# Manager Compensation and Influence Costs in Agribusiness Cooperatives

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**Abstract**
This paper addresses the role of manager compensation in ameliorating the influence costs problem in agribusiness cooperatives. We argue that influence costs are higher in cooperatives than in investor-oriented firms and introduce a formal game of influence activities in cooperatives in which we incorporate the rent-seeking behavior of managers, board members and farmer-owners. The issue examined is decision making over a policy that creates a rent for the distribution of which members compete. Accordingly, each member tries to influence decision-making by expending resources to increase the probability of capturing the rent. The findings suggest that an increase in the manager's salary leads to a decrease in the influence costs incurred by the cooperative. The same effect is produced by an active cooperative membership.

**Keywords**
Rent-seeking, cooperatives, decision-making

## 1 Introduction

Since the mid-1980s, the literature on organizations has been significantly enriched by research that focuses on intra-firm influence costs as an important source of decision-making inefficiencies. Yet, significantly less attention has been paid to the study of influence activities in hybrid organizational forms such as franchising, subcontracting, alliances, collective trademarks, and cooperatives (Menard 2004). In this paper, we formally investigate the role of influence activities in the hybrid organizational

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arrangement called 'agribusiness cooperative[2].'" Particularly, we study the relationship between managerial compensation and influence cost minimization. In contrast to the received literature, our model is based on the hypothesis that influence costs are higher in cooperatives than in investor-oriented firms (IOFs) or other hybrid forms. Furthermore, as we explain in the next section, cooperatives do not have access to the instruments available to IOFs for ameliorating the constraints imposed by high influence costs. Consequently, managerial compensation may become an indispensable influence cost-minimizing tool in cooperatives.

Influence costs inevitably arise in any organization when decisions affect the distribution of wealth or other benefits among members or constituent groups of the organization and, in pursuit of their selfish interests, the affected individuals or groups attempt to influence the decision to their benefit (Milgrom and Roberts 1992: 600). Two conditions are necessary to make influence costs likely (Milgrom and Roberts 1992): i) a group of decisions or potential decisions must be made that can influence how the benefits and costs in a firm are distributed and shared, and ii) the affected parties must have open channels of communication to the decision makers during the time period when decisions are being made, as well as the means to influence them. Given that decision makers' ability to make sound decisions depends, among other things, on the information provided to them by the affected parties, influence costs arise not only when the affected individuals participate in decisions but indirectly as well.

Influence activities may take various forms. For example, employees or other key stakeholders may engage in lobbying, or providing information that distorts decision making to their private benefit. Taken to the extreme, influence activities may involve the misreporting of skill deficiencies (Watson et al. 2006), sabotage (Dubois 1987), or explicit conflict between individuals or groups of firm stakeholders (Abma 2000).

Under homogeneity of stakeholder interests, influence activities may result in more efficient channeling of information. Since this condition is rarely met in any non-trivial economic organization, we focus solely on wasteful influence activities.

Organizations attempt to ameliorate the influence costs problem by using non-discretionary promotion schemes and narrowing wage differentials (Milgrom 1988; Milgrom and Roberts 1988), divesting poorly operating segments (Meyer et al. 1992), designing a company's capital structure (Bagwell and Zechner 1993), by adding levels of hierarchy (Inderst et al. 2005), and by introducing employee stock ownership plans (Matejka and De Waegenaere 2005). As we explain later, not all of these options are available to cooperative decision makers.

Besides IOFs, the influence costs problem is a major source of inefficiencies in agribusiness cooperatives (Cook 1995; Bogetoft and Olesen 2003). Yet, in addition

[2] The agribusiness cooperative is one of the many forms of producer-owned firms (POFs) commonly observed in the production and marketing of food and beverages.

to the influence costs identified in investor-oriented firms, cooperatives incur extra influence costs due to their unique ownership structure (e.g., Banerjee et al. 2001).

This paper addresses the role of manager compensation in ameliorating the influence costs problem in agribusiness cooperatives. We introduce a formal game of influence activities in cooperatives that incorporates the influence/rent-seeking behavior of farmer-owners and the utility-maximizing reaction of the central decision-maker. In the model, the manager and members interact in a non-cooperative fashion. The issue examined is decision making over a policy that creates a rent for the distribution of which members compete. Accordingly, each member tries to influence decision-making by expending resources to increase the probability of capturing the rent. Several crucial decisions entail, either explicitly or implicitly, the (re)distribution of wealth among the members of a cooperative and thus may provoke influence attempts by members. The allocation of overhead costs, the assessment of members' product quality, and the geographical location of a new investment are but a few examples of such decisions (Hansmann 1996; Hetherington 1991).

Cooperative members demonstrate two types of behavior; voting and influence behavior. The first is exhibited by supporting the manager who maximizes a member's individual gain while the latter is manifested through members' competing to capture as large a part of the redistributed rent as possible. The manager maximizes her personal wealth by taking into account the voting behavior of members. Our influence costs model extends similar models developed in the profit-seeking literature (e.g., Appelbaum and Katz 1986; 1987; Tullock 1967; Kreuger 1974; Posner 1975).

One of the key insights of the paper is that an increase in the manager's salary leads to a decrease in the influence costs incurred by the cooperative. Additionally, an increase in the salary that the manager can get in an alternative occupation reduces collective influence costs. Furthermore, the total amount of influence costs incurred by the cooperative increases with an increase in the size of cooperative membership. To isolate the impact of influence activities on intra-firm rent distribution, we assume that rents are allocated solely on the basis of the members' relative influence efforts.

The paper is organized as follows. In the next section we explain why influence costs are higher in cooperatives than in IOFs and introduce a typology of these costs. Section 3 presents the model, derives the influence cost-minimizing level of manager compensation and the corresponding level of influence activities, and computes relevant comparative statics. Section 4 presents the results of the model. Finally, Section 5 concludes the paper and outlines potential extensions of the model.

## 2 Influence Costs in Producer-Oriented Firms

Producer-oriented firms incur higher influence costs than their IOF counterparts for several reasons. For instance, the unique ownership structure of traditional cooperatives (members are owners and users at the same time), implies that members have easier access to the organization's decision makers. This can lead members to manoeuvre attempts in order to influence management's decisions to their benefit. In contrast, in IOFs attempts to influence decisions come primarily, or exclusively from employees. Consequently, decision making in diversified customer-and producer-oriented firms can be more complicated relative to IOFs of comparable size.

Besides the aforementioned reason however, influence costs appear to be larger in cooperatives than IOFs for yet another cause. In traditional agricultural cooperatives, residual claims are not tradable in any secondary market as is the case in publicly-traded IOFs where owners can monitor managerial performance by observing variations in the company's stock value. Hence, in the absence of market monitoring tools, managers in traditional cooperatives are more flexible to pursue goals inconsistent with those of the membership as a whole. This problem, which has been identified in the literature as the "control problem" (e.g., Vitaliano, 1983; Cook, 1995) has an additional negative implication for firm performance not explicitly discussed in the literature. Cooperative managers may be more easily influenced toward advancing the interest of sub-groups of members since they are not alarmed by tight market monitoring. Thus the control problem may be transformed into a complex multiple principle-influence costs problem which generates additional costs not usually observed in IOFs.

Given this multiple principle-agent problem and the open channels available to both members and employees for influencing decision-making, every resource allocation decision in diversified cooperatives becomes a potential source of influence costs. Crucial resource allocation decisions regarding the allotment of capital to the various budget types (e.g., capital, operating and human resource budgets) create rents which are more significant in case cooperative members have diverse interests. Members pursuing these deviant individual interests may force decision-makers to deviate from maximum-efficiency business decisions.

Influence costs incurred by agribusiness cooperatives are taxonomized in one of the following categories: 1) opportunity costs of cooperative stakeholders' time, 2) costs of monitoring and enforcing decisions that create quasi-rents, 3) coordination and measurement costs associated with delayed decisions, 4) costs of wrong or no decisions, and 5) costs associated with policies designed and implemented to avoid influence costs (Milgrom and Roberts 1990; Iliopoulos and Cook 1999).

Several observable business practices, behaviors and policies provide a crude manifestation of the existence of influence activities in agricultural cooperatives. One indicator of influence activities in marketing and bargaining cooperatives is the use of

a third party (an independent company) for grading/classifying the products delivered by members to the cooperative (Hansmann 1996). Cooperative chief executive officers may use this practice to avoid influence attempts by members who want to receive a high price for low-quality produce.

The frequency of serious disagreements between members of the cooperative and particularly those serving on the Board of Directors is another indicator of the influence costs problem. As disagreements between members intensify, influence costs tend to increase. Consequently, CEOs in cooperatives incurring high influence costs are expected to spend a significant part of their time in dealing with influence attempts by members. Additionally, cooperative managers may maintain a notable portion of total equity as unallocated so that they can respond to the particular interests of different groups of members, especially in cooperatives with highly heterogeneous memberships. Logrolling provides yet another indicator of influence activities. Board members who represent different subgroups of members may agree to support each other when their most vital interests are not contradictory (Staatz 1987).

The literature provides numerous cases that illustrate the harmful effects of influence activities in cooperatives. The conflicting interests among the members of a cooperative and the accompanying decisions that lead to wealth redistribution can take several forms. In California, price adjustments for quality and condition of fruit delivered by members, price differentials for early and late varieties, and the arrangements to be made to compensate growers whose fruit is not sold have been sources of conflict among the members of fruit bargaining associations (Hansmann, 1996).

In single-commodity marketing cooperatives, in which the membership is not divided among various crops, the unavoidably divisive questions of allocation of resources and net returns among competing commodities are not present. Yet, the provision of quality discounts for high-volume producers may result in high influence costs. Large-volume producer-members are likely to be important to the cooperative, particularly if, as is often the case, a relatively small number of large producers produce a very large proportion of the production handled by the cooperative. Strengthened by their increased bargaining power, large-volume producers demand special treatment and usually succeed in capturing, not only the value of the economies derived from their being a large-volume member, but also in extracting favored treatment in excess of such gains. Pressure for different treatment can lead to serious dissension and therefore requires careful consideration. In a nut marketing cooperative, contrary to the organization's bylaws, a large-volume member demanded that it be allowed to deliver to the cooperative those grades for which the cooperative was paying the higher price and to deliver the remaining grades to an investor-owned processor who was paying for those grades a price higher than the cooperative. The member was large enough to threaten to withdraw and to establish his own processing facility. The board decided to accept this demand to the interest of the remaining members of the cooperative (Hetherington 1991).

The conflicting interests of members in multiple-commodity marketing cooperatives are usually more severe. Even when such a cooperative adopts a separate-pools system, cost allocation decisions are tough to make. Under separate pooling, the growers of different commodities have little interest in the overall profitability of the operation of the business. The result is likely to be intense and potentially disruptive disagreement that fatally limits managerial discretion to operate efficiently in the market. However, the significance of changes in member attitudes for the maintenance of organizational efficiency is tremendous. Negative beliefs about the way the cooperative treats a member may result in the dissolution of the cooperative (Zusman and Rausser 1994).

In a totally different setting, consumer cooperatives face similar problems. The case of the Consumer Cooperative of Berkeley illustrates the fatal contribution of influence activities to the demise of a collective enterprise. Commencing in 1937, the Berkeley Co-op reached a height of 116,000 members, mostly family households who purchased 82 million dollars worth of goods and services a year. Despite its success, several factors led gradually to its downfall in the late 1980's. A book published by the University of California, presents the views of various cooperative leaders and stakeholders on the reasons behind the dissolution of the cooperative (Fullerton, 1992). Influence costs imposed by a series of wrong managerial and board decisions played a fatal role and led to the gradual demise of the Berkeley Cooperative.

According to Milgrom and Roberts (1988), organizations have four options in dealing with the influence costs problem. First, they can close communication channels for certain decisions. Second, they can reduce the return to influence activities by limiting decision makers' discretion and restricting their ability to respond to information supplied by others. Third, they can decentralize and separate business units (e.g. by spinning off some operations). Finally, they can adjust compensation, promotion, investment, and other criteria in order to align individual goals with those of the organization. Yet, in cooperatives most of the above options are either not available or cannot be implemented.

Limiting employees' access to communication channels is considerably easier than restricting the access of cooperative members to such channels because the latter are also owners of the organization. The adoption of this strategy may generate more problems than decision makers have intended to solve. Equally difficult to implement are policies that restrict cooperative managers' ability to respond to information supplied by members. Actually, this information channel has been accredited as one of the key competitive advantages of agribusiness cooperatives relative to IOFs (e.g., Hansmann 1996). The third option of decentralizing and separating units has been primarily adopted by several European agribusiness cooperatives (Hendrikse and Bijman 2002). However, the success of this strategy depends, among other things, on the size of the cooperative (Cook and Chaddad 2006). Given these limitations, in the following section we investigate formally the fourth option; the adjustment of manager compensation as a way to overcome influence cost-

induced inefficiencies. We model influence activities in the context of a rent distribution decision made within an agribusiness cooperative.

## 3 The Model

Two parties interact in this game, in a non-cooperative[3] fashion; the members of the cooperative and its manager. The goal attempted in this section is to develop a (Nash) equilibrium model of influence activities in agribusiness cooperatives. The actions of the manager, who is assumed to set the rent objectives[4] within the cooperative firm, are explicitly considered. This analysis allows for the opportunity to consider the effects of changes in the exogenous parameters of the model on the amount of influence costs incurred by the cooperative. First, the actions of each party are considered.

### 3.1 Cooperative Members

Cooperative members exhibit two types of behavior in this model; voting behavior and rent-seeking behavior. Members' voting behavior is evident in the degree to which they support the manager. Rent-seeking or influence behavior is manifested through members' competing to capture as large a part of the redistributed wealth (rent) as possible.

### 3.2 Members' Voting Behavior

Cooperative members' voting behavior is characterized by the following assumptions. In order to maximize her/his personal wealth, each member chooses a level of support to a particular manager. From an influence costs point of view, this is achieved by supporting the manager[5] whose policies give her/him the largest possible part of the

[3] Non-cooperative games are those that involve strategic action on the part of players.

[4] It is assumed that due to the principal-agent problem the manager utilizes asymmetric information and presents board members with a subset of the options available to them in order to increase the personal benefits that she enjoys.

[5] This support can take many forms. If the member is also a board member, she will vote in favor of some managerial proposals that do not affect her personal wealth, even if they do not promote the cooperatives' interests in the long run. If the member is not a board member she will support the management's proposals by voting for the representative who supports such management proposals. With respect to the operation of Boards, the cooperative in this model

rents to be redistributed. Members may not have completely accurate perceptions of all policies adopted by the board and manager; they may not understand all the complexities associated with cooperative management. However, members' perceptions are assumed to be positively correlated with actual consequences. In other words, more favorable consequences will be perceived by members as such, and they will act accordingly. The probability, $\mu$, that management will be supported is given by[6]

$$m = \hat{m}(w), \qquad \hat{m}'(w) \geq 0, \tag{1}$$

where w is the dollar value change in members' welfare as a consequence of the cooperative's policies. Policies undertaken by the board and the manager may involve a transfer of wealth to ($w>0$) or away from ($w<0$) members.

### 3.3 Members' Influencing Behavior

Consider a policy (e.g., the allocation of overhead costs) which creates a rent, R, for the distribution of which members may compete. For example, when members deliver substantially different product quantities, a policy that allocates overhead costs equally among members may result in a transfer of wealth from high- to low-volume producers. In order to compete for this rent, each member tries to influence decision-making by expending resources to increase the probability of capturing the rent. To simplify the analysis, we assume that the rent, R, is independent of members' other activities.

From each dollar spent by members on influence activities, a proportion ($1-\beta$), where $0 \leq \beta \leq 1$, is assumed to be socially wasted (influence costs). Hence, if $a_i$ is the amount spent by the $i^{th}$ member, then $(1-\beta)\, a_i$ is socially wasted, whereas $\beta\, a_i$ is the transfer to the manager. The latter could be the monetary value of non-pecuniary benefits given to the manager.

In general, it is only the actual amount transferred to the manager rather than the total amount expended on rent seeking (which includes the wasted component of influence costs), that will influence the manager's behavior. Consequently, the probability of the member i (or a coalition of members i) winning the rent, $H_i$, is taken to be an increasing function of the amount reaching the manager from member i and a decreasing function of the amounts reaching the manager from other members, so that

$$H_i = H_i(\beta a_1, \beta a_2, \ldots, \beta a_n),$$

is different than IOFs due to the fact that members choose directors on a district basis and adhere to the principle of one-member, one-vote.

[6] This form of probability function is also assumed in Appelbaum and Katz (1987).

where n is the number of cooperative members. Following Appelbaum and Katz (1987), the probability is

$$H_i = \beta\, a_i / [(n-1)\,\beta a + \beta\, a_i] \quad (2)$$

where a is the mean influence activities done by all other members. This function is homogeneous of degree zero in β so that the proportional transfer from member i is equal to her proportion of total influence activities. It is assumed that members take the amount of redistributed wealth to be as given. In other words, members exhibit some type of Cournot-Nash behavior while attempting to influence the adopted policies in order to maximize their expected individual profits. Thus, each cooperative member is solving the problem:

$$\max[\pi_i \equiv H_i(R - a_i) + (1 - H_i)(-a_i)] \quad (3)$$

which using (2), is written as

$$\max \frac{R a_i}{(n-1)a + a_i} - a_i \quad (4)$$

The first order condition (F.O.C.) is

$$\frac{\partial \pi_i}{\partial a_i} = \frac{R(n-1)a}{\left[(n-1)a + a_i\right]^2} - 1 = 0 \quad (5)$$

The symmetry inherent in the Cournot-Nash behavior of all members, implies that in equilibrium we have $a_i = a$, $\forall$ i. Substituting this symmetry condition in (5) we can solve for a and get

$$a_i = R\,(n-1)/\,n^2, \ \forall\ i. \quad (6)$$

Thus, for a given number of members the total amount spent by members is

$$G = n\,a = R\,(n-1)/\,n \quad (7)$$

of which $(1-\beta)\,R\,(n-1)/\,n$ is completely wasted (Influence Costs) and $\beta\,R\,(n-1)/\,n$ is transferred to the manager.

### 3.4 The Manager

The manager is also assumed to maximize her own objective function. Thus, the manager's behavior, like the behavior of members, is taken to be motivated by self-interest rather than altruism. Furthermore, we assume that cooperative decision makers face a principal-agent problem; the manager exerts power over them.

Let the manager's salary be given by s and his opportunity cost salary (salary in an alternative occupation) by A; they are both determined in the market for cooperative CEO's. Then, assuming risk neutrality, her expected utility is

$$E(U) = \hat{m}(w)\left(s + bG\right) + \left[1 - \hat{m}(w)\right]A \qquad (8)$$

where G is given by (7) and the rent/wealth is transferred from the loosing to the winning members; thus

$$w = -(R - G) < 0 \qquad (9)$$

From (8) we see that members' behavior affects management's expected utility through voting support as captured by the probability function (1), and directly through the transfer of $\beta G$. We must have $s - A + \beta G \geq 0$, since otherwise $E(U) < A$ and then the opportunity cost of being the manager of the cooperative is higher than the rewards. To maximize her/his expected utility, the manager chooses a policy[7] (e.g., a cost allocation rule), which creates a rent R, that maximizes (8) subject to (1), (7) and (9). In other words, the manager acts as a leader[8] and takes members' reaction functions into account when choosing her optimal policy and sets, accordingly, the level of rent R.

The Kuhn-Tucker condition resulting from maximizing the manager's expected utility is:

$$\frac{\partial E(U)}{\partial R} = m'(R - G)\left[s - A + b\frac{(n-1)}{n}R\right] + m(R - G)\,b\frac{(n-1)}{n} \leq 0 \leq R \qquad (10)$$

[7] This "choice" implies that the manager presents to the board members a subset of their actual options.

[8] This Stackelberg behavior describes more accurately large, multipurpose (local or regional) cooperatives.

where the notation $\frac{\partial E(U)}{\partial R} \leq 0 \leq R$ denotes

$$\frac{\partial E(U)}{\partial R} \leq 0, \quad R \geq 0, \quad \frac{\partial E(U)}{\partial R}, R = 0$$

and where $$m(R-G) = \hat{m}(w) \qquad (m' \prec 0) \qquad (11)$$

The first term in (10) represents the marginal cost of R and reflects the decrease in the manager's expected income due to decreased member support. The second term is the marginal benefit of R and captures the increase in manager's expected income due to the influence behavior of members. The manager's optimal policy balances these two effects.

For a better understanding of the solution, we define the elasticity of the probability function as:

$$e = \frac{\partial m}{\partial R}\frac{R}{m} \succ 0 \text{ if } R > 0 \qquad (12)$$

and the F.O.C. is:

$$a(n-1)\frac{R}{n} - e\left[s - A + b(n-1)\frac{R}{n}\right] \leq 0 \leq R \qquad (13)$$

When $\mu$ has a variable elasticity, the manager may choose a policy, R, on either the elastic or inelastic portions of the $\mu$ function. It can be easily shown that if s-A > 0, the optimal solution must be on the inelastic part of the probability function, whereas if s-A < 0, it will be on the elastic portion. This implies for example, that if the $\mu$ function is everywhere elastic and s > A, then the manager's optimum will be at R = 0. An elastic $\mu$ function declares the high responsiveness of members to the imposition of a transfer away from them. Then, if the manager's salary in the cooperative is higher than in her alternative job, the manager will initiate the policies that do not jeopardize her job.

Considering the S.O.C., we get from (10) that:

$$\frac{\partial^2 E(U)}{\partial R^2} = \left[ s - A + b(n-1)\frac{R}{n} \right] m''(R-G) + \left[ 2b(n-1)/n \right] m'(R-G) \tag{14}$$

Thus, since $m'(R-G) < 0$ the concavity of $m(R-G)$ is a sufficient but not necessary condition for the concavity of the E(U) in R. For the remainder of the paper we assume that: $\frac{\partial^2 E(U)}{\partial R^2} < 0$.

In the accompanying appendix we also compute comparative statics in order to examine the effect of changes in various parameters on endogenous variables (rent, manager's expected utility, and the total amount spent by members).

## 4 Results

The obtained results suggest that an increase in the manager's salary (s) decreases influence costs whereas an increase in the manager's opportunity cost salary (A) has the opposite effect. The outcomes of changes in either the percentage of rent transferred to the manager ($\beta$) (e.g., through a bonus payment), or changes in the number of members (n) on the rent, are ambiguous. If the manager's salary is greater than her opportunity salary (s > A), the solution is on the inelastic part of the probability function ($\mu$). Thus an increase in $\beta$ and/or n will increase the rent. On the other hand, if the manager's salary is less than her opportunity salary (s < A), we have a solution on the elastic part. In this case, n and $\beta$ affect the amount of rent (R) negatively.

A probability function ($\mu$) that is everywhere elastic declares the high responsiveness of members to a transfer of wealth away from them. Subsequently, if the manager's salary is higher than his or her opportunity salary, then the manager's optimal action is to set a zero or arbitrarily low rent by initiating policies that do not jeopardize his/her job with the cooperative. Perhaps the most interesting implication of this is that a reduction in influence activities is obtained with an increase in the salary of the manager. This result, which has obvious policy implications, is based on the greater opportunity cost of rent seeking behavior when the manager's salary is large.

We have also examined the effects of the various parameters on total amount spent by members on rent seeking (G), the amount of rent seeking which represents social waste (1-$\beta$) G, and manager's welfare (see appendix). Manager's welfare increases with the number of members (n), her salary (s), her opportunity salary (A),

and the percentage of rent transferred to her/him (β). Furthermore, the total amount spent by members on rent seeking and influence costs increase with manager's opportunity salary (A), and decrease with her salary (s), but their response to a change in the percentage of rent transferred to her (β), or the number of members (n), is indeterminate.

While the last result may sound counterintuitive, it is explained by reference to the relationship between the amount of rent to be distributed (R) and the number of cooperative members. This relationship depends on members' responsiveness to a transfer of wealth to or away from them (as measured by the elasticity of the probability function; see appendix). It is reasonable to assume that members are highly responsive to a transfer of wealth. As mentioned above, if the manager's salary is higher than the salary in an alternative job, the manager's optimum choice is to set a zero rent. In this case, the rent (R) and, subsequently, the total amount spent by members (G) are not affected by a change in the number of members.

Furthermore, let us define $m = \nu_1 \tilde{m}(R, \nu_2)$ where $\nu_1$ and $\nu_2$ are shift parameters such that $\nu_1$ captures a shift in popularity, whereas $\nu_2$ reflects changes in the elasticity of μ, which may result, for example, from greater awareness or active involvement on the part of members. Then from (10) and (13) we derive:

$$\frac{dR}{d\nu_1} = 0 \text{ and } \frac{dR}{d\nu_2} \prec 0$$

In other words, an increase in popularity ( $\nu_1$) will not affect the amount of rent (R), whereas an increase in member awareness will decrease R. The first of these results is primarily due to the manager's ability to obtain a higher salary in the cooperative when his or her popularity increases and, therefore, to keep initiating the same policies. The decreased rent induced by members' more active involvement in the affairs of the cooperative, on the other hand, may be explained by active members' resilience to set-up decision-making routines that limit the rent distribution ability of the manager.

## 6 Conclusions

This paper shows that well-paid cooperative managers tend to initiate policies that minimize the influence costs incurred by agribusiness cooperatives. An apparent problem is that it is impossible for all cooperatives to pay high wages relative to one another. Milgrom and Roberts (1992) propose unemployment as an escape from this dilemma. A manager who loses a job is not immediately able to find another and so

suffers a loss, even though once he or she finds employment again, it is at the same high salary as before. Of course, the output that could have been produced by these temporarily unemployed represents a social cost.

Another organizational implication of our results is that influence activities are less dependent on membership size and more so on members' prompt response to a transfer of wealth to or away from them. The model suggests that cooperatives with a highly responsive membership and a well-compensated management tend to experience fewer influence activities, irrespective of the number of members.

Our model also stresses the important role of cooperative members in reducing wasteful influence costs. Active producer-owners may, among other things, set decision-making rules that limit the amount of distributable rents. This possibility accords with the widespread establishment of member-relations departments in multi-product marketing cooperatives (Fulton 1999). Such divisions undertake the difficult task of increasing member awareness by communicating company policies that enhance the interests of the cooperative as a whole. Furthermore, the perceived need for the active involvement of member-owners may partially explain the emergence of various innovative cooperative models since the early 1990s (Chaddad and Cook 2004).

The model presented in this paper generates interesting insights with respect to the role of managerial compensation in ameliorating the influence costs constraint in agribusiness cooperatives. Yet, future work should, nonetheless, take into account additional parameters that may alter the incentives of cooperative stakeholders to engage in resource-consuming influence activities. Such parameters include the type of membership structure (open or defined membership), membership heterogeneity, the particular voting system adopted (e.g., one-member, one-vote versus proportional voting), the pooling system (single versus multiple pools for products, capital/risk, etc.), and the property rights structure of the cooperative (e.g., the role of transferable and appreciable ownership instruments).

Another fruitful avenue for future research is the comparison of influence costs incurred by other hybrid organizations such as franchising systems, collective trademarks, relational contracting, and alliances relative to cooperatives and IOFs. Although we have not pursued this issue here, our model could be extended to shed light on the key differences of hybrids with respect to the level of influence activities each of these organizational arrangements brings upon itself.

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**Appendix:** Comparative Statics

From

$$\frac{\P E(U)}{\P R} = m'(R-G)\left[ s - A + b\frac{(n-1)}{n}R \right] + m(R-G)b\frac{(n-1)}{n} \le 0 \le R \tag{10}$$

and using $e = \frac{\P m}{\P R}\frac{R}{m} \succ 0$ if R> 0 (12)

and $\frac{\P^2 E(U)}{\P R^2} = \left[ s - A + b(n-1)\frac{R}{n} \right] m''(R-G) + \left[ 2b(n-1)/n \right] m'(R-G)$ (14)

we calculate the following comparative statics:

Effects on Rent (R):

$$\frac{dR}{ds} = xm'(R-G) \prec 0$$

$$\frac{dR}{dA} = -xm'(R-G) \succ 0$$

$$\frac{dR}{dn} = xm(1-e)\frac{b}{n^2} \succ 0 \text{ if } s > A\ (\varepsilon<1)$$

$$\frac{dR}{dn} = xm(1-e)\frac{b}{n^2} \prec 0 \text{ if } s < A\ (\varepsilon>1)$$

$$\frac{dR}{db} = x(1-e)m\frac{(n-1)}{n} \succ 0 \text{ if } s > A \qquad (\varepsilon<1)$$

$$\frac{dR}{db} = x(1-e)m\frac{(n-1)}{n} \prec 0 \text{ if } s < A \qquad (\varepsilon>1)$$

where $x = \frac{-1}{\partial^2 E(U) / \partial R^2} > 0$ from the S.O.C. Furthermore, we calculate:

Effects on Manager's Expected Utility:

$$\frac{dE(U)}{ds} = b > 0$$

$$\frac{dE(U)}{dA} = 1 - b > 0$$

$$\frac{dE(U)}{dn} = \frac{baR}{n^2} > 0$$

$$\frac{dE(U)}{ds} = \frac{Ra(n-1)}{n} > 0$$

Effects on the Total Amount Spent by Members (G):

$$\frac{dG}{ds} = \frac{n-1}{n}\frac{dR}{ds} < 0$$

$$\frac{dG}{dA} = \frac{n-1}{n}\frac{dR}{dA} > 0$$

$$\frac{dG}{db} = \frac{n-1}{n}\frac{dR}{db} \ (?^{9})$$

$$\frac{dG}{dn} = \frac{n-1}{n}\frac{dR}{dn} \ (?)$$

[9] A question mark denotes an ambiguous result.