

# Members' perceptions of governance in agricultural cooperatives: Evidence from Spain

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## Abstract

This article examines some aspects related to perceptions of agricultural cooperative members. Most arguments employed are based on agency and property rights theories. The sample consists of 196 satisfaction surveys completed by agricultural cooperative members and accounting information from Spanish cooperatives. The results show that when members do not perceive any serious agency problems, the performance of the firm is higher. We also find that members are not discouraged from investing by awareness of the free-rider problem, and the less risk averse members are, the higher is the long-term debt ratio. Finally, members' perceptions of the time horizon problem have no impact on the time frame for investment.

## Keywords

Agricultural cooperatives, agency theory, property rights theory, investment, Spain

## Introduction

Agricultural cooperatives play an increasingly important role in the European Union. In recent years, they have experienced an important increase in the number of members, volume of turnover, and working positions created. In Spain, there are around 3,755 agricultural cooperatives. These firms have 1,150,241 members, a turnover of € 28,993 million per year, and employ 100,883 workers directly (COGECA, 2019).

Agricultural cooperatives are increasing in competitiveness, as they have better bargaining power with both suppliers and clients. There have also improved in terms of quality and environmental certification, research and development (R&D) investment, and e-commerce (OSCAE, 2011). One of the most important features of cooperatives is that members of the company are not only owners but also users, handlers, and beneficiaries. This situation means that there are specific relationships between managers and members, as each of them will follow his/her own interests (Surroca et al., 2006).

The governance of agricultural cooperatives has been examined from several theoretical perspectives. For example, Arcas Lario (2011) consider, the transaction costs, the resource dependence and the neoclassical theories, among others. We believe that agency theory and property rights theory are particularly good frameworks for the study of the different relationships in these firms.

This article has two main objectives. From the agency theory perspective, we examine whether members' information and control improves cooperative returns. From the perspective of the theory of property rights, we study whether members would be more willing to invest in the cooperative if they felt less concerned about the free-rider problem. That is, in this article, we examine the relationship between the cooperative members' perceptions and some accounting measures. We are not aware of any similar studies in agricultural cooperatives. This article contributes to the growing number of country-specific studies providing original empirical evidence from the Spanish case. This and other papers may help to build a framework of empirical evidence that confirms or refutes the validity of agency theory, the theory of property rights, and other theories in different countries and contexts.

The rest of the article is structured in six sections. First, we briefly present the specific characteristics of cooperatives and their governing bodies. Then, we summarize the main characteristics of agency theory and property rights

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theory and we present the hypotheses. Next, we describe the sample, data, and methodology. Following that, the results are presented. The article ends with the discussion and conclusions sections.

## Cooperative firms: Concept and main characteristics

A cooperative is an autonomous association of persons based on several values and principles, mainly voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education, training and information, cooperation among cooperatives, and concern for the community (International Cooperative Alliance, 2014).

Unlike capitalist companies, where shareholders of agricultural firms only have economic purposes, cooperatives seek to maximize the satisfaction of their members by providing them not only returns but also satisfying others interests and providing different social services: product quality improvement, modernization of infrastructure, eco-friendly spirit, and respect for social values, among others.

### Governing bodies of cooperatives

The governing bodies of cooperatives are quite similar in most countries. In Spain, they are regulated by Law 27/1999 (Ley de Cooperativas, 1999). This Law requires three compulsory bodies: The General Assembly, the Board of Directors (or Governing Council), and the Audit Committee. In addition, the Law defines a Resource Committee and other consultative organs (Ley de Cooperativas, 1999).

The General Assembly is the highest authority and is responsible for the management and administration of different aspects of the cooperative. It must set the general policy for the cooperative and is able to discuss any topic of interest to the organization. Moreover, the General Assembly can give instructions to the Board of Directors and may insist on approving some decisions of the board.

Every member of the cooperative may attend the General Assembly, with the principle of *one member, one vote*. However, a plural or fractional voting system can be established by statutory decision in cases of cooperatives with different types of members. This plural vote will depend on the volume of activity of the organization, the asset value, and/or the number of members composing the cooperative. The Law stipulates that, in general, no member is allowed to have more than one-third of the votes.

The Board of Directors is the highest management body and is responsible for monitoring the management decisions and representing the firm. This body is composed of the President, the Vice-president, and the Secretary, as set out in the Statutes. The Law establishes that the number of board members must be between three and fifteen.

The Audit Committee's main function is to audit the society and ensure that internal rules and legal requirements

are respected—mainly the composition of governance bodies and accounting control.

## Agency and property rights theories and hypotheses

### Agency theory

Agency theory is probably the best approach to analyze companies as organizations, as it examines the different relationships within the company. This theory also explains the relationships with outside bodies, considering the company in a global environment that follows the rules of a market economy. Therefore, according to agency theory, the company is a “legal fiction” whose main function is to link a set of contracts between different parties (Jensen and Meckling, 1976).

**Agency problems.** An agency relationship is based on the delegation of some decision-making authority from the principal(s) to another person (the agent). As a rule, conflicts may arise due to the competing interests and the different benefits each expects from the agency relationship (Barnea et al., 1985). If all parties in this relationship make decisions to maximize their personal profits, behave rationally, and their expectations are set in an unbiased way, the agent will try to achieve his or her own objectives, which are independent of those of the principal (Barnea et al., 1985). This scenario will give rise to problems called *agency conflicts*.

However, agency problems are only present when, in addition to conflict of interest, there is also *information asymmetry* between the principal and the agent. Implementing incentives that counteract agency effects can solve many problems arising from the asymmetry of information. In general, these incentives are based on the idea that the agent assumes part of the risk that belongs to the principal (Dart, 2007).

In addition, cooperatives have specific problems which capitalist firms do not (Álvarez, 1999; Ramanauskienė and Ramanauskas, 2006). These difficulties can be classified as (1) problems arising from the dilution of ownership, (2) the difficulty of transferring property rights, and (3) problems arising from the multitude of agency relationships.

First, the legal principle of *one member, one vote* means that any member's vote has the same value regardless of his or her contribution. Therefore, decision-making does not depend on the amount of a member's investment, as all members have the same power. The decision-making process can be very slow, especially when members do not agree because they have competing interests. Furthermore, equal voting rights may exacerbate the disparity of interests. The members investing most will prefer the best investment and financial decisions, while those investing least will be more concerned about non-economic decisions.

Second, members face a difficult situation when transferring membership. Because there is no secondary market, it

can be difficult to value various contributions. Consequently, entering or leaving the cooperative can be very complicated.

Finally, within the cooperative, the members, managers, and board members may have different interests. This multitude of interests, the principle of one member one vote, and the difficulty in transferring membership explain why agency problems are more likely in cooperatives than in capitalist firms. There are always three types of participants with competing interests, and this is an additional difficulty for management and decision-making.

**Safeguard mechanisms and resulting costs.** Safeguard mechanisms make it possible to reduce agency conflicts and consequently agency costs. Both parties, principal and agent, should therefore ensure that they act in accordance with their contract. According to Álvarez (1999), these ways of avoiding agency costs can be either internal to the transaction, depend on regulators, or be based on the market.

Internal mechanisms are those specified in the contractual relationship. The most common mechanism is a link between performance and compensation, but this is not so easily applied in cooperatives (Jensen, 1994). Nevertheless, *geographical concentration* has proved to be one of the most widely used instruments. That is why most cooperatives are located in a specific territory. This allows a cooperative to make links to the community, especially if it plays a part in the local economy (COGECA, 2014). Moreover, a cooperative's sustainability depends on its size. To keep control and maintain stability, they are normally not very big. If they do become too large, they risk losing control, and this, combined with the constellation of competing interests, would put an end to the cooperative.

Legal mechanisms seek to prevent members from imposing private interests on the cooperative. There are several examples in Law 27/1999: decision-making by the General Assembly, an education and training fund, freedom of participation, and the possibility of getting money back after leaving the cooperative.

Unlike shareholders in capitalist companies, cooperative members usually have very different interests (Soboh et al., 2009). That is why these mechanisms are especially important in this type of organization, as they are intended to align members' opinions and decisions. Hence, the General Assembly acts as a real political body, and leaving the cooperative is very complicated. On the other hand, the education and training fund is intended to create a link between all the members of the organization.

The market sometimes creates its own safeguard mechanisms, either through the structure of contractual relationships and internal monitoring or by applying its own monitoring and warranty mechanisms. These market mechanisms are common in stock companies, especially listed companies, but have less force in cooperatives.

**Hypotheses.** According to agency theory, we expect two positive relationships to occur. Firstly, we expect that if cooperative members are well informed, agency conflicts

will be reduced. Therefore, there should be a positive relationship between the level of information provided to members and performance. There are different measures of cooperative performance (Arcas Lario et al., 2011). In this article, we focus on returns and more specifically on the return on assets (ROA). Secondly, we believe that the more control members have, the less agency conflicts will arise. Therefore, there should be a positive relationship between the level of control and returns. Thus, we propose the following two hypotheses:

**H1:** The more informed members are, the greater are the returns to the cooperative.

**H2:** The more control over the cooperative members have, the greater are the returns.

### Property rights theory

Property rights theory addresses the problem of how to organize a firm. This approach focuses on the attribution of property rights in different kinds of organization and aims to solve problems resulting from incomplete contracts (Hart and Moore, 1990).

**Property right advantages.** From an economic point of view, the determination of property rights has two important advantages (Álvarez, 1999). First, it encourages investment and work, because it gives owners an interest in tangible property, while the absence of property rights means that the effective cost of goods is zero. Second, the determination of property rights reduces the overexploitation of resources, and the problem known as "the tragedy of commons" is avoided.

**Specific problems in cooperatives and possible solutions.** The main problem faced when applying this theory to cooperatives is that property rights may be not clearly defined. As a consequence, investment decisions are not always optimal. There are three factors or problems that explain this inefficiency (Vitaliano, 1983): (a) the free-rider problem, (b) the time horizon problem, and (c) the risk aversion problem.

The free-rider problem is a common occurrence in situations of where there is common property. When property rights cannot be easily transferred, or they are inadequately defined, individuals will not assume the total cost of their actions and will not receive the total benefit generated by the organization (Royer, 1999). However, new members receive exactly the same residual duties and profits arising from previous decisions.

Royer (1999) affirms that the free-rider problem gives rise to different preferences among cooperative members, depending on how long they have owned residual duties. This creates a disincentive to invest, especially in the long term.

Four measures can be used to reduce the effects of the free-rider problem (Grandori, 2013; Vitaliano, 1983): (a) controlling the entry of new members when returns on investment directly affect the cooperative; (b) promoting

the entry of new members when the opposite is the case; (c) implementing entry barriers; and (d) developing and adopting a financial plan based on capital.

The main problem arising from the time horizon is that, due to the low level of long-term investment, cooperatives never invest in R&D, marketing, or intangible aspects of the organization. Managers under pressure try to reduce the equity level and recover the investment as soon as possible. This situation could be avoided by adopting two measures (Staatz, 1987): (a) new co-op members can only join the organization if an old member leaves; and (b) the transmission of property rights is guaranteed, and therefore is the capital value of the company.

The portfolio problem happens when residual property rights are not clearly defined and their transmission is very difficult. In that case, members cannot diversify their risk according to their preferences.

Cooperative members' appetite for risk-taking may have an impact on financing, and therefore on the survival of the company. A lack of long-term financing could mean that the cooperative faces higher interest rates. Consistent risk aversion could bring about the end of the cooperative.

In addition, managers may take on suboptimal levels of debt as a way of reducing the risk assumed by members and increase their level of satisfaction. If the cooperative does not have an adequate debt–equity ratio, profitability cannot be optimized. Instead, the priority is the satisfaction of members, without taking into consideration the economic viability of the organization.

If members believe that investing in the cooperative is not risky, the level of debt will be higher, the situation will be more stable and the company more profitable. Hence, managers need to show that investing in the cooperative is not risky, as members will only be willing to take on long-term debt if their investment is guaranteed.

**Hypotheses.** A positive relationship between the size of the company and the free-rider problem is expected. Thus, we propose the following hypothesis:

**H3:** The fewer cooperative members are concerned about the free-rider problem, the more they will invest in the cooperative.

Also, a positive relationship between current assets and the time horizon problem is expected. Therefore, we propose the following hypothesis:

**H4:** The less co-op members are concerned about the time horizon problem, the less they will invest in the short-term.

Finally, a positive relationship between risk appetite and long-term indebtedness is expected, as a consequence of the time horizon problem. Hence, we propose the following hypothesis:

**Table 1.** Descriptive statistics.

Variable	Min	Max	Mean	Median	Standard deviation
Information	1	10	8.19	8	1.84
Control	0	10	6.74	8	3.13
Free-rider	0	10	6.35	7	2.87
Horizon	0	10	8.48	9	1.92
Risk	0	10	6.99	8	2.63
ROA (%)	−18.38	7.65	1.275	2.50	3.38
ROE (%)	−4.45	9.98	2.27	2.70	3.97
Debt (%)	8.79	77.55	50.98	51.00	19.93
LT Debt (%)	0.00	32.54	15.06	19.82	9.06
ln (TA)	11.72	18.14	15.74	15.43	1.85
ln (NcA)	11.31	17.48	15.08	15.03	1.85
CA/TA (%)	12.29	83.28	47.29	48.34	10.41
Women_members	0	1	0.06	0	0.25

ROA: return on assets; ROE: Return on Equity; ln (TA): Napierian logarithm of Total Assets; ln (NcA): Napierian logarithm of Non-Current Assets; LT Debt: long-term Debt; CA/TA: Current Assets divided by the Total Assets.

**H5:** The less cooperative members perceive risk, the more willing will they be to use long-term debt.

## Sample, data, and methodology

A sample of 196 observations of Spanish agricultural cooperative members and the accounting information of cooperatives is used in this study. All cooperatives are based in the Region of Murcia. The information about members was collected from a database about members' satisfaction. The accounting information was collected from the database SABI or was provided by the Register of Cooperative Societies (Registro de Sociedades Cooperativas).

The database records that the average member is a 60-year-old man, with around 20 years of seniority in the company and low levels of education. According to Carretero and Avelló (2011), the main barrier to the participation of women comes from a marked division of roles, more entrenched in rural settings, which means that women are more likely to increase their training and to leave the field. Women are less likely to inherit a family farm than their brothers. In addition, women find agricultural and livestock work even less attractive than men, preferring urban jobs. The high average age of the members is due to the reduction of the agrarian active population and to the attraction of young workers to the service industries (Reig and Picazo, 2002). Around 25% of members have been members of the board. This database provides information relative to the effect that information, risk aversion, time horizon, and free-rider problems have on members' satisfaction.

For the accounting information, we have employed data coming from balance sheets, income statements, statements of changes in equity, cash flow statements, and management and audit reports. Descriptive statistics are presented in Table 1.

The dependent variables are the ROA, computed as the Net Income divided by the Total Assets; the rate of long-term investment,  $\ln(\text{NcA})$ , estimated as the Napierian logarithm of Non-Current Assets; the rate of short-term investment,  $\text{CA}/\text{TA}$ , computed as the Current Assets divided by the Total Assets; and the level of long-term debt,  $\text{LT Debt}$ , computed as the Long-term Debt divided by the Total Assets.

The information about the dependent variables comes from a questionnaire-based database, obtained from members of agricultural cooperatives. “Information” is the perceived level of knowledge about the cooperative, elicited by the following question: “Does the cooperative always inform you about the decisions that affect you?” “Control” is the perceived level of control over the cooperative, elicited by the following question: “Are your interventions in the General Assembly taken into consideration?” “Horizon” is the level of commitment to the cooperative in the long-term, elicited by the following question: “Do you consider your situation with the cooperative as a long-term relationship?” “Free-rider” is the level of commitment to the cooperative as an organization, elicited by the following question: “Are you willing to sacrifice your own immediate benefit in order to increase that of the cooperative in the long-term?” And “Risk” is the members’ predisposition to invest in the long term, elicited by the following question: “Would it be easy to get your contribution back if needed?”

We also employ several control variables: ROE, Return on Equity (computed as the firm net income divided by the equity); Debt, measured as Total Debt divided by Total Assets; the size of the cooperative,  $\ln(\text{TA})$ , computed as the Napierian logarithm of Total Assets; and the number women in the cooperative,  $\text{Women\_members}$  (Fosberg, 2004; Glass et al., 2016; Riaz, 2012).

We have included  $\text{Women\_members}$  as a control variable, because some researchers claim that the presence of women reduces agency conflicts. Carter et al. (2003) consider that administrative boards composed of both women and men are normally more efficient than those whose members are only men. They also assert that women may be excluded from taking decisions, since they are a minority group.

Table 1 suggests that the extent of women’s participation is generally lower than men’s and almost non-existent at board level. This may reflect the profile of members, as agricultural cooperative members in Spain are quite old and have a low level of educational attainment. In Spain, agriculture has traditionally been seen as a male preserve.

We propose four linear regression models, applying the ordinary least squares method. The first model enables us to analyze the agency problems (hypotheses 1 and 2). This model has been subdivided into two variants, as *information* and *control* show a high degree of correlation. For that reason, we have carried out a multiple regression for each hypothesis, to test hypotheses 1 and 2. The regression proposed for *information* is as follows:

**Table 2.** Effect of information on ROA.

Independent variables	$\beta$	t	Sig.
Constant		−1.841	0.103
Information	0.524	3.513	0.008***
Debt (%)	1.131	4.823	0.001***
$\ln(\text{TA})$	−0.098	−0.468	0.652
$\text{Women\_members}$	−0.500	−2.970	0.018**
Adjusted $R^2$	0.813		
F	14.034		
Joint significance	0.001		

ROA: return on assets;  $\ln(\text{TA})$ : Napierian logarithm of Total Assets.  
\*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

$$\text{ROA} = \beta_0 + \beta_1 \text{information} + \beta_2 \text{Debt} + \beta_3 \ln(\text{TA}) + \beta_4 \text{women\_members} + \varepsilon \quad (1)$$

For the second variant (control), we propose the following regression:

$$\text{ROA} = \beta_0 + \beta_1 \text{control} + \beta_2 \text{Debt} + \beta_3 \ln(\text{TA}) + \beta_4 \text{women\_members} + \varepsilon \quad (2)$$

The second model is used to check the free-rider problem (hypothesis 3):

$$\ln(\text{NcA}) = \beta_0 + \beta_1 \text{free-rider} + \beta_2 \text{ROE} + \beta_3 \ln(\text{AT}) + \varepsilon \quad (3)$$

The third model refers to the time horizon problem (hypothesis 4):

$$\text{CA}/\text{TA} = \beta_0 + \beta_1 \text{horizon} + \beta_2 \text{ROE} + \beta_3 \ln(\text{TA}) + \varepsilon \quad (4)$$

Finally, the fourth model examines the risk aversion problem (hypothesis 5):

$$\text{LT debt} = \beta_0 + \beta_1 \text{risk} + \beta_2 \text{ROE} + \beta_3 \ln(\text{TA}) + \varepsilon \quad (5)$$

## Results

Table 2 shows the results of the effect of information on the returns (ROA). According to figures presented, hypothesis 1 is supported, as we obtain a positive and significant effect between *information* and *ROA* ( $\beta = 0.524$ ,  $p < 0.008$ ). Thus, the more cooperative members perceive that they are adequately informed, the greater is the ROA and the fewer are the agency problems.

The control variables *Debt* ( $\beta = 1.131$ ,  $p < 0.001$ ) and *women\_members* ( $\beta = -0.500$ ,  $p < 0.018$ ) are also both significant. We find that the debt level has a positive impact on returns, while the presence of women has a negative impact. Most arguments regarding decision-making theories suggest that gender diversity has a positive effect on

**Table 3.** Effect of control on ROA.

Independent variables	$\beta$	t	Sig.
Constant		-0.028	0.978
Control	0.484	2.204	0.052*
Debt (%)	0.688	2.030	0.070*
ln (TA)	-0.185	-0.586	0.571
Women_members	-0.484	-1.722	0.116
Adjusted R <sup>2</sup>	0.385		
F	3.195		
Joint significance	0.062		

ROA: return on assets; ln (TA): Napierian logarithm of Total Assets.  
\* $p < 0.1$ .

**Table 4.** Effect of free rider on Non-Current Assets.

Independent variables	$\beta$	t	Sig.
Constant		3.967	0.000***
Free-rider	-0.012	-1.696	0.092*
ROE (%)	0.121	8.507	0.000***
ln (TA)	0.889	62.628	0.000***
Adjusted R <sup>2</sup>	0.99		
F	6365.77		
Joint significance	0.000		

ROE: Return on Equity; ln (TA): Napierian logarithm of Total Assets.  
\* $p < 0.1$ ; \*\*\* $p < 0.01$ .

organizational results. However, there are arguments that gender diversity may be negative for a firm (Westphal and Milton, 2000). These arguments come from categorization and organization theories. According to these theories, members usually divide the group into in-groups (those with similar characteristics and/or opinions) and out-groups (those with different characteristics and/or opinions), and they feel positive about those members belonging to the in-group, and negative about those not included. Heterogeneous groups will experience more communication and coordination problems, and they will not be able to use knowledge and skills in the most effective way.

Table 3 shows a positive and significant relation between *control* and *ROA* ( $\beta = 0.484$ ,  $p < 0.052$ ). Thus, hypothesis 2 is also supported. The more cooperative members perceive that they exercise control over decision-making, the less agency problems there will be and the more profitable the cooperative. The only control variable that was significant was *Debt* ( $\beta = 0.484$ ,  $p < 0.052$ ), meaning that the debt level has a positive impact on returns.

Table 4 shows the effect of the free-rider problem on long-term investment. According to results obtained, hypothesis 3 is not supported, as we obtain a negative and significant relation ( $\beta = -0.012$ ,  $p < 0.092$ ) between *free-rider* and the rate of long-term investment, *ln (Nca)*. The regression indicates that the perception of cooperative members does not always correspond to a better way of managing the company.

We also observe that both control variables are highly significant. *ROE* is positive and significant ( $\beta = 0.121$ ,  $p < 0.000$ ), so that as *ROE* increases, so does the size of Non-Current Assets. This shows a positive and significant

**Table 5.** Effect of time horizon problem on the Current Asset investments.

Independent variables	$\beta$	t	Sig.
Constant		-3.600	0.000***
Horizon	0.10	0.158	0.875
ROE (%)	-1.144	-9.709	0.000***
ln (TA)	1.108	9.346	0.000***
Adjusted R <sup>2</sup>	0.349		
F	34.017		
Joint significance	0.000		

ROE: Return on Equity; ln (TA): Napierian logarithm of Total Assets.  
\*\*\* $p < 0.01$ .

**Table 6.** Effect of risk aversion on long-term indebtedness.

Independent variables	$\beta$	t	Sig.
Constant		-21.687	0.000***
Risk	0.067	2.117	0.036**
ROE (%)	-0.220	-6.718	0.000***
ln (TA)	0.935	29.039	0.000***
Adjusted R <sup>2</sup>	0.820		
F	281.236		
Joint significance	0.000		

ROE: Return on Equity; ln (TA): Napierian logarithm of Total Assets.  
\*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

relationship with ln (TA) ( $\beta = 0.121$ ,  $p < 0.000$ ), meaning when the Total Assets of the cooperative increase, so do Non-Current Assets.

Table 5 shows the effect of the time horizon on short-term investment, *CA/TA*. Hypothesis 4 is not supported, as the variable *Horizon* is not significant ( $p < 0.875$ ). The perception that cooperative members have of the time horizon is not related to the time frame of investment.

We also find that the control variables are highly significant. *ROE* has a negative sign ( $\beta = -1.144$ ,  $p < 0.000$ ), which means that when *ROE* is higher, the Current Asset rate is lower. We also observe a positive relationship with ln (TA) ( $\beta = 1.108$ ,  $p < 0.000$ ), meaning that when Total Assets are higher, the Current Asset rate is also higher.

Finally, Table 6 shows how risk affects long-term debt. Hypothesis 5 is supported, as we obtain a positive and significant relationship between the variables ( $\beta = 0.067$ ,  $p < 0.036$ ). The less risk cooperative members perceive there to be, the more they will be willing to use long-term debt.

Finally, we find that the control variables are highly significant. *ROE* has negative sign ( $\beta = -0.220$ ,  $p < 0.000$ ), meaning that the greater is the *ROE*, the lower is the long-term indebtedness, and ln (TA) has positive sign ( $\beta = 0.935$ ,  $p < 0.000$ ), meaning that the greater the Total Assets, the greater will be the indebtedness.<sup>1</sup>

## Discussion

This study examines different situations that may arise in agricultural cooperatives and among their members, using

agency theory and property rights theory. There is a little but increasing previous evidence employing these theories in the study of agricultural cooperatives. A recent example is Hakelius and Hansson (2016). However, these studies have a different purpose, as they mainly focus on the level of satisfaction of the cooperative members.

An article closer to ours, but from a different perspective, by Cook and Iliopoulos (2000), shows that cooperatives with a closed membership policy, use marketing agreements, and have transferable and appreciable delivery rights, have a greater propensity to invest.

Agency and property rights theories show that cooperative members' property rights are quite different from those of shareholders, because cooperative members enjoy their property rights according to their role within the cooperative, while shareholders enjoy theirs in proportion to their share of the subscribed capital. Cooperative members face significant difficulties when transferring property rights.

Several problems arise as a result of the specific characteristics in cooperatives, which make it difficult be as efficient as capital companies. According to agency theory, cooperatives face agency conflicts and asymmetry of information, as members are users, owners and beneficiaries. Cooperatives also have to tackle specific problems arising from the principle of one member, one vote, special difficulties in transferring property rights, and conflicts of interests between members, members of the board of directors and managers. According to property rights theory, failure to determine property rights gives rise to several problems, especially in cooperatives: the free-rider problem, the time horizon problem, and the risk aversion problem. These three problems result in a lack of incentive to maintain the value of the cooperative, a lack of incentive to optimize assets and maximize the value of the cooperative, and a lack of incentive to commit to risky or long-term investments.

Some of the results observed confirm that agency and property rights problems are important. We find that when members believe that they are better informed and exercise more control over the organization, the returns are greater. We also find that the less risk cooperative members perceive, the more willing they are to use long-term debt. However, even when cooperative members are aware of the free-rider problem, they do not invest less. They probably do not consider this as an important issue.

To reduce agency and property right problems in cooperatives, several proposals have been made by researchers (Fama and Jensen, 1983; Spear, 2004; Staatz, 1987; Vitaliano, 1983). Those proposals include limiting the entry of new members, separating the common capital, imposing quality standards, introducing payment systems that connects the principals' utility function to members' objectives, and ensuring members have information and participate actively in the management of the cooperative.

## Conclusions

This article has two main objectives. It examines whether members' information and control may improve cooperative

returns. And it studies whether, if the cooperative members were less concerned about the free-rider problem, they would be more willing to invest in the cooperative.

The results confirm that reducing agency problems makes it possible for the cooperative to improve its returns. Furthermore, regarding the problems arising from the indeterminacy of property rights, the results show that (1) the less risk cooperative members perceive, the more willing they are to invest in the long-term, (2) the free-rider problem does not necessarily lead to investing less in long-term assets, and (3) the time horizon problem, as perceived by cooperative members, has no impact on the time frame for investment. We also find that when cooperative members perceive less risk, the cooperative will take on more long-term debt.

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## Note

1. The variable women members has been also included in models (3) to (5) with no significant results.

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