Understanding New Cooperative Models: An Ownership–Control Rights Typology

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This article examines new agricultural cooperative organizational models from an ownership rights perspective. The article adopts a definition of ownership rights comprising both residual claim and control rights. We argue that new cooperative organizational models differ in how ownership rights are assigned to the economic agents (members, patrons, and investors) tied contractually to the firm. The article proposes a typology of discrete organizational models, in which the traditional cooperative structure and the investor-oriented firm are characterized as polar forms. The typology also includes five nontraditional models that cooperatives may adopt to ameliorate perceived financial constraints.

A gricultural cooperatives have played an important economic role in market economies as indicated by their substantial levels of asset ownership, sales, and market share in North America and Western Europe. Historically, growth capital employed to attain these levels was sourced from either debt instruments or internally generated earnings. Success in generating internal capital was largely a function of the flexibility of control over payments to members in the form of patronage dividends, equity redemption, and most importantly for marketing cooperatives, payments to members for produce (van Bekkum and van Dijk, U.S. Department of Agriculture).

More recently, however, agricultural cooperatives have been facing survival challenges as a result of the agricultural industrialization process.¹ Competitive strategies pursued by agricultural cooperatives in response to environmental and structural changes in the food system, including value-added processing, brand name development, and entry into international markets, require substantial capital investments. In order to acquire the necessary risk capital to

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implement these growth-related strategies and remain competitive, agricultural cooperatives are using organizational innovations to adapt to agricultural industrialization. These organizational innovations include but are not limited to new generation cooperatives, base capital plans, subsidiaries with partial public ownership, preferred trust shares, equity-seeking joint ventures, combined limited liability company–cooperative strategic alliances, and permanent capital equity plans. These new organizational and capital formation experiments have created considerable interest among producer leaders, cooperative management, finance institutions, and organizational scholars. We assert that the basic issues in examining these new models can be reduced to an examination of ownership and control rights.

The objective of this article is to analyze and characterize these emerging models by describing various organizational attributes, including ownership structure, membership policy, voting rights, governance structures, residual claim rights, distribution of benefits, and the strategy–structure interface. Building upon property rights and incomplete contracts theories of the firm, the article adopts a broad definition of ownership rights that encompasses both residual claim and control rights. We argue that alternative cooperative models differ in how ownership rights are defined and assigned to the economic agents tied contractually to the firm—in particular, members, patrons, and investors. Based on multiple examples, the article proposes a typology of discrete organizational models, in which the traditional cooperative structure and the investor-oriented firm (IOF) are characterized as polar forms. Additionally, we identify five nontraditional cooperative models that user-owned organizations may adopt to ameliorate perceived financial constraint problems.

Typology of Ownership Rights in New Cooperative Models

Many economists agree that ownership in the form of secure property rights is the most effective mechanism for providing economic agents with appropriate incentives to create, maintain, and improve assets. But what does "ownership" mean? The economic analysis of ownership has concentrated on two distinct concepts: residual returns (or claims) and residual rights of control.

Residual rights of control are defined as the rights to make any decision regarding the use of an asset that is not explicitly attenuated by law or assigned to other parties by contract. Residual rights of control emerge from the impossibility of crafting, implementing, and enforcing complete contracts, especially in the case of complex, dynamic transactions. Since all contracts are unavoidably incomplete, the residual right of control over an asset defines who "owns" it (Grossman and Hart). According to the incomplete contract theory of the firm, the assignment of control rights (and hence ownership) is dictated by ex ante investment incentives of contracting parties. The theory predicts that residual rights of control are assigned to agents making relationship-specific investments whose quasi-rents are under risk from hold-up behavior.²

Economists define residual claims as the rights to the net income generated by the firm—i.e., the amount left over after all promised payments to fixed claim holders (e.g., employees, debtors). Additionally, residual claimants are considered the residual risk bearers of the firm because net cash flows are uncertain and eventually negative. The "owners" of the firm are the residual claimants according to property rights scholars (Fama; Fama and Jensen).

Table 1 summarizes ownership rights characteristics of alternative organizational forms, including open corporations, proprietorships, financial mutual companies, and traditional cooperatives. For instance, the open corporation is characterized by unrestricted residual claims that are nonredeemable but freely tradable among investors in secondary equity capital markets. The horizon of residual claims is unlimited because they are rights in net cash flows for the life of the organization. In addition, residual claimants are not required to play any other function in the firm. The unrestricted nature of common stock residual claims enables the efficient allocation of risk and the specialization of risk-bearing and decision-making functions in open corporations. In contrast to corporations, noncorporate organizational forms usually add restrictions on residual claims that may affect asset investment and use (table 1).

Drawing from the property rights theory of the firm, we propose a typology of discrete organizational arrangements (i.e., cooperative models) based upon a broad definition of ownership rights comprising both residual return and control rights. We argue that cooperative organizational models may be distinguished by the way ownership rights are defined and assigned to economic agents tied contractually to the firm (members, patrons, and investors).³ In our proposed typology, the traditional cooperative and the investor-oriented firm (IOF) are considered polar organizational forms (figure 1). We define the traditional cooperative structure as having the following property rights are nontransferable, nonappreciable and redeemable; and benefits are distributed among members in proportion to patronage. As a result of this "vaguely defined" property rights structure, traditional cooperatives are subject to investment and governance constraints (Vitaliano; Staatz; Cook).

In addition to these polar forms of organization, figure 1 identifies five nontraditional cooperative models. In other words, we observe organizational variation in the ownership rights structure of cooperative firms. In doing so, we refine the property rights analysis of alternative organizational forms by identifying five cooperative models that introduce organizational innovations to the traditional cooperative structure. In the upward-egressing branch of figure 1, three nontraditional models with ownership rights restricted to member-patrons are described: proportional investment cooperative, member-investor cooperative, and new generation cooperative.

In the proportional investment cooperative model, ownership rights are restricted to members, nontransferable, nonappreciable and redeemable, but members are expected to invest in the cooperative in proportion to patronage. Proportional investment cooperatives adopt capital management policies to ensure proportionality of internally generated capital, including separate capital pools and base capital plans. In member-investor cooperatives, returns to members are distributed in proportion to shareholdings in addition to patronage. This is done either with dividend distribution in proportion to shares and/or appreciability of cooperative shares. In the new generation cooperative model, ownership rights are in the form of tradable and appreciable delivery rights restricted to current member-patrons. In addition, member-patrons are required to acquire delivery

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	Open Corporation	Proprietorship	Financial Mutual	Traditional Cooperative
Assignment of residual returns Separation of ownership from other functions	To investors Yes	To proprietor No	To customers No	To member-patrons No
Control rights	Voting rights proportional to shareholdings	Proprietor possesses all control rights	Customers have no control rights	Nonproportional voting rights
Horizon of residual claims Transferability of residual claims Redeemability of residual claims	Unlimited Yes No	As long as proprietor No No	As long as customer No Yes, on customer demand	As long as patron No Yes, but at Board's discretion

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Figure 1. Alternative cooperative models: an ownership rights perspective

rights on the basis of expected patronage so that usage and capital investment are perfectly aligned.

In the downward-egressing branch of figure 1, ownership rights are not restricted to member-patrons. Consequently, the cooperative is able to acquire risk capital from nonmember sources. However, members may have to share profits and eventually control rights with outside investors who are not necessarily patrons of the cooperative and thus may have diverging interests. Conflicting goals between maximizing returns to investors and member-patrons may occur as a result. The more radical model in this branch—conversion to IOF—is an exit strategy adopted by cooperatives that choose not to continue operating as a userowned and controlled organization. Alternatively, cooperatives may acquire risk capital from outside investors with capital-seeking entities or investor-shares.

In the first model, investors acquire ownership rights in a separate legal entity wholly or partly owned by the cooperative. In other words, outside investor capital is not directly introduced in the cooperative firm, but rather in trust companies, strategic alliances, or subsidiaries. In investor-share cooperatives, investors receive ownership rights in the cooperative in addition to the traditional cooperative ownership rights held by member-patrons. That is, the cooperative issues more than one class of shares assigned to different "owner" groups.

Examples of New Cooperative Models

This section describes the discrete structural alternatives shown in figure 1. We ground the proposed typology in real-world examples of nontraditional cooperative models, which were developed from case study evidence. These examples are drawn from domestic and international observations and study of new cooperative models. It is beyond the scope of this article, however, to discuss the implementation of those models under current U.S. law. Nevertheless, it is noted that the institutional environment affects the ability of cooperatives to engage in organizational restructuring.

Proportional Investment Cooperatives

According to Royer and Cook, the proportionality strategy of internally generated capital is a capital acquisition option pursued by some traditional cooperatives that choose to continue as such (i.e., not transition or exit). Proportionality strategies discipline cooperative members to contribute equity capital in proportion to usage through cooperative policies such as base capital plans, narrowing product scopes, and capital acquisition on a business-unit basis.

For this discussion of a proportional investment cooperative, we analyze an organization that adopts the base capital plan. The base capital plan is a comprehensive equity management technique, encompassing both acquisition and redemption of equity capital from member-users. The first step when introducing a base capital plan is to determine the cooperative's capital requirements based on future investment opportunities and members' willingness to supply risk capital. Proportional use is then determined by measuring each member's average usage of the cooperative over a base period and calculating the member's minimum equity capital requirement based on relative patronage. If the plan is initiated in an "on-going" cooperative, when a minimum capital contribution per member is computed, some members will be over- and others underinvested in the cooperative. Thus, the next step is to design a plan to increase the equity investment of underinvested members and redeem part of the equity investments of overinvested members. Alternatively, the cooperative may allow underinvested members to buy shares from overinvested members. Adoption of the base capital plan is less complex in the case of a new cooperative.

The base capital plan is used by numerous well-known U.S. cooperatives, including Riceland, CoBank, Land O' Lakes, and Dairy Farmers of America (DFA). For instance, DFA has established a base capital plan in which member-patrons are expected to achieve a target equity investment of \$1.75 per hundredweight (cwt) of milk delivered to the cooperative. In order to achieve this target, DFA retains 10 cents/cwt from underfunded members until their base capital reaches \$1/cwt. After attaining this level, members are entitled to receive 20% of patronage refunds in cash and 80% as DFA capital account credits until the base capital target is achieved. In addition, DFA allows equity transfers between members as retiring and overfunded members may sell capital account credits to current underfunded members if they do not wish to hold their equity investments at full face value. That is, capital credits are transferable, but not appreciable.

Member-Investor Cooperatives

In this model, ownership rights are restricted to member-patrons, nontransferable, and redeemable, but the cooperative distributes net earnings in proportion to member shareholdings rather than patronage. In order to do so, the cooperative may distribute cash dividends in proportion to member shares or set a policy allowing the appreciability of residual claims. Bonus share issues and share value appreciation are oft-used mechanisms for residual claim appreciability. When residual claims are appreciable, members have more incentives to invest and retain equity in the cooperative as they are explicitly remunerated for their investment. The member-investor model may be implemented by means of participation units, capital units, and redeemable preference shares.

Participation units

Campina Melkunie, a Netherlands dairy cooperative, issued participation units to active supplier-members on a voluntary basis since 1991. Participation shares are nontransferable, redeemable, nonvoting, and appreciable ownership rights. It is the board's responsibility to set the value of participation shares every year, thereby sharing the growth of the business with member-investors. In January 2001, investment in participation units became compulsory for all members with a minimum equity contribution proportional to milk deliveries. In addition to participation units, Campina Melkunie raises capital from members by means of subordinated bonds and per unit retains.

Cooperative capital units (CCUs)

CCUs were introduced in the New South Wales (NSW) Cooperatives Act in 1992 to enable cooperatives incorporated in that Australian state to raise additional risk capital from members. The CCU financial model has been subsequently adopted by five NSW cooperatives, including Walgett Special One Cooperative (WSOC), a grain marketing cooperative formed in 1987. In October 2000, WSOC introduced CCUs to provide investment returns to members. The CCU designed by WSOC has a hybrid debt-equity financing arrangement. It provides a noncumulative, fixed interest rate ("core interest"), and a "bonus interest" paid out of profits with priority over patronage distribution to members. WSOC members may subscribe to CCUs on a voluntary basis in proportion to grain tonnage delivered to the cooperative.

Redeemable preference shares

Tatura Milk Industries Limited is a dairy cooperative owned by milk producers in Victoria, Australia. After successfully avoiding a hostile takeover attempt in 1987, Tatura issued redeemable preference shares to active members. Preference shares are nontransferable, interest bearing, nonvoting, and redeemable ownership rights. Following the initial offering, the board approved new preference share issues in 1992, 1996, and 1999. In addition to allowing capital appreciation through regular bonus share issues, Tatura pays dividends on preference shares to remunerate for members' opportunity cost of capital. The key incentives for members to invest in redeemable preference shares are regular bonus issues, attractive dividend payments, and full redemption of shares upon exiting the cooperative.

Fonterra Co-operative Group is a dairy marketing cooperative based in Auckland, New Zealand. Fonterra cooperative members are required to hold redeemable preference shares in direct proportion to the quantity of milk produced in any given season. Redeemable preference shares are nontradable, but appreciable. Each year, an independent "valuer" appointed by the shareholders' council establishes the range of how much a share in the business is worth. The board of directors then sets the "fair value" for Fonterra shares. New members are required to purchase their proportionate stake in the business at the fair value. Members with declining milk production, or who exit altogether, are able to cash out the fair value of their shares and consequently realize capital gains.

New Generation Cooperatives

The new generation cooperative model is another departure from the traditional cooperative structure that relaxes the restriction on residual claim transferability. The rationale for equity share transferability is to provide liquidity and capital appreciation through secondary market valuation. The new generation cooperative model introduces ownership rights in the form of delivery rights that are tradable among a well-defined member-patron group. Ownership rights are restricted to member-patrons, membership is closed, members are required to make up-front investment in delivery rights in proportion to patronage, and supply is controlled by marketing agreements.

The major advantage of this model is improvement of members' incentives to contribute risk capital to the cooperative. In particular, defined membership cooperatives with transferable and appreciable residual claims enhance members' incentives to invest (Cook and Iliopoulos). Yet, the necessary condition to mitigate investment constraints is a competitive market for delivery rights. Consequently, the success of the new generation cooperative structure depends on the demand for delivery rights and implementation of rules for the proper functioning of a market for delivery rights.

There are many examples of new generation cooperatives, including North American Bison, Golden Oval, American Crystal, and Northeast Missouri Grain Processors. Some traditional cooperatives are transitioning to the new generation model while maintaining ownership rights attributes of the traditional cooperative structure. Examples include the Equity Participation Unit program developed by Harvest States and Tatua Cooperative Dairy Company in New Zealand, which is considering the adoption of tradable Milksolids Supply Entitlements in proportion to members' milk deliveries.

In sum, the aforementioned models relax some of the restrictions on traditional cooperative residual claims but maintain the user-ownership principle. Cooperatives that have exhausted these structural options to ameliorate perceived financial constraints are making a more complex decision—whether to acquire equity capital from nonmember sources. The following organizational models introduce this concept of member and nonmember equity capital and the consequent ownership rights issues.

Cooperatives with Capital-Seeking Entities

This model attenuates the restriction that cooperative ownership rights be restricted to member-patrons. The cooperative, however, does not convert to an IOF because outside equity capital is acquired by a separate legal entity. This entity may be a strategic alliance, a trust company, or a publicly held subsidiary.

Strategic alliances

In this nontraditional financial model, the cooperative has the option of forming strategic alliances with sundry partners to acquire permanent equity capital from nonmember sources. Strategic alliances allow cooperatives to indirectly access external sources of risk capital in return for a portion of net margin and shared control. For example, Dairy Farmers of America, one of the largest U.S. dairy cooperatives, established a holding company structure to govern strategic alliances in downstream businesses of the milk supply chain. These profit-seeking strategic alliances are structured as noncontrolling joint ventures, in which DFA invests in exchange for a share of the profits and the right to be the long-term preferred supplier. As much as 30% of the milk volume handled by DFA is marketed and processed by strategic alliances. In doing so, DFA focuses on ensuring market access and maintaining a competitive milk price for its members.

Trust companies

In this model, the cooperative establishes a nonoperating separate entity (e.g., a trust company) solely for the purpose of acquiring risk capital from nonmember sources. Outside capital may be used to retire old equities and/or for new investment projects. Diamond of California's Cumulative Recourse Offered Preferred Shares (CROPS) program is an example of this structure. Diamond is a marketing cooperative owned by walnut growers in California. As a centralized marketing cooperative operating on a pooling basis, Diamond depended heavily on per-unit retains to finance its operations. A preferred stock financing arrangement allowed Diamond to acquire capital from an insurance company through a trust company—the Diamond Walnut Capital Trust. The actual financing instrument is a twelve-year, fixed dividend, nonvoting preferred stock of the trust. Diamond's objective is to utilize outside capital to redeem members' allocated retains and eventually discontinue capital retain requirements.

Subsidiaries

In 1986, Kerry Cooperative Creameries Ltd., a traditional Irish dairy cooperative, went through restructuring to obtain nonmember capital. The cooperative established and transferred all its assets to a separate public limited company (plc) called Kerry Group. In return, the cooperative received a majority equity ownership in the plc. Subsequently, Kerry Group acquired additional risk capital from outside investors with new equity shares issued on the Dublin and London stock exchanges. Kerry's organizational innovation was followed by five other Irish cooperatives and became known worldwide as the "Irish Model."

The Irish Model has been adapted in other parts of the world. Two U.S. agricultural cooperatives (Gold Kist and Land O' Lakes) transferred part of their assets and operations to public corporations (Golden Poultry Company and Country Lakes, respectively), which were subsequently bought back by the cooperatives (Schrader; Collins). Another domestic example is Agrilink, an agricultural marketing cooperative owned by fruit and vegetable growers. These growerowners supply the raw commodities that are processed and marketed by Agrilink Foods, a wholly owned subsidiary of the cooperative. In 2002, Agrilink Foods received a capital investment of \$175 million from a private investor (Vestar Capital Partners) in the form of preferred and common shares. In Australia, the Dairy Farmers Group has unsuccessfully tried to implement the "Equilibrium Model," which would add a long-term supply agreement between the cooperative and a publicly listed subsidiary to the Irish Model structure. More recently, the French cooperative bank Crédit Agricole established a downstream subsidiary whose shares were floated in the Paris Bourse.

Investor-Share Cooperatives

In this model, the cooperative acquires nonmember equity capital without converting to an IOF. Contrasting to the previous model, the investor-share cooperative issues separate classes of equity shares in addition to the traditional cooperative ownership rights held by member-patrons. Investor shares may bundle different ownership rights in terms of returns, risk bearing, control, redeemability, and transferability. Investor shares include preferred stock, nonvoting common stock, and participation certificates.

Preferred stock

CoBank, the Denver-based cooperative bank specializing in financial services for agribusinesses and rural utilities, completed the private placement of \$300 million in cumulative preferred stock in June 2001. CoBank's preferred stock is a nonvoting, fixed dividend, nonredeemable ownership right. Also in 2001, CHS Cooperatives, one of the largest regional agricultural cooperatives in the United States, announced an offering of \$50 million in preferred stock. Outside investors may purchase a minimum of \$1,000 in preferred stock with an 8% effective net annual yield. The preferred stock does not carry voting rights in the cooperative.

Nonvoting common stock

In 1996, Saskatchewan Wheat Pool (SWP), a Canadian grain marketing and input supply cooperative, converted members' equity to nonvoting common stock (B shares). B shares were offered to cooperative members, managers, and employees during an "in-house" trading period and were subsequently issued on the Toronto Stock Exchange. Any investor now freely trades B shares. Nontransferable, nonappreciable, voting shares (A shares) were kept in the hands of cooperative members, their spouses, and farm organizations. The objective of SWP's financial restructuring was to raise permanent risk capital to pursue an aggressive diversification strategy and invest in value-added food processing while maintaining member control. Public listing of nonvoting common stock while maintaining voting stock in the hands of cooperative members is a popular model among agricultural cooperatives in Australia, including Australian Agricultural Co. (the second largest cattle producer) and AWB Ltd. (the former Australian Wheat Board).

Investor participation shares

Investor-share cooperatives are found in France, where legislation passed in 1992 allows for nonmember investment in cooperative societies. Outside investors may become members and invest in cooperative societies through investor participation shares, investment certificates, and bonds. A similar model, known as Farmer Controlled Business (FCB), is found in the UK. FCBs comprise all business organizations, including cooperatives, in which farmers hold both control and the majority of shares and whose primary goal is to serve the economic interests of farmers.

Conversion to Investor-Oriented Firm

Conversion, increasingly known as "demutualization," refers to changes in the ownership structure of user-owned and controlled organizations from a cooperative (or mutual) to a for-profit, proprietary organization. As a result of demutualization, residual claim and control rights are reassigned among the firm's stakeholders with implications for firm behavior and performance. In particular, cooperative membership rights are converted to unrestricted common stock ownership rights in a corporate organization. Demutualization usually is followed by public listing, which allows the converting firm to acquire additional risk capital from investors.

Demutualization has been occurring at a fast rate in many industries since the 1980s. Financial exchanges (Hart and Moore), insurance companies (Mayers and Smith), savings and loan associations (Masulis), and professional services partnerships have converted to publicly listed companies. In contrast to cooperative and mutual organizations in other industries, there have been a few cases of agricultural cooperatives converting to corporate structures in the United States: Rockingham Poultry Marketing Cooperative, American Rice, Capitol Milk Producers Cooperative, and American Cotton Growers in the 1980s (Schrader). More recently, three new generation cooperatives—Calavo Growers, Dakota Growers Pasta, and South Dakota Soybean Processors—have converted to a corporate ownership structure.⁴

Discussion and Concluding Remarks

This article introduces a typology of cooperative models based on the concept of ownership rights. In this typology, the traditional cooperative structure and the investor-oriented firm (IOF) are seen as polar forms of organization. Additionally, based on multiple examples drawn from case study evidence, the typology identifies five nontraditional cooperative models. These models are considered departures from the traditional cooperative structure because they relax some or, in the limit, all restrictions on traditional cooperative ownership rights.

Why are agricultural cooperatives pursuing these new organizational models? Investment constraints arise in agricultural cooperatives as a result of free rider, horizon, and portfolio problems, which in turn emerge because ownership rights are restricted to members, are nontransferable, redeemable, and have benefit distribution proportional to usage rather than member investment (Vitaliano). As a result, cooperative members lack necessary incentives to invest in traditional cooperatives because their investment is illiquid and does not receive adequate returns. Risk-bearing costs are simply too high. We argue that by relaxing some of these restrictions on ownership rights, nontraditional cooperatives may provide incentives for member and nonmember investment in organization-specific assets, thereby ameliorating perceived financial constraints. However, only systematic empirical evidence on the causes and consequences of cooperative restructurings may provide a test for this capital constraint hypothesis.

Our analysis of new cooperative models suggests that in general, the solution of perceived financial constraints in cooperatives entails some degree of organizational redesign rather than the extreme solution of conversion or demutualization. That is, ownership rights related to residual return and control rights of agents tied contractually to the firm are redefined and reassigned. For example, the cooperative may choose to relax the restriction that ownership rights be restricted to member-patrons or introduce transferable equity shares to build a permanent equity capital structure. However, when restrictions on traditional cooperative ownership rights are attenuated, new organization costs may surface as agency, collective decision making, and influence costs. In other words, cooperative leaders should be aware of the trade-offs involved in organizational redesign.

The rapid and fundamental structural changes occurring in the global food system—commonly referred to as agricultural industrialization—exposes agricultural cooperatives to heightened domestic and international competition from other business forms. These changes also suggest that it is important to consider whether the organizational structures that have evolved in the past are likely to remain appropriate for the future. The success of agricultural cooperatives in responding to the challenges brought about by agricultural industrialization will likely depend on both competitive strategy and organizational structure. Yet, it is important for cooperative leaders contemplating organizational change to bear in mind that "the decision of which organizational form to choose depends on the fundamental orientation of the producer-owners" (Royer, p. 96). It is crucial, therefore, that adequate communication exists between cooperative leaders and members. This article is intended to contribute to this dialogue in order to facilitate a better-informed strategic decision-making process between cooperative managers, directors, and members in choosing among alternative cooperative ownership structures.

Endnotes

¹For this discussion, we limit our definition of agricultural industrialization to a global structural change process exhibiting four dynamic characteristics: horizontal integration, vertical coordination, organizational change, and increased capital intensity.

²Based on the theory of incomplete contracts, Hendrikse and Bijman analyze the impact of ownership structure on firm investment in the context of agrifood chains and determine the conditions under which the marketing cooperative is the most efficient ownership structure.

³This definition of ownership structure is similar to Berglof's (p. 237) definition of capital structure as "the allocation of risk and control among investors."

⁴Instead of conversion or demutualization, the most common exit strategy for U.S. agricultural cooperatives is through mergers and acquisitions. According to a USDA report, there have been 777 cooperative unification activities including mergers (66%) and acquisitions (34%) between 1989 and 1998 (Wadsworth).

References

Berglof, E. "Capital Structure as a Mechanism of Control: A Comparison of Financial Systems." The Firm as a Nexus of Treaties, pp. 237–62. M. Aoki, B. Gustafsson, and O. Williamson, eds. London: Sage Publications, 1990.

Collins, R.A. "The Conversion of Cooperatives to Publicly Held Corporations: A Financial Analysis of Limited Evidence." Western J. Agr. Econ. 16(1991):326–30.

- Cook, M.L. "The Future of U.S. Agricultural Cooperatives: A Neo-Institutional Approach." Amer. J. Agr. Econ. 77(December 1995):1153–59.
- Cook, M.L., and C. Iliopoulos. "Ill-defined Property Rights in Collective Action: The Case of Agricultural Cooperatives." Institutions, Contracts, and Organizations: Perspectives from New Institutional Economics, pp. 335–48. C. Menard, ed. London: Edward Elgar, 2000.
- Fama, E.F. "Agency Problems and the Theory of the Firm." J. Pol. Econ. 88(April 1980):288–307.
- Fama, E.F., and M.C. Jensen. "Separation of Ownership and Control." J. Law and Econ. 26(1983):301–25.
- Grossman, S.J., and O.D. Hart. "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." J. Pol. Econ. 94(August 1986):691–719.
- Hart, O.D., and J. Moore. "The Governance of Exchanges: Members' Cooperatives versus Outside Ownership." Oxford Rev. Econ. Pol. 12(1996):53–69.
- Hendrikse, G., and J. Bijman. "Ownership Structure in Agrifood Chains: The Marketing Cooperative." Amer. J. Agr. Econ. 84(February 2002):104–19.
- Masulis, R.W. "Changes in Ownership Structure: Conversions of Mutual Savings and Loans to Stock Charter." J. Fin. Econ. 18(1987):29–59.
- Mayers, D., and C.W. Smith. "Ownership Structure across Lines of Property-Casualty Insurance." J. Law and Econ. 31(1988):351–78.
- Royer, J.S. "Cooperative Principles and Equity Financing: A Critical Discussion." J. Agr. Coop. 7(1992):79–98.
- Schrader, L.F. "Equity Capital and Restructuring of Cooperatives as Investor-Oriented Firms." J. Agr. Coop. 4(1989):41–53.
- Staatz, J.M. "The Structural Characteristics of Farmer Cooperatives and Their Behavioral Consequences." *Cooperative Theory: New Approaches*. J.S. Royer, ed., pp. 33–60. Washington, DC: USDA Agricultural Cooperative Services, 1987.
- U.S. Department of Agriculture. *Farmer Cooperatives Statistics*, 2000. RBS Service Report 60, Washington, DC, December 2001.
- van Bekkum, O.F., and G. van Dijk. Agricultural Cooperatives in the European Union: Trends and Issues on the Eve of the 21st Century. Assen, The Netherlands: Van Gorkum, 1997.
- Vitaliano, P.W. "Cooperative Enterprise: An Alternative Conceptual Basis for Analyzing a Complex Institution." Amer. J. Agr. Econ. 65(December 1983):1078–83.
- Wadsworth, J.J. Cooperative Unification: Highlights from 1989 to Early 1999. Washington, DC: USDA Rural Business Cooperative Services, Research Report 174, 1999.