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Co-operative governance and management control systems: an agency costs theoretical approach

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ABSTRACT: Co-operative organizations have a unique property and decision rights distribution system that involve management problems and transaction costs. Such structure creates equity rights and risk transfers that directly affect these organizations' self-management efficiency. This paper analyses those costs and sources of inefficiency to explain their problems in two complementary and different ways. First it discusses main governance aspects that generate agency conflicts; second it analyses the characteristics of managerial systems which generate informational asymmetry and monitoring problems. An analysis regarding both property rights distribution among members and decision rights distribution between elected members and hired professional executives indicates that equity rights and risk sharing in co-operative's contractual relations leads to a typology on the kind of governance, the management model and the managerial information system characteristics which could reduce agency problems. The methodology used was theoretical discussion, and comparison of the management models and systems of rural credit and agricultural co-operatives in Brazil. A questionnaire was applied in five co-operatives to compare management models and systems. Our final considerations show that better co-operative's management model organization, as well as management systems, could reduce their agency costs.

Key-words: co-operative governance; management accounting systems; agency costs.

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1. INTRODUCTION

Analysing organizational efficiency from the perspective of organizational economics demands consideration about decision making and strategic planning processes from two different and complementary perspectives: distribution of control rights and decision power – the governance perspective – and information value and availability – management control systems perspective.

Dietrich (2001) argues that systematizing knowledge about control rights in some organization demands an analysis about the structure of that organization, depending on its governance and decision rights division, as well as on its process, depending on information flow and therefore on managerial system characteristics. Thus, both dimensions can classify such processes.

Regarding business organizations, they may be classified under different categories according to Bialoskorski Neto (2006). The first category includes organizations with profit as their main economic objective – *for-profit* – with control, structure and process systems entirely focused on activities which generate revenue and with control based on economic-financial numbers.

The second category includes organizations without economic or profit objectives, aiming to provide social or public services – *nonprofit*. In such organizations the control targets service provision, with rare concerns about factor-allocation economic efficiency, but frequently control concerns about social dimension of the services provided, normally expressed in social indicators and not in economic-financial numbers.

The third category, directly related to this paper, characterizes the organizations with an economic objective but without a profit objective. These organizations – *not-for-profit* – have both economic- and service-provision objectives, for instance, agricultural co-operatives. In such organizations, the control system is more complex than in the previous cases, both in structure and process perspectives, demanding monitoring of both economic- and service-provision results.

Discussions about the characteristics of management control systems in *not-for-profit* organizations, specially their governance complexity, are essentials: they have unique and particular characteristics in their control processes and structures, the latter deeply related to particular co-operative governance characteristics.

What we try to discuss in this paper is whether the particular governance structure and the specific contractual complexity in co-operative organizations demand specific and different management control system structures, in order to minimize transactions costs and improve efficiency.

The objective of this paper is to describe management control systems and characteristics of control in *not-for-profit* organizations, specifically agricultural co-operatives. We analyse two different examples, having property and control separated in different agents and having both property and control done by the same agents, in order to understand different control structures and procedures as well as the importance of managerial systems to minimize transactions costs. To do this, we provide firstly a theoretical discussion; then, the paper describes managerial characteristics in Brazilian agribusiness co-operatives, present a survey, and ends presenting final considerations.

INCENTIVES AND AGENCY COSTS

Organizational characteristics of co-operatives, according to their doctrinaire fundamentals, define a particular distribution set of property rights, decision power, and residual earnings among their members. Such distribution set directly influences their governance model and the professional-manager's role.

In a co-operative organization, members have a unitary decision right – one member, one vote – in the general assembly, which is used, among other strategic decisions, to elect the board of directors and to delegate to them enough strategic power to manage the co-operative. In some cases, these board members run themselves the business as a whole and the service provision to its members in particular; in others, they may hire a professional executive which will receive specific decision and management powers to do it.

Hansmann (1988) point from the literature on agency costs that costs from managerial opportunism are sometimes smaller than the costs of effective monitoring. That is, for the members-patrons the costs of managerial opportunism may be minor than the alternative of having ownership and managerial responsibilities.

Jensen and Meckling (1976) describe agency problem from the situation where one party – the *principal* – is responsible to hire a second party – the *agent* – who must act in accordance with the *principal's* interests. In such situation, the authors predict that the *agent* may try to maximize his/her own interest, even if it diverts from the *principal*'s

interest. In co-operatives, the professionals are the *agents* who should act on behalf of the co-operative's members only, but may not do so.

In co-operatives, agency problems are more conspicuous, leading to management costs, analysed as governance problems, such as:

- Costs due to the *principal's* efforts to monitor the *agents'* attitudes in order to reduce losses caused by agents acting on his/her behalf in detriment to the *principal*'s interests. These costs represent the ones incurred by the board of directors and fiscal council to monitor and control the hired managers' body;
- Contractual costs due to the *agent's* commitment to the *principal*. In other words, the efforts to keep the contractual relations of acting on behalf of someone else. These costs represent the ones incurred by professional managers to act in accordance with members' decisions, even though they are not always efficient to the organization;
- Costs generated by a reduction in the *principal's* revenue induced by natural orientation and decision divergence between the parties. This important cost stems from the fact that the *agent* – a hired manager in this case – tends to act according to his/her own interest in some issues which are hard to be monitored by the board and the fiscal council, raising the hired professionals' wage in detriment to the co-operative members' revenue.

Figure 1Figure 1 shows the relationship between co-operative members as *principals* and co-operative professional executives as *agents* who should act on behalf of the members (*situation A*). It also shows the relationship where financial investors might be considered *principals* while professional managers are *agents* who must act according to these investors' economic efficiency interests (*situation B*). Yet, it shows the co-operative organization as *principal* and the members as *agents* who should be motivated to keep a close relationship with the co-operative and produce with quality and quantity required (*situation C*).

All these relations present incentive problems and monitoring costs as described above. Therefore, it is important to notice that the co-operative's organizational structure has several sources of transaction costs that could be minimized using better governance practices, efficient management control systems, and more transparent management by the hired professional executives.

It is also important to notice also that in all cases the *principal* and the *agent* can avoid or remain neutral about taking risks. If the *agent* is risk neutral, Milgron and Roberts (1992) explain that contractual incentives like variable remuneration based on equity might be an excellent incentive to increase efficiency and conduct these activities toward the *principal'*s interest. On the contrary, when the *agent* avoids risk, only the fixed compensation part will be accepted, and different incentive and control methods must be used.

We can also analyse the situation using the *principal'*s perspective. If the principal is risk neutral, he might be willing to take more risk, which raises his/her expectation for the variable compensation part – i.e. equity. Otherwise, if the *principal* avoids risk, just an immediate remuneration on services or prices advantage will be acceptable in the co-operative.

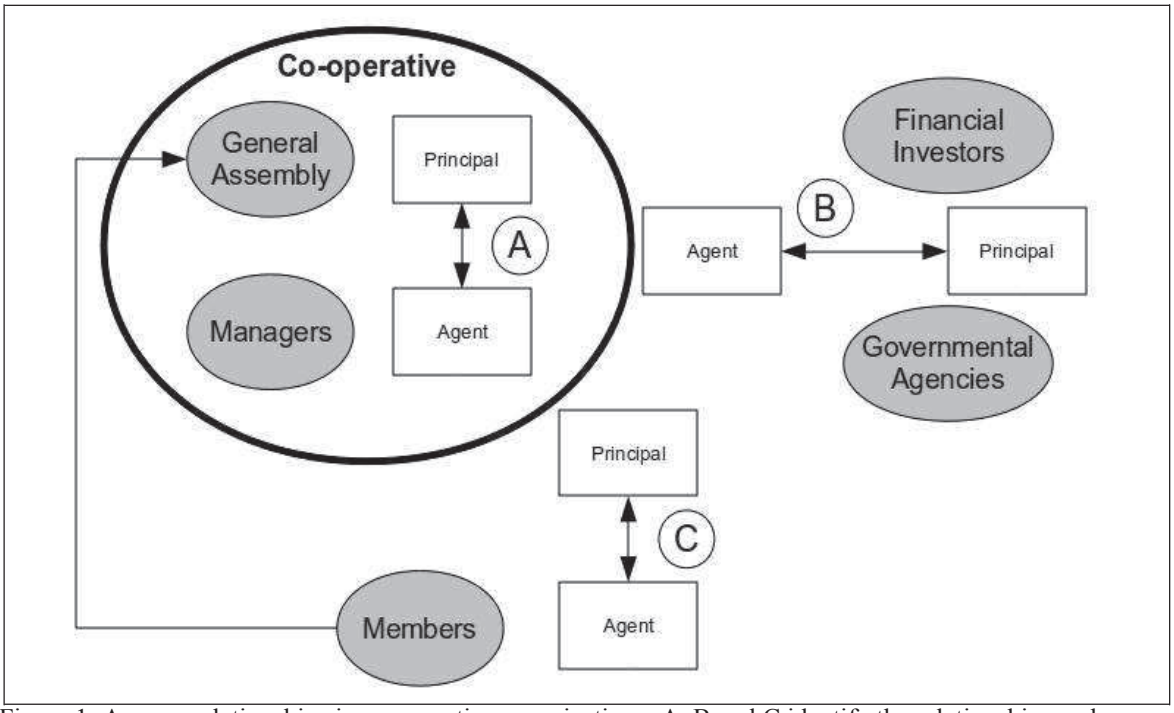


Figure 1: Agency relationships in co-operative organizations; A, B and C identify the relationships and sources of costs (BIALOSKORSKI NETO, 2006).

Depending on the characteristics of the agency relationship and degree of risk aversion, it is possible to have different arrangements between *principals* and *agents*, incurring in different situations of financial results appropriation efficiency. In Brazilian co-operatives, given that agricultural producers are highly risk averted, the most used arrangement does *not* distribute equity in cash, but instead does offer free services, lower input prices and better payment conditions to co-operative members. Table 1Table 1 below

describes the possible situations related to equity rights when a member represents the *principal* and the professional management body represent the *agent*:

Table 1Table 1 shows different situations regarding principal's and agent's behaviours towards risk in co-operatives, as well as its respective most common contractual incentive strategies to make sure that the agent acts in accordance with the principal's expectations. In the case of Brazilian agricultural co-operatives the situation more frequent is where the both principal and agent avoid risks (first set). The case of risk neutral situation is its opposite and could already be taking place, for example, in the case of New Generation Co-operatives, where contractual incentives are based on variable earning revenue to both principal and agent (BIALOSKORSKI NETO, 2004).

TABLE 1. RELATIONS BETWEEN DEGREE OF RISK AVERSION AND EQUITY DISTRIBUTION IN DIFFERENT TYPES OF CO-OPERATIVES.

Member (*Principal*)	**Manager (*Agent*)**	**Equity Rights**
Avoids risk	Avoids risk	Both parts demand fixed benefits without variable parts; there is no agent incentives in case of financial residual, which becomes unavailable.
Avoids risk	Risk neutral	The member demands fixed benefits, but the agent – professional executive – might appropriate a variable part. For example, the variable remuneration to directors and technical assistance staff.
Risk neutral	Avoids risk	Variable equity part appropriated by the principal – members – as incentive, while the professional executives– agents – prefer the traditional arrangement.
Risk neutral	Risk neutral	Without fixed parts or benefits, and variable compensation distributed as incentive to both, principal and agent.

The intermediate situations might also happen, but the risk neutrality might come from the *agents* – professional executives – who would accept a significant variable part for their remuneration as incentives to their efforts, since they are not guarantors for the financial operations. Otherwise, this characteristic might not be ideal for co-operatives due to possible noxious efforts of risk neutral executives towards co-operative members; an example could be the case of commissioned technical assistance which might encourage the use of unnecessary resources by the co-operative members, associates, and agricultural producers.

Therefore, the situation where both *principal* and *agent* avoid risks is the most common and needs control tools and monitoring processes to incite the *agent* to act according to the *principal*'s interest.

MANAGEMENT MODELS AND TYPOLOGY

When applying these concepts to corporate governance, and if manager's role is known, an institutional analysis also shows that the main co-operative doctrinaire principles have direct influences over the success of the organization (BIALOSKORSKI NETO, 2004):

- The democracy principle demands high transactional costs due to decisions being taken in general assembly and council meetings, sometimes complex and conflictive.
- The equality principle – one member, one vote – directly implies in high agency costs due to a lack of directness and focus in co-operative's economical and business activities.
- The principles of solidarity and proportional distribution of results according to each one's operation levels sometimes turn it impossible for one to observe clear property rights, and do not permit a perception of the member as an investor, leading to high agency and transactional costs.

Such problems and characteristics of co-operative organizations reflect the need for better corporate governance parameters to improve economic efficiency and to incite the professionalization of the management executive body.

Every governance problems described above occur due to the co-operatives' organizational architecture and doctrinaire principles; however, besides these limitations, it is possible to find co-operatives with different governance and professionalization adjustments.

What we propose as basis for studying the relationship between corporate organizational structure and management control systems is a typology of co-operatives based on two parameters: the level of their management professionalization, and the link between ownership and control. Two organizational models emerge from this typology, each one analysed according to its agency problems and specific managerial solutions for reducing transaction costs.

In the first management model, most frequent in Brazilian agricultural co-operatives, the members delegate power for strategic decisions to an administrative council, most of the times composed by an elected group from themselves, i.e. agricultural producers-not professionalized managers. This board of directors, more than a forum for strategic decisions and for management monitoring, also becomes responsible for the co-

operative's executive management. Other workers – hired professionals – have little decision autonomy and respond directly to the board of directors. In this model, the president of the board of directors (chairman) is also the co-operative's CEO; he/she is called the *president of the co-operative*.

The second management model appears in some cases of larger agribusiness co-operatives, but less frequently. It is characterized by a hired professional superintendent or general manager – CEO – who is responsible for the co-operative's management; he also intermediate the contact between the board of directors and the workers' body. Most of the times this executive has autonomy for tactic decisions regarding the co-operative's strategies, as well as participate on strategic discussions; it is possible that at least part of his wage is proportional to the results achieved. This is the model called "professional management" in Brazil. In this model the co-operative's president is the president of the board of directors (chairman), and the CEO is a hired professional manager.

The first model has typical governance problems, where the professionally-unprepared board of directors has insufficient knowledge to prepare efficient business policies or to take value-creating strategic decisions. This model could also induce a situation where the *agent* – the co-operative member with chairman and CEO roles – is also the *principal*; in other words, he is both a co-operative member and someone interested in the business's strategic success. Otherwise, in this case nothing prevents the *principal* from using asymmetric and privileged information for his own success.

The second model has the classic agency problem – between the members as the *principal* and the CEO as the *agent* – which can be minimized using proper management control systems and information flows. But, since the professional manager – CEO – might be unaware of the co-operative member's reality, as well as the members might also be unaware of the co-operative's administrative reality, in such cases, monitoring costs by the members is higher than the perceived benefits of the monitoring process. The opportunity costs of participation is high and consequently it is important to reduce information asymmetry and agency cost in the process.

In this way, management information systems are fundamental for reducing agency costs and information asymmetry in all cases. In the first, it improves the decision making process by providing decoded information to the members' non-professionalized board of directors, and prevents the use of privileged information by them.

In the second model, such management system is important to provide members with a better control over the risk neutral professional manager's procedures and to homogenize risk acceptance criteria.

MANAGEMENT CONTROL SYSTEMS AND INFORMATION ASYMMETRY

Utility of a management control system and level of managers' satisfaction with them are associated with the effective discharge of their duties. Atkinson, Kaplan & Young (2004) highlight four organizational functions of management accounting:

- operational control - measurement of information related to efficiency and quality of tasks performed;
- costing of the product and the customer - measurement of costs (resources) related to production, sale and delivery of products or services to customers;
- administrative control - provision of information related to the performance of managers and operating units; and
- strategic control - measurement of financial performance and long-term competitiveness, analysis of market conditions, preferences and choices of customers and technological innovations.

However, management accounting has been criticized for not being able to fulfil its objectives. Some authors criticize accounting data for not being a reliable source of information for businesses performance analysis (BRACKER; PEARSON, 1986, p. 505; PEEL; BRIDGE, 1998, p. 853) or to subsidize strategic planning processes because, as Mintzberg et al. (1998, p. 69-70) claim, hard information like managerial accountability information...

> […] is often limited in scope, lacking richness and often failing to encompass important noneconomic and nonquantitative factors;
>
> […] is too aggregated for effective use in strategy making;
>
> […] arrives too late to be of use in strategy making; and
>
> […] is unreliable [a surprising amount of it].

DeLone and McLean (1992) discourse upon an in depth model based on user's individual analysis with six different taxonomy success categories which contribute to the effectiveness of information systems: system quality, information quality, information system usage, user satisfaction, individual impact, and organizational impact. Seddon (1997) deliberates about this model proposing other relations and opposing the previous idea of information system usage as a proxy to the benefits generated by users, introducing

the behavioural information system usage category. His model considers three different variables: system quality and information measures, information systems usage of general net profit measures, and behaviour related to information system usage (RAI *et al.*, 2002).

DeLone and McLean's model considers that one user voluntarily uses the information system, while Seddon's model considers that its usage is both a voluntary and an involuntary choice. Rai et al. (2002) considers the semi-voluntary information system usage as a presupposition, given the fact that the manager's job description defines tasks and responsibilities but say nothing whether it will be done using information systems or not, letting each one identify alternative methods to perform them. However, some tasks might be strictly information-system dependent, giving the user no alternative methods to carry them out (GOODHUE; THOMPSON, 1995).

From an economic perspective, it can be stated the following premises: (1) actors (users) have unique knowledge, skills, interests and preferences, and that creates a commitment of common activities within an organization, thus requiring coordination and supervision of activities undertaken by individuals; (2) an individual decision making is subject to bounded rationality, since agents are savers with limited knowledge (FREZATTI *et al.*, 2006; RESE, 2003, p. 102).

Speklé (2001) proposed a model addressing the description of management information systems variation based on transaction costs theory. Such approach has been used to explain discrete governance structures, notably organization of transactions via market, hierarchy or hybrid forms (WILLIAMSON, 1996), and can also be used to describe management information systems, also discretely variable.

For instance, in management control systems such theoretical arrangement can be understood as different efficient solutions to contractual incentive problems that appear when hiring or controlling an organizational architecture. The agent's efforts and contributions to the organizational results are also functions of managerial monitoring and control structures put together to maximize economic efficiency.

Together with the description of discrete governance structures based on characterized variables, the author suggests three variables to differentiate managerial control structures: a) previous uncertainty level about the desired effort, b) human asset specificity level of resources involved in the competencies and, c) the impact intensity of the information available after the agency’s effort.

The agent's uncertainty about the efforts and contributions desired by the organization to accomplish the objectives exists due to the possibility of planning the effort previously. In that case, given the impossibility of planning the desired effort previously, it is mandatory that the organization have monitoring flexibility to allow contractual adaptations to unpredictable events.

Regarding the asset human resources specificity level involved in the process, it is related to possible value loss due to allocating these resources in different alternatives than the previously designated ones, similar to the view on economic transactions costs. Therefore, for the view on management control systems' structure, the resources involved are individual competencies allocated to organizational tasks.

The third variable refers to the effort results impact on contractual relations by comparing real performance to previously defined organizational objectives. This variable must be specially considered when it is impossible to previously plan the effort; in other words, when there is a high uncertainty level related to individual agent's efforts. Such uncertainty must disappear as the activities are being performed and the perception of contribution performance becomes clearer. In some situations, however, this information continues having a high organizational impact due to its specialized nature or impossibility of protecting them from its owner's opportunism. In such cases, management control mechanisms that would normally be use to try to guarantee the realization of the *desirable* contributions will then be used to prevent *undesirable* contributions.

TABLE 2. MANAGEMENT CONTROL SYSTEMS CLASSIFICATION ACCORDING TO HUMAN RESOURCES ASSET SPECIFICITY AND TO THE POSSIBILITY TO PREVIOUSLY PLAN THE ACTIVITIES AND THEIR UNCERTAINTY.

	Low uncertainty – High ability to plan the agent's efforts previously	**High uncertainty – Low ability to plan the agent's efforts previously**
Low human resources asset specificity (The resources can be reallocated and acquired in the market)	I-Management control system made by ex-post information with high impact to agents.	II-Clear Management control with precise ex-ante information and complex monitoring.
High human resources asset specificity (The resources cannot be reallocated and are trained internally)	III-Management control system made by ex-post information with low impact to agents. Can generate opportunistic attitudes by agents.	IV-Clear Management control with ex-ante information, complex monitoring, hierarchical precise information and high information efficiency to monitor and avoid opportunistic attitudes by agents.

TABLE 2 Table 2 describes some characteristics of management control systems regarding levels of uncertainty and human assets specificity.

In that way, there are different information systems and managerial needs to each combination of the previously described variables. For example, low uncertainty with high

ability to plan agent's efforts previously, high human resources asset specificity and high information impact on monitoring agent's efforts would involve less complex but highly efficient management control systems (cell III). Otherwise, high uncertainty with low ability to plan agent's efforts previously, low human resources asset specificity with low information impact on monitoring agent's efforts would involve complex management control systems to gain some efficiency level (cell II).

CO-OPERATIVES AND MANAGEMENT CONTROL SYSTEMS

The previous discussion about management control systems efficiency also applies to co-operative organizations. Therefore, in co-operatives the specific situation presented in Table 1Table 1 exists, where the general assembly and the board of directors – the members themselves – have the *principal's* role while the co-operative's managers, including directors, managers and superintendents, have the *agent's* role to act on behalf of the co-operative members.

As suggested in the corporate management model typology section, it is possible to classify agricultural co-operatives management model in two different ways, according to its contractual *principal-agent* relation. Uncertainty, resources specificity and impact of available information on the agent's contribution must be analysed to suggest the best control structure in each model.

In the first model, the general assembly elects a non-professionalized board of directors and empowers it so it will take strategic and tactical business decisions. The second model has the superintendent's role, a professional manager hired in the market – CEO – who is responsible for tactical business decisions, but shares strategic decisions' responsibility with the elected board of directors.

Beginning with the uncertainty characteristic, it is possible to verify that in all models it is impossible to plan the contribution of the co-operative's manager previously, irrespective of being elected managers or hired professionals, since their main contribution is through strategic and tactic decisions that lack previous deducible information. Therefore, in all contractual models discussed before the control structures are based on a low ability to plan the agent's efforts previously, resulting in contractual relations strongly based on mutual confidence and commitment with vague desired contributions limits.

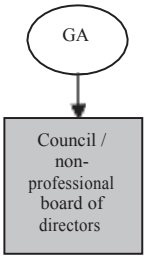
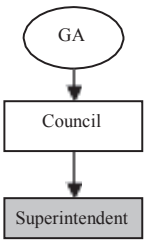
The manager's contribution to co-operative's objectives focus on the resource levels involved. The main manager's resources are individually-allocated competences, especially

knowledge and management skills. As suggested by Speklé (2001, p. 428), "low resources specificity implies in a purposely general desired contribution, not involving tailored organizational resources". In that way, "their contributions are probably driven by market mechanisms". That might be the professional manager situation in the second model, since they were hired in the market, but possibly this situation has not happen in the first model, where there are some specificity in the competencies allocated by members elected to the board – even though they are not professionalized.

Unpredictable situations will also demand decisions, even with an insufficient knowledge about the course of action that can lead to better results. In such cases, the decisions will be taken based on available information which in turn will generate new information derived from such decisions that will allow new decisions to achieve the co-operative objectives.

The information disperses in an asymmetric and powerful way through the organization, precluding only one individual from having all information made available. From the management control perspective, the challenge in such cases ends up to completely disseminate corporate performance information in real time. That is, in situations with high uncertainty and high resource specificity, the organization will minimize the high impact condition of information. Compiling the described characteristics of the two verified models in co-operatives, and based on the previously stated variables, it is possible to compound Table 3Table 3 below.

TABLE 3. CLASSIFICATION OF ESSENTIAL INFORMATION SYSTEMS ATTRIBUTES AND MANAGEMENT MODELS IN CO-OPERATIVE ORGANIZATIONS.

Model	Human resources asset specificity	Agents risk aversion	Uncertainty (information asymmetry between Principal and Agent)	Unpredictability (operations' predictability to achieve the co-operative's objectives)	Post hoc informatio n impact
M1 	High. Frequently not professionalize d elected board of directors might not be replaced without significant costs. (+)	Producers highly averse to risk (+++)	Low asymmetry. The producers are principal and agent at the same time (+)	High due to lack of professionalization and predictable actions, since the members are agents and principals in the same relation (+++)	low information impact due to the possibility of not replacing the board of directors easily (+)
M2 	Low. The hired professional can be substituted, but not without losing experience (-)	Risk neutral profession al (-)	High information asymmetry and possibility of high agency costs (+++)	Low, due to professionalization and predictable agent monitoring efforts (+)	High information impact (+++)

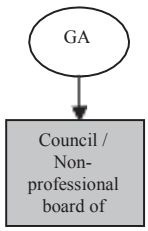
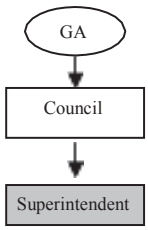
SURVEY AND CASE STUDIES

Table 2Table 2 and Table 3Table 3 show that each co-operative's organizational architecture could involve a specific management system in order to maximize organizational efficiency, control, and management methods.

Considering credit co-operatives in Brazil, according to Brazilian Central Bank, 70.1% of them elect directors with executive functions including salary – M1 model, and another 29.5% hire executives – M2 model. In 78.5% of the co-operatives, the president elected is also the president of the executive board; $^{2}/_{3}$ of all co-operatives have no managerial instruments to evaluate the performance of the administrative council, fiscal council, and executive directors (VENTURA *et al.*, 2009). The same survey shows that in 63,6% of all co-operative the members do not associate in the co-operative willing for the economic advantages, as well as in 31,9% they associate for the social networking and associative bonds.

Table 4Table 4 shows which management control systems are expected for each kind of co-operative management model and which economic incentives are more efficient to the agents.

TABLE 4. CLASSIFICATION OF MANAGERIAL INFORMATION SYSTEMS CHARACTERISTICS AND EXPECTED MANAGEMENT MODELS IN CO-OPERATIVE ORGANIZATIONS.

Model	Management control systems characteristics	Results and incentives appropriation
M1 	Management control system composed of ex-post information with high impact in agents	Demand for fixed benefits without variable parts; no agent incentive in case of equity, which becomes unallocated.
M2 	Clear management control system with precise ex-ante information and complex monitoring.	The member demands fixed benefits, but the agent – co-operative professional – might appropriate a variable part, like variable remuneration.

These two different management models were identified in rural credit co-operatives in the Minas Gerais State, Brazil. An on-line questionnaire was created for a survey with them; it included 90 questions about the co-operative identification, amount of members, assets and financial numbers, considerations about the board of directors, functions of the members, presidency, presidency of the board, educational level, presence of hired executives, and about the existence of financial incentives to the president, board members, executives and other professionals. Moreover, detailed questions about management systems characteristics, including informational flows, kind of information, management instruments like cash flows, budgeting, statements etc. Some questions were on an evaluation scale from 1 to 5 to measure variable intensity.

Five co-operatives were chosen for an initial analysis, which should be similar in the core agribusiness area, similar in the amount of members and the financial size. Table 5Table 5 shows these co-operatives' characteristics.

TABLE 5. CREDIT CO-OPERATIVES SAMPLE SURVEY SELECTED DATA, IN 2009.

Co-operatives	Agribusiness system core	Assets in Thousands USD	Number of co-operative members	Number of Employees	Number of elected council members	Number of elected directors	Number of professionals executives
M1 Coop A	Dairy and Grains	$12,105.26	1,874	15	6	3	0
M1 Coop B	Dairy	$10,308.02	1,777	24	6	3	0
M1 Coop C	Dairy and Grains	$7,067.39	1,716	22	5	3	0
M2 Coop D	Dairy and Grains	$23,860.26	4,619	57	6	3	3
M2 Coop E	Dairy and Grains	$14,136.16	2,071	22	6	3	1
Co-operatives	**Level of employees professional autonomy**	**If there are professional executives salary incentives**	**If the management System is able to control the Employees**	**If the decision process is centralized**	**Kind of monthly information**	**Kind of semi-annual information**	**Kind of information not used**
M1 Coop A	No	No	Yes (5)	No (2)	BS and Others	FD	
M1 Coop B	Relatively	No	Yes (4)	No (1)	Others Inform	FD and BS	
M1 Coop C	No	No	Yes (4)	No (2)	Others Inform	FD and BS	
M2 Coop D	Relatively	No	No (2)	Yes (5)	Others Inform	FD and BS	Cash Flow
M2 Coop E	No	No	No (1)	Yes (5)	FD and Others	B. Sheet	Cash Flow
			(scale 1 bad to 5 good)	(scale 1 bad to 5 good)	BS - Balance Sheet / FD - Financial demonstratives/ OI-Others information		

Source: Survey

All of these co-operatives have activities either only in dairy products or in dairy and grain products. The size of the five co-operatives was approximately 7 up to 23 million of Dollars in assets, middle size rural credit co-operatives, and 1.7 to 4.6 thousands of members each one. With these numbers, it is possible to consider these co-operatives similar in size and to compare them as a sample.

Because the questionnaire was very detailed, only some questions are important to analyse differences and similarities between management models, and are more significant to this discussion.

An important characteristic was that all co-operatives classified as M1 model, where the board members are also management executives, used the strategy of putting from 90% up to 100% of their financial results in non divisible funds, therefore showing high risk aversion behaviour. Only one M1 co-operative, where the rural producer board members showed a low educational level, mentioned other forms of result distribution to

the co-operative members and presented a high level of self-interest in management and not with the organization, but that was an isolated case.

All surveyed co-operatives, regardless of the management models, said that they had no variable-part salary such as contractual incentive for the professionals, for the hired executives or for the board members. Thus, there were no financial incentives for professionals for achieving goals, differently from what the management systems and agency theories appoint as good solutions.

In terms of autonomy of the hired professionals and employees, for all co-operatives it was said that they had no autonomy or had only little autonomy, and showed high concern with business control and managerial systems with ex-ante informational control. In this managerial system, an ex-post control for the professionals' goals have not appeared, so it tended to pursue more ex-ante controls than flexible business practices with ex-post goals controls.

All M2 co-operatives, with a hired professional executive, agreed that the managerial systems were simple and not adjusted to the co-operative, and also that the informational monitoring process did not control the co-operatives' activities, and did not facilitate the informational process. These answers show that executive professionals are probably strict about management systems and monitoring and control activities.

On the other hand, all M1 co-operatives agreed on this matter, that the process was able to monitor and create informational ways. In this case the answers showed that the board members and the members with executive functions had no problems or further demands about the management systems and felt that, probably, there could be information and control in other ways.

Another similar attitude is about the centralized decisions in co-operatives' management body. All M2 co-operatives agreed that the decision process is highly centralized on the board members and required more flexibility and activity independence for the professional executives.

Because of the managerial systems, like cash flow, financial statements, budgeting etc., one characteristic is important: the co-operatives with M2 structure said that they did not use cash flow, like the M1 co-operatives, maybe because cash flow is a management system that permits time control, but is not the best instrument to permit ex-ante control. This result could show a control concern in the M2 structure, and an on-time administration in the M1 model.

All co-operatives said that management and information systems had no purpose to inform the member, but only the staff and management body. So, there was no concern by the managers to inform the members about the co-operative's performance.

There were no other particular characteristics in management instruments use and it was impossible to identify any characteristic inherent to one or another group due to managerial systems instruments.

For all other questions there was no common and particular answer among the groups in terms of the management model which could be relevant.

FINAL CONSIDERATIONS

Management control systems must support the monitoring flow both minimizing information asymmetry and being efficient to support the *principal's* obligations. In other words, they must not only define the appropriate policy to accomplish organizational objectives and strategies but also give directions to organizational affairs, especially to *principals* that play supervising or monitoring roles.

Case studies show, and the answers for the questionnaire indicate, that the M2 model needs a clear management control system with precise ex-ante information and complex monitoring. On the other hand, the M1 model uses management instruments that permit on-time control and high risk aversion. Furthermore, the varying financial incentive for professionals or executives to achieve business goals does not exist in all models, contrary to the initial assumptions. The M1 model is the model with more self-interest of the members including result distribution in other forms.

Analysing the managerial instruments within the set of management control systems, cash flow analysis stands out as an important tool to control ex-post activities and is relevant to M1 co-operatives, but not to M2, which probably have a more efficient ex-ante control.

Also, it would be possible to consider that, from a theoretical point of view, the producer-member of rural co-operatives needs information about his/her enterprise to monitor the board's and the executives' activities. However, in all cases co-operatives it was said that the rural producer-member was not a subject of the management systems function, or that it was not important for the co-operatives to inform the members adequately.

This way, all of the studied co-operatives said that management control systems were established not to give information to members, but only to the board and executives. Maybe because of that this information might not be important to the members' daily activities, since around $^{2}/_{3}$ of the rural producers members do not pursue economic advantages to became an associate.

Finally, discussing the adequate management control system for each co-operative, identifying member's needs, increasing their involvement with the co-operative's routine and providing the best economic efficiency for the organization is very useful. This is an important agenda to further investigate since the co-operatives' relationship with their members is fundamental to increase their transactions fidelity.

Furthermore, it is worth to consider other types of co-operatives, like credit-unions (credit co-operatives) and diverse sub-types of consumer- and worker-owned co-operatives. This paper was written under the perspective of agricultural co-operatives given previous working and researching experience with them, as well as given the set of organizations available for performing the studies. However, the governance models described and the conclusions regarding their relation with management control systems would probably fit other types of co-operatives as well. As far as our conclusions go, there is no specific remark regarding the type of the co-operative – either agricultural, credit intermediation or other purposes – being probably more a matter of size (amount of people involved and operational events processed) and level of managerial configuration. Either way, it is certainly another opportunity of research for going further into this relationship between governance structuring model and management control systems in co-operative organizations.

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