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Cooperatives and Group Action

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Introduction

During the twentieth century, collective action in the form of institutions providing services, procuring inputs and marketing/processing outputs has played an important role in the strategies of independent agricultural producers in most advanced agricultural nations. In the United States these institutions have taken the form of farmer-owned and farmer-controlled marketing, supply, credit and service cooperatives. Most U.S. agriculture cooperative organizations originated in the early 1900's due to a combination of economic, farm organization and public policy factors. During the ensuing seventy years, U.S. farmer cooperatives have slowly but consistently increased their aggregate market shares of inputs handled, farm marketings and services provided. That is, until reaching a peak in the 1982-1984 period. Since 1982-1984, U.S.

cooperatives market shares have declined slightly (Table 1). Subsequently, U.S. farmer cooperatives have been reviewing their progress, rehabilitating their balance sheets, reevaluating their organizational structures and rethinking their strategic options.

The primary objective of this paper is to synthesize and summarize organizational issues and challenges facing U.S. agricultural cooperatives as they analyze their strategic options in preparing to meet the needs of their members in the twenty-first century. In order to more clearly understand current issues and challenges to the agricultural cooperative method of business organization, four background areas are introduced: (a) a brief description of the public policy support afforded U.S. agricultural cooperatives, (b) a review of cooperative business organizational principles and constraints and (c) a taxonomy of

Table 1. U.S. Farmer Cooperatives Share of Farm Marketings and Farm Production Expenditures, 1950-1990, in Percentages.

	1950	1960	1970	1982-84	1989	1990
Percent of Cash Receipts of Farm Marketings	17	24	26	30	28	27
Percent of Farm Production Expenditures	14	15	16	28	27	27

Source: USDA-ACS, *Farmer Cooperatives*, and *Cooperative Historical Statistics*, Cir. 1.

current cooperative organizational structures and (d) a brief explanation as to the motives for developing U.S. agricultural cooperatives.

Public Policy Support for Cooperatives

According to Sexton and Iskow, public support for agricultural cooperatives includes (a) limited immunity from antitrust laws, (b) beneficial tax treatment, (c) access to favorable credit terms and (d) technical assistance.

Limited Immunity from Antitrust Laws

Since the passage of the Clayton Act in 1914 and the Capper-Volstead Act in 1922, U.S. agricultural producers are free to "act together in associations" to collectively process, market, bargain and handle commodities and products they produce. Furthermore, farmers, through their associations, may contract, initiate agreements and/or establish marketing agencies in common, subject to member definition and organizational conditions. Nevertheless, as broad as these two federal laws (most states have complementary provisions in their antitrust legislation) are in permitting agricultural producers to participate in collective action, they do not fully exempt cooperatives' antitrust provisions. Neither may farmer cooperatives be used by nonfarmers to fix prices nor can farmer cooperatives engage in predatory practices harmful to others.

Beneficial Tax Treatment

At the federal level, net income of farmer cooperatives is generally taxed according to the single-tax principle instead of the double-tax principle usually applied to investor-oriented firms. This single-tax

principle insures that cooperatives' net income is taxed at either the cooperative firm level or the member-patron level, but not both. This favorable tax treatment evolved out of provisions first passed in the 1909 Corporation Tax Statute. This law placed a tax on corporate and joint-stock firms' net income but exempted agricultural and horticultural associations operating on a mutual basis. Since then, taxation of cooperatives has evolved with frequent legislative review and a steady stream of Internal Revenue Service rulings interpreting the legislation.

Access to Favorable Credit

The U.S. government helped create and implicitly supports the Farm Credit System. The System is a nondepository, structurally complex, farmer-owned-and-controlled agricultural lender entirely dependent for its loanable funds on sales of debt instruments in financial markets. Its origins can be traced to the 1916 birth of the Federal Land Bank System followed by the legislated emergence of two siblings, the Federal Intermediate Credit Bank and its companion Production Credit Associations and the Banks for Cooperatives. In addition to the initial seed money provided to start each of these banks, the federal government has supported the system by maintaining its "agency status" – a set of unique characteristics that help insure the financial markets will remain receptive to the amount of system securities needed to be sold.

Technical Assistance

Dating from the 1926 passage of the Cooperative Marketing Act, the U.S. government has supported the development of agricultural cooperatives. This support has

been more pronounced in some administrations than others, but the intent and infrastructure remain. The 1926 act created the now Agricultural Cooperative Service (ACS) and its predecessor agencies. ACS provides technical assistance to individuals interested in forming or improving cooperatives by conducting economic, legal, financial and governance analysis; by assisting in the establishment of cooperatives; by expanding the concept of cooperative development to assist in rural development; by supporting research into the theoretical foundations of American agricultural cooperation; by conducting international comparisons of cooperative policies, strategies and structures; and by collecting, analyzing and maintaining a large historical and statistical data base.

Guiding Principles of Cooperatives

In the struggle to attain legal recognition and approval, cooperative advocates relied on economic and philosophical arguments. The two most frequent economic justifications for forming cooperatives cited to legislative sponsors of collective action were: (1) individual producers needed an institutional mechanism by which they could bring economic balance under their control and because of excess supply induced prices and (2) individual farmers needed countervailing power when confronted with monopsonistic and/or monopolistic market structures.

Cotterill succinctly describes the economic conditions and macro responses in the form of the McNary-Haugen Movement, the Federal Farm Board and the Agricultural Adjustment Act between 1925-1935. At the beginning of this period, a grandiose role for cooperatives, incorporating price controls and supply management,

was envisioned. But as the ten-year evolution of the proposed role of agricultural cooperatives progressed, the more economically rational competitive yardstick arguments began to supersede the more idealistic and cooperatively ambitious dreams of the less economically inclined.

The second economic argument in support of collective action resulted from the belief that market failures existed. Many of the product and input markets were considered to be less than optimally competitive. Firms operating in these imperfectly competitive markets behaved in a manner which reduced the farmers producer surplus. The forty-year evolution of major cooperative legislation, which lasted from 1890 to 1930, produced more than forty state cooperative incorporation laws, the Sherman Antitrust Act, The Clayton Act and the Capper-Volstead Act, each in some way attempting to address these real and perceived market failures.

The philosophical arguments evolved from the principles and practices developed by the Rochdale Society members during the mid-1800's in England. By the 1920's these rules had been consolidated into the three hard-core principles of democratic control, service at cost and limited return on equity. Further refinement of the cooperative principles was summarized by the U.S. Senate-requested study coordinated by the U.S. Department of Agriculture's Agricultural Cooperative Service (USDA-ACS) in 1987. From that study the current cooperative principle semantics have evolved: a cooperative is a user-owned, user-controlled, user-benefited agricultural producer organization. More explicitly:

1. The farmer stockholding *owners* are the major *users* of the cooperative.

2. The *benefits* received by the farmer-owner stockholder who contributed equity capital to a cooperative are tied to the concept of *use* of the cooperative in the form of patronage and
3. The *control* of the cooperative by the owner stockholder *user* must be structured democratically in that voting power is not proportional to equity investment although it may be in certain situations structured in proportion to *usage*.

These principles ultimately define the property rights of the user member in the cooperative organization. Consequently, these property rights establish incentives and disincentives as to the investment, patronage and control behavior of the user-member. These incentives-disincentives in some cases are quite distinct from the investment, patronage and control behavior of non-cooperative structured business organizations. These differences present governance, management and financing challenges to cooperative leaders. These challenges are explored in some depth in the second part of this paper.

A Taxonomy of Agricultural Co-ops

Business structures are often legally, financially and organizationally complex. Current agricultural-related cooperatives are no different. Their structural evolution has created a plethora of formations and classifications. In order to simplify this maze, a simple taxonomy is introduced. In developing a taxonomy it is preferable to utilize a paradigmatic or theoretical model to serve as the basis for identifying separable categories. Unfortunately the multitude

of agricultural cooperative types encumbers meaningful categorization. Consequently, function-based, geography-based and commodity-based elements are employed in the development of taxonomy advanced in this paper. The seven cooperative types include: 1) Farm Credit, 2) Rural Utilities, 3) Sapiro I (Bargaining Cooperatives), 4) Sapiro II (Marketing Cooperatives), 5) Nourse I (Local Supply and/or Marketing), 6) Nourse II (Regional Supply and/or Marketing) and 7) New Generation Cooperatives.

1. *Farm Credit System*. Twelve Federal Land Banks were the first components of the Farm Credit System when it was chartered by Congress under the Federal Farm Loan Act of 1916. Subsequently the Federal Intermediate Credit Banks were created in 1923 to provide short- and intermediate-term credit; the Production Credit Association in 1933; the Banks for Cooperatives in 1933; and the regulator, the Farm Credit Administration. The motivating forces behind the efforts to organize the system came from concerns about the *unavailability* of agricultural and real estate loans, extremely *high rates* and the *length of terms* (federal law prohibited national banks from making loans with maturities beyond five years). After an initial surge of lending, the Farm Credit System loan volume continued to increase steadily until hitting a peak of more than \$80 billion in outstanding loans during the early 1980's.
2. *Rural Utilities*. Formed to provide a missing service due to the high per unit cost of serving a low density customer base, the rural electric and telephone cooperatives were formed in

1936 and 1949. Pence describes this struggle to create a set of complex, nationally coordinated institutions as a battle against the forces of market failure. The resulting systems are a combination of approximately 1,200 cooperatives and 950 non-cooperatives receiving government subsidized loans providing telephone and electric service to more than 45 million rural customers.

3. *Sapiro I Cooperatives: Bargaining Cooperatives.* Bargaining cooperatives address market failures through horizontal integration. Producers organize these Sapiro-inspired associations in an attempt to affect the terms of trade in favor of members when negotiating with first handlers. The functions of bargaining cooperatives can be described as twofold: (a) to *enhance margins* and (b) to *guarantee a market* (prevent post-contractual opportunistic behavior). These types of associations are found most often in perishable commodities in which temporal asset specificity creates a situation of potential post-contractual opportunism.
4. *Sapiro II Cooperatives: Marketing Cooperatives.* Marketing cooperatives are a form of producer vertical integration pursuing a strategy of circumventing and competing with proprietary handlers. They usually can be categorized in one of two ways, single or multiple commodity. The objectives are similar – to bypass the investor-owned firm, enhance prices and, in general, pursue the Sapiro goals of *increasing margin* and *avoiding market power*. Because of property rights and benefit distribution issues, management and governance functions are considered more complex in a multiple commodity marketing cooperative.
5. *Nourse I Cooperatives: Local Associations.* Local cooperatives are economic units operating in geographical space where achieving scale economics in commodity assembly (usually grains or oilseeds) and input retailing might dictate the presence of a spatial monopolist/monopsonist. Founded to *provide a missing service* or to *avoid monopoly power* or to *reduce risk* or *achieve economies of scale*, they epitomize the Nourse philosophy of cooperation – that of a "competitive yardstick" with the objective to keep investor-oriented firms competitive. Until the rapid expansion in the 1920's of regional structures, local associations were the predominant type of agricultural cooperative organization. Today, after much consolidation, local associations still are the largest type of cooperative in number.
6. *Nourse II, Multi-functional Regional Cooperatives.* Competitive yardstick-driven regional cooperatives usually perform a combination of input procurement, service provision and/or product marketing. Many integrate forward or backward beyond the first handler or wholesaling levels. They might be organizationally structured as federated, centralized or a combination. They differ from Nourse I local cooperatives in that there is little probability of being a spatial monopolist/monopsonist in their geographic market. Nourse-driven regional cooperatives were originally founded to achieve scale economies or provide

missing services in contrast to the "additional-margin"-oriented Sapiro regional commodity marketing cooperatives.

7. *New Generation Cooperatives.* Currently there are only a few new generation cooperatives. They are the result of collective action-oriented founders attempting to address market failure situations, excess supply price depression, cooperative property rights structural weaknesses and free rider issues. Specific solutions in the form of asset appreciation mechanisms, liquidity creating delivery right clearinghouses, proportional patronage distributed control, base equity capital plans and membership policies controlling entrance, are established in their by-laws and operating practices. The initial organizers of these cooperative associations are as investor-driven as they are user-driven in adapting their financial and governance policies.

Motives for Founding Cooperatives

As mentioned earlier, two basic economic explanations are posited as giving rise to the cooperative form of business organization in U.S. agriculture – market failures and excess supply depressed commodity price levels. In this section, five reasons are presented as motivating factors in the agricultural producers decision to initiate collective action. These include: (a) the desire to avoid the negative consequences of market power; (b) the drive to attain scale economies in procurement, services, or marketing; (c) the attempt to reduce risk; (d) the quest to provide missing services; and (e) the drive to achieve additional margins. The first four of these

are drawn from the market failure literature and the fifth from the private approach to managing excess supply created price levels.

1. *Market Power Avoidance.* In the cooperative business history literature, the most frequently cited reason for forming cooperatives is to avoid the negative economic consequences of market power. Agricultural producers consistently have argued that imperfectly structured markets in the form of monopoly-oligopoly or monopsony-oligopsony lead to opportunistic behavior exemplified by price discrimination and/or quasi-rent extracting price levels.
2. *Achieve Scale Economies Gains.* A related market power cause for acting collectively among agricultural producers is the benefit-from-economies-of-size argument. In certain markets, the economies of size of the supply or assembly function can justify only one business entity. In order to avoid opportunistic hold-ups, producers are more economically satisfied with the creation of their own spatial monopoly-monopsony in order to assure a more equitable distribution of economic benefits.
3. *Risk Reduction.* Oftentimes, agricultural producers join together to reduce exposure to risk. Risk reduction actions take the form of horizontal, then forward/backward vertical, integration, cost averaging over product or commodity lines, supply-assuring or market-guaranteeing contracts or insurance. Numerous studies have suggested that most producers prefer to reduce their exposure to risk for

personal-risk averse reasons and/or for more effective planning. Through the use of cooperatives, producers shift risk from members to nonmembers or they ration risk among all members. Cooperatives also reduce risk by decreasing the potential for opportunistic behavior exhibited in *ex post* market assurance or supply guarantee negotiations.

4. *Provide Missing Services.* Agricultural producers have founded cooperatives to market their output, purchase inputs, or provide services when for-profit firms would not. Schrader has suggested this to be economically irrational, but Sexton and Iskow argue that this seemingly irrational behavior is empirically validated because: (a) an efficient cooperative might be able to operate on a smaller margin than an investor-owned firm, (b) cooperative members may be willing to accept a lower return on investment, or (c) the harmonization of exchange afforded by cooperation enables flexible pricing methods which extract value from markets unattainable to the noncooperative firms.
5. *Achieve Additional Marketing Margins.* Groups of farmers may wish to increase prices through their own efforts – that is, through the exercise of self-generated market power. Marketing, processing or bargaining cooperatives commanding a dominant share of a commodity at some level, with minimal threat of near-term substitution, are able to establish a brand name with a degree of consumer loyalty leveraged into market power. The primary methods of cooperative price enhancement is through supply control or by product or service improvement.

The Sapiro school of cooperative thought advocates gaining market power to improve the terms of trade for their members. On the other hand, the Nourse-school-of-cooperatives approach to achieving additional margins would advocate integrating into another level if quasi-rents were being extracted because of inefficient capital markets or lack of market competition.

The contents of Table 2 present a summary of the economic motives behind the founding of U.S. agricultural cooperatives as associated with the type of cooperative developed in the aforementioned taxonomy. Based on historical research, a motive was determined to be very important, important, or less important. These are the authors' subjective conclusions after extensive review of historical cooperative literature including, but not limited to: Babcock, Knapp, Holyoake, Sapiro, Fetrow, Bakken and Schaars, Adams, Abrahamson, Torgerson, Nourse, Warbasse, Ingalsbe and Groves, Rhodes, Fetrow, Stokes and Rublic. As observed in Table 2, *avoiding market power* was the most important economic motive for founding four of the seven types of agricultural cooperative organizations defined in the taxonomy. This was followed in importance by *providing missing services* and *attempting to achieve additional margins*. The Farm Credit System Banks, Nourse I, Nourse II and the New Generation cooperatives had the broadest scope of economic motives for their birth, whereas the Rural Utilities had the most well-defined set of reasons for initiating collective action.

This brief retreat into the cooperative historical archives will be helpful in the

Table 2. The Importance of Economic Motives in the Founding of U.S. Agricultural Cooperatives.

	Market Power Avoidance	Economies of Scale	Risk Reduction	Provide Missing Service	Achieve Additional Margins
Farm Credit System	Very Important	Important	Important	Very Important	Less Important
Rural Utilities	Less Important	Important	Less Important	Very Important	Less Important
Sapiro I – Bargaining Cooperatives	Very Important	Less Important	Important	Less Important	Very Important
Sapiro II – Marketing/Service Cooperatives	Very Important	Important	Less Important	Less Important	Very Important
Nourse I – Local Cooperatives	Very Important	Very Important	Important	Very Important	Less Important
Nourse II – Regional Cooperatives	Less Important	Very Important	Important	Important	Important
New Generation Cooperatives	Important	Important	Important	Important	Very Important

subsequent sections as the challenges and issues confronting agricultural cooperatives are identified, defined and clarified.

21st Century Challenges and Issues

The second part of this paper is organized around the discussion of three fundamental questions:

1. Should agricultural producers and their cooperative form of collective action continue to be afforded public policy support at its current level and form?
2. If the cooperative form of business continues to receive its current level and form of public support, does it have the structural wherewithal (i.e., internal organizational efficiencies) to compete in an increasingly more global market place?
3. If the cooperative form of business continues to receive its current level and form of public support, does it have the structural wherewithal to compete in a more industrialized (more vertically coordinated-differentiated product) form of agriculture?

These three questions are strategic in nature. They partially overlap with a number of insightful observations made by Sexton (1991), Torgerson (1990), Staatz, the USDA-ACS 1987 Report to Congress and many others. If there is a uniqueness to these questions, it is that they need to be answered in the near future if individual producers are to continue benefitting from what has been a relatively successful user-owned, controlled and benefitted type of business organization.

Justification of Public Support?

Over the past 110 years, state and federal laws have been enacted to allow agricultural producers to "act together" in a legally unique manner under the business organization title of *cooperative*. Through the provisions of these laws, U.S. agricultural cooperative members have received public support in the form of certain tax advantages, limited immunity from antitrust constraints, access to favorable credit terms and technical assistance from public agencies. In return, agricultural producers implicitly and explicitly agreed to form organizations owned by, controlled by, and of benefit to, members in proportion to their patronage. Few noncooperative observers have understood the positive economic welfare implications of this patronage constraint. Instead, these observers have increasingly raised concerns about public support for agricultural cooperatives. These concerns are:

- Cooperatives should not receive public support because they operate less efficiently than similar investor-oriented firms.
- Cooperatives have abused their right to countervail market power.
- Cooperatives have stretched the definition of an agricultural producer beyond legally or economically acceptable boundaries.
- Agricultural producers no longer confront market failures so prevalent at the time of their founding.
- Agricultural producers cannot justify publicly supported technical assistance.

Cooperative Economic Efficiency Issues · Numerous authors have suggested that cooperatives exhibit technical, allocative, pricing and scale inefficiency (Porter and Scully; Ferrier and Porter; Staatz; Caves and Peterson). If cooperatives are inefficient, there is less likelihood they will have a procompetitive impact on market performance. Sexton and Iskow, after reviewing the cooperative efficiency literature in some depth, conclude that more research in this area is definitely needed. After critiquing the aforementioned works, they review studies which reach the opposite conclusion (Babb and Boynton; Parliament, Lerman and Fulton) or are inconclusive (Sexton, Wilson and Wann; Hollas and Stansell). If cooperatives are permitted considerable latitude with respect to market power (Capper-Volstead), the issue of economic efficiency as a defense for public policy support is critical. The empirical inconclusiveness creates an intellectual vacuum and a challenging opportunity to applied public-policy-oriented researchers.

Cooperative Market Power Abuse Issues · A second argument against continuing public support for agricultural producer collective action is the accusation that cooperatives have abused their limited antitrust immunity. This serious allegation, if substantiated, could jeopardize public support for the cooperative way of doing business. Baumer, Masson and Masson summarize the legal arguments against continued public support of cooperative protection. The Sapiro II marketing cooperatives, especially those in milk, fruits, vegetables and nuts, have been the most cited as violators of public trust. Sexton and Iskow review the economic theory and empirical evidence related to these charges. Among their

conclusions regarding cooperatives and market power are the following:

1. Cooperatives may attain market power when exercised through voluntary association of agricultural producers.
2. Cooperatives, without other government assistance, without closed membership and without supply management control, have little chance in attaining market power.
3. Cooperatives may not attain a monopoly position through predatory practices and other anti-competitive activities.
4. Cooperative immunity will not be protected when joint ventures with non-cooperatives are concerned.
5. Abuses cited by critics "could not have been accomplished without the aid of marketing orders" (p. 34).

Challenging market power research issues remain, especially regarding the market-power marketing, order-cooperative relationship and cartel behavior, but the theoretical and empirical evidence is quite supportive of public policy support for cooperatives. Perhaps Sexton and Iskow say it most clearly when they conclude that "outside of the domain of products controlled by marketing orders, there is no evidence that cooperatives have exercised market power by enhancing price or price discriminating" (p. 38).

Cooperative Definitional Issues · Pro-cooperative public policy was adapted to facilitate collective action in an era of the

relatively well-defined homogeneous agricultural producer. Today, as firms become increasingly boundaryless and agriculture moves rapidly toward industrialization, the challenge of defining an agricultural producer is considerably more complex. This issue has reached the U.S. Supreme Court twice already in *Case-Swayne v. Sunkist Growers* 1967 and *National Broiler Marketing Association v. United States* 1978. In each case the Supreme Court opted to deny Capper-Volstead protection to the cooperative because of the misuse of the concept of agricultural producer. Yet the Central California Lettuce Producers Cooperative received a ruling from the Federal Trade Commission that permitted a broader definition of agricultural producers. Recently a multitude of "information sharing" cooperative entities have appeared which will challenge the traditional definition of farmer. The courts, lawyers and strategic planners all await a classic institutional research piece that will clarify this obscure and puzzling area.

Current Market Failure Issues. Cooperative critics suggest that the market-failure-riddled economic environment of the 1920's and subsequent periods has disappeared. Therefore, it is argued, there is little need for continued public policy support to protect market-failure-victimized agricultural producers. Challenges of cooperatives that have ameliorated many of the original market failures, such as Farm Credit, Nourse I and Nourse II associations, are currently examining future options – which will be addressed in a subsequent section.

Market failures have a tendency to increase as discrete advances in technology and/or other exogenous forces, such as

globalization and industrialization, appear. As discrete or non-continuous change affects coordinating devices, market failures in the form of small number bargaining structures, asymmetric-information-related moral hazards and hold-ups, threaten the individual agricultural decision maker. Solution in the form of more vertically coordinated system and horizontal collective action become more attractive. Consequently, opportunities for researchers interested in the economics of organization, markets and information will continue to increase. Examining the public policy implications of the impacts on the agricultural sector will warrant increased attention.

Cooperative Technical Assistance Issues · Critics suggest that publicly-supported technical assistance to develop and maintain cooperative associations has outlived its usefulness. Since the establishment of the predecessor of the Agricultural Cooperative Service (ACS) by the 1926 Agricultural Marketing Act, cooperative organizers have received data, analytical, technical, informational, clearinghouse, intellectual and developmental support from the federal government. Should this support continue? Economists would base their decision on whether societal allocative efficiency was being achieved by the provision of these services. Given the scenario articulated in the previous market failure section – that of a potential increase in technology-globalization driven market failure occurrences – the economic role of public assistance must seriously be evaluated before such programs are eliminated.

Global Market Competition?

The food and fiber sector is becoming increasingly global in both scope and be-

havior (Hardy and Henderson). At the global level, the value of further-processed or value-added trade in food products surpassed the value of commodity trade during the 1980's. Continued consolidation and integration have vaulted a number of food processing and marketing firms into top global rankings for sales volume and profit. Most of these firms established considerable market share strength in their domestic markets before successfully expanding into global ventures. Meanwhile, cooperatives in Europe, Japan and the United States were building strong domestic market share positions in commodity-related first handling levels and, in some cases, processing levels. Yet few cooperatives have been active in establishing well-defined global marketing strategies. Why is this so?

Researchers have added little in the fields of theoretical or empirical work to help answer this question. What follows are some brief thoughts and speculation as to why cooperatives have moved slowly into the global arena.

The process of increasing global competitiveness appears to create a particularly complex strategic challenge for cooperatives. Agricultural business organizations have found that competing in a global environment is more than expanding exports from a single-origin base in a commodity form. Because of more open markets, domestic-oriented firms have found that reacting to increasingly competitive imports demands as much attention and resources as efforts to expand exports. In expanding overseas sales, the firm must decide whether to produce at home and export to a foreign market or to locate production overseas. This decision is normally based on a comparison of deliv-

ered costs and is a function of production costs, transport costs, tariff-nontariff barrier considerations, fiscal issues and transaction costs. But for the agricultural cooperative the analysis is usually more complex. Because agricultural cooperatives are user-owned and controlled rather than investor-driven, they have been reluctant to make financial decisions based solely on the cooperative corporate entity investment criteria. Therefore, foreign direct investment, particularly that which does not consume or utilize the user-owner produced raw material or input, becomes less viable as a strategic option. Most cooperatives have found it difficult to persuade members to invest abroad utilizing nonmember produced inputs.

A second possibility as to why cooperatives have moved cautiously into global competition is because the cooperatives' owners are tied to assets in a fixed area. Owners of immobile assets, such as land, have fewer choices in playing the global game. With reluctance to participate in foreign direct investment, cooperatives are limited to remaining single-origin exporters, thus limiting flexibility and subject to frequent periods of being out of the market.

Limiting their options to those of a single-origin firm (similar to parastatal marketing boards) agricultural cooperatives have significant difficulties achieving scale economies in generating and utilizing global intelligence and risk management. Caves and Pugel argue that these are the two most important factors for achieving economic success in international commodity trading. It is near impossible to achieve these two scale economies without operating in a multiple-port, multiple-origin organizational structure.

Another limiting factor in cooperative global venturing might be the importance and structure of membership control. Caswell's research demonstrates that investor-owned corporate agribusiness firms maintained significantly higher levels of director and firm contact through board membership than did U.S. agricultural cooperatives. She concludes that this absence of a range of outside directors on cooperative boards serves the principle of democratic control but may have adverse effects on the breadth of board decision making.

Another explanation for the paucity of cooperative penetration into the international arena might be the "home base competitive advantage" arguments posited by Porter. He argues that a critical determinant of international success is achieving a strong market position in a firm's "home base" domestic sector. With very few exceptions, U.S. agricultural cooperatives have not established dominant market shares at the post-assembly or first handler levels. In documenting this phenomenon, Rogers and Marion include that "...when compared with the largest 20 and 100 investor-owned food and tobacco manufacturing firms, the size and market power of cooperatives is like a mosquito on an elephant's rump" (p. 72).

Perhaps agricultural cooperatives do not deem it necessary to compete in the global marketplace as do investor-oriented firms. Perhaps the mission, objectives and/or goals of the cooperative organization are different from investor-oriented firms. Fairbairn, et al., argues and Fulton and Ketilson confirm, that the role of cooperatives is not limited solely to economic considerations. Their findings conclude that cooperatives provide an important collective action function which has both

social and economic consequences to member and community development. This "mission-is-different" view of agricultural cooperatives might have significant strategic implications for Nourse II federated cooperatives if their Nourse I locals opt for community-social objectives rather than global commodity-product direction.

These "asset-immobility," "board-structure," "home-based-dominant-position," and "mission-is-different" hypotheses have received little social or management science attention as they relate to user-owned and controlled business firms struggling with coping in a more global economy. Yet the leading agricultural cooperatives in the advanced agricultural countries are struggling on a daily basis with these issues (*The Economist*). The plethora of challenges appears to be mature enough to warrant considerable conceptual, empirical and policy-oriented attention.

Competition and Industrialization

Sporleder defines the industrialization of agriculture as "...the undifferentiated products and open markets characterizing many agricultural markets are evolving toward the differentiated products and contractual or integrated and controlled-supply markets usually characterizing manufacturing sectors of the economy" (p. 1227). Barkema, et al. (1991); Barkema, et al. (1993); and Urban argue that the phenomenon of industrialization is evolving at an increasing rate. Driven by an ever health-oriented, convenience-seeking consumer and fostered by advances in information and genetic technology, the traditional agricultural and food market system linkages are rapidly becoming more vertically coordinated.

Are farmer members through their cooperatives identifying and adjusting to these changes? Are there public policy options that might facilitate more producer involvement in this process? The literature is rich with theoretical and empirical studies addressing the role of cooperatives as a vertical coordination strategy for farmer members. However, the economic literature is nonexistent on regards cooperatives, public policy and industrialization. To solve for this scarcity, a thorough understanding of the phenomenon of industrialization and the role of cooperatives to date in adjusting to the forces of the industrialization of the food and fiber system is required.

Sporleder's definition suggests that the determinant factors of success for individual agricultural and food firms, if they are to succeed in this industrialization process, are (a) the ability to differentiate output, (b) the ability to minimize coordination costs and (c) the ability to control supply. Sapiro II, Nourse I and rural utility cooperatives have probably made the most progress in achieving these factors. Yet this success has been limited. The previously mentioned Rogers and Marion study found that the 100 largest agricultural cooperatives accounted for 6.9 percent of the value-of-shipments and 3.6 percent of the value-added in all food and tobacco manufacturing industries using 1982 Bureau of Census data. Although this study does not take into account business activity at the wholesale level, their findings are quite revealing. When they categorized firms according to degree of product differentiation they found the percentage of value-added which cooperatives controlled declined as product differentiation increased. Compared to noncooperatives, Rogers and Marion also found that cooper-

atives have significantly lower advertising-to-sales ratios. A major finding in their study was that successful product differentiation requires substantial investments in research and development and advertising and that cooperatives have usually faced major capitalization constraints.

The relationship between capital acquisition and property rights constraints in the form of tied equity and the horizon problems, is relative well understood for Sapiro II-type cooperatives. It is less well understood as it relates to the industrialization process for Nourse I and Nourse II cooperatives, which make up a larger segment, in number and sales volume, of the U.S. agriculture cooperatives. Capital is critical to the industrialization process. Urban argues that because capital is risk averse it will prefer the less volatile, vertically-coordinated agriculture than the more volatile, open-market agriculture. If these conclusions are correct, the acquisition of cooperative capital will be the critical factor in determining the role of cooperatives in the industrialization of the global food and fiber and fiber marketing system.

Public policy directed toward cooperatives, mostly formulated fifty years ago, has been tax-, market-power- and access-to-capital-oriented. If individual producers are to have any chance in controlling parts of the industrialization of agriculture process, the role of capital acquisition, public policy and the improvement of defining vague property rights emanating from current public policy will become areas of considerable research attention.

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