

Assessing the Impact of Corporate Governance on Performance: A Case Study of Agricultural Co-operatives in Mato Grosso do Sul, Brazil

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ABSTRACT

This study focuses on examining the relationship between corporate governance practices and the performance of agricultural co-operatives in Mato Grosso do Sul, Brazil. The primary objective is to address agency conflicts within co-operatives by investigating the extent to which corporate governance practices align the interests of co-operatives and their members. The research approach involved a document analysis using the bylaws and meeting minutes of 21 co-operatives, totaling 84 documents. The assessment of corporate governance levels was based on a comparison with the 40 recommendations proposed by the Brazilian Co-operatives Organization (OCB, 2016), categorized into five major areas.

The study is grounded in agency theory, particularly focusing on monitoring and incentives as key aspects. The findings reveal that the majority of recommended governance practices are concentrated in the "management board" area, while the co-operatives' most adopted practices are related to the "members and general assembly" dimension, which primarily involves monitoring efforts. However, when considering the full set of OCB's recommendations, only two were fully implemented by the co-operatives. These results indicate a low level of corporate governance in agricultural co-operatives in Mato Grosso do Sul.

Keywords: Agricultural co-operatives; Governance; Agency conflicts; Performance

INTRODUÇÃO

Agricultural co-operatives are collectively-owned organizations formed by farmers to cope with market failures (Costa, 2010; Sexton, 1990; Staatz, 1987). It is a business model that seeks a fair and balanced world, with better opportunities for all (OCB, 2017). For the international cooperative alliance - ICA, cooperatives are people-centered and controlled by their members, being the profits reinvested in the company or returned to the members (ICA, 2018).

They are controlled by their members, to whom the benefits are equitably distributed based on their use (Barton, 1989). Their aim is to improve the social interest of the organization and the production of goods and/or services with economic efficiency (Antonialli & Souki, 2005).

These organizations, as argued by Bialoskorski Neto (1998), have ideological and doctrinal motives, and are governed in Brazil by Law 5764, 1971 (Brasil, 1971). The main aspect of this law is related to decision-making rights, and establishes the rule “*one person, one vote*”. Based on this, each member has the right of only one vote, despite his/her capital share. The co-operative’s surplus is distributed proportionally to the volume of activities or transactions he/she made. In sum, the aim is to generate benefits and not profit.

Co-operatives differ from other organizations because the member is simultaneously owner, user, and consumer of the co-ops products, and the right of control is not linked to the right to the residuals (Costa, 2010). The generation of benefits is the primary goal and the main motivation that explains the participation of co-operative members (Barton, 1989). The author points out that such benefits can be understood as: i) the opportunity to buy from or sell to the co-operative at fair and efficient prices; ii) cost reduction through economies of scale and co-ordination; and iii) the achievement of market power.

According to the Brazilian Co-operatives Organization (OCB), there were in 2015 approximately 6,600 co-operatives in Brazil, totaling about 11.5 million

members. Moreover, the co-operative sector directly generates jobs and income for approximately 338,885 people. In terms of agricultural co-operatives, there are 1,592 (23% of the total), with approximately 1.01 million members, generating about 164,320 jobs (OCB, 2016).

Collective firms, as well as private ones, present divergences between the interests of the individual and the organization, which in turn generates conflicts in the relationship between the parties, representing a challenge for management. Jensen and Meckling (1976) argue that these conflicts result from the separation of ownership and control, characterizing agency conflicts.¹

Considering collective firms, Bialoskorski Neto (1998) asserts that it is impossible for co-operative managers to always act in accordance with members' interests, due to various reasons such as seeking to maximize their own interests, incompetence, or negligence. Cook, Chaddad and Iliopoulos (2004) indicate that these conflicts are also enhanced because co-operative members assume different roles, such as owner, member, manager, and user. Thus, conflict of interest is a cornerstone in co-operative management.

However, it is necessary that co-operatives are managed according to the interests of the co-operative members. The alignment of interests is the focus of corporate governance (Correia & Amaral, 2006) which is conceived in this research under the framework of agency theory. According to Silva, Souza and Leite (2011) corporate governance is one of the possible ways to align the interests and help to reduce agency conflicts.

Based on the assumption that conflicts of interest are one of the main problems faced by co-operatives, and that alignment instruments (in other words, the adoption of governance practices) contribute to the reduction of agency conflicts, we pose as a research question: What is the standard of corporate governance

¹ Agency conflicts happen when one party (principal) engages the other party (agent) to perform some service on their behalf. However, as individuals are rational and seek to maximize their own benefits, it is assumed that the agent does not always act in order to meet the interests of the principal.

presented by agricultural co-operatives in the state of Mato Grosso do Sul (Brazil)?²

Based on governance practices recommended by the “Guide of Corporate Governance” prepared by the Brazilian Co-operatives Organization (OCB, 2016), this study aims to analyze the adoption of corporate governance practices in agricultural co-operatives of Mato Grosso do Sul (MS).

The paper is structured in three parts, besides the introduction and the final considerations. The first part presents the theoretical assumptions of agency theory, the corporate governance concepts and practices, as well as the types of agency conflicts present in co-operative organizations. In the second part, the methodological procedures are discussed. The third part presents and analyzes the main results.

THEORETICAL APPROACH

The theoretical framework is developed in three steps. First, we discuss the main assumptions of agency theory and the problem of alignment. Next, the concepts of corporate governance are presented, focusing on their application to co-operative organizations. Finally, we analyze agency conflicts in co-operatives, and the role of corporate governance in minimizing agency problems.

Agency theory analyzes economic transactions under a contract perspective (Bialoskoski Neto, 1998), in which one party, called *the principal*, is responsible for hiring the other party, called *the agent*, to act in the interest of the former (Hendriksen & Van Breda, 1999).

However economic actors—the principal and the agent—have different levels of information. Usually the principal is less informed about the agent’s behavior, enabling the agent to proceed according to their own interest. This situation can be characterized as information asymmetry; the agent provides incomplete information

²Mato Grosso do Sul is a state located in the Mid-West of Brazil, which is well recognized by its agricultural and livestock sector.

to the principal, and this lack of information is the core aspect of agency relationship (Araújo & Sanches, 2005).

Jensen and Meckling (1976) argue that individuals are rational and seek to maximize their individual well-being. It is assumed that the agent does not always act in order to meet the principal's interests due to the aim to maximize his own utility, or due to incompetence, negligence, or bad faith. Hence, agents' decisions are costly because it is difficult and/or expensive to the principal to verify the agent's performance.

Jensen (2000) describes two situations with this problem. First, the agent keeps its position in the organization and follows goals that do not match the interests of the principal, resulting in reduced performance of the organization. Second, the lack of incentives toward an effort of the agents' activities reduces the market value of the organization.

Fama and Jensen (1983) depict some mechanisms to control the agent's behavior where it does not align with the interests of the principal. Such mechanisms can be understood as a hierarchy of decisions, in which the lower levels of decisions require ratification and subsequently monitoring. Next, we have the replacement of the highest levels of management by boards of directors, ratifying and monitoring the most important decisions of the organization and the establishment of incentive structures of mutual motivation and monitoring. For these, control mechanisms (supervision/monitoring) and incentives are key to minimizing agency conflicts.

Corporate governance appears to be a way to reduce agency conflicts, mainly those related to information asymmetry (Carvalho, 2002). According to this author, corporate governance is a set of rules that aims to minimize agency costs, helping to align agents and principal interests.

CORPORATE GOVERNANCE

The concept of corporate governance arose at a moment of a huge dispersion of capital ownership and a high degree of independence achieved by company managers (Dubeux, 2001). This author argues that the excessive freedom given to the managers began to be questioned, leading to discussions and debates about containing the activities of managers to a reasonable extent. It was necessary to adopt some practices to minimize potential conflicts of interest that might arise (Nascimento, Bianchi, & Terra, 2006). Corporate governance is understood as a set of rules that leads the organization to the performance expected by the company, reflecting the rights and expected behavior of executives, shareholders, and investors (Haspeslagh, 2010).

According to Shleifer and Vishny (1997), corporate governance (CG) refers to a number of mechanisms by which resource suppliers guarantee the return on their investment. For Slomski et al, (2008) corporate governance is a system of decision-making and management practices that aims to determine and control the development and strategic direction of the corporations. Nascimento, Bianchi and Terra (2006) understand CG as the effort to align the goals of the individuals who make up the company's management with the interest of shareholders, through more effective monitoring.

Colombo and Galli (2010) argue that corporate governance has gained importance because it investigates the alignment mechanisms of interests between different parties within an environment characterized by information asymmetry. The authors also point out that the core idea is that the greater the degree of governance, the greater the alignment of interests between the parties. Thus, corporate governance aims not only to minimize agency conflicts (Renders & Gaeremynck, 2012), but also to influence the formation and the performance of companies in a developed economy (Vintem, 1998).

It is clear that the main concern of corporate governance is to create an effective set of mechanisms, both incentives and monitoring, to ensure that the managers' behavior is always aligned with the best interest of the company, minimizing conflicts that may exist in organizations.

AGENCY CONFLICTS IN CO-OPERATIVE ORGANIZATIONS

As already mentioned, agency conflicts arise when ownership and management are not embodied in the same individuals, especially when, in the presence of information asymmetry, both parties pursue self-interest (Jensen; Meckling, 1976; Costa, 2010).

This phenomenon is at stake in co-operatives, favoring the emergence of various conflicts between the members and the co-operative board. In addition—since the member, the owner, and the user are the same person—challenging, complex, and recurrent agency problems arise in co-operative management (Cook et al, 2004). It is therefore necessary to ensure that co-operative managers are in line with the interests of the co-operative members, which is the core aspect of corporate governance (Correia & Amaral, 2006). The adoption of governance practices is one possible way of aligning the principal (members) and the agents' (co-operative board) interests, contributing to the reduction of agency conflicts (Silva, Souza, and Leite (2011).

In co-op organizations, control is entrusted to a body of managers, creating potential agency conflicts. Silva, Souza, and Leite (2011) argue that agency conflicts may emerge in the relationship between the members and the board of directors, supervisory board, and executive managers. These dimensions are shown in Table 1.

Table 1 – Types of agency conflicts in co-operatives

Members	
Board of Directors	Members who are part of the board of directors are usually few, favoring the concentration of decision-making power in their hands;
	Because only co-op members can stand for election to the board, they may not always be prepared to exercise administrative functions;
	The mandatory renewal by election of at least one third of members of the board makes it possible that some of them are perpetuated in the direction of the co-operative;
	When the co-operative chooses to create administrative bodies with the hiring of independent managers, these managers are usually subordinate to the board of directors.
Supervisory Board	The responsibilities of the supervisory board are limited, as they are formed, at least in Brazil, only for co-operative members who often are not trained for this function;

	Although members of the supervisory board are not allowed to have family relationships with members of the board of directors, they can often have strong social ties, what facilitates collusion;
	The opinion of the supervisory board is generally associated with the results that are provided by the board, which are annual. Therefore, the supervisory board does not usually exercise effectively its supervisory function.
Executive managers	Executive managers tend to act in accordance with the board of directors, to which they are subordinated, and not necessarily in the interest of = co-op members. This situation is even more serious when the activities undertaken by managers are less transparent to the co-operative members.

Source: Adapted from Silva, Souza and Leite (2011).

Besides the agency conflicts mentioned above, there are other situations that also generate conflicts in co-operatives. Bialoskorski Neto (1994) points out that the member assumes different roles at the same time: owner, manager, user, and customer. Thus, a co-operative member could be both agent and principal of the same contractual relationship. This situation can lead to inefficiency, since this member can influence his or her own compensation as a manager, or decide in favor of the customer's interest and not that of the co-operative itself. Zylbersztajn (2002) agrees with this argument, stressing that this point is especially relevant since it enhances the level of complexity in a co-operative management.

CORPORATE GOVERNANCE AND PERFORMANCE

Theoretical and empirical discussions in the field of corporate governance seek to demonstrate that business organizations with good governance practices tend to present better performance (Silveira, 2004). However, the results do not yet present a unanimous conclusion about whether corporate governance is positively related to good performance (Ferreira, 2012).

Several studies aim to evaluate the impact of governance mechanisms on organizational performance (Okimura, 2003; Carvalhal-da-Silva & Leal, 2006; Del Brio & Maia-Ramires, 2006; Kappler & Love, 2002, Gompers, Ishii & Metrick, 2003). Some indicate that there is a positive relationship between the corporate governance index and the performance of the company (Beiner et al., 2008; Silveira, 2004; Drobetz, Gugler & Hirschgovl, 2004; Santos, 2005; Black, Love, Rachinsky (2006), Lima et al.,

(2014). Other studies point out that there is no relation between good practices of corporate governance and performance (Silveira, 2004; Macedo, Corrar, 2012; Costa, 2010; Chiappin, 2016).

On the other hand, some surveys present governance as an endogenous variable, which can be explained by corporate performance (Silveira, 2004). In this case, companies adopt such governance practices in function of a previous good performance, and thus performance can also influence and change the ownership structure of the company (Melega, 2011).

Specific to co-operative organizations, Pinto, Funchal and Costa (2008) evaluated whether governance variables impact the performance of Brazilian credit co-ops. According to them, there was a statistical relationship between governance standards and the performance presented by these organizations.

Based on the above—the relationship among corporate governance, agency conflicts, and economic performance—three assumptions are presented.

The first states that: “The adoption of good practices of corporate governance contributes to the alignment of interests between members and managers of co-operatives, contributing to the minimization of agency costs.” (Leal, 2002; Nascimento, Bianchi & Terra, 2006; Correia & Amaral, 2006; García-Meca; Sánchez-Ballesta, 2009, Baia, 2010, Renders; Gaeremynck, 2012, Siqueira; Bialoskorski Neto, 2014).

The second assumption is: “The minimization of agency costs contributes to a better economic performance of co-operatives.” (Shleifer, Vishny 1997; Vinten, 1998; Treter; Kelm 2004, Allen, 2005, Haspeslagh, 2010)

In turn, the third assumption, derived from the previous ones, argues that: “The adoption of good practices of governance contributes to a better economic performance of the co-operatives.” (Silveira, 2004; Okimura, 2003; Carvalhal-da-Silva & Leal(2006).

METHOD

This research focuses on the co-op bylaws and meeting minutes from agricultural co-operatives in the state of Mato Grosso do Sul, Brazil. This is an exploratory study with a qualitative approach, developed using the content analysis technique. Based on Bardin (2011, 83) documentary analysis can be understood as "an operation or set of operations aimed at representing the content of a document in a different form from the original, in order to facilitate, in a later state, its consultation and reference". This same author still argues that documentary analysis allows to pass from a primary document (gross) to a secondary document (representation of the first), with the purpose of giving a convenient form and representing this information in another way, through transformation procedures. Thus, the main objective of documentary analysis is the condensed representation of information, for consultation and storage (BARDIN, 2011).

We analyzed the bylaws and meeting minutes of 21 co-operatives from 2012 to 2014, a total of 84 documents. These documents presented in average 32 pages, containing the rules agreed by the members for the operation of the cooperatives. Each document was initially read by one researcher, and once a best practice was identified it was written down in spreadsheet in order to compile the data. A second researcher made the validation of the information collected, and later a comparative analysis of the generated data was made.

The co-operatives were chosen based on the provision of documents by the research group in co-operatives at University of São Paulo (FEARP / USP), the so-called *Observatory of the Co-operatives*.

The document analysis compared the documents (bylaws and meeting minutes) with the recommendations proposed by the guide of co-operative governance developed by the Brazilian Co-Operatives Organization (OCB). To this end, we analyzed and systematized the guide into 40 recommendations. These recommendations are distributed in five major areas: i) members and the General Assembly; ii) Management Board; iii) Supervisory Board; iv) advisory bodies and

audit; and v) Ombudsman and the co-operative's relationship with the members. Each dimension has a set of operational variables (recommendations) which represent the governance practices. This research adopts the same proposed dimensions of OCB guide.

Each dimension has a set of recommendations of good governance practices that are considered, in this research, as operational variables. Further, for each operational variable, we associate theoretical variables: monitoring and incentives. Thus, for each recommendation of governance practices recommended by the OCB (operational variables), we relate to monitoring or incentive actions (theoretical variables), in order to link theory and the observed phenomenon.³

The recommendations of governance practices associated to each dimension are presented from Table 2 to Table 6⁴.

Table 2– Members and the General Assembly Dimension

Members	R01	The co-operative must adopt integration programs for new members.
General Assembly	R02	There must be pre-meetings.
	R03	The meeting call must be available in advance to the Ordinary General Assembly.
	R04	The notice must be published in different media, giving greater scope to members.
	R05	The meeting minutes must be readily available to members.
	R06	The meeting minutes must be electronically available in full to the co-operative members.
	R07	The co-operative committees should have suggestions for topics to be included on the meeting agenda.
	R08	The co-operative must have some manual to stimulate and facilitate the participation of co-operative members in the assembly.
	R09	There must be mediation and arbitration mechanisms.

Source: Elaborated by the authors

Table 3– Management Board Dimension

Management Board/	R10	Executives must be elected or hired.
	R11	The board of directors must not intervene in operational matters.

³The concept of monitoring applied to this research can be understood as a mechanism to supervise the action of agents that possibly do not have the same interest as the principal. On the other hand, the pattern of incentives (pecuniary or not) in the agency relationship is justified as a mechanism to force the alignment of the agent's behavior towards the interest of the principal. Therefore, monitoring and incentives contribute to the alignment of interests, minimizing possible agency costs.

⁴It was decided not to weigh the recommendations of good practices proposed by the OCB, since the attribution of different weights for each one could characterize the researcher's bias. Thus, equal weights were assigned to the 40 recommendations of governance practices. Weighting the governance practices recommended by the OCB guide based on the expertise and field knowledge of members and specialists could be a next step of this research.

Directors	R12	The advisors must seek specific certification with the recognition of OCB system.
	R13	The chairman of the board of directors must ensure that counselor directors receive complete and timely information.
	R14	The chairman must not take up the post of chief executive.
	R15	The performance of the board of directors and of counselor directors must be assessed.
	R16	The directors' compensation must be linked to medium- and long-term indicators.
	R17	The board meetings must be in person.
	R18	The meeting minutes must circulate among the participants prior to their approval.
	R19	There must not be insider information to any co-operative member.
Executive Management	R20	The board of directors must be separate from the executive board.
	R21	The board must apply an intelligence system to track the co-operative's performance.
	R22	The board of directors must appoint an ethics committee.
	R23	The fixed and variable executive compensation must be linked to results.

Source: Elaborated by the authors

Table 4– Supervisory Board Dimension

Members	R24	The co-operative members must attend and participate in pre-meeting events and/or general meetings.
Supervisory Board	R25	Technical capacity must prevail in the supervisory board members.
	R26	Members of the supervisory board must have no business with the co-operative, except as co-operative members.
	R27	The advisors of the supervisory board must seek specific certification with the recognition of OCB system.

Source: Elaborated by the authors

Table 5– Advisory Bodies and Audit Dimension

Technical committees	R28	The co-operative must adopt temporary committees whenever possible.
	R29	The audit committee must regularly meet with the board of directors, the supervisory board, and the executive director.
	R30	The ethics committee composition must meet the prerequisites of regulatory agencies.
	R31	The ethics committee shall be guided by secrecy.
	R32	The human resources committee must assess matters relating to succession, compensation, and people development.
	R33	The human resources committee must regularly meet with the CEO and the co-operative department in charge of people management.
Internal Audit	R34	The internal controls, standards, and procedures and the monitoring of internal audit must be improved.
Independent Audit	R35	The general assembly must be aware of the activities of the external audit firm.
	R36	The independent auditors must not be hired to perform consulting work.

Source: Elaborated by the authors

Table 6– Ombudsman and co-operative relationship with the members Dimension

Ombudsman	R37	The ombudsman must welcome the manifestations of the co-operative members.
	R38	The co-operative committee (OQS) must perform ombudsman services.
Relationship with the members	R39	There must be communication between the governance structure and the members' board.
	R40	The co-operative members' satisfaction must be gauged.

In order to measure the level of corporate governance, an index presented by Carvalhal-da-Silva and Leal (2005) was applied. In this sense, the adoption of governance practices was measured through dichotomous variables, which refer to the presence or absence of governance attributes. Based on the comparison between the recommendations of governance practices identified in the guide of Co-Operative Governance elaborated by the Brazilian Co-operatives Organization (OCB, 2016), and the legal documents analyzed (minutes and by-laws), it was possible to calculate a Governance Index (IGOV) of between 0 and 40 points.

For each good practice recommendation, if the co-operative presented the governance attribute, it would receive a score of “1”, and if not a score of “0”. In this way, it was also possible to transform the IGOV score into coefficients measured by percentages. This procedure has been used by several authors like Carvalhal-da-Silva and Leal, 2006; Santos and Leal, 2007; Silveira et al 2007; and Kapler and Love, 2002. Thus, it was possible to identify the adoption of governance practices in real and percentage terms, as well as to order the co-operatives according to them.

Co-operatives that had adopted governance practices of less than 20% were included in the Lower Governance grouping. Those that obtained adoption levels between 20% and 25% were in the Medium Governance, and those above 25% were considered as the High Governance Grouping.

To test the assumption of a positive relationship between corporate governance and performance, specifically in co-operatives, we first reviewed the financial information of the sample agricultural co-operatives for a period of four years (2010 to 2013).

Due to the absence of some financial information during this time, four co-operatives were eliminated from the initial sample, and the final sample consisted of 17 agricultural co-operatives from the Mato Grosso do Sul.

As economic performance variables, we used the indicators calculated from the database shared by the Observatory of Co-operatives of the Ribeirão Preto campus of the University of Sao Paulo School of Economics, Business

Administration, and Accountancy (FEARP / USP). These indicators are presented in Table 7.

Table 7 –Economic Performance Indicators

Variables	Calculation Process	Constitutive definition
Profit Margin	$(\text{Operating Surplus}) / (\text{Operating Revenue}) \times 100$	Represents the percentage of profit contained in each 100 monetary units of sale.
Operational Asset Turnover	$(\text{Net Operating Revenue}) / (\text{Operational Asset})$	Aims to measure management efficiency, that is, the capacity of the operational investment to generate sales.
Return on Operating Assets	$(\text{Operating Surplus}) / (\text{Operating Assets}) \times 100$	This measure quantifies the management's performance: it is a technical fee that compares the surplus in the operations with investment made for the specific purpose of the co-operative enterprise.
Performance by Co-operative	$(\text{Net Operating Revenue}) / (\text{No. of members})$	Shows the net revenue attained for each member.

Source: Based on Santos (1986)

The analysis of variance (ANOVA) for each indicator of economic performance verified whether, on average, its performance was the same for the differentiated levels of corporate governance studied. This analysis was performed for each of the years analyzed (2010 to 2013).

The null hypothesis tested is that the mean value of the indicator is the same for the different levels of corporate governance; that is, there is no influence of the level of governance found in the average economic performance measured. The alternative hypothesis indicates that there is some difference in the average economic performance for the different levels of economic performance. The level of significance (α) equal to 5% was used, so differences will be detected for P-value lower than 0.05.

Regarding the sample, it is composed of 21 singular co-ops (first-level). The oldest one has been operating for 81 years, and the youngest 5, with the average being 21. The number of members in the co-operatives varies from 26 to 947 associates. In general, the main activities are related to corn, soybean, sorghum, milk, and egg production. In order to compare the level of corporate governance among them, the co-ops were randomly numbered from 1 to 21.

The sample characterization is presented in Table 8. The co-operative

characteristics include: (I) the county seat; (II) the coverage area of the operation; (III) the year of foundation; (IV) age of the organization; (V) the number of associates in 2015; and (VI) the main products.

Table 8– Sample characterization: agricultural co-operatives in MS

Abbr.	(I)	(II)	(III)	(IV)	(V)	(VI)
C01	Glória de Dourados	State	1995	21	117	Milk, corn, soybean, sorghum.
C02	Chapadão do Sul	National	2005	11	88	Cotton, corn, soybean, sorghum
C03	Chapadão do Sul	National	2005	11	44	Cotton, corn, soybean, sorghum.
C04	Nova Andradina	State	1998	18	45	Milk, corn, soybean, wheat.
C05	Campo Grande	State	1935	81	26	Fruits, vegetables, legumes.
C06	Paranaíba	State	1989	27	755	Corn, soybean, sorghum, pigs.
C07	Chapadão do Sul	State	1991	25	99	Milk, corn, soybean, sorghum.
C08	Costa Rica	State	2011	5	91	Corn, soybean, sorghum, pigs
C09	Amambai	State	1993	23	54	Corn, soybean, sorghum, pigs.
C10	Dourados	National	1994	22	351	Corn, soybean, sorghum, cotton
C11	Guia Lopes da L.	State	1996	20	38	Fresh milk, cheese.
C12	São Gabriel do O.	National	1993	23	167	Corn, soybean, sorghum, pigs.
C13	Camapuã	Local	2001	15	183	Corn, soybean, cotton, milk.
C14	Maracaju	Local	2004	12	42	Corn, soybean, sorghum, pigs.
C15	São Gabriel do O.	National	2002	14	53	Corn, soybean, cotton, sorghum.
C16	Naviraí	National	1979	37	947	Cotton, corn, soybean, wheat.
C17	Campo Grande	Local	1962	54	121	Eggs, corn and soybeans.
C18	Nova Andradina	State	1998	18	152	Corn, soybean, sorghum, pigs.
C19	Dourados	National	1996	20	44	Corn, soybean, sorghum, beans.
C20	Água Clara	National	1996	20	57	Corn, soybean, sorghum, beans.
C21	Dourados	State	1995	21	560	Corn, soybean, cotton, sorghum

Source: Census of co-operatives in Mato Grosso do Sul(2010) and meeting minutes (2012-2015)

RESULTS

This section is divided into three main topics, as follows: i) Theoretical variables and governance recommendations; ii) Co-ops and corporate governance; and iii) Ranking agriculture co-ops according to the level of corporate governance.

THEORETICAL VARIABLES AND GOVERNANCE RECOMMENDATIONS

The guide of co-operative governance elaborated by the Brazilian Co-Operatives Organization (OCB, 2016) has a total of 40 recommendations distributed in five major dimensions: i) Members and the General Assembly; ii) Management Board; iii) Supervisory Board; iv) Advisory Bodies and Audit; and v) Ombudsman and the co-operative's relationship with its members. Each dimension has a set of operational variables which represent the governance practices.

It is clear that the governance practices recommended by OCB are mainly related to the dimension *Management Board* (35%), followed by *Members and the General Assembly* and *Advisory Bodies and Audit* (23% each). Thus, these three dimensions account for 81% of the total recommendations. The dimensions *Supervisory Board* and *Ombudsman and co-operative relationship with members* each represent less than 10% of the total governance practices (Figure 1).⁵

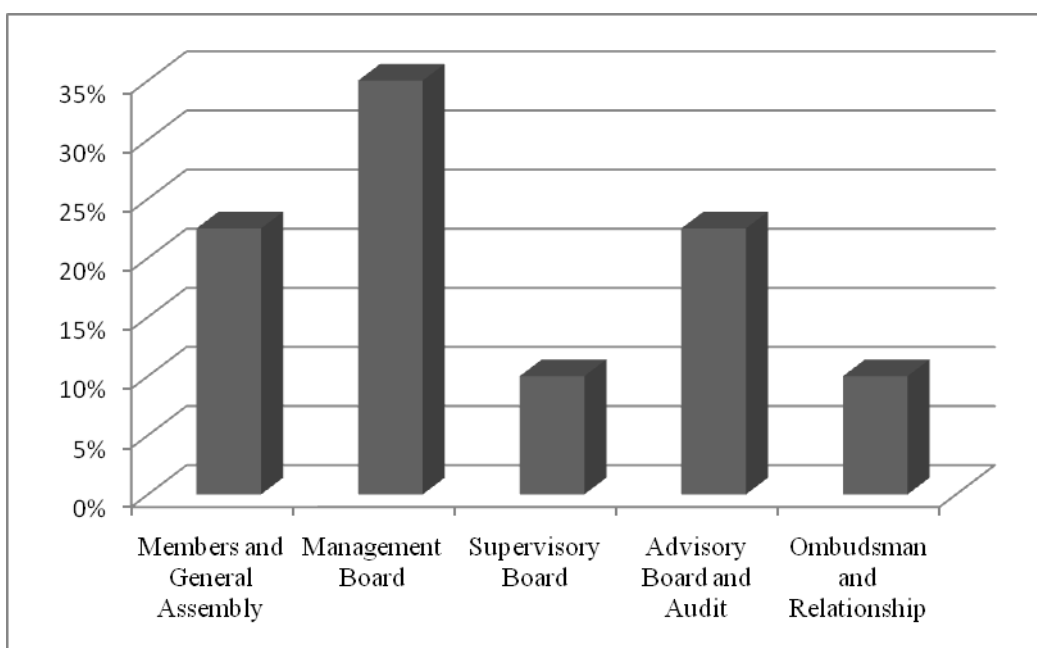


Figure 1 – The distribution of governance practice

Source: Adapted from OCB (2016)

The theoretical presupposition of this research is that the adoption of

⁵ Details about each dimension and its recommendations are presented in item “3” (*Method*) of this paper.

corporate governance practices aligns the co-operative's and the members' interests, which in turn minimize agency conflicts. Thus, it is important to link theoretical variables to each governance practice recommended by OCB. The theoretical variables are: i) monitoring; and ii) incentives.

The majority of governance recommendations are related to monitoring efforts (62.5%), followed by recommendations designed to reduce information asymmetry (37.5%). Regarding the promotion of incentives, we identified 17% of recommendations. Thus, considering the OCB Guide, the focus is primarily on monitoring the agents' behavior.

CO-OPS AND CORPORATE GOVERNANCE

The level of adoption of corporate governance is analyzed by each dimension: i) Members and the General Assembly; ii) Management Board; iii) Supervisory Board; iv) Advisory Bodies and Audit; and v) Ombudsman and co-operative relationship with members.

i) Members and the General Assembly (MGA)

This dimension accomplishes nine recommendations, of which only one showed 100% adoption by co-operatives. This recommendation is related to the necessity of making the call for the assembly available in advance to the meetings. The relevance of this recommendation, according to OCB (2016), is that the members can be properly prepared to attend the meeting and to deliberate about co-operative decisions.

On the other hand, three recommendations in this dimension are not adopted by any co-operatives, namely: i) the meeting minutes must be electronically available in full to co-operative members; ii) the co-operative must have some manual to stimulate and facilitate the participation of co-operative members in the assembly; and iii) there must be mediation and arbitration mechanisms.

ii) Management Board (MB)

In this dimension there are 14 recommendations of governance practices, and only one showed 100% adoption by co-operatives, which is that the board meetings must be in person. As stated in OCB guide, the other means the council could meet were only permissible in exceptional cases.

The other seven recommendations in this dimension were not adopted by any co-operatives, namely: i) the advisors must seek specific certification with the recognition of OCB system; ii) the performance of the board of directors and of counselor directors must be assessed; iii) the directors' compensation must be linked to medium- and long-term indicators; iv) no insider information may be provided to any co-operative member; v) the board must apply an intelligence system to track the co-operative's performance; vi) the board of directors must appoint an ethics committee; and vii) the executive director's compensation must be linked to results. In general, it is observed that the performance and behavior of the co-operative management board is not assessed.

iii) Supervisory Board (SB)

In the Supervisory Board dimension, it was found that of the four recommendations, only two are widely adopted by the co-operatives. The first, with 86% adoption, is related to the recommendation of attendance and participation of co-operative members in pre-assembly meetings and general events. The recommendation is that co-operative members must monitor the accountability of management bodies, as they are the most interested party in the co-operative business and should act like instruments of effective monitoring and control.

The other recommendation, adopted by 38% of co-operatives, is that members of the supervisory board must have no business with the co-operative, except as a co-operative member, because according to OCB (2016), the effectiveness of the supervisory board performance depends on its independence

and impartiality in carrying out the work.

On the other hand, the recommendations regarding the predominance of technical capacity of the members of the supervisory board, and the need for specific board certification recognized by the OCB system, have not been adopted by any co-operatives of this research.

iv) Advisory Bodies and Audit (ABA)

There are nine recommendations in this dimension. Two of them have been taken up by co-operatives in the study, each with a 57% of adoption rate. They are related to the recommendation to adopt temporary committees whenever possible, and to not hire as consultants independent auditors who have already carried out work for the co-operative. According to the OCB guide, the activities of temporary committees should be periodically evaluated to ensure its effective role, and not hiring auditors' firms which have already acted as consultants avoids conflicts of interest.

Of all the recommendations of this dimension, five were not adopted by any of the co-operatives, namely: i) the audit committee must regularly meet with the board of directors, the supervisory board, and the executive director; ii) the ethics committee shall be guided by secrecy; iii) the human resources committee must regularly meet with the CEO and the co-operative department in charge of people management; iv) the human resources committee must regularly meet with the executive director and the co-operative department in charge of people management; and v) the internal controls, standards, and procedures and the monitoring of internal audits must be improved.

It becomes evident that practices related to audit and the creation of other advisory boards, besides the management and supervisory board, are not usually adopted by the co-ops.

v) Ombudsman and co-operative relationship with members (OCM)

The dimension related to the ombudsman and co-operative relationship with members presents a total of four recommendations, two of which have been adopted by two co-operatives. These recommendations relate to: i) the ombudsman must welcome the manifestations of the co-operative members; and ii) the co-operative committee (OQS) must perform ombudsman services.

As suggested by OCB guide (2016), it is recommended to welcome the co-operative members' manifestation, such as compliments, suggestions, queries, and complaints in order to resolve any potential conflicts. Also, the co-operative must develop some sort of organizational structure to enhance its relationship with members, creating bridges between the governance structure and the membership, reinforcing the idea that the co-operative belongs to the members, sharing information with transparency, with a focus on the members' continuous education.

iv) Comparative Analysis of the adoption of Corporate Governance

According to Table 9, co-operative C16 was the one which adopted the greatest number of governance practices (13 recommendations) proposed by OCB Manual, which represents 32.5% of all recommended practices. Such practices are mostly related to monitoring agent's behavior. This singular (first-level) co-operative has a national scope and its main products are corn, soybean, cotton, and sorghum.

Only nine co-operatives in this study adopted more than nine recommendations, and only four show governance practices in all dimensions.

One third of the co-operatives adopted 22.5% of the recommendations of good practice. These recommendations are related to both monitoring and assuring that the information be spread among all stakeholders. These are all singular (first-level) co-operatives with local (2), state (4), and national (1) scope, and are on average 18.5 years old. They are mainly involved with the production of corn, soybean, sorghum, milk, wheat, cotton, pigs, and beans. On the other hand, in two co-operatives the adoption of governance practices was less than 14%, although they have around 500 members and are more than 20 years old.

Table 9 – Governance Practice adopted by Co-operative by Dimension

Co-ops	Members General Assembly	Management Board	Supervisory Board	Advisory Board and Audit	Ombudsman and Relationship	Total
C01	2	4	1	1	1	9
C02	4	4	1	1	0	10
C03	2	3	1	0	0	6
C04	2	3	2	2	0	9
C05	2	6	1	2	1	12
C06	2	1	2	0	0	5
C07	4	3	1	1	0	9
C08	3	1	1	1	0	6
C09	2	2	1	3	0	8
C10	3	1	0	0	0	4
C11	4	6	1	1	0	12
C12	3	5	1	1	0	10
C13	2	6	1	1	0	10
C14	2	2	2	2	1	9
C15	3	2	0	4	0	9
C16	4	4	2	3	0	13
C17	4	3	2	3	0	12
C18	1	5	2	3	0	11
C19	4	3	1	1	0	9
C20	4	5	1	1	1	12
C21	3	2	2	2	0	9

Source: Research Data

RANKING AGRICULTURE CO-OPS ACCORDING TO THE LEVEL OF CORPORATE GOVERNANCE

We ranked the co-operatives into groups which presented differentiated levels of corporate governance, according to the increasing degree of governance (Governance Index -IGOV) related to the adoption of governance practices. The co-ops were grouped into three levels of governance: “Low”, “Medium” and “High”.⁶

The grouping had the objective of considering the difference in the average variation of the value of the indicators of each grouping by means of tests of variance

(ANOVA). Table 10 shows the co-operatives divided into three differentiated levels of governance. Each co-operative is related to the percentage of adoption of good governance practices for the five dimensions of analysis used in this research.

Table 10 – Ranking of co-operatives according to Corporate Governance

Groups	Co-operatives	MGA	MB	SB	ABA	OCM	Total%
Low Governance	Coop10	0.33	0.07	0	0	0	8.10
	Coop03	0.22	0.21	0.25	0	0	13.73
	Coop08	0.33	0.07	0.25	0.11	0	15.32
	Coop06	0.22	0.07	0.50	0	0	15.87
	Coop15	0.33	0.14	0	0.44	0	18.41
	Coop09	0.22	0.14	0.25	0.33	0	18.97
Medium Governance	Coop13	0.22	0.43	0.25	0.11	0	20.24
	Coop07	0.44	0.21	0.25	0.11	0	20.40
	Coop19	0.44	0.21	0.25	0.11	0	20.40
	Coop12	0.33	0.36	0.25	0.11	0	21.03
	Coop02	0.44	0.29	0.25	0.11	0	21.83
	Coop01	0.22	0.29	0.25	0.11	0.25	22.38
	Coop04	0.22	0.21	0.50	0.22	0	23.17
	Coop21	0.33	0.14	0.50	0.22	0	23.97
High Governance	Coop11	0.44	0.43	0.25	0.11	0	24.68
	Coop18	0.11	0.36	0.50	0.33	0	26.03
	Coop14	0.22	0.14	0.50	0.22	0.25	26.75
	Coop05	0.22	0.43	0.25	0.22	0.25	27.46
	Coop20	0.44	0.36	0.25	0.11	0.25	28.25
	Coop17	0.44	0.21	0.50	0.33	0	29.84
	Coop16	0.44	0.29	0.50	0.33	0	31.27

Source: Research Data

MGA: Management and General Assembly; MB: Management Board; SB: Supervisory Board ;ABA: Advisory bodies and audit; OCM: Ombudsman and co-operative relationship with members

Those co-operatives that had adopted governance practices of less than 20% were included in the lower governance grouping, six in total. Those that obtained adoption levels between 20% and 25% were included in the group “Medium Governance”, accounting for nine co-operatives. The six co-operatives with an

⁶ The number of groups is based on the three differentiated levels of corporate governance of the São Paulo Stock Exchange (BOVESPA), which are divided into: Level 1, Level 2, and “New Market”, the

adoption level above 25% were classed as “High Governance”. It is important to stress that “High Governance” is related to a comparison among the co-ops in this sample. In other words, the co-ops classified as “High Governance” in this research are those that had adopted more than 25% of the practices recommended by OCB. As already mentioned, co-operative C16 had adopted the highest number of good practices recommended by OCB, at 32.5 %, which in fact is not really a high score itself.

As variables of economic performance, the indicators calculated from the database shared by the co-operative observatory FEARP / USP were used. These indicators, as suggested by Santos (1986), can be understood as: i) Profit Margin; ii) Turnover of Operating Assets; iii) Return on operating assets; and iv) Co-operative performance. Co-operatives that presented the necessary financial information for a period of four years (2010 to 2013) were sought, in order to lend greater robustness to the analysis. During this time interval, 4 co-operatives were eliminated from the initial sample, and the final sample consisted of 17 agricultural co-operatives from Mato Grosso do Sul.

Also, for the years 2010 and 2013 other co-operatives were eliminated because they did not provide the necessary information. For 2010, four co-operatives were eliminated, and in 2013 another seven were eliminated. Table 11 shows the number of co-operatives for each level of governance after the elimination process, totaling 57 observations.

Table 11 - Number of co-operatives for each differentiated level of governance after the elimination process

Governance	2010	2011	2012	2013	TOTAL
Low	4	5	5	3	17
Average	3	6	6	5	20
High	6	6	6	2	20
TOTAL	13	17	17	10	57

Source: Research Data

For each economic performance indicator it was verified whether, on average,

last being the highest degree of governance practices adoption.

its performance was the same for the different levels of corporate governance studied, using analysis of variance (ANOVA). This analysis was performed for each of the years studied (2010 to 2013) (Table 12).

The null hypothesis tested is that the mean value of the indicator is the same for the different levels of corporate governance, that is, there is no influence of the level of governance found in the average economic performance measured. The alternative hypothesis indicates that there is some difference in the average economic performance for the different levels of economic performance. The significance level(α) equal to 5% was used, so differences will be detected for P-value lower than 0.05.

Table 12 - Test of variance for the Economic Performance Indicators at the differentiated levels of governance in the period from 2010 to 2013

	Groups	Profit Margin			Operating Asset Turnover			Return on Operating Assets			Performance per Co-operative		
		Nº	Avg	STD	Nº	Avg	STD	Nº	Avg	STD	Nº	Avg	STD
2010	1	4	5.672	6.132	4	13.96	23.83	4	16.861	11.995	4	1107245	1097684
	2	3	0.533	0.56	3	1.33	0.29	3	0.726	0.799	3	45178	62956
	3	6	3.975	2.68	6	3.06	1.57	6	9.347	5.036	6	408086	620012
	*	No			No			No			No		
	**	0.261			0.376			0.053			0.197		
2011	1	5	3.091	3.806	5	3.029	1.921	5	5.822	7.419	5	691271	1211976
	2	6	0.686	0.757	6	2.208	1.604	6	1.108	0.707	6	399281	819889
	3	6	-0.22	6.509	6	2.62	1.778	6	2.677	9.721	6	495216	776358
	*	No			No			No			No		
	**	0.468			0.748			0.55			0.874		
2012	1	5	2.145	3.724	5	6.287	9.609	5	2.292	6.205	5	503074	793685
	2	6	-0.16	1.872	6	2.094	1.513	6	-0.133	3.415	6	485820	1008188
	3	6	4.82	3.184	6	2.395	1.587	6	8.395	5.687	6	606329	888331
	*	Yes			No			Yes			No		
	**	0.037			0.382			0.035			0.97		

	Groups	Profit Margin			Operating Asset Turnover			Return on Operating Assets			Performance per Co-operative		
		Nº	Avg	STD	Nº	Avg	STD	Nº	Avg	STD	Nº	Avg	STD
2013	1	3	3.43	5.24	3	4.463	3.181	3	4.94	5.21	3	621899	838762
	2	5	4.26	5.11	5	1.936	1.777	5	7.12	8.58	5	84660	52456
	3	2	17.98	24.19	2	2.692	1.231	2	33.51	42.97	2	165506	198151
	*	No			No			No			No		
	**	0.29			0.35			0.219			0.318		

* There is a difference between the groups

** (P-Value)

An ANOVA (Variance Analysis) was applied for each economic indicator.

Source: Research Data

Taking into account that the significance values in the analysis period (2010 to 2013) were higher than 5%, with the exception of two observations in 2012, it can be stated that there were no satisfactory differences in the means of the indicators of performance. Thus, in the period analyzed, the insertion of differentiated levels of corporate governance has not significantly altered the value of economic performance indicators.

Therefore, at least within the limits of this sample, one cannot confirm the influence of corporate governance on the economic performance of the agricultural co-operatives of Mato Grosso do Sul, thereby not confirming the third assumption raised in this research, which argues that the adoption of good governance practices contributes to a better economic performance of co-operatives.

FINAL COMMENTS

This study examined the standard of corporate governance practices adopted by agricultural co-operatives in Mato Grosso do Sul, Brazil, based on recommendations proposed by the guide elaborated by the Brazilian Co-operatives Organization (OCB, 2016). The theoretical presupposition is that the adoption of corporate governance aligns the co-operative's and the members' interests, thereby minimizing agency conflicts.

In order to answer the research problem, we addressed the following issues: i) the pattern of corporate governance recommended by OCB; ii) the analysis of the association between theoretical variables and governance practices; iii) the adoption of governance practices by co-operatives, by dimension; and iv) a comparative analysis among the co-operatives. For that, we investigated the bylaws and meeting minutes of 21 agricultural co-operatives, from 2012 to 2014, totaling 84 documents.

In general we conclude that the majority of governance practices adopted by the co-ops are related to two main dimensions: i) Management Board (35%); and ii) Members and the General Assembly (23%). Also, the majority of governance practices are related to monitoring efforts (45%), followed by recommendations designed to reduce information asymmetry (38%), and to promote incentives (17%).

Considering the total of recommendations, only two had a 100% of adoption rate. The first of these is related to the necessity of making the call for the assembly available in advance to the meetings, and it is part of the dimension called *Members and the General Assembly*. The second recommendation adopted by all co-operatives is in the dimension *Management Board*, and it is concerned with the necessity that board meetings be in person. This recommendation benefits the effectiveness of the meetings since the discussions are better developed with a deeper understanding of the relevant issues, also facilitating the analysis of the informative documents and encouraging their timely signing.

Considering all the recommendations of best governance practices, about 50% have not been adopted by any co-operative. Hence, we conclude that corporate governance in agricultural co-operatives in Mato Grosso do Sul has still a long way to go. It was also observed that monitoring is the main mechanism adopted by co-ops to align the members and the co-operative's interest, i.e. to minimize agency conflicts.

After applying the variance test (ANOVA) for each of the years studied, it was verified that only the profit margin and return on operating assets indicators in the year of 2012 presented a level of significance lower than 0.05: that is, showing statistically significant differences in the average variation of the value of each indicator in the differentiated levels of governance.

On the other hand, in the years 2010, 2011, and 2013, the performance indicators presented values of significance higher than 0.05. Thus, it can be said that on average, in the three years analyzed, there was no significant difference in the values of the economic performance variables among the differentiated levels of governance.

In this sense, it is not possible to empirically confirm that the agricultural co-operatives of Mato Grosso do Sul with a better governance pattern perform better. There is no improved economic performance by the co-operatives of the high governance group compared to the middle governance group, and middle governance in relation to low governance. Therefore, it cannot be inferred that good corporate governance practices affect the economic performance of agricultural co-operatives in Mato Grosso do Sul, at least within the limits of this sample.

For future studies, we suggest expanding the sample, incorporating a larger number of agricultural co-operatives from Mato Grosso do Sul and other Brazilian states. It would be interesting to conduct field research, with some face-to-face interviews, to better understand the level of corporate governance and the existence of informal practices. Finally, a future research agenda could incorporate quantitative methods in order to analyze the association of a better governance level with the co-operatives' performance. Moreover, it is important to balance the importance of each recommendation proposed by OCB, as in this research we did not assign different weights to each one.

We believe that this research has two main contributions. The first is to shed light on corporate governance practices in co-operative organizations in Brazil, which from our point of view is still in its first steps. Further, we identified and systematized at least 40 recommendations from the guide of Corporate Governance to Co-ops edited by the Brazilian Co-Operatives Organization (OCB). In sum, we present here a study that could be interesting either to the academia or to the private sector.

In spite of a possible criticism of fact that our analysis of adoption of governance practices was based on statutes and minutes of the meetings, which could potentially not reliably portray the practices adopted, we emphasize that if such

official documents do not reflect the reality of the management of co-operatives, we have here a contribution of this research, which is to highlight the informality of the management process in co-operatives.

In view of the foregoing, as a suggestion for future work it is recommended to increase the number of co-operatives in the sample, and also to apply primary data, conducting field research to complement the documentary research, so that the data are confronted with the reality experienced by the managers. Anyway, this is an exploratory research and collecting primary data was not our first research design proposal. We conclude that “governance in co-operatives” can be treated in a more comprehensive way, thereby contributing to the expansion and improvement of studies that involve the corporate management of agricultural co-operatives.

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