INCENTIVES AND ENTRENCHMENT IN BRAZILIAN AGRICULTURAL COOPERATIVES: EVIDENCE FROM COOPERATIVES IN THE STATE OF SÃO PAULO

Leandro Massaki Yonemura[a], Davi Rogério de Moura Costa[b]

[a] Undergraduate in Enterprise Economics and Controllership at School of Economics, Business Administration and Accounting of Ribeirão Preto, University of São Paulo (FEARP-USP), Ribeirão Preto, SP. E-mail: leandro.yonemura@gmail.com

[b] Professor at School of Economics, Business Administration and Accounting of Ribeirão Preto, University of São Paulo (FEARP-USP), Ribeirão Preto, SP. E-mail: drmouracosta@usp.br

Abstract

Agricultural cooperatives are economic organizations that arise due to market failures and that adopt relevant roles in the organization of producers in different countries around the world. Research on the corporate governance of these organizations is abundant due the peculiarities of their structure and property rights. In Brazil, studies in this area are infrequent and in need of further explanation. The aims of the present study were to identify and characterize the incentive mechanisms (remuneration) used by agricultural cooperatives and, in addition, to determine if they have an effect on the president's longevity in office in agricultural cooperatives. The study was conducted by considering the different models of corporate governance and analyzing a sample of cooperatives from the State of São Paulo. The methodology asked for access to the bylaws, Minutes of general assembly s (MoGA) and registration forms, available for download on the website of the Commercial Council of the State of Sao Paulo (JUCESP). The sample consisted of data from 49 agricultural cooperatives. The results indicate that larger cooperatives tend to develop governance structures that separate ownership and control. Moreover, these organizations have the best-paid presidents. In general, apparently there is a positive relationship between entrenchment and remuneration and company size. These exploratory results identify interesting elements for further research on cooperative governance. However, the methodological challenges for determining causality must be overcome by research designed to demonstrate the effect of remuneration on entrenchment of the president and its effect on the performance of the cooperative.

Keywords: Governance in cooperatives. Incentives. Entrenchment.

Incentives and entrenchment in Brazilian agricultural cooperatives: evidence from cooperatives in
the state of São Paulo

37

Introduction

Agricultural cooperatives are companies that play important roles in the organization of producers in different countries around the world. In some sectors of the economy, mainly those that require economies of scale, the family producer or holder of small productive modules is viable due to its economic relationship with the cooperative (CHADDAD et al., 2009; COOK; ILIOPOULOS, 2009; BARTON, 1989).

The peculiarities of structure and property rights of these organizations make the study of their governance important and necessary. For example, the fact that the cooperative owner is also a user of its products and services, and that property rights are vaguely defined, as Cook (1995) points out, makes the structure of the incentive mechanisms and controls used in the agency relationship between principal and agent specific to this type of organization.

In economically developed countries, studies on corporate governance of cooperatives are normal. Some examples of studies in this area are those of Bijman and Hendrikse (2013), Deng and Hendrikse (2015) and Iliopoulos (2015) in Europe and those of Hueth and Marcoul (2009), Burress and Cook (2010) and Cook and Burress (2013) in the United States of America (USA). In Brazil, studies on this subject are infrequent and it is a research field that needs further explanation. Studies were conducted, for instance, by Bialosrkorski Neto (2004), Pozzobon and Zylberstajn (2013), Costa, Chaddad and Azevedo (2012) and Costa, Chaddad and Azevedo (2013).

Although the knowledge is crucial to the success of cooperative organizations, studies that address incentive policies within their governance are still scarce. A discussion of how the incentive mechanism aligns with the interests of the cooperative's executive, considering that he is a member elected by the General Assembly of owners, was not found in a review of the literature. There are, however, related approaches to this topic, which are discussed in the context of control in cooperatives.

From the perspective of governance, incentive-related studies can be undertaken to further the understanding of this phenomenon in cooperatives. However, adaptations are required since the characteristics of the property rights of the cooperative enterprise differ from those of other collective property organizations, primarily, anonymous societies and family-owned companies, for example.

The aims of this study were to identify and characterize the incentive mechanisms used in agricultural cooperatives in the state of São Paulo and to analyze if the amount of remuneration affects the president`s longevity in office (turnovers) in cooperatives.

In addition to the introduction, this text contains four additional sections: theoretical reference, methodology, results and conclusions. In the theoretical reference section, the theoretical framework that supports the claims, hypotheses and assumptions of the work is presented. In the methodology, the procedures that allowed attainment of the proposed objective are presented. Thereafter, the results and conclusions are presented in sequence.

Theoretical reference

Agricultural cooperatives are economic organizations created to increase bargaining power in environments characterized by market failures (SEXTON, ISKOW, 1988; STAATZ, 1987). In addition, there is the possibility that these entities are being created to access possible market surpluses (COOK, 1995). In Brazil, many cooperatives were created by government incentives. The underlying public policy idea is that these organizations would contribute to local development through income distribution (BIALOSKORSKI NETO, 1994).

Although cooperatives are recognized, in economic terms, as firms that have similarities with Investor-owned companies (IOF), the peculiarities of their property rights ensure that their governance structure is unique (COSTA; CHADDAD; AZEVEDO, 2013; CHADDAD; COOK, 2004; HANSMANN, 1988).

The legal impossibility of commercialization of property rights, established in Brazil by Law 5764/71, makes the mechanisms for pricing the capital quotas of cooperatives inefficient. In addition, property rights of cooperatives are vaguely defined due to the fact that the owner is also a user of the structure, and the right to control stems from the principle of vote by partner and that patronage refund is based on the use of the assets of the cooperative by patron (COOK, 1995; HANMANN, 1996).

The fact that property rights are characterized as such causes problems that make the agency relationship more complex in cooperatives. Cook (1995) and Vitaliano (1983) emphasize, for instance, the problems of control and cost of influence in these organizations. Similarly, Milgrom and Roberts (1992) highlight the problems tied to common property assets and public goods. Apparently the goods generated by cooperatives have the characteristics of common property goods. Thus, consumption by an additional individual affects the utility of at least one individual of the society and the cooperative cannot control its consumption.

In particular, the problem of control, originating in the agency relationship and aggravated by the characteristics of property rights in cooperatives, consists of costs derived by the "conflictual" relationship between owners and managers of the organization; this problem is approached from three different perspectives in the literature concerning cooperatives.

The first considers that the owners' participation in the control of the cooperative is harmful, because if the owners are simultaneously its managers, they are more likely to adopt strategies, policies or projects that benefit their private activities to the detriment of the financial health of the organization, and even other members (JENSEN, MECKLING, 1979). On the other hand, there is a second theoretical approach that favors the participation of the cooperative members in the control of the organization, since a contracted professional would make decisions that could reduce the residual rights of cooperative members (VITALIANO, 1983).

Lastly, there is a neutral point of view that establishes that the participation of the cooperative members in control contributes to the strategic vision of the business, once they understand the main business of the cooperative. However, as the organization becomes complex, their participation could impoverish management (STAATZ, 1987; HELMBERGER 1966).

In summary, the different views lead to distinct ways of reducing or minimizing agency costs and monitoring, and losses due to expropriation and managerial opportunism in these organizations. That is, the views of the authors differ as regards the benefit or cost of cooperative member participation in the management decisions of the organization. In other words, there is no consensus whether losses or benefits would accrue from participation of elected cooperative members in the management process.

As the cooperatives are also economic organizations, they can also be viewed as a set of contracts. Contractual relations are established among several agents involved, in order to achieve both the individual goals of the agents and their established collective goals (BRICKLEY; SMITH; ZIMMERMAN, 2008; MILGROM; ROBERTS, 1992; JENSEN; MECKLING, 1976).

Ownership of these organizations is realized when there is a contract between the individual and the organization. This individual, designated the owner, when signing the contract, begins to share in the formal property rights of the cooperative: the right to make decisions and the right to receive patronage refunds, that is the right to surplus (HANSMANN, 1996). This contractual relationship is clearly incomplete, because of the limited rationality of agents and the existence of information asymmetry (WILLIAMSON, 1979). This feature of the contract enables opportunistic behavior by both parties to the contract, as for example, an attitude that allows the acquisition of the quasi-income generated in the transaction (KLEIN; CRAWFORD; ALCHIAN, 1973).

Once the structure of economic organizations and their internal processes become larger, there is a need to implement more complex control mechanisms. Fama and Jensen (1983) point out that in complex organizations with dispersed ownership, the unlinking of ownership from management, resulting from separation of the decision-making process, generates benefits that contribute to an increase in the probability of survival of the companies. The gains come from the expertise of the owners in assuming the risks inherent in the investment, and the managers in effectively taking on the administration of the organization (FAMA; JENSEN, 1983).

The theory of agency as applied to studies of Governance focuses on the contract signed between the owner (principal) and the manager (agent). The first delegates part of his right of control to the second to act on his behalf. In this contractual relationship, the expectations of the owner would be met if the contracted manager optimizes the allocation of assets in the production process (BRICKLEY; SMITH; ZIMMERMAN, 2008; MILGROM; ROBERTS, 1992; JENSEN; MECKLING, 1976).

In the process of delegating the agency relationship there is a transfer of formal and / or real authority in order for the agent to make a decision on behalf of the principal. It is noteworthy that the two parties to the contract seek to maximize their own utility function, and the presence of this behavior shows that the agent will not always act according to the expectations of the principal. In this scenario, the need arises to implement tools to minimize information asymmetry and to ensure that the choice of agent considers the well-being of the principal as expected when establishing the contract (MACHO-STADLER; PÉREZ-CASTRILLO, 1995; ROSS, 1973).

According to Jensen and Meckling (1976), this contract is the object of study of a vast normative literature on agency relationships and how to establish an optimal contractual relationship, to make sure that the agent acts to maximize his utility to the

principal, considering the existence of uncertainty and imperfect monitoring (JENSEN and MECKLING, 1976). The question then arises how the aims of the agent align with the expectations of the principals, given that individuals are creative in maximizing their own utility (BRICKLEY; SMITH; ZIMMERMAN, 2008).

It is at this point that agency theory formulates the theoretical scope of corporate governance, which is defined as a set of laws, rules and mechanisms that an organization has to ensure that the owners' property rights are secured by the managers. In other words, it is a set of mechanisms that protect owners from expropriation by agents, who shape all parameters of the transactions carried out by the organization. (GILLAN, 2006; GILLAN; STARKS, 2000; RAJAN; ZINGALES, 1998; SHLEIFER; VISHNY 1997).

Figure 1 depicts this structure by displaying the mechanisms of internal and external control and the types of incentives subdivided into pecuniary and non-pecuniary benefits.
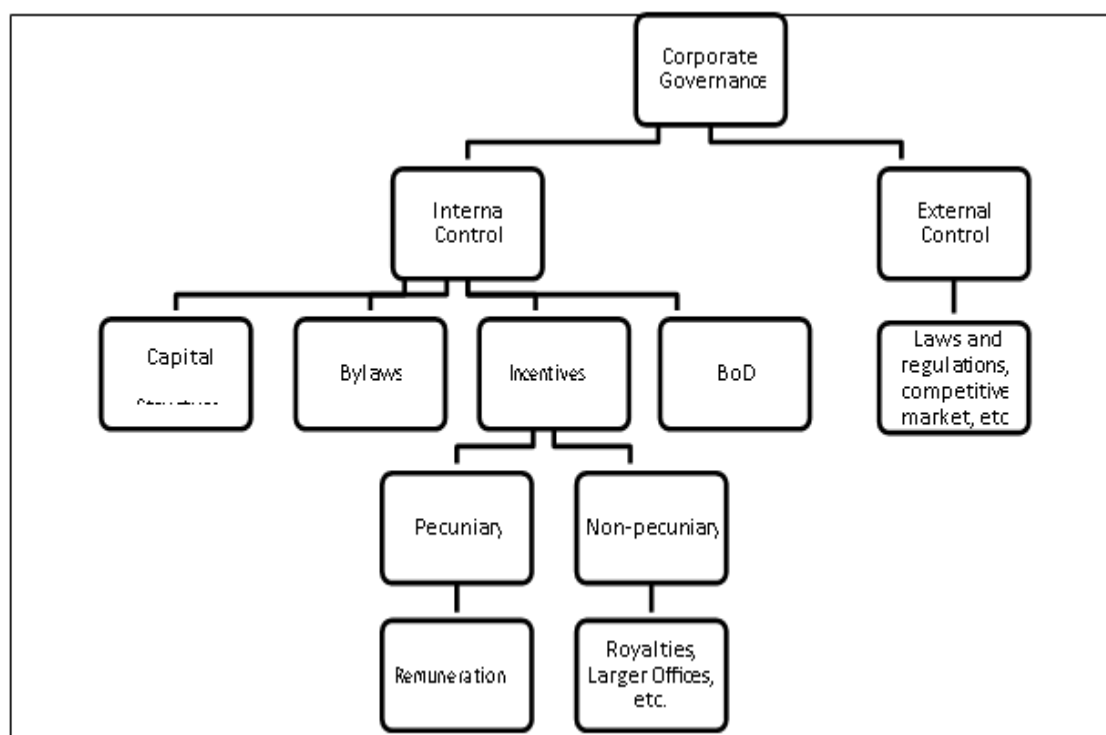
Figure 1 - Corporate governance mechanisms
Source: Prepared by the author

In this study, the focus is on incentives, with emphasis on remuneration of the members of the Board of Directors (BoD). In particular, the President, known in the international literature as the chairman. Therefore, the focus will be on pecuniary benefits[1].

Sample and methodology

The study is presented in four stages: literature review, questionnaire development, data collection and statistical analysis, and research write-up. The first step gen-

erated the theoretical development in the following areas of knowledge: economic organizations, property rights, agency theory and corporate governance. On economic organizations, the structuring of collective-owned economic organizations, especially agricultural and livestock cooperatives, was studied. The source material used to obtain the research data was obtained at the commercial council of the state of São Paulo (JUCESP). This material consisted of bylaws, Minutes of general assemblies (MoGA) and cooperative registration forms provided by the Board, encompassing the period 1991-2012. A questionnaire was created to inform the main points to be described in the characterization of corporate governance structures and incentive mechanisms for the president, adopted by the cooperatives in the sample.

The data collection was designed to identify the structures that make up the organizational structure of the cooperative, the composition and characteristics of the bodies responsible for control and management decisions, the age of the cooperatives, their size, incentive mechanisms for presidents and board members, term of office, and the Brazilian Federal Tax ID (CPF) of current and former presidents.

The bylaws generated information about the structures that made up the organizational architecture of the cooperative. From these data, the corporate governance model adopted by the organization was identified. The model was classified based on the construct developed by Costa (2010). The conditions for classifying a cooperative as model 1, 2 or 3 consisted of identification of the bodies integral to governance and their hierarchical relationships. In the bylaws, the composition of the board of directors (BoD) was also identified, generating information on the total number of members in addition to information about how many of them exercised executive functions. Information about the BoD's term of office was also collected. To determine the governance model, it was verified whether the bylaws pointed out the existence of the following bodies: general assembly (GA), board of directors (BoD), supervisory board (SB) and executive board (ExB).

GA refers to, for instance, an ordinary or extraordinary annual meeting of the owners – members of the organization. In this meeting, only a member may speak or vote. The BoD represents the Principal's interest in the cooperative's decision-making process. It has formal authority, that is, decision-making and control rights on operational and strategic decisions (CHADDAD; ILIOPOULOS, 2013). Its members consist exclusively of the owners of the organization. The SB is a governance body created by the Brazilian cooperative Law (5764/71). Its role is to monitor the BoD and ExB, which make management decisions.

The cooperative was classified as model 3, only if GA, BoD and SB existed. To be classified as model 2, the cooperative must have only GA, ExB and SB. Therefore, the cooperative adopted the nomenclature ExB instead of BoD to transmit to the body responsible for management of the cooperatives. Finally, in order to be defined as model 1, the cooperative must include in its bylaws GA, BoD, SB and ExB. In this model, members are elected to sit on the BoD and only a few of them hold the position of DE.

From the MoGA, the remuneration of Board of Director members, in particular, the Chairman was verified. In situations in which amounts were indicated in terms of a quantity of goods, as for example, liters of milk, or in terms of minimum wage, the 2012 values were adopted. Thus, the current compensation values were deflated and

were all adjusted to 2012. The minimum wage in 2012 was considered to be BRL 622.00. The amount paid to producers for a liter of milk was considered to be BRL 0.9261, according to the data available on the website of the Center for Advanced Studies in Applied Economics (CEPEA- ESALQ / USP).

In situations in which the minutes indicated the global remuneration, but did not specify the remuneration of the president, it was assumed that half of that amount was intended specifically for the chairman of the BoD. The number of members in the cooperative was also identified, based on a reading of the minutes.

Longevity in office was identified from the registration form. In this document, made available by the commercial boards, it was possible to verify the CPF of the members of the BoD, by job function. These data generated the number of changes in the position of chairman/CEO (turnover).

The identification of incentive mechanisms was based exclusively on the form and amount of compensation adopted in the sample cooperatives. Also investigated was whether the remuneration established was fixed or variable and their values. In other words, it was investigated whether payment took performance factors into consideration to determine the president's compensation. This was identified from the MoGA.

In situations in which the cooperative reported payments for attendance at meetings, it was not considered payment for performance, since this is not tied to the company's results. The values were scaled to reflect the annual and monthly remuneration. The cooperatives were segregated according to the governance model to investigate the mechanisms of governance and longevity of the President in office. A statistical comparison was made among different governance models in relation to remuneration, with the null hypothesis that the remuneration values did not differ.

Finally, to test if compensation mechanisms affected longevity in office, a Pearson correlation test was performed using equation (1) below, where *x* refers to the number of turnovers, and y to the annual remuneration of the president of the cooperative.

$$ r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2(\sum(y_i - \bar{y})^2)}} $$

Data were collected from 68 agricultural cooperatives all located in the State of São Paulo. The information from 49 of them was used; the others were discarded because of inconsistencies in the information. The descriptive statistics of the sample are presented in table 1 below.

Table 1 – Descriptive statistics of cooperatives in the sample, 2012

	Average	Maximum	Minimum	Standard Deviation
Age (years)	37	79	4	19
No. of members on BoD/ExB	7	18	3	3
No. of members in Cooperative	1,389	19,151	20	3,542

Source: data from JUCESP, prepared by the author.

The data indicated the average age of a cooperative to be 37 years old in 2012. That is, it is an organization established in the mid-1970s. This age allows the company to be considered as mature, relative to the mortality rate of companies in Brazil. The average number of members on the BoD was seven, regardless of whether they had executive functions or not. Also noteworthy is the fact that there are cooperatives with as many as 18 members making up the body.

In these organizations, although there are proponents of larger numbers of board members, the cost of collective decision-making, according to the theory of property rights, would be very high.

The average number of cooperative members in the sample was 1,389. This indicates a cooperative that needs to establish effective mechanisms for governance by its partners – that is, control and incentive mechanisms.

On average, there was one representative on the BoD / ExB for every 198 members. This confirms, based on Costa's (2010) construct, the need to define the incentive structure since it is a dispersed property structure.

Results and discussion

The table 2, next page, shows the distribution of models adopted by the cooperatives in the sample and the respective sizes of their membership. This correlation was important in verifying if more dispersed ownership structures tend to adopt governance models that would allow separation of the decision-making process.

According to the table, 66% of the cooperatives used a model with the following bodies: GA, BoD, ExB and SB. Fama and Jensen (1983) state that in this model there may be separation between ownership and management. This constitutes a separation of the decision-making process, according to Costa et al. (2013)

Table 2 – Governance structure of the cooperatives in the sample, ownership frame size and BoD size, 2012.

Characteristic of Interest	Model (1)	Model (2)	Model (3)	Sample
% cooperatives sampled adhering to indicated model	66	28	6	-
Size of Company				
- Average Number of Members	1,943	384	150	1,389
- Standard Deviation	4,250	524	112	3,476
Composition of BoD				
- Average Number of Members	7	4	4	7
- Standard Deviation	3.17	0.82	0.58	2.94
- Maximum Number of Members	18	6	5	18
- Minimum Number of Members	3	3	4	3

Source: Research data.

Although it is not within the scope of this paper, the allocation of decision-making rights of the different bodies was verified. It was noted in organizations that adopt the first model, that the GA focuses on the most relevant control decisions of the institution, as for example, changes in bylaws, BoD elections, approval of accounts, and other issues that determine the future of the company. The Board of Directors, when elected at a general assembly, receives a portion of the owners' property rights. Thus it has autonomy to define the cooperative's guidelines, as well as to choose the CEO of the company. The ExB is responsible for the management decisions of the cooperative, for example, the hiring and supervision of managers and employees.

Model 2 was adopted by 28% of the sample cooperatives. In this model separation of the decision-making process is not allowed, according to Costa et al (2013). In cooperatives that adopt this model it was verified that the GA concentrated decision-making on the direct election of CEO, other members of the executive and supervisory boards, amendment to the bylaws, approval of financial statements, disposal of surpluses, fixing ExB fees, SB attendance list and other cooperative interest issues.

Only 6% of the cooperatives opted for the governance structure classified as model 3. In these models, the GA concentrated on the following authorities: election of the BoD and supervisory board members, amendment of the by-laws; approval of financial statements; disposal of surpluses, fixing ExB fees, SB and BoD attendance list and other cooperative interest issues. It is apparent that in this model there is an accumulation of functions by the BoD, as it simultaneously exercises the executive board function.

The size of the company, which may indicate the degree of corporate dispersion, is also shown in the table. Assuming more partners implies a more dispersed company, on average cooperatives that adopted model 1 had a greater number of cooperative members (1,943) and more members on the BoD (seven) when compared to cooperatives adopting models 2 and 3. This may mean that cooperatives whose ownership structure is more dispersed, that is, have a greater number of partners, tend to adopt a

model that allows separation of ownership and management. In other words, cooperatives with greater dispersion of ownership are more likely to separate the decision making process (FAMA, JENSEN, 1983).

Compensation in cooperatives

Table 3 below presents, according to the governance model, the cooperative's remuneration of the members of the BoD / ExB, the type of remuneration adopted and the remuneration of the chairman. It is important to note that only 76% of cooperatives compensate the president, whereas the others have no monetary remuneration for the occupants of the position. Certainly, remuneration comes from the consumption of non-pecuniary goods (JESEN; MECKLING, 1976; BRICLKEY et al, 2004).

While analyzing the documents (Minutes of the Annual General Assembly and Social Bylaws), it was found that in cases in which there is compensation; the owners (Principal) in GA define the amount. Still, this governance body determines a global package for the BoD / ExB and delegates to the BoD the formal authority to define how these resources will be distributed among its members, including remuneration of the President.

Table 3 - Remuneration in the agricultural cooperatives, 2012

Characteristics of Interest	Model (1)	Model (2)	Model (3)	Sample
Remuneration of President:				
% of Cooperatives offering remuneration	97	29	50	76
% of Cooperatives that do not offer remuneration	3	71	50	24
Types of Remuneration				
% that remunerate in a fixed amount	97	100	100	98
% that remunerate by performance	3	0	0	2
Remuneration of the President – frequency according to amount				
Less than BRL50,000/year	30	93	50	49
Between BRL50,000 and BRL 150,000/year	48	7	50	36
More than BRL 150,000/year	25	0	0	14
Average value paid to the President (BRL/year)	BRL 98,951	BRL 9,972	BRL 36,506	BRL 70,980

Source: Research data

Model 2 stood out because it does not use compensation as an incentive mechanism for those responsible for the management of the cooperative. Among the cooperatives that adopt this configuration of governance, more than 70% do not remunerate the members of the ExB. This shows the importance of seeking more information related to the activities of those members. Understanding what guides these organizations that do not establish mechanisms to encourage agents would enrich

45

the theory. It is unlikely that all cooperatives in this model would be managed by Stewards, as can be seen in Stewardship Theory.

The type of remuneration considered in this study is fixed or variable. It is considered a fixed remuneration if the manager receives a certain amount independent of the results achieved by the cooperative. Therefore, it does not consider whether individual efforts affect the outcome of the organization. Variable exists if the remuneration is linked to productivity, that is, it varies according to the performance of the cooperative.

As shown in the table above, in all models, the fixed remuneration type prevailed. Only cooperatives that adopted model 1 used the performance incentive system (variable). This result also gives impetus to further research. Would cooperatives adopting model 1 give a better performance? For Jensen and Meckling (1976) the expectation would be yes.

Considering the amount of remuneration to the president, calculated as indicated in the methodology, three remuneration groups were created:

Group 1 - annual compensation less than BRL 50,000; Group 2 - between BRL 50,000 and BRL 150,000; Group 3 - annual amount greater than BRL150,000.

The data indicate that most of the cooperatives in model 1, approximately 48% of them, paid the amounts in group 2. Only in this model were cooperatives in remuneration Group 3. The organizations adopting model 2 paid the lowest amounts. Apparently, the results demonstrate that larger and smaller cooperatives adopt, respectively,

Model 1 and model 2 of governance. Apparently, adoption of model 3 bears no relation to the size of the company.

Looking at the amounts paid directly to the Chairman and / or CEO we verified that, on average, cooperatives that adopt model 2 establish an annual average remuneration (BRL 9.9 thousand) lower than that used by cooperatives adhering to model 1 (BRL 98.9 thousand) and model 3 (BRL 36.5 thousand).

As remuneration is linked to the marginal productivity of the manager, it would be expected that the presidents of model 1 cooperatives have greater impact on the outcome than the others. However, problems of endogeneity do not allow us to establish, for now, a causal relationship. This has been specifically addressed in other studies (BEBCHUCK: WEISBACH, 2012).

Longevity in Cooperatives (Turnover)

As given in the methodology, the number of turnovers of cooperatives president were calculated for the period from 1991 to 2012. From research data it was verified that 20% of the cooperatives had not yet changed their president. In another 20%, turnover had occurred only once. In 36%, there had been two turnovers and in 24%, more than two.

Table 4 shows the longevity in office and number of turnovers of the presidents in the sample cooperatives, in relation to the different governance models adopted. The results indicate a positive correlation between these two variables. Although Pearson's correlation coefficient was only 0.388, the result indicates a negative correlation, thus, longer tenure in office implies a lower turnover.

Table 4 - Longevity in office and turnover of the position of cooperative president, from 1991 to 2012.

Variable of Interest	Model 1	Model 2	Model 3	Sample
Average longevity in office in years	5.82	6.05	4.35	5.83
Average number of *turnovers*	2.12	1.5	1.5	1.92

Source: Research data

Noteworthy in the data is the fact that cooperative model 2 was associated with longest time in office. In this case the president held his position for an average period of approximately 73 months, the equivalent of 6 years. Considering the different kinds of mandate possible, there would be a president occupying the post subsequently for three terms of two years or two terms of three years. If the term were four years, the President concludes his first term but not his second one.

Remuneration, size and term of office

Table 5 below lists remuneration amounts to the President, size of company based on number of members, term of office and turnover in the different models of Governance. In order to identify the correlation between compensation, duration of the president`s term and turnover of the president, Pearson correlation coefficients were estimated and the values found are shown in the table. Note that the table includes some data from tables 3 and 4 previously presented.

Table 5 – Remuneration of the President and longevity in his position, in different models of corporate governance and company size, 2012.

Model	Remun. to the President (BRL/year)	*Turnover* of the President	President (years)	Company (Cooperative Members)
1	BRL 98,951	2.12	5.82	1,943
2	BRL 9,972	1.5	6.05	384
3	BRL 36,506	1.5	4.35	150

Source: Research data

The correlation between remuneration and duration of the president`s term was only 0.104: A low value. By contrast, the correlation between compensation and the turnover of the president, was 0.957. Therefore, a strong and positive relationship between the average number of turnovers and the average remuneration of the president was observed.

Similarly, considering the number of members to represent the degree of dispersion of ownership, the correlation with remuneration is also high. Approximately 0.9151. This means that organizations with a more dispersed ownership structure

need to delegate decision- making rights and this would increase their incentive costs, for example, the remuneration of the President. Possibly the fact that they are bigger leads them to adopt a structure that would not be permissible in smaller companies. Anyway, this needs to be further explored in future research.

Regardless of the correlation, it was necessary to identify whether the remuneration found for the different models is statistically different. Therefore, Student's t-test was performed to verify the statistical significance of differences in average wages in the three models analyzed. The results are displayed in Table 6.

Table 6 – Results of the test pertaining to average remuneration (*Student's t-test*).

Test 1	ARP1 = ARP2	0.00000013
Test 2	ARP1 = ARP3	0.35313653
Test 3	ARP2 = ARP3	0.60367843

Source: Research data

ARP1 – Average annual remuneration of the presidents in cooperative model 1;
ARP2 – Average annual remuneration of the presidents in cooperative model 2;
ARP3 – Average annual remuneration of the presidents in cooperative model 3.

The results show that, at a significance level of 0.05, the null hypothesis is rejected, and there is no statistical evidence that the average remuneration paid by cooperative model 1 (ARP1) is the same as in model 2 (ARP2). However, it may be similar to remuneration practices in model 3 (ARP3). This result brings to light interesting elements for reflection. It is possible that the size of the organization is affecting the compensation of its presidents and the amount is influencing the decision of the President to remain or not in his position.

There are empirical reasons for this. That is because the president is required to give his personal endorsement in cooperative credit operations. If the size of the cooperative increases he needs to use his own assets as collateral in loan operations; thus, the cooperative must remunerate him in competitive amounts. However, this encourages the president to hold office to ensure that his personal assets are not compromised.

Conclusions

The sample of cooperatives that made up this study can be considered mature (37 years), relative to the average age of Brazilian companies. The inclusion of cooperatives from regions considered agricultural frontiers can affect the overall age.

The governance structures adopted by cooperatives are apparently being affected by their ownership structure and complexity as provided in the theoretical mainstream. In other words, information related to average age and preference for model 1 suggest that the governance model adopted is apparently affected by the size of the company (number of partners) and the age of the company. Also, the total number of members on the BoD and the size of the company, considering the chosen model, generate additional evidence for such effects. The first variable would represent the dispersion size of the property, and the second one would be a reflection of its complexity.

Future research could investigate this evidence in detail, for example, if model 1 cooperatives are more diversified and larger than models 2 and 3, in order to prove empirically the claims of Fama and Jensen (1983). The number of board members could represent more complex cooperatives that would be older with more members in administrative positions (Board of Directors / Executive Board).

The managers' pecuniary incentive is not widely used in the cooperatives sampled; among those using the incentive, most of them adopt model 1 of governance, and remuneration is not related to performance. In other words, among the researched cooperatives, most did not adopt incentive mechanisms and when they did, they did not connect them to performance.

Among several reflections on this observation, the following stand out: are the Presidents elected to their office only considering their political ability? Don't members expect the President to have an effect on the company's results? Does the President decide to remain in the position by himself? These reflections become relevant once the decision about remuneration to the members of BoD / ExB and SB is defined at the general assembly.

Considering that the members do not have a preference for presidents who affect performance, what do they expect from the elected member? In other words, what are Presidents elected for? Research that addresses and intends to answer these questions is welcome.

Based on the results, perhaps the size of the organization will affect its capacity to remunerate its executives; however, it cannot be ruled out that the amounts were determined by the costs of monitoring the holder of the control rights.

The remuneration of the cooperative`s presidents in Model 1 was statistically above the cooperatives that adopted Model 2. However, in comparison to model 3, the difference was not significant. The positive correlation between the variables (compensation and size) suggests the direction of the investigations that should be conducted.

The longevity of the president in office (entrenchment), around six years, indicates that the presidents have had more than one mandate, since there are no mandates that last over four years. Entrenchment can generate negative effects on the organization, and thus the results obtained need to be further explored in future research. It is possible that the decision of the President to stay may be tied to the amounts received, due to the high association between the turnover and remuneration variables. However, it is necessary to investigate their effects on the cooperatives' performance.

A priori, it is possible to infer that there is a relationship between dispersion of property, complexity, governance structure, salary of Presidents and their longevity in office. This preliminary research has raised a number of issues that should be explored in future research. For now, it is only possible to conclude that studies along these lines promise to contribute to a better understanding of these organizations and how they establish their incentive mechanisms.

References

ADAMS, R. B.; HERMALIN, B. E. WEISBACH, M. S. The role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. Journal of Economic Literature. v. 48, n. 1, p. 58 – 107, March, 2010.

BARTON, D. G. What is a Cooperative? In COBIA, D. (Org.). Cooperatives in Agriculture New Jersey: Prentice-Hall, 1989. p. 1 – 20.

BEBCHUK, L. A.; WEISBACH, M. S. The State of Corporate Governance Research. The Review of Financial Studies. v. 23, n. 3, p. 939 – 961, 2010.

BIALOSKORSKI NETO, S. Economia das Organizações Cooperativas: uma análise da influência da cultura e das instituições. 2004. 178f. Tese (Pós-doutorado) - Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, 2004.

BIJMAN, J.; HENDRIKSE, G.; OIJEN, A. VAN. Accommodating two worlds in one organisation: Changing board models in agricultural cooperatives. Managerial and Decision Economics. v. 34, p. 204–217, 2013.

BRASIL. Lei nº 7.655, de 23 de dezembro de 2011.Diário Oficial da União, Brasília, DF, ano 148, n. 247, 26 dezembro 2011. Seção I, p.5.

BRICKLEY; J.A., SMITH, C.W.; ZIMMERMAN, J.L. Managerial Economics & Organizational Architecture, 5ª Edição, Chicago, McGraw-Hill/Irwin, 2008. 736p.

BURRESS, M. J.; COOK, M. L. Director development and board-CEO relations: Do recommendations from corporate governance apply to the agribusiness cooperative. Working paper). Columbia, MO: The University of Missouri, 2010.

CEPEA – Centro de Estudos Avançados em Economia Aplicada. Desenvolvido pelo Departamento de Economia, Administração e Sociologia da ESALQ/USP. Disponível em: < http://cepea.esalq.usp.br/leite/?page=155>. Acesso em: 26 jul. 14.

CHADDAD, F. R.; COOK, M. L. Understanding new cooperative models: an ownership–control rights typology. Applied Economic Perspectives and Policy, v. 26, n. 3, p. 348-360, 2004.

COOK, M. L. The future of US agricultural cooperatives: A neo-institutional approach. American Journal of Agricultural Economics, v. 77, n. 5, p. 1153-1159, 1995.

COOK, M. L.; BURRESS, M. J. The impact of CEO tenure on cooperative governance. managerial and decision economics, v. 34, n. 3-5, p. 218-229, 2013.

COOK, M. L.; CHADDAD, F. R.; ILIOPOULOS, C. Advances in Cooperative Theory since 1990: A Review of Agricultural Economics Literature. In: Restructuring agricultural cooperatives. [s.l: s.n.]. 2009. p. 65–90.

COSTA, D.R. de M. Propriedade e Decisões de Gestão em Organizações Cooperativas Agropecuárias Brasileiras. 2010. 133f. Tese (Doutorado) - Escola de Economia de São Paulo da Fundação Getúlio Vargas (FGV - EESP), 2010.

COSTA, D. R. DE M.; CHADDAD, F. R.; AZEVEDO, P. F. DE. Separação entre propriedade e decisão de gestão nas cooperativas agropecuárias brasileiras. Revista de Economia e Sociologia Rural, v. 50, n. 2, p. 285 – 300, 2012.

50

COSTA, D. R. M.; CHADDAD, F.; FURQUIM DE AZEVEDO, P. The Determinants of Ownership Structure: Evidence from Brazilian Agricultural Cooperatives. Agribusiness, v. 29, n. 1, p. 62–79, 2013.

DENG, W.; HENDRIKSE, G. W.J. Managerial vision bias and cooperative governance. European Review of Agricultural Economics, p. jbv017, 2015.

FAMA, E. F.; JENSEN, M. C. Separation of Ownership and Control. Journal of Law and Economics, v. 26, n. 2, p. 301-325, Jun., 1983.

GILLAN, S.L. Recent development in corporate governance: An overview. Journal of Corporate Finance, v.12, n. 3, p. 381–402, 2006.

GILLAN, S. L.; STARKS, Corporate governance proposals and shareholder activism: the role of institutional investors. Journal of Financial Economics, v. 57, n. 2, p. 275–305, Ago, 2000.

HANSMANN, H. Ownership of the Firm. Journal of Law, Economics, & Organization, v. 4, n. 2, p. 267-304, 1988.

HANSMANN, H. The Ownership of Enterprise. Cambridge: The Belknap Press of Havard University Press, 1996. 372p.

HELMBERGER, P. Future roles for agricultural cooperatives. Journal of Farm Economics, v. 48, n. 5, p. 1427-1435, 1966.

HUETH, B.; MARCOUL, P. Incentive pay for CEOS in cooperative firms. American Journal of Agricultural Economics, v. 91, p. 1218–1223, 2009.

ILIOPOULOS, C. Ownership and Governance in Agricultural Cooperatives: An Update. (Woking paper). Athens, GR: Agricultural Economics Research Institute, 2015.

JENSEN, M. C.; MECKLING, W. H. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics, v. 3, n. 4, p. 305-360, 1976.

JENSEN, Michael C.; MECKLING, William H. Rights and Production Functions: An Application to Labor Managed Firms and Codetermination. Social Science Research Network (SSRN), 1979. Disponível em: http://papers.ssrn.com/abstrac=173460 Acesso em 09 de out. 2008.

KLEIN B; CRAWFORD R. G.; ALCHIAN A. A. Vertical Integration, Appropriable Rents, and the Competitive Contracting Process, Journal of Law and Economics, v. 21, n. 2, p. 297-326, 1978

MACHO-STADLER I.; MARTÍNEZ-GIRALT X.; PÉREZ-CASTRILLO D., The Role of Information in Licensing Contract Design. Research Policy, v. 25, p.25-41, 1996. MILGROM, P.; ROBERTS, J. Economics, organization & management. New Jersey, Prentice Hall, 1992. 619p

POZZOBON, Daniela Maria; ZYLBERSZTAJN, Decio. Democratic Costs in Member- Controlled Organizations. Agribusiness, v. 29, n. 1, p. 112-132, 2013.

RAJAN; R. G.; ZINGALES, L. Power in a Theory of the Firm. The Quarterly Journal of Economics. v. 113, n. 2, p. 387-432, Mai., 1998.

ROSS; Stephen A. The Economic Theory of Agency: The Principal's Problem. American Economic Review, v. 63, n. 2, p. 134-39, May, 1973.

51

SEXTON, R.; ISKOW, J. Factors Critical to the Success or Failure of Emerging Agricultural Cooperatives. (Giannini Foundation Information Series No: 88-3). Davis: CA, University of California, 1988.

SHLEIFER; A.; VISHNY, R. W. A Survey of Corporate Governance. The Journal of Finance, v. 52, n.2, p. 737-783, Jun., 1997.

STAATZ, J. M. The Structural Characteristics of Farmers Cooperatives and their Behavioral Consequences. Washington, D.C.: USDA, 1987, 28p. Disponível em: <http://www.rurdev.usda.gov/rbs/pub/sr18/strcture.pdf> Acesso em: 15 de jun. 2008. VITALIANO, P. An Alternative Conceptual Basis for Analyzing a Complex Institution. American Journal of Agricultural Economics, v. 65, n. 5, p. 1078-1083, Dec., 1983.

WILLIAMSON, O. E. Transaction-cost economics: the governance of contractual relations. The journal of law & economics, v. 22, n. 2, p. 233-261, 1979.

52