationally has more decentralized monitoring.

Each case implies a different form of network (Figure 6). COONAGRO is placed closer to the hierarchical solution with greater centralization of its strategic center. CCAB is closer to a market solution with a network that is in part organized by contracts that are measured and regulated by a third party and by a network established under the logic of market information and prices. It may, thus, be characterized as an information-based network.

Both cases seem consistent with the analysis performed. Therefore, the theory may apply to practical situations and explain these occurrences. Moreover, this choice of positioning does not mean that the future success of the network is guaranteed. Changes in the allocation of the strategic center and in the form of monitoring may be expected, meaning that these networks may have different future classifications as hybrids as they evolve.

However, one might also consider the fact that the initial incentives for the formation of these networks were identical - the search for greater bargaining power and economies of scale and the opportunity to take advantage of the individual cooperatives’ distribution channels more efficiently. Furthermore, in each case, the same trajectory was followed, with consortia initially formed with flexible structures that succeeded in building trust between the cooperative members.
Finally, the different path choices seem to have occurred because of cultural and institutional *path dependence*. In the case of COONAGRO, the cooperative culture that spread across the state of Parana was decisive in the choice of organizational form (tier-2, central cooperative). The central cooperative structure adapts well to a situation of large numbers of small and medium farmers with diverse types of land holdings. This situation requires an organizational behavior that is possible through a central cooperative with transparent and participatory management with a focus on the farmer.

In the case of the CCAB, *path dependence* and the cultural and behavioral issue seem to have played a role in the choice of an environment of large farmers with a focus on large-scale, broadacre agriculture. Agricultural frontier farmers have an entrepreneurial spirit and are accustomed to delegating decision-making to professionals. Their previous experiences were in cooperative organizations in which they were possibly held hostage by general assemblies with large numbers of small farmers, which guaranteed a more paternalistic role for the cooperative organization rather than a focus on the market. This fact, along with capitalization difficulties and experiences of failure of central cooperatives in the past, may have led them to opt for a holding company more aligned with a market-oriented and investor-driven logic. This holding structure has the flexibility to receive risk capital from outside investors and adopt a more aggressive growth strategy in the market.

In an environment where there are medium and small farmers with little bargaining power, i.e., “weak” producers from a perspective of economic bargaining power, there is a need for “strong” cooperatives in the establishment of this bargaining power - i.e., the producer is more dependent and delegates more decision powers to the cooperative. This is a more traditional cooperative model with a collectivist and risk sharing philosophy. In the agricultural frontier areas such as Mato Grosso, the aim is to strengthen the bargaining power of the producer. In this case, the cooperative becomes an instrument of empowerment and independence of the producer in a model that differs from the traditional model in the southern region of Brazil. The large farmers of agricultural frontier areas in Brazil do not need to delegate decisions to the cooperative due to their high bargaining power. Therefore, a more decentralized and less dependent model emerges compared with the traditional cooperative.

This most likely indicates that issues of asset specificity and transaction frequency and uncertainty are not the primary determinants of organizational form. According to Ménard (2011), along with other variables, the characteristics of
ambiguous, complex or strategic plural contracts (such as in these cases) are also important in this regard. In this particular case, the strategic choices influenced by the agrarian structure, the dynamics of the market and the degree of bargaining power seem to be reasons for the formation of different organizational forms – the holding company (CCABP and the central cooperative (COONAGRO).

The cases of COONAGRO and the CCAB clearly show that organizations can accept situations in which transaction costs are most likely higher in their choices of governance due to other variables such as cultural *path dependence*. Institutions are, therefore, important in these cases.

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