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Managerial Vision Bias and Cooperative Governance

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Abstract

Member and professional CEOs of cooperatives differ regarding their managerial vision toward upstream and downstream projects. We show that the managerial vision bias will cause inefficiency in the project implementation. Cooperatives with member CEOs are extremely upstream-focused because of the cascaded negative vision bias toward the downstream projects. When the downstream activities become more important, cooperatives need to replace the member CEOs by professional CEOs. However, a cooperative with a professional CEO may still be less efficient than an IOF (investor owned firm) if the member-dominated Board of Directors' negative bias toward the downstream projects is too large. To solve this problem, the cooperative must include outside directors in the board to ease the negative bias of the Board of Directors toward the downstream projects.

Keywords: Vision Bias, Cooperatives, Governance

1. Introduction

Both governance structure and decision makers are crucial to the performance of organizations. First, each governance structure is supposed to create its own biases in the decision-making by shaping the decision-making process and constraining the impact of decision makers' discretion. Second, firms are greatly subject to the influence of powerful human agents. The identity of decision makers must be taken into consideration when we study the decision-making in organizations. In the cooperative literature, each of these factors has attained much attention, but usually they are not analyzed within the same model. In this article, we incorporate the decision-making characteristics of different governance structures and decision makers' identity in one model.

Will professional CEOs always be beneficial for cooperatives? We address this question in a project rectification and selection model of cooperatives by taking the managerial vision of decision makers into consideration. Decision makers of a firm confront with business ideas and opportunities and need to make the decisions of implementing the projects or not. Decision makers with different identities are featured by different managerial visions. Consistent with Rotemberg and Saloner (2000), we suppose that a visionary decision maker is consistently biased toward certain kinds of projects and against others. Translated into the context of agricultural cooperatives, a member CEO and a professional CEO may have different visions, which in term bias them in favor of different types of projects. A member CEO is biased toward upstream projects. Conversely, a professional CEO favors the downstream projects. We are interested in how these different vision biases may influence the cooperative's behavior and performance, and under what circumstances a professional CEO is more beneficial for the cooperative.

2. Model

A three-stage game theoretic model is formulated to address the efficiency of cooperatives with different CEOs: a member CEO or a professional (outside) CEO. Three decisions are specified in the model in sequence. First, three governance structures are distinguished: a cooperative with a member CEO, a cooperative with a member CEO a professional CEO, and

an IOF. Second, the Nature chooses the type of the project, either upstream or downstream with a random payoff. Finally, decision units decide regarding the acceptance of the project. This game is solved for its sub-game perfect Nash equilibrium by the method of backward induction.

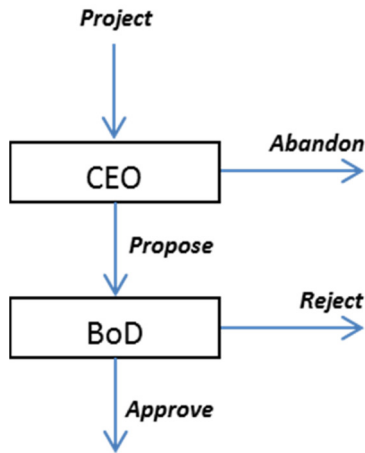


Figure 1a: Decision process of a cooperative

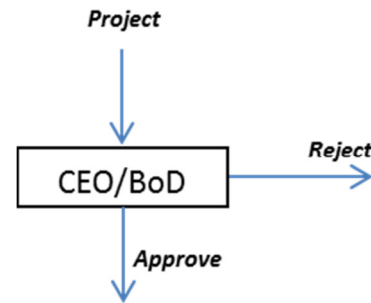


Figure 1b: Decision process of an IOF

Figure 1a presents the decision process of a cooperative. The cooperative CEO first screens the candidate projects and then proposes the one with positive perceived payoff to the cooperative BoD (board of directors). The BoD, as the representative of the members, evaluates the project proposed by the CEO and makes the decision of approval or rejection based on whether their perceived payoff is also positive. If the project is approved, the project payoff is realized. If the project is rejected, no payoff will be generated. The cooperative CEO and BoD pursue the same objective of maximizing project payoff but have different managerial visions. We assume that the cooperative BoD is member dominated and favors upstream projects. The cooperative can choose a member CEO, who favors upstream projects too, or a professional CEO from outside, who favors downstream projects. An IOF is different from the cooperative by consisting of only one decision-making unit (Hendrikse, 1998). Figure 1b presents the decision process of the IOF. The IOF has a professional CEO favoring the downstream projects.

Each time the Nature generates one project. The composition of the portfolio of projects is characterized by p , which is defined as the proportion of upstream projects in the pool of available projects. The complementary probability $1 - p$ defines the portion of downstream projects. The net project payoff Δ is a random variable, which has a normal distribution with the density function: $f(\Delta) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{1}{2}\left(\frac{\Delta}{\sigma}\right)^2}$, $\Delta \in (-\infty, +\infty)$. The standard deviation of Δ is σ .

We capture the vision bias of a CEO by supposing that the CEO believes the payoff of projects differ from their true value. When a member CEO sees an upstream (downstream) project, he perceives the payoff of the project to be $\Delta + S_U^f$ ($\Delta - S_D^f$), i.e. the member CEO is

biased in favor of the upstream projects and against the downstream projects. S_U^f and S_D^f are the magnitude of the member CEO's biases with $S_U^f \geq 0$ and $S_D^f \geq 0$. We assume that the member dominated board shares the same biases as the member CEO. Conversely, when a professional CEO sees an upstream (downstream) project, she perceives the payoff of the project to be $\Delta - S_U^p$ ($\Delta + S_D^p$), i.e., the professional CEO favors the downstream projects but dislikes the upstream projects. Similarly, $S_D^p \geq 0$ and $S_U^p \geq 0$. We assume that the degree of vision bias of the CEO and BoD is private information.

We choose the most efficient governance structure by comparing: a cooperative with a member CEO, a cooperative with a professional CEO, and an IOF. The characteristics of different governance structures are summarized in the following table:

Table 1: The three different governance structures

Decision Units	COOP1	COOP2	IOF
CEO	Farmer Upstream Biased	Professional Downstream Biased	Professional Downstream Biased
BoD	Farmer Upstream Biased	Farmer Upstream Biased	

3. Payoffs

The normalized payoffs of the different governance structures are listed in the following table.

Table 2: The normalized payoffs

	$0 \leq p \leq 1$	$p = 0$	$p = 1$
First-best	1	1	1
COOP1	$pe^{-\frac{1}{2}\left(\frac{S_U^f}{\sigma}\right)^2} + (1-p)e^{-\frac{1}{2}\left(\frac{2S_D^f}{\sigma}\right)^2}$	$\pi_1^0 = e^{-\frac{1}{2}\left(\frac{2S_D^f}{\sigma}\right)^2}$	$\pi_1^1 = e^{-\frac{1}{2}\left(\frac{S_U^f}{\sigma}\right)^2}$
COOP2	$pe^{-\frac{1}{2}\left(\frac{S_U^p}{\sigma}\right)^2} + (1-p)e^{-\frac{1}{2}\left(\frac{S_D^f - S_D^p}{\sigma}\right)^2}$	$\pi_2^0 = e^{-\frac{1}{2}\left(\frac{S_D^f - S_D^p}{\sigma}\right)^2}$	$\pi_2^1 = e^{-\frac{1}{2}\left(\frac{S_U^p}{\sigma}\right)^2}$
IOF	$pe^{-\frac{1}{2}\left(\frac{S_U^p}{\sigma}\right)^2} + (1-p)e^{-\frac{1}{2}\left(\frac{S_D^p}{\sigma}\right)^2}$	$\pi_{IOF}^0 = e^{-\frac{1}{2}\left(\frac{S_D^p}{\sigma}\right)^2}$	$\pi_{IOF}^1 = e^{-\frac{1}{2}\left(\frac{S_U^p}{\sigma}\right)^2}$

4. Efficient Governance Structure

The comparison of the normalized payoffs is represented in Figure 2.

First, traditional cooperatives are usually upstream focused. Traditional cooperatives are featured by the powerful BoD dominated by members. If the CEO of the cooperative is also from the membership, which is the case of COOP1, the cascaded negative biases toward the downstream projects will make the cooperative extremely reluctant to implement the

downstream projects. It is reasonable to assume that the cascaded bias toward the downstream projects in COOP1 is larger than a single bias toward the upstream projects, i.e. $2S_D^f > S_U^f$. The performance of COOP1 will thus increase in p . Therefore, COOP1, which represents typical traditional cooperatives in the early stage of their lifecycle, is usually more efficient when the upstream projects are dominant.

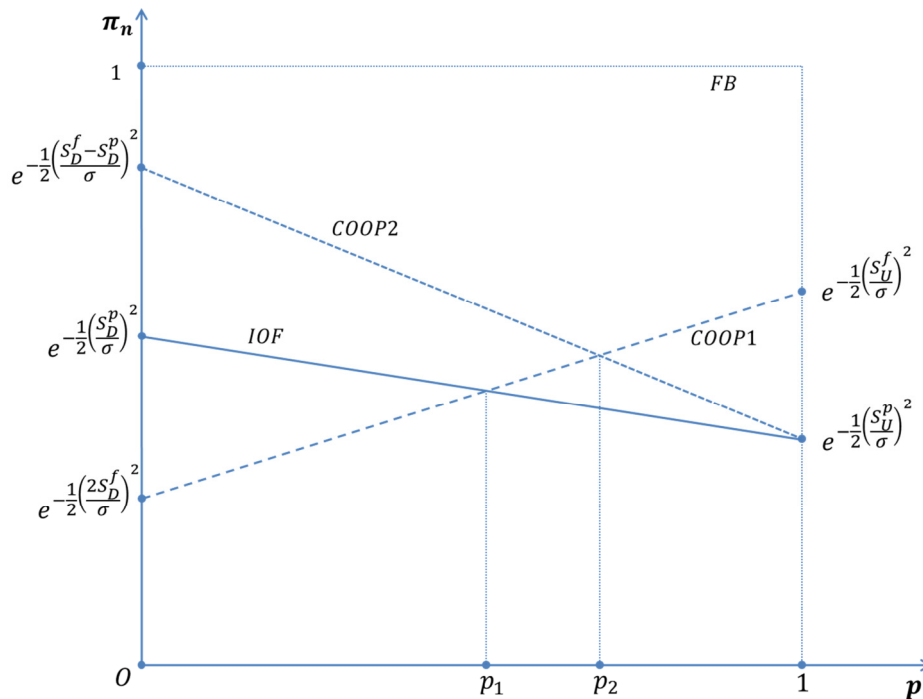


Figure 2: The comparison of payoffs

Second, in recent decades, the downstream activities become more and more important in the agribusiness. Cooperatives have been criticized as being too much focused on bulk production and too slow in responding to the market and competitors. With the changes in market conditions, a common question is whether the cooperative is still an efficient governance structure. Many scholars argued that, due to the production orientation of cooperatives, they may be disadvantageous in the competition with IOFs when the downstream projects are dominant. These doubts are reasonable because it is feasible that the cascaded negative bias toward the downstream projects in COOP1 is larger than the single positive bias toward the downstream projects in IOF, i.e. $2S_D^f > S_D^p$. It entails that although the IOF will mistakenly implement some bad downstream projects, the double negative vision biases created by the double screening in COOP1 will hinder the cooperative more severely by missing more good downstream opportunities.

Third, the comparison between COOP2 and IOF may provide an answer to the question of whether traditional decision-making structures allow the cooperative to become more market oriented (Bijman et al., 2013). The reason is that, while an outside CEO proposes more downstream projects compared with a member CEO, the member BoD's negative vision bias

and the double-screening process of the cooperative reduce the type II errors. The COOP2 is thus able to capture more downstream opportunities. Our model shows that, if the magnitude of BoD's vision bias is smaller than two times of the magnitude of the CEO's vision bias toward the downstream projects, the COOP2 will always dominate the IOF. Therefore, it may be optimal for cooperatives to hire professional CEOs but keep a board dominated by members. However, the magnitude of the BoD's vision bias toward the downstream project should not be too large. If it is larger than two times of the magnitude of the CEO's vision bias, the COOP2 will become less efficient than the IOF because too many downstream projects are rejected. To keep the BoD's vision bias in an advantageous range, cooperatives may need to modify the composition of BoD by including some outside directors in the board. While other cooperative scholars call for the need of outside directors for bringing the needed expertise to the cooperative's board room (Cook, 1994; Dunn, 2002; Lang, 2002), we argue that the outside directors may have an addition function of modulating the BoD's vision bias. In general, these choice possibilities of decision rights create substantial flexibility within the ownership structure of a cooperative to adapt to new circumstances and justify the competence of cooperatives in new market conditions.

5. Conclusions and Further Research

A potential extension of the model is to introduce incentives in decisions making process. The current model assumes that the CEO and BoD have no private incentives when they make their decisions. There is no conflict of interest between decision makers, i.e. all decision makers are assumed to maximize the same utility function. However, it is more likely that the decision makers are also motivated by their own interest rather than merely that of the organizations. Given the private incentives, the information the CEO reports when he proposes a project to the BoD may consist not only the vision bias but also the interest bias (Alonso, Dessein, and Matouschek, 2008). Ultimately, a more general model will have to incorporate extensive features of incentive systems. Under this set up, the cooperative needs to choose not only a suitable CEO but also an optimal incentive formula.

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