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A review of past and recent developments in cooperative thought and theory is an opportunity to gain new perspectives on earlier works and renewed appreciation. Recently there have been reprints of much of this work in several issues of the *Journal of Cooperatives*, and the reissue of *Economic Theory of Cooperation* by Ivan Emelianoff.

In reviewing the evolution of important ideas, it is important to not lose sight of the historical context and of developments in cooperative practice. The evolution of agricultural marketing cooperatives has its roots in the emergence of commercial agriculture in the nineteenth century and subsequent refinements honed by the development of two distinctly American schools of thought. A characteristic of American thought is that it is steeped in pragmatism in contrast to some European schools that were immersed in great social reforms and associated philosophies of the times. The distinctiveness of the American schools has given rise to a particular policy role for cooperatives and has been aided by a combination of public and private stimuli. It is the purpose of this paper to delineate these roles in the context of evolving thought, theory and purpose of cooperatively owned businesses.

The conceptual role will be drawn from economic, sociological, political science and managerial behavioral fields in a holistic look at the political economy. The intent is to demonstrate why, with the end of a period of sixty years of federal farm programs, cooperatives may have increasingly important roles to continue to play in providing agricultural producers with access to markets and an effective vehicle for capturing value added. Cooperatives are strategically adjusting and repositioning their operations, but to maintain a role of acting in the interests of producers, they will need to use fundamental cooperative principles as their primary logic and discipline of organization.

In looking back, considerable weight and influence are attributed to various social and economic philosophies influencing the development of institutions designed to carry out economic activity, including cooperatives and their role in different political systems. While early experiments were influenced by Utopian schemes in the early European industrial revolution—which enjoyed limited transplantation as evidenced by Robert Owen's New Harmony and the influence of Rochdale principles on U.S. governance rules and distribution practices—the mainstream of agricultural cooperation developed independently. As a self-help business form, agricultural cooperation was designed to move product to market and influence price and other terms of trade—consistent with market supply and demand conditions—while providing fair treatment and other benefits to members. Cooperative marketing has been fostered by farmers' professional associations in a lineage of farmer movements. It can be characterized, in a sociological sense, as a social movement of independent farm operators seeking to enhance and protect their place in the economic organization of agriculture.

The cooperative commonwealth school of thought found strong support in European approaches to development of structure and had some influence upon a number of early American pioneers such as Howard A. Cowden and Murray Lincoln. This cooperative commonwealth school saw cooperatives evolving into the dominant form of business activity in consumer and farm sectors, creating an economic and social order through utilization of federations and other linkages between cooperatives and allied support groups, such as professional farmers associations and labor unions (Bonner). Such a predominant role not only gave stature to the members as a class, but also made cooperatives a major source of influence in the broader political economy.

In contrast, the California school, initiated by Aaron Sapiro, sought to correct imbalances in grower treatment and improve marketing coordination by using cooperatives organized along commodity lines to achieve more orderly marketing (Sapiro; Larsen and Erdman). The advocacy of direct membership associations organized along commodity lines using long-term membership contracts and professional management was particularly well suited to many specialty crops grown in rather confined regions such as the Pacific Coast. By organizing a major market share and emphasizing grading and pooling techniques, products were brought to market in a measured fashion that avoided disastrous consequences of dumping product at harvest on the market all at one time. Sapiro's advocacy met wider success with crops grown within limited territory than it did with those grown over broad geographical areas. Nevertheless, he created a broad awareness in the United States and Canada of producers' ability to influence terms of trade through cooperative organizations. The efforts in organizing farmers and developing thrusts in multiple commodity sectors were a major influence in passage of the Capper-Volstead Act of 1922 and the Cooperative Marketing Act of 1926. Furthermore, it paved the way for the creation of largely unsuccessful top-down national commodity cooperatives under the Federal Farm Board in 1929, and was a clear antecedent to the orderly marketing mechanisms created by the Agricultural Marketing Agreements Act of 1937.

The other major school of American cooperative thought was developed by Professor E.G. Nourse and has become known as the competitive yardstick school (Nourse, 1922, 1944; Knapp). It developed as a reaction to Sapiro's advocacy of direct membership cooperatives often organized on a regional basis. Nourse, a Chicago-School-trained economist, advocated a much more modest vision of cooperative structure that originated from locally organized service cooperatives characteristic of the livestock, farm supply and grain elevator organizations that had sprung up in the Midwest. His emphasis was on local control which manifested itself in cooperatives organized to meet needs of producers in a local community. Nourse posited that cooperatives could be organized representing a limited share of marketing activity and still serve a yardstick role by which members could measure the performance of other firms dominating the marketing channel. This check and balance function provided a checkpoint on other businesses and forced them to be more competitive. If markets became more competitive by virtue of the role of cooperatives, Nourse argued in an economist's rhetorical fashion, their role was fulfilled and they could cease to exist. In practice, such perfectly competitive market conditions are not going to become established in any lasting way. Since he opposed the Sapiro formation of democratically controlled and dominant commodity associations, Nourse advocated that cooperatives could attain scale economies by affiliating through purchasing or marketing federations which preserved a bottom-up structure rather than a more centralized, top-down structure.

The emphasis on market development, service, efficiency and competition created a public policy rationale for supporting the organization of more cooperatives as a partial answer to farm price and income problems. The competition-enhancing rationale also became an important element in treatment under tax and antitrust codes. This school of cooperative thought was enhanced by Nourse's stature in academic circles after he helped organize, in 1925, a floating university known as the American Institute of Cooperation. The Institute provided a setting for practical discussion about best cooperative principles and operating practices, in sessions that lasted up to two weeks at a time. The yardstick school was also enhanced by Nourse's professional role as the elected President of the American Farm Economics Association and American Economics Association, and later Chairman of the first President's Council of Economic Advisors under Harry S. Truman.

Influence of Thought on Structure and Purpose of Cooperatives

The California and Nourse schools clearly had an impact on how various groups organized and how they justified their structure and functions. Their contribution subsequently helped shape how cooperative structure became viewed by academicians and policymakers. The California school under Sapiro's advocacy aimed at unifying farmers in commodity-wide cooperatives that could exert market power and raise total returns to agriculture. Nourse's school, on the other hand, argued that cooperatives should not try to monopolize commodity markets, but simply add enough competition to the system to give farmers a "competitive yardstick" against which to judge the performance of investor-owned firms. The aim of the former was pragmatic and focused, while the latter was more altruistic and tended to be more conceptually vague in the sense of measuring goal attainment for members. Both had elements of public-good aspects that cooperatives performed on behalf of their members and the broader agricultural production and consuming sectors.

Key conditions leading to group action include a limited number of buyers of farm production and/or sellers of inputs to farmers; an atomistic structure characterized by a higher number and smaller size of farm operators compared to others in the market channel; and a high incidence of specialized assets in farming that lead to inelastic supplies of farm products. The changing agricultural market structure, a prime motivator in early organizing efforts associated with the emergence of commercial agriculture, remains today the underlying rationale for cooperative efforts by farm operators (Torgerson, 1977). Farmers also organized because services were not available to them in their rural communities or because those services were not available at reasonable costs. Recent studies continue to document that market failure, excessive transaction costs, discriminatory treatment of contract growers, and increased monopsony in buyer markets, lead to group action by producers.

Cooperative Marketing Theory Development

A strength of both the Sapiro and Nourse ideas is that the objectives and organizational structures they specify address the concerns of agricultural producers in the context of achieving a public interest role. In both schools of thought, cooperatives provide some balancing of market power, whether affecting the terms of trade for an industry-wide commodity, as in the Sapiro School, or in stimulating competition in specific markets, as in the Nourse School. In their conceptions, cooperatives capture a larger share of industry earnings for the membership, but, additionally, contribute to market or industry efficiency. In other words, their philosophies of cooperation were grounded in a public interest perspective, as legislatively recognized in the Capper-Volstead Act of 1922.

Sapiro and Nourse made major contributions to the practical problems of achieving member commitment and cohesive organizations. Yet, subsequent cooperative thought moved further into examining and modeling key facets of internal organization, developing a more coherent theory of agricultural cooperation. In the years since Sapiro and Nourse, emphasis has shifted from concern with the external effects of organization to the internal or micro aspects of organizing and sustaining cooperation. Some of the interest in the public policy role of cooperatives may have been placed on the back burner by the advent of farm price support programs. In part, agricultural economists have given their attention to understanding the issues of member commitment and efficient operations, as the cooperative movement matured and organizations confronted major changes in their industries. Additionally, the focus on internal aspects of organization in agricultural cooperative theory has, to some extent, reflected new directions in economics and, perhaps, the influence of that profession's gradual division into macroeconomics for economy-wide coordination issues and a microeconomics that has widely adopted the approach of methodological individualism.

However, these comments are not meant to suggest that theoretical work on the public role of agricultural cooperatives has been lacking since Sapiro and Nourse. In fact, significant work revealing the external or economy-wide benefits of cooperatives continues to be carried out by several economists, using industrial organization models (Cotterill, 1987; Rogers and Marion; Rogers and Petraglia). Industry-wide coordination impacts of cooperatives are addressed in much of the cooperative bargaining literature (Ladd; Bunje). An excellent framework for understanding coordination and the role of cooperatives in macro coordination was developed by James Shaffer who noted that this role "...deserves a good deal more attention."

A major step in understanding the internal economics of cooperatives was made in the 1940s by Emelianoff , who conceived of the cooperative as a form of vertical integration. Emelianoff's attempt to construct a more comprehensive theory of cooperation is particularly notable for its focus on the structural and functional relationship of members to their cooperative marketing organization. This concept was later picked up and refined by Robotaka and a cadre of students including Phillips (1953) and Aresvik. Emelianoff concluded that cooperatives represent an aggregate of economic units (members) and are not themselves acquisitive economic units. In other words, Emelianoff developed a conception of a cooperative as pure agency with members as principals.

Phillips developed a model of output and pricing decisions as logically derived from the Emelianoff-Robotka vertical integration framework. He identified a decision rule for members to produce at the point at which their marginal costs equaled the cooperative's marginal revenue. However, several economists have pointed out the flaws in this model (Trifon; Sexton, 1984; Royer, 1994; and Staatz, 1994). According to Phillips, suboptimal earnings would result when a cooperative's operations were subject to either increasing or decreasing marginal costs, unless there were some way that all members could coordinate their outputs, which Phillips left unspecified.

Emelianoff, Robotka and Phillips clarified the importance of a principal-agent relationship in understanding cooperatives. Although this relationship is too simplistic by itself to provide a comprehensive explanation of cooperative decision making and governance, effective member control consists of members carrying out their role as principals, represented by directors, with management functioning as their agents. In the Emelianoff, Robotka and Phillips conception of a cooperative, the answer to the "benefits to whom" question is clear and unambiguous.

Phillips carried the logic of vertical integration into defining all member dealings and relationships in strictly proportional terms. All contributions and benefits are received from and returned to members in an equal ratio or proportion. Governance, likewise, is based on member voting in proportion to patronage volume or use.

The shortcomings of Phillips' output and pricing decision rules derived from the lack of having some form of a modified theory-of-the-firm for cooperatives. By the 1960s, Helmberger and Hoos filled this void and accomplished a re-working of agricultural cooperative theory. Analogous to the theory-of-the-firm, cooperatives have an optimization objective, but it is to maximize benefits to members. In their model, a cooperative maximizes the per unit value or average price by distributing all earnings back to members in proportion to their patronage volume or use.

Excellent discussions of the Helmberger-Hoos model, its contributions and comparisons with Phillips' work have been published in several reports and issues of the *Journal of Cooperatives* (Staatz, 1989, 1994; Royer, 1994; Rhodes; Sexton, 1995). By providing a modified theory-of-the-firm approach and analyzing short-run and long-run decisions, the Helmberger-Hoos model identified the incentives that can potentially exist for current members to limit the size of a cooperative's membership. Their model revealed potential conflict of interest if management wants to expand a cooperative's volume in situations of decreasing returns. When such output expansion is based on new members, it diminishes earnings to the original or current membership. Hence, their model is consistent with the reality of an independent decision responsibility by management in cooperatives and with the existence of complex member control issues, both of which were missing in the Phillips model.

Several new directions in economic theory have emerged since the 1960s and some comments on the nature of these approaches are relevant to understanding many of the recent developments in agricultural cooperative theory and practice. Traditional economic analysis locates the existence of profit as primarily a function of market structure. Working with this assumption, economists traditionally tended to neglect the internal structure of incentives in organizations (Schoemaker, 1990). It is interesting to note that at the time Emelianoff was writing, there was a lack of an adequate theory of enterprise. In using an analogue method of reasoning, he needed such a definition and devoted the first part of his essay to developing a concept of enterprise, which provided a point of contrast for conceptualizing a cooperative.

Different approaches to the problems of modeling internal organization have been introduced from many sources, with four of these having particular relevance to recent developments in agricultural cooperative theory: 1) economics of property rights, 2) new institutional or transactions cost economics, 3) local or group public goods theory, and 4) game-theoretic approaches to economics.

Since the 1960s, the economics of property rights has been applied to a wide range of policy issues, from pollution to business strategy. In Demsetz's conception, many forms of human cooperation, particularly those involving agreement, are unworkable and deadlocked without clearly defined and enforced property rights. The property rights approach, evident in much of the new institutional economics, clarifies the distinction of patronage as a basis for ownership and control of cooperatives rather than investment. This analytical approach also provides much of the rationale for establishment of member delivery rights by many cooperatives.

In a recent paper by Cook, property rights are a critical instrument for enabling cooperatives to be sustainable, producer-controlled businesses. In his view, by first accomplishing internal stability with adequately defined property rights, cooperatives can then carry out a role in improving market performance or, in his words, "correcting market failures" (1995).

New developments in institutional economics have extended the applicability and relevance of property rights economics. Major strides in specifying how markets and organizations define, and then function with, property rights—what they call mechanisms of governance—are a major thrust in the new institutionalist school of thought, especially associated with the work of Williamson (1975, 1985).

One of the advantages of applying a new institutionalist approach to agricultural cooperatives, or business firms in general, is the understanding of organizational strategy it offers. This method of analysis is applied by Sporleder to understanding recent trends of vertical coordination and strategic alliances in agriculture.

A strategic aspect of relevance to many agricultural producers is the problem of asset fixity or specificity that may render them vulnerable to opportunistic behavior by product purchasing firms. Williamson and other economists, using a new institutionalist approach, have identified this type of vulnerability as a rationale for vertical integration (Williamson, 1971). It is apparent that some cooperatives provide a response to this type of potential market failure.

Important clarifications of the meaning of local or group public goods were worked out independently by Buchanan and Olson in the mid-1960s (Buchanan; Olson). Buchanan noted the need to fill the void between the Samuelsonian pure public goods and private goods with a theory of clubs or cooperative membership. His theory of clubs models the conditions for stable and optimal cooperation for control over, and use of, a common property asset. Such common property is a public good in that all members have equal access and their use does not detract or diminish the use by others in the group. Such local or group public goods depend on restriction of membership size.

Practitioners in cooperative development and structuring may not find the premises and rationales of club theory to be an appropriate modeling device in all coordination situations that agricultural producers confront. But the importance of club theory as an analytical framework for theoretical analysis of agricultural cooperatives is evident. (Vitaliano; Sexton, 1984, 1995).

Olson worked along lines similar to those of Buchanan in clarifying how most public goods can only be defined for specific groups of people. In that context, a specific group achieves a cooperative gain from their coordinated or organized actions, with the public goods dimension being that no member can be denied access to the services that generate the joint gains. Of course, Olson's major objective in this work was to examine the problem of individual incentives to form cooperatives.

A framework of the cohesiveness of a membership, i.e., members' willingness to agree on procedures for burdens and benefits sharing, is fundamental to a theory of cooperation. While club theory addresses the membership size aspect on the assumption of equal sharing, there is a lot of room to fill regarding internal bargaining to determine who cooperates with whom and under what terms. Answers to these kinds of questions are the basis of coalition analysis in game theory, and were applied to modeling cooperatives in the 1980s by Staatz (1983, 1987) and Sexton (1986).

The playing of the coalition game can be envisioned as a process of bargaining. However, in economic modeling, it is a matter of identifying conditions for stable equilibrium solutions. Incentives to bargain for different coalitions or for revisions in the rules of distribution, can arise for different reasons. For example, there might be an optimal limit to the coalition size, or participants may have significantly different stand-alone opportunities, or there may be major differences in the synergistic (superadditivity) gains of different combinations or coalition configurations.

Both Staatz (1994) and Sexton (1986) look back to Phillips as a progenitor of coalition modeling for agricultural cooperatives. The proportionality principle in Phillips' work, keeping an equal ratio of burden to benefit sharing across all members, is a stable coalition solution. In other words, no member has an incentive to seek a change in the distribution rules. However, Staatz and Sexton point out the operation of a unanimity rule in coalition solutions, and a Phillips' prescription for proportional voting would not be necessary or justified over a one-member, one-vote procedure in this regard.

Cooperative Purpose Dilemmas and Challenges

One of the vexing issues in the evolution of cooperative thought and the review of new theoretical treatments just discussed concerns the existence of multiple purposes and objectives for the cooperative business organization. Some of these are embedded in different interpretations of the social and economic philosophies of cooperation. They derive from various interpretations of internal (member) and external (societal) benefits of cooperative organization assessed from both short- versus longer-term perspectives. Others deal with internal operations and practices and who is calling the shots, in a behavioral sense, and for whose benefit.

Figure 1. Continuum of Cooperative Purposes

Players	IOF	New Generation Coops	Open Marketing Co-ops	Farm Supply Co-ops	Consumer Goods Co-ops	Kibbutz
Purpose	Profits			Service		Life/Meaning

Social Service Versus Economic Philosophy of Cooperation

From a sociological perspective, some conceptual and practical dilemmas occur within the theory and practice of the cooperative movement and cooperative organizations that define differing orientations between the social and economic philosophies of cooperation. They include: 1) meaning versus service, 2) efficiency versus democracy, and 3) bureaucratic logic versus cooperative logic. At least three purposes of economic organizations can be identified respectively: 1) making profits, 2) providing services and 3) realizing meaning. Their predominance and mix tend to vary both across and within organizations.

Exemplar organizations tend to range along a continuum from investment-oriented firms (IOFs) at the profits end, to the kibbutz at the life-meaning end as shown in Figure 1. Cooperative organizations can be found at different locations on the continuum, with a predominance located within the service purpose, i.e., a focus on serving the greatest numbers of people over the longest period of time (Craig; Nadeau and Thompson). Most farm input and service cooperatives fall into this spot on the continuum. Agricultural marketing cooperatives tend to be found between the service and profit purpose orientation, with new generation cooperatives attempting to preserve earnings benefits for defined membership over time. The life-meaning purpose at the other end of the continuum gives much greater focus to participation and democratic process. Cooperative organizations typically contain elements of all three of these tendencies.

The reality of the market place tends to drive participation and service in opposite directions. Participation, and democracy, take time. The market's demand for efficiency is ever present and ever felt. This tension becomes manifest in organizational form and in organizational logic. The needs for efficiency, and predominant emphasis on the bottom line, can drive organizational form toward bureaucratic shape and logic which emphasizes organizational hierarchies, and a flow of authority and centralized decision making from the top down (Breimyer). This logic is distinct from a grounded cooperative logic, or a logic that emphasizes local responsiveness, decentralized decision making, participation and involvement. The fundamental dilemma is to move or not with the easier, less complex, but bureaucratic, answers to organizational maintenance, or remain grounded within more complex, democratically based cooperative answers, answers realized in a process definitional to cooperation.

In short, there are several interrelated polemic themes that emerge both from the philosophy and theory of cooperation and the cooperative movement and from the practice of cooperation as realized in organizations functioning to meet internal goals within a socio-economy. Organization for service or meaning/participation is a central dilemma that is found internationally. The predominance of each tendency varies across types of cooperative organizations as well as within organizations. North American agricultural input cooperatives are primarily service cooperatives, while conventional agricultural marketing cooperatives have a service orientation but with an increased emphasis on earnings. Given a competitive market place, efficiency criteria tend to drive organizational form toward bureaucratic models and, paradoxically, away from cooperative logic form. When participation declines and organizations tend toward greater centralization of decision making (bureaucratic logic), it becomes increasingly difficult to recognize differences in cooperative behavior from investor-oriented firm behavior, and cooperative character can be lost. However, to act without recognition of market imperatives (need for earnings) can also result in the loss of cooperative presence.

This dilemma explains in large measure the root differences between the social and economic philosophies of cooperation. Social philosophers emphasize democratic control in the form of one-person, one-vote as the cardinal principle of cooperation (Lambert). Economic philosophers, on the other hand, emphasize the distribution of benefits in proportion to use as the cardinal principle. Many cooperative leaders, such as Bob Bergland, in frequent speeches, or Jerry Voorhis, in his writings, have expressed a concern with the decline of the service and participatory end of the continuum in cooperatives that strictly advocate a "bottom line" orientation.

If we broaden our scope and examine agricultural cooperatives as part of a rural infrastructure, and embrace rural development and public goods goals, other attributes of cooperatives can be identified. Cooperatives, by virtue of their structure, are embedded in rural areas by ownership, use, benefit and governance. The benefits of cooperatives in rural settings are decentralized decision making and local distribution of wealth. The very nature of the organization brings empowerment to rural people generally and rural communities specifically. The impact of cooperative operations can, therefore, be viewed as a public developmental good at the grass roots level.

Benefit-for-Whom Question

Agency theory and the institutional discussion of property rights often describe "residual claimants" as being the beneficiaries of joint action whether it is in an investor-owned firm or a cooperative. Applying a traditional model of a principal-agent relationship provides an unambiguous definition of what group is the primary recipient of the fruits of the organizational effort—presumably those who initiated the organizing efforts. Agency theory has been developed to identify problems of establishing incentive-compatible relationships and roles for different types of stakeholders. The organization is viewed as a nexus of contracts or collaborative effort among participating units or agent groups, each reaching for their rewards from the organizational endeavor. For instance, workers look for improved wage and benefit packages, management seeks its "proper remuneration," the sales force seeks incentives for its marketing performance, and user-members of a cooperative seek superior returns on their product marketed, commensurate with their use and investment in joint value-added activity.

A challenge for the cooperative members is to remain the primary beneficiary of group action for which they originally organized and not become the "residual" claimant in the sense of crumbs left over after all other agent groups receive their due. This is particularly critical in organizations lacking firm board governance control and in instances in which management continues to push for sales growth involving non-member related business activity. It becomes even more critical when cooperatives develop large unallocated reserves based on this non-member business as noted by Royer (1992) and Staatz (1989) that represents a form of "collective" equity. Management invariably views this equity as the product of its efforts rather than of members' efforts. As noted by Staatz and Royer, there is a great potential for the character of cooperative organizations to change or be compromised in such situations, particularly in larger, more complex organizations.

Some of these situations have even led to conversions to investor-owned firms, or to members losing control through goal inversion in which maintaining the "corporate" values becomes more important than keeping the business oriented to members as primary beneficiaries. Allocation practices, therefore, become a central feature of effective cooperation just as governance practices are important in organizational control. Especially noteworthy in this respect are the efforts by AgFirst farm credit bank of Columbia, South Carolina, to emphasize patronage refunds to member borrowers as a reward for continued cooperative business with the cooperative banking system (Love).

Role of Cooperative Bargaining

It can be observed that strategic attempts to increase market shares in final product markets through aggressive sales efforts is often done by underbidding competitors, use of discounts, and/or special promotions. Thus, pressure on product prices tends to be downward rather than upward. When coupled with the incentives for other agent groups to broaden their share of the organization's economic pie, the combined effect of these activities can be reduced returns to cooperative owner-users, a direct conflict with their goal attainment of higher prices and returns from the cooperative. To offset the consequences of this phenomenon, farm operators in the United States and a number of other countries have used cooperative bargaining associations as their professional associations to effectively negotiate liveable farm gate prices (Bunje; Iskow and Sexton; Marcus and Frederick). The idea is to identify a fair base field price that is consistent with supply and demand conditions for the crop or livestock involved. While this negotiating effort is primarily with non-cooperative processors in the American case, marketing cooperatives in the same sector often use this established price as a benchmark or transfer price in their own operations for measuring performance. Cooperative members, therefore, not only have some assurance that they are not whiplashed by "residual" returns, but also a benchmark to measure the true value added to their products and investments in the marketing cooperative endeavor. In fact, grower membership in both cooperative bargaining associations and marketing cooperatives is not uncommon and is an appropriate means for maximizing producers' interests and representation in the internal and external negotiating process with agent groups and other market channel participants. This implies a cooperative systems approach to improving farm incomes that involves the interaction of several organizational structures, based on their unique structural and functional roles, in representing farm operators in a coordinated fashion (Torgerson, 1971).

If Helmberger (1966) and Fulton (1995) are correct in forecasting the demise of independent farm operators as entrepreneurs in the so-called "industrialization" of American agriculture, then the horizontal representation of contract growers in vertically integrated systems through cooperative bargaining associations takes on a new and increasing significance in the economics of collective action in agriculture. The problem is that contract growers typically have little voice in their relationship with corporate integrators. Integrators continue to prefer to deal with growers on a one-on-one basis and not with their associations. However, numerous instances of discriminatory practices by corporate integrators against their contract growers, such as contract cutbacks, cutoffs, short-weighing and actual black listing of growers who have attempted to represent their interests collectively, have been documented and are a matter of public record. This led to passage of the Agricultural Fair Practices Act of 1967 which defined unfair trade practices, but provided little relief to growers because of weak enforcement provisions and inclusion of a disclaimer clause (Torgerson, 1970).

A number of states such as California and Michigan have enacted more advanced farm bargaining statutes, and federal bills such as those introduced by Mondale and Pennetta have been the focus of considerable discussion. Renewed emphasis has been placed on these issues by the 1996 U.S. Department of Agriculture (USDA) Advisory Committee on Concentration in Agriculture. Planned legislative efforts by cooperative bargaining associations will revisit amendments to the Agricultural Fair Practices Act in the 105th session of Congress. The development of these new legislative efforts and the institutional relations of cooperative bargaining associations with integrators—both IOFs and cooperatives—present a fruitful area for further theoretical and empirical work by the profession.

Value-Added Cooperation Renewal

Cooperatives represent one of the few options farm entrepreneurs have for surviving in a more concentrated and integrated global agriculture. Recognition of this fact, Helmberger and Fulton notwithstanding, has led to a significant renaissance in cooperative marketing with a focus on value-added activities. As an off-farm extension of the farm firm, the essential function of agricultural cooperatives is to perform vertical integration. Cooperatives harmonize transactions and, in so doing, lower transaction costs, reducing the margin between the farm and retail prices. This joint action is necessary for farmers to accomplish vertical integration because of disparities between the minimum efficient scale of operation in farming in relation to the upstream and downstream industries (Sexton, 1995). Farm operators are able to better deal with processor market power by using vertical integration through cooperatives and providing direct economic benefits to themselves. The cooperative then can be seen as an integral part of the economic organization of agriculture that enables farm operators to enhance their status as entrepreneurs through vertical collective action.

From a public policy perspective, cooperatives are seen as procompetitive market instruments. Producer members respond to improved prices by producing more since members individually determine their production decisions. Empirical evidence suggests that consumer prices are generally lower in markets with a substantial cooperative presence (Rogers and Petraglia). Cotterill (1996) has also found that expanding agricultural cooperative marketing theory to the differentiated product markets indicates that cooperatives can perform as competitive yardsticks for consumers in oligopolistic food industries.

A continuing cooperative challenge is found in free riders who want to benefit from cooperative action, but stay outside the organization and do not share any of the organizational costs. To meet this challenge, and to make members the primary beneficiaries, a number of new generation cooperatives limit members and require a substantial equity commitment from them through the purchase of delivery rights. Investment is therefore more closely tied to patronage. The fact that delivery rights are tradeable is seen as overcoming the opportunistic behavior problems by some members , i.e., the free rider and the horizon problems are attenuated by this structure and organizational practice (Harris, Stefanson and Fulton).

Whether limited membership curtails any or all of the procompetitive effects of conventional open membership cooperatives, it may lead, as some postulate, to performance that is worse than an IOF from a consumer welfare point of view. Empirical evidence on this issue is lacking. Moreover there are reasons to suggest that procompetitive effects may still be maintained for several reasons: 1) the cooperative provides an opportunity for dispersed ownership, atomistic farm firm survival; 2) it tailors benefits for those who are owner-users; 3) production decisions continue to rest with individual producers responding to market price signals although they may not be able to deliver all they produce to the value-added cooperative depending on the number and size of their delivery rights relative to production; 4) enhanced efficiency can be achieved through this value-added strategy as found by Koenig (1995) who investigated a Red River sugar beet cooperative and found significant increases in the quality of beets produced, thereby lowering internal transaction costs; and 5) cooperatives force competitors in concentrated markets to provide comparable services and prices, as found by Cotterill. Each of these procompetitive effects appear to continue with the new generation cooperatives using tradeable delivery rights.

Along with advantages, there also appear to be limitations worth noting. One is the tendency for many cooperatives to be organized in local communities on a fairly small scale. While certainly advantageous from a community development perspective, as advocated by Egerstrom (1994), this also leads to a large number of fragmented sellers in intermediate and final product markets. This fragmentation, in turn, can lead to buyers pitting one cooperative against another in the exact way that farm operators were affected before organizing their cooperatives. Similarly, in often highly technical businesses, small size suggests that the level and quality of management the cooperative can afford may not be the same as with larger firms. For instance it has been pointed out that small ethanol plants hardly have the same level of management expertise that an ADM, Staley or Cargill possess.

An even greater limitation, still to be documented, involves potential compromises in the user-owner nature of cooperatively owned businesses. Some new generation businesses appear to have adopted more of an "investor" rather than "user" culture and have included some investor "members" who are not engaged in production for supplying the plants in territory where new plants have been constructed. Similarly, a few new generation cooperatives have recently learned an expensive lesson by paying market price to members on delivery to the pool only to find that they could not afford to pay that price based on income received from final product sales. Such lessons, learned once but not to be repeated, have been very costly and challenged the cooperatives' long-term economic viability. Finally, by definition, limited membership cooperatives exclude some would-be members, and entry levels to the organization may come at a higher price because of appreciated value of delivery rights.

On balance, however, a strong rationale exists for farmers to vertically integrate downstream because profit levels are higher at more advanced levels of processing and distribution (Egerstrom, Bos and Van Dijk). Using these cooperatives as instruments for more carefully tailoring supplies to effective product demand improves coordination and efficiency of the marketing system. Furthermore, capturing part of the increased marketing margins is a means for farm operators to successfully preserve their entrepreneurial status and to compete with industrial firms that are attempting to dominate the marketing channel. This strategy becomes more important as a component of the economic organization of agriculture as federal government disengages from price and income support programs.

Coordination Imperatives

Organizing marketing efforts of atomistic production units over a broad geographical territory as expansive as the United States, let alone North America, remains one of the greatest challenges facing the cooperative movement. It is a daunting task, but one that is attainable as farm numbers continue to dwindle and incentives based on continued market concentration increase. The opportunity exists for developing more effective forms of coordination that actually improve performance of the marketing system as authorized by the Capper-Volstead Act. System rewards from improved coordination have been most visible through efforts of farm-input cooperatives at the regional and interregional levels in the plant food, crop protectant, petroleum, farm credit and energy sectors. Several levels or stages of coordination exist, as pointed out by Schaefer, the most fundamental being the formation of a cooperative by agricultural producers. Organizational federations are another stage. Intense competition among marketing cooperatives has made gains from improved coordination by them more illusive. However, a number have overcome rivalries and have utilized marketing agencies-in-common. Many of the new generation cooperatives that have established value-added business operations will increasingly discover the importance of coordination with other cooperatives that operate in their industries.

The alternative of a marketing agency-in-common allows members to retain ownership of individual assets while the common agency provides various services and product selling coordination (Reynolds). Liebrand and Spatz show how this concept can be applied in the dairy industry for export marketing for both bulk and differentiated products. Successful applications in over-order pricing of fluid milk; international marketing of cotton; marketing of refined sugar and sugar by-products, cottonseed oil, dried fruits and nuts; and coordinating co-packing arrangements for fruit juice cooperatives, have all demonstrated the strength of this approach. More studies are needed to identify potential advantages of marketing agencies-in-common in other commodity sectors.

Evaluation of the inner workings of marketing federations can also determine practices and structure that lead to effective representation of members in the market place. In an exhaustive industry organization study, Mueller and colleagues analyzed the relationships of local member cooperative packing houses and agency packing houses to the marketing efforts of Sunkist Growers for evidence of monopolistic behavior. They observed that the Federal Trade Commission's challenge to Sunkist failed to incorporate the unique organizational features of a nonprofit, open-ended marketing cooperative. While Sunkist did achieve a sizable market share, the analysis concluded that Sunkist did not behave as a monopolistic barometric price leader and did not engage in price discrimination. It also found its price premium was modest compared to others in the trade, and that the unique characteristics of a federated cooperative structure did not foreclose access of others to the market (Mueller, Helmberger and Paterson).

Joint ventures offer another alternative structure for coordination among cooperatives. Based on some case studies from the dairy industry, Frederick identified guidelines for structuring and operating joint ventures. Fulton has found that joint ventures and strategic alliances among local cooperatives lead to advantages of size economies, and, in some cases, risk diversification and supply assurance. If, as Mueller (1990) suggests, joint ventures tend to be highly unstable and relatively short-lived, then their role as a transitional stage to outright merger or consolidation requires further research.

Public Goods and Internalized Benefits

The reduction in federal government support for agricultural producers suggests a renewed and larger role for cooperatives as a self-help form of group action, but, to many cooperative economists, there is concern about the sustainability of traditional forms of organization and approaches (Cook 1992, 1995; Fulton). They view larger forces of change at work in the economy, society and in industry organization that seem to be gathering a momentum that will sweep aside the old ways and justifications for agricultural cooperatives. These developments, as well as recent changes made by some cooperatives to emphasize an investor orientation by members, raise a couple of dilemmas in the basic purposes or rationales for agricultural cooperatives. One of these dilemmas is in potentially diminishing a public interest role for cooperatives while endeavoring to redesign more sustainable organizations. Another dilemma, related to making cooperatives more sustainable, is whether or not fundamental principles will become altered to an extent that participation in such organizations would not really involve a process of cooperation— member consensus, control and focus on serving the businesses of the membership.

Agricultural cooperatives provide many services that the market either does not provide, or provides only in limited quantity or quality. The reason a cooperative provides otherwise unmet services is because its purpose is to serve the interests of members in terms of enhancing the profitability of their individual enterprises—a point articulated by Emelianoff and many others. In most cases, the benefits that are unique to a cooperative strictly accrue to the membership or are internalized by them. However, the notion of cooperatives having a public interest role has often been argued on the basis of external economies or benefits that they generate. Many of the early cooperatives that handled specialty products, especially fruits and nuts, undertook costly market development and product promotion programs that often benefited all producers in an industry, whether members or not. Although there is a trend to more closed and defined membership cooperatives, the expansion of non-traditional crops and livestock is creating a demand for market development of the traditional cooperative type. The same kind of external benefit to non-member producers also arises in markets in which cooperative involvement has ensured the prevalence of a competitive price, as mentioned earlier in connection with the ideas of Nourse. In terms of traditional public goods theory, some economists might view the external economies from cooperatives as a market failure. In an earlier decade, they might have recommended some type of government program to eliminate the externality, whereas in the present decade the approach would be to internalize such benefits by establishing a mechanism for property rights. Recent developments in cooperative practice to internalize or otherwise limit such external benefits have utilized closed memberships, product differentiation, and more substitution of branded advertising for generic.

The practice or strategy of organizing a more exclusive approach to cooperation is in accordance with the development of local or group public goods theory, as discussed earlier. The "public" aspect of such goods or services derive from *not* being individually defined and assigned, even though they are privatized and internalized to the group. Such a group accomplishes coordination and democratic governance.

Furthermore, there are many situations in which such local public goods, particularly among agricultural producers, have a larger public interest benefit. Economic efficiency improvements and greater and more widely distributed income gains are often a result of a cooperative, formed and operated as an exclusive or local public good. The new generation or defined membership cooperatives are an example of this type of public good.

Another potential dilemma is that interest among producers in forming cooperatives or maintaining their membership may gradually abate if organizational changes, that have broader appeal to what Murray Fulton views as a trend toward individualism, are not carried out. A dilemma arises if organizations substitute an investor orientation for a patronage or user orientation by members, based on the rationale that such a broader business orientation would increase member support.

Over the long-term, an uncertainty in such directions is the possibility of creating organizations that are not different from investor partnerships and are cooperatives in name only. In Buchanan's concept of a continuum between a pure public good and a private good, the investor orientation would appear to eliminate the middle ground, moving any organization that is not government completely into the realm of individual private goods.

Property rights theory has been used by many critics of government programs to design non-governmental solutions to externality problems. An analogous line of reasoning is also followed by those believing that improved assignment of property rights is a way to make cooperatives more sustainable. However, property rights have to be understood as general mechanisms for providing individuals with control over the use of defined attributes of assets, whether they be physical, financial or intellectual property (Fulton). Alchian makes the interesting observation that in various cultural and historical contexts, local customs and social norms are mechanisms for defining and enforcing property rights other than by means of contracts and access to courts.

Throughout the history of agricultural cooperatives in America various kinds of social norms have functioned to protect and enforce certain attributes or qualities of services that cooperatives provided as individual benefits to each member. Perhaps in today's economy and society such implicit property rights may need to be more explicitly assigned and defined for each individual. But these developments need to be accomplished in ways that do not undermine or curtail the process of cooperation-capacity for group decisions. Such explicit defining of property rights in cooperatives should have as its purpose the establishment of programs and rules that protect individual interests from any one member benefiting at the expense of other members.

Assimilation of Thought, Theory and Purpose

The challenges and dilemmas described above define parameters of future research agendas. The range of these issues and complexity of many of the dilemmas require a multi-disciplinary approach, whether carried out through collaboration of professionals from different disciplines or by synthesis of individual contributions from members of several different disciplines. Cooperative economists have made excellent use of ideas from economic theory that generally assumes a framework of individual utility maximization. In applying these insights to the institutional setting of a cooperative, with democratically generated rules for group coordination, continued intellectual diligence is required to adapt and work through many of the different implications of new developments in economic theory for cooperatives.

The need for an improved "language of cooperation," as pointed out by Fulton, is one aspect of the future research agenda of assimilating the evolution of cooperative thought, theory and purpose. In considering his point in an historical context, it is possible that in the past many producers were naturally drawn to cooperation and may have had more aptitude for working out cooperative solutions with similar producers in their community. Perhaps these individuals, while still needing education about some of the basics of cooperative principles, were less dependent on a more comprehensive and sophisticated language of cooperation than today's producers, if indeed, cooperatives are going to continue to be formed and to be effective in the future. In situations in which cooperation has economic advantages, but fails to be attractive to producers, problems of communication are evident.

Many practitioners, cooperative managers and development specialists possess their own language of cooperation. However, in order to develop a widely shared and robust language of cooperation for diverse situations, a more holistic and multidisciplinary approach to theory, research and the design of cooperative education materials is going to be needed.

Along similar lines of reasoning, Thomas Schelling has endeavored since the 1950s to create a stronger linkage between theory and analysis for practical decisions. In the reprinting of his classic work, *The Strategy of Conflict* (1980), which could have easily been titled *The Strategy of Cooperation*, he reflected back on original hopes for this project:

> ...I hoped to help establish an interdisciplinary field that had been variously described as "theory of bargaining," "theory of conflict," or "theory of strategy." I wanted to show that some elementary theory, cutting across economics, sociology, and political science, even law and philosophy and perhaps anthropology, could be useful not only to formal theorists but also to people concerned with practical problems...The field that I hoped would become established has continued to develop, but not explosively, and without acquiring a name of its own.

Schelling's concern with coordination failures and strategy in terms of a society or of groups avoiding movement into suboptimal equilibrium traps, is relevant and similar in approach to the previously mentioned macro coordination issues identified by Shaffer. The removal of price support programs is ushering in a period of adjustment, in which cooperatives can play a larger role in generating information and in coordinating decisions. The institutional and market changes being brought about by a reduced role of the federal government involve uncertain outcomes for agricultural producers, widely ranging from potential for higher returns to lost opportunities.

Higher returns are likely to prevail in the long-run if cooperatives expand their role in helping producers add more value to their products. But situations of lost opportunities may arise from a combination of failure to coordinate for larger joint gains and limited producer control of a vertically integrated food system. If this latter scenario prevails, the research agenda will need to be oriented to developing new institutional arrangements that can lead to Pareto improvements. Research will have an impact by focusing on the development of marketing and organizational innovations and by promoting more integrative bargaining solutions to the conflicting interests that arise in today's agricultural economy and that of the future.

Notes

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