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Invited Reaction

The Internal Organization of the Cooperative Firm: An Extension of a New Institutional Digest

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Introduction

The editorial board of this journal and its principals should be congratulated for furthering the Rhodes editorial initiative of exposing the *Journal's* readership to the evolution of social science theoretical paradigms applied to cooperative organizational objectives and structural forms. Our objective in this brief reaction to Royer's description of the neo-institutional digest of cooperative organizational strategies is to address the application section of his paper. Our approach (1) briefly identifies Royer's contributions to the Rhodes initiative, (2) extends and expands the discussion of Royer's application of new institutional economics to cooperative organizational issues, (3) clarifies a number of points made in the Royer paper, and (4) leverages a number of Royer's arguments and observations into advancing a set of potential research topics.

Royer's Contribution

Royer makes two significant contributions to the field: (1) he provides a brief overview of three of the neo-institutional paradigms used in the current discussion of theories of the firm, and (2) he demonstrates how difficult it is to move from theory to application in an evolving theoretical field. Royer's first contribution is analyzed and discussed in the companion reaction paper by Sykuta and Chaddad, and we expand on his second contribution—the interface between theory and application.

Extending Royer's Work

Royer's introductory review of the application of new institutional economics[1] (NIE) to the cooperative organizational form leaves space for further analysis of the involved issues and, additionally, a review of some critical references missing in his paper. Areas amenable to a more sophisticated discussion include:

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1. An explicit demonstration of the relationship between the neo-institutional theories of the firm and the cooperative organizational form.

The discussion of the application of transaction cost economics to agricultural cooperatives is limited to a single characteristic of transactions (asset specificity) and only one version of the hold-up problem. A further contribution in this area could be the exploration of the differences between alternative theoretical paradigms (e.g., neo-institutional economics vs. neoclassical economics) by means of a real world example. This exercise should also incorporate other characteristics of transactions (e.g., duration, frequency, etc.) and their impact on the choice of a transaction cost-minimizing governance structure.

Additionally, a distinction must be made between the "traditional" property rights approach (e.g., Alchian 1961; Furubotn and Pejovich 1972; De Alessi 1990) and the property rights-incomplete contracts theories (e.g. Grossman and Hart 1986; Hart and Moore 1990; Hart 1995). Hart and Moore (1998) introduced an application of the latter framework to the study of cooperatives, which is not discussed by Royer. The incomplete contracts approach defines the ownership of an asset as the possession of residual control rights over the asset. On the other hand, the existing theoretical and empirical literature on the five vaguely defined property rights (VDPR) problems uses the traditional property rights approach,[2] in which ownership is synonymous to the possession of residual claims. Without this distinction the reader is led to believe that the VDPR problems were analyzed in the literature by application of the incomplete contracts framework rather than the traditional property rights approach.

2. Inclusion of several critical references focusing on applications of neo-institutional economics to cooperatives.

Royer's review of the literature on applications of NIE to cooperatives does not include several references that enhance a reader's understanding of the interaction between economic theory and cooperative practice. In this section we briefly introduce this research while in the last part of the paper we extend our discussion to more recent theoretical and empirical work on the application of the property rights approach to cooperatives.

Bonus analyzed the characteristics of the transaction between farmer-members and their cooperatives and reached the conclusion that the latter represent a hybrid organizational mode blending market forces with elements of internal organization designed to minimize transaction costs. According to Bonus, the main benefits of collective organization derived by cooperatives are achieved by internalizing crucial transactions into a firm jointly owned by the owners of transaction-specific resources, who thereby avoid potential threats to the quasi-rent of their investment by outside opportunists. However, inside opportunism is imminent. As Bonus argues:

> In the past, a set of dependable inner rules governing the cooperative's policies—which was termed the 'cooperative spirit'—was sufficient to check this [inside opportunism]. Such spirit tends to erode, however, as cooperative associations grow large. Consequently, agency problems turn up that call for protective institutional arrangements. (Bonus 1986: 196)

Another reference not discussed in Royer's review is Condon (1987, 1990), who has established the incorporation of property rights considerations in cooperative theory as a prerequisite for deriving useful and meaningful knowledge.

Vitaliano's work in the early 1980s would also enhance Royer's description. Particularly in his 1985 paper, Vitaliano discusses some of the five property rights constraints and places them into a neo-institutional theoretical context. Condon and Vitaliano's (1983) collaboration also provides us with unique insights into the cause of the VDPR problems. Most of this work is summarized in Staatz's (1987c) review of developments in cooperative theory.

Hansmann (1988, 1996) proposes a transaction cost theory of ownership and uses his framework to study alternative organizational arrangements and governance structures, including agricultural cooperatives. He argues that alternative institutional arrangements have emerged in an effort by decision makers to minimize the transaction costs of ownership and contractual relationships. Hetherington is another author who studies alternative ownership structures, under a law and economics perspective. His analysis inevitably focuses on institutions and their role in promoting organizational efficiency.

Hart and Moore (1998) construct a formal model that attempts to explain the observed diversity in ownership structures. Specifically, they design an optimal *ex ante* allocation of residual rights of control and residual claimant rights by focusing on two polar alternatives: the non-profit cooperative firm and the investor-owned firm (IOF). The two main results of this study are: (1) in the case of perfect competition, an outside owner achieves the first-best, while (2) the cooperative is the optimal ownership structure when its members have common preferences and/or the market cannot be assumed to be perfect.

There is also a growing theoretical and empirical literature on new generation cooperatives (e.g., Cook and Tong 1997; Johnson 1996). In this literature this new form of agricultural collective action is defined by the major characteristics of its property rights structure: (1) transferable equity shares, (2) appreciable equity shares, (3) defined membership, (4) legally binding delivery contract or a uniform grower agreement, and (5) minimum up-front equity investment requirement (Cook and Tong 1997).

3. A more sophisticated analysis of the five vaguely defined property rights problems in Royer's work would enhance basic understanding of the cooperative organizational structure.

Royer's neoclassical strength is demonstrated convincingly in his discussion of the efficiency issue and empirical work focusing on the cooperative firm. However, the effectiveness of empirical studies on the comparative efficiency of IOF and agricultural cooperatives might be enhanced if a "production economics" mentality is avoided and all relevant institutional constraints are incorporated by using measures of efficiency that capture the real differences between the various types of cooperative institutional arrangements.

This, in turn, requires that a NIE theoretical framework be constructed suitable to the study of the real causes and consequences of potential differences in efficiency between alternative institutional arrangements. Additionally, the hypothesized negative impact of the VDPR problems on cooperative efficiency must be empirically tested. With respect to this, it is not only a comparison of efficiency between IOFs and cooperatives that is important, but also a contrast of efficiency between alternative cooperative property rights structures.

Developing a NIE theoretical framework is also useful for identifying alternative solutions to the five VDPR problems. Many traditional cooperatives have already recognized the importance of clearly defined property rights and have adopted numerous solutions (Cook and Iliopoulos 1998).

Another issue that requires a more extensive review of the literature is the control problem. Royer presents theoretical arguments that the principal-agent problem may be more serious in cooperatives than in IOFs due to the absence of a secondary market for residual claims. While only empirical work will shed light on this issue, other scholars argue that in cooperatives of relatively small size, characterized by singleness of purpose and homogeneous membership (in terms of individual members' interests), the control problem may be less serious than in IOFs of comparable size. Cooperative board members have both the opportunity and a vital interest to closely monitor management since in most cases the cooperative accounts for the principal component of their income (Hansmann 1996).

The external free rider problem should also be addressed. There exists a vast economic literature on this issue, most recently represented by Olson, Hardin, Sandler, and many others. The external free rider problem is created whenever a cooperative provides its members with collective goods characterized by *de facto* unfeasibility of exclusion; "they must be available to everyone if they are available to anyone" (Olson 1971, 14). The result is usually no or suboptimal provision of these goods. However, during the last three decades economists have recognized that some groups do provide themselves with collective goods and, subsequently, focus has shifted toward understanding the conditions under which the external free rider problem is ameliorated. The early simple models gave way to more sophisticated ones, and empirical work has been extended to the study of the problem in many alternative settings. Sandler (1992) gives a comprehensive review of both theoretical and empirical studies on the issue.

The portfolio problem is probably one of the most difficult when it comes to understanding all its possible manifestations. Cooperative decisions over the level of investment risk assumed have a significant impact on many critical areas, including cooperative finance, members' investment incentives, and resource and cost allocation (Iliopoulos 1998). The adoption of separate equity capital pools by multi-purpose cooperatives is an attempt by these organizations to combat the negative consequences of this constraint (Cook and Iliopoulos 1998).

Some Technical Issues

A clarification on some of the issues presented in Royer's work is needed to avoid misunderstanding the involved concepts. For example, the discussion of Balbach (1998) in the section on the application of transaction cost economics to cooperatives seems out of place since it is not clear to the reader whether Balbach uses any transaction cost argument. Additionally, the discussion of the control problem leads to the conclusion that cooperative managers can only be motivated through some stock options plan. During the last twenty years, the principal-agent literature has given us a wide array of alternative solutions, some of which can be found in Eisenhardt (1989).

A related issue is the skillfulness of farmers to serve on the boards of complex organizations and the failure of cooperatives to include outside board members that would enhance members' ability to effectively monitor management. While it is true that in the past farmers were not always prepared for the complexities of businesses other than farming (not that these are minor), the industrialization and concentration of agriculture, which significantly increase the level of skills and formal education required by farmers, tend to make this observation obsolete (Hetherington 1991). Additionally, there are many cooperatives that do employ outside directors specializing in fields such as finance, strategic planning, etc.

Also, Royer states that "presumably, these monitoring costs are lower for cooperative growers because, as owners of the processor, they have greater trust in the measurements." This is a generalization that does not take into consideration the effects of the influence costs problem, especially in multi-purpose/multi-commodity cooperatives. In his detailed study of U.S. agricultural cooperatives, Hetherington observed that, for large, multi-commodity cooperatives, there is a high degree of conflict over grading of the various crops of different subgroups of members. To avoid these inter-cooperative conflicts, boards and managers have routinely used an outside company to grade members' crops.

The importance of the influence costs problem justifies further discussion. Influence activities in an IOF can be observed in the efforts of the various within-the-IOF divisions to claim a higher percentage of the company's resources. Besides similar employee influence activities, in cooperatives individual members or groups of members attempt to influence decision makers to their benefit. Thus, influence costs are presumably higher in cooperatives than in IOFs of comparable size. For example, a national supply cooperative considering an investment in a fertilizer plant may incur higher influence costs than an IOF as members try to affect the decision over the location of the plant in order to minimize, among other, their individual transportation costs.

In the discussion of Harte's life cycle model, there is no distinction between different types of cooperatives. The general statement, "Cooperatives would be expected to persist indefinitely only in the case of chronic market failure" fails to capture the difference between defensive (Nourse) and offensive (Sapiro) cooperatives. Nourse's philosophy of cooperation posits that the need for a cooperative exists only as long as there is a market failure. On the other hand, Sapiro proposed an offensive cooperative aiming at increasing its members' market share. The latter type of cooperative is not necessarily formed to address market failures.

Royer's conclusion that both Cook and Harte's life cycle models "... inexorably lead to dissolution or conversion" of cooperatives is inconsistent with his discussion of Cook's life cycle model, where much time is spent on the "continuing" option. Additionally, all subsequent work by Cook and his colleagues on expanding the "continuing" option has suggested that NIE approaches are useful in identifying how traditional cooperatives can ameliorate the structural flaws and consequent organizational inefficiencies of vaguely defined property rights (e.g., Cook and Tong 1997, Iliopoulos and Cook 1999, Cook and Iliopoulos 1998). In this sense, these authors' findings are far from dismal but rather quite optimistic as to the future of independent producer owned and controlled organizations.

NIE and Cooperatives: A New Research Agenda

The recognition of institutions as important determinants of economic efficiency has already created the basis for several applications of NIE to the cooperative organizational form. The above discussion and extension of Royer's literature review shows the timing and relevance of the involved issues to cooperative decision makers and scholars. A new research agenda has already started taking shape. Critical issues addressed by this new conceptual paradigm might include:

1. Creation of a formal NIE framework for studying the five VDPR problems, their consequences, and possible solutions.

2. Empirical inquiry into the effect of the VDPR problems on members' investment incentives and the efficiency of cooperative decision making especially in large, complex business organizations.
3. Construction of a dynamic life cycle model of cooperatives, able to explain the successes, growth, failures, and continuances of collective action organizations in agriculture over time.
4. In-depth study of possible solutions to the VDPR problems and empirical work on the effectiveness of these solutions under various institutional environments.
5. Theoretical and empirical work on the external free rider issue, especially in Sapiro I, bargaining cooperatives, a form of collective action that becomes more and more important to farmers as agribusiness markets become increasingly concentrated.
6. How do alternative modes of collective decision making in cooperatives affect the potential for success of cooperative business firms, especially in markets where existing preferences are unknown?
7. Is the cooperative the most efficient governance structure when a transaction requires idiosyncratic investments on both sides of the exchange but with different economies of scale?
8. More generally, what characteristics of transactions dictate the formation of cooperatives in agriculture so that transaction costs are minimized?
9. How do alternative risk-sharing institutional arrangements within cooperatives affect their potential to capture significant rents in industries where relational contracts are the norm?
10. What combinations of public and private goods could be optimally provided by the cooperative to its members?
11. How is technology adaptation affecting the choice of cooperative organizational form, especially when transactions are characterized by asset specificity?
12. What is the role of reputation and quality assurance with respect to farmers' choice to vertically integrate via cooperative firms, compared to other networking forms, to internalize externalities imposed on them by their trading partners?
13. What is the role of cooperatives in redistributing residual control rights in the farmers' favor?
14. How is the amelioration of the five VDPR problems affecting producers' incentives to invest in their cooperative and support the most efficient collective decisions?

Applications of Neo-institutional Economics to Cooperatives: Recent Research

The task of answering these questions is enormously difficult. However, there are several studies that do address some of these issues at both the theoretical and empirical levels. Most of this work was discussed above (i.e., Condon 1987, 1990; Vitaliano 1985; Hansmann 1996; Hetherington 1991; Hart and Moore 1990, 1998; Cook and Tong 1997; Bonus 1986). In addition, recent works include:

1. Hackman and Cook (1997): A neo-institutional analysis of the public policy issues concerning the transition of traditional to new cooperative organizational forms.
2. Hackman and Cook (1998): A study of the institutional factors and property rights characteristics of cooperative firms with an emphasis on their impact on the choices of global strategies cooperatives pursue in their attempts to become agri-food chain leaders.

3. Cook and Iliopoulos (1998): An analysis of the alternative solutions adopted by traditional U.S. agricultural cooperatives to ameliorate the five VDPR problems.
4. Iliopoulos (1998): This study formalizes a property rights theoretical framework for studying the VDPR problems and focuses on the analysis of the free rider, horizon, and portfolio problems (investment constraints). Also, it empirically tests a series of hypotheses generated during the last fifteen years (Staatz 1987a, 1987b; Vitaliano 1985; Condon 1990; Cook 1995; Porter and Scully 1987; Hansmann 1996; Hetherington 1991; and others) by application of NIE concepts to the cooperative firm.

As Royer points out, much more work needs to be accomplished, both in theory and in hypotheses testing in order to understand the internal organization of the cooperative firm or, as Coase would have put it, the nature of the cooperative firm. NIE provides us with powerful theories and tools to achieve this goal and build a comprehensive and empirically tested theory of the cooperative firm. There is no excuse for adhering to paradigms unable to explain the most intriguing and thus most interesting aspects of the unique cooperative organizational form.

Notes

1. The differences between neo- and new institutional economics are discussed in the companion reaction by Sykuta and Chaddad, elsewhere in this publication. While the reader should be aware of these differences, for ease of exposition we use the term "New Institutional Economics" throughout the paper.
2. Both the traditional and the incomplete contracts property rights approaches, however, center on the notion that efficient use of an asset dictates alignment of residual claims and residual control rights over the asset.

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