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Managing uncertainty and expectations: The strategic response of U.S. agricultural cooperatives to agricultural industrialization☆

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ABSTRACT

The 20th century industrialization of agriculture confronted U.S. agricultural cooperatives with responding to an event they neither initiated nor drove. Agrarian-influenced cooperatives used two metaphors, "serfdom" and "cooperatives are like a family" to manage uncertainty and influence producer expectations by predicting industrialization's eventual outcome and cooperatives' producer driven compensation.

The serfdom metaphor alluded to industrialization's potential to either bypass family farmers, the cornerstone of the economy according to agrarian ideology, or to transform them into the equivalent of piece-wage labor as contract growers. The "family" metaphor reflects how cooperatives personalized the connection between cooperative and farmer-member to position themselves as the exact opposite of serfdom. Hypotheses advanced by Roessl (2005) and Goel (2013) suggest that intrinsic characteristics of family businesses such as a resistance to change and operating according to a myth of unlimited choice and independence reinforced the risk of institutional lock-in posed by agrarian ideology.

To determine whether lock-in occurred, Woerdman's (2004) neo-institutional model of lock-in was examined in the context of late 20th century cooperative grain and livestock marketing. Increasingly ineffective open markets prompted three regional cooperatives to develop their own models of industrialized pork production. Direct experience with producer contracting allowed cooperatives to evade institutional and ideological lock-in.

1. Introduction

Recent fluctuation in global financial markets led a panel of cooperative leaders to identify uncertainty as the primary managerial difficulty anticipated by cooperatives in the future (Boland, Hogeland, & McKee, 2011). Likewise, the 20th century industrialization of agriculture confronted cooperatives with the challenge of responding to an event they neither initiated nor drove. When the environment is highly uncertain and unpredictable, Oliver predicts that organizations will increase their efforts to establish the illusion or reality of control and stability over future organizational outcomes (Oliver, 1991: 170). This study argues that cooperatives used two metaphors, "serfdom" and "cooperatives are like a family" to manage uncertainty by predicting industrialization's eventual outcome and cooperatives' producer-driven compensation.

These metaphors are agrarian. Recent research highlights the impact of agrarian ideology on cooperatives. Foreman and Whetten (2002: 623) observe, "co-ops have historically sought to reinforce the traditions and values of agrarianism through education and social interventions. Indeed, for many members these normative goals of a co-op have been preeminent." These authors studied the tension within rural cooperatives produced by a normative system encompassing family and ideology and a utilitarian system defined by economic rationality, profit maximization and self-interest. They argue that this split in values implies that cooperatives are essentially two different organizations trying to be one. To capture the tension between these multiple identities, they focused on a potential family/business divide in cooperatives, basing this on a duality often noted in cooperative community and trade publications.

The authors found that respondents wanted their local co-op to be more business oriented and at the same time, expected co-ops ideally (e.g., as an ideal organizational form) to be more family focused. These conflicting expectations suggested that multiple-identity organizations need to be assessed in terms of the

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individual components of their identity and the tension (or interaction) between them. Foreman and Whetten regard dual or multiple identity organizations as hybrids. There are consequences to hybridity: many members of a hybrid organization will identify with both aspects of its dual identity, "and thus find themselves embracing competing goals and concerns associated with distinctly different identity elements" (Foreman and Whetten, 2002). They conclude that competing goals and concerns foster competing expectations with consequences for organizational commitment (and I would add, performance).

The split focus observed by Foreman and Whetten can be regarded as a contemporary expression of a value conflict beginning early in the 20th century over how production agriculture should be organized. Decentralized, autonomous, and typically small, family farmers used their skill at deciding the "what, when, where, how and why" of production and marketing to reduce the risk of being a price taker at open, competitive markets. Farmers also diversified the farm enterprise to spread price risk over several commodities. Corporate-led industrialized agriculture (integrators) by-passed both markets and independent farmers. Integrators coordinated supply and demand internally based on top-down administrative control over production and marketing decisions. They engaged in production contracting with growers who were held to competitive performance standards and paid according to their productivity. In contrast, family farmers were accountable only to themselves.

2. Study overview

Foss (2007) observes that the beliefs organizations hold about each other or the competitive environment are a key aspect of strategic management which have been understudied. Beliefs, which include norms and expectations, are important because they can be wrong. Cooperatives are often considered to have an ideological component but how such ideology develops and persists also has been understudied. This study addresses that gap by examining how agrarian language and assumptions shaped cooperatives' reaction to 20th century agricultural industrialization. During this era, industrial methods transformed the production and marketing of processing vegetables, poultry, beef, and pork and were initiated for dairy and grains. An historical and institutional perspective is used to examine how two contrasting metaphors brought cooperatives to the brink of institutional lock-in. The study spans the entire 20th century from beginning to close.

The study opens with a brief discussion of metaphors and norms then presents a theoretical model of lock-in. Discussion of the overarching role of agrarianism follows. Discussion then addresses why the cooperative alternative to corporate-led industrialization – the 1922 model developed by Aaron Sapiro – was not palatable to agrarian-influenced cooperatives (this section also defines agrarian-influenced cooperatives).

Discussion then turns to considering how the disturbing implications of serfdom paved the way for the agrarian-influenced norm, "cooperatives as a competitive yardstick" and the cooperative metaphorical norm, "cooperatives are like a family." Producer expectations triggered by "serfdom" and "cooperatives are like a family" are addressed. Parallels are briefly drawn between neighborhood exchange in late 19th century rural California and behavior implied in "cooperatives are like a family." Parallels are then drawn between family business traits and cooperative and producer experience in livestock and identity-preserved grain markets. This provides a foundation for examining in greater detail how well cooperative experience in pork and grains corresponded to Woerdman's four part model of lock-in (2004). Study conclusions and suggestions for future research follow.

3. Importance of ideology, metaphor and norms

Economists have begun studying how cognition and discourse affect cooperative outcomes (Fulton, 1999). This study continues that line of inquiry by considering how a dominant ideology like agrarianism produced words and associations that, for most of the 20th century, arguably had a deterministic effect on farmer and cooperative perceptions of the future. Even today, few guidelines or predictions exist that suggest how organizations can manage ideological conflict (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). Moreover, the difficulties of escaping a hegemonic ideology have seldom been recognized (Spencer, 1994).

Metaphors are a pithy word or expression meant to evoke a comparison. They are used to understand one thing in terms of another (Lakoff & Johnson, 1980: 5). Understanding what metaphors represent and how they emerge and persist can offer a window into the salient factors influencing farmer and cooperative decision-making. Moreover, as in this text, metaphors "allow for the sorts of story in which overwhelming evidence in favor of one interpretation of the world can be repeatedly ignored, even though this puts the assets of the firm and the position of the decision-makers at extraordinary risk" (Schoenberger, 1997: 136).

Much of what Pfeffer and Salancik (2003) say about norms also applies to how metaphors are used in this study. For example, these authors observe that an important function of norms is to provide predictability in social relationships so that each party can rely on the assurances provided by the other. Consequently, norms stress the meeting of expectations in an exchange relationship. Certainly, the metaphor, cooperatives are like a family, can be understood in the same manner. Defining norms as commonly or widely shared sets of behavioral expectations, Pfeffer et al. also indicate that norms develop under conditions of social uncertainty to increase the predictability of relationships for the mutual advantage of those involved. Once they cease to serve those interests norms break down.

4. Theoretical framework

Twentieth century U.S. agricultural transformation was profound. Early 20th century agriculture was labor intensive, employing almost half the U.S. workforce on a large number of small diversified farms (Dimitri, Effland, & Conklin, 2005). "From 1900–2005, the number of farms fell by 63 percent while the average farm size rose 67 percent" (Dimitri et al., 2005). Productivity-enhancing technological change which made farmers redundant also contributed to farm decline[1] (Hogeland, 2013). "Farm operations became increasingly specialized – from an average of about five commodities per farm in 1900 to about one per farm in 2000 – reflecting the production and marketing efficiencies gained by concentration on fewer commodities" (Dimitri et al., 2005: i).

The core question considered by this study is, "Why does institutional inertia persist despite indications that change is urgently required?" (Haase, Roedenbeck, & Sollner, 2007: 1). Agrarian-influenced cooperatives did not consider how family farming could be adapted to capture some of industrialization's benefits until close to the end of the 20th century, a delay indicative of institutional lock-in. Lock-in has been defined as getting stuck with traditional styles of thinking and acting in a manner that is hard to escape (Haase et al., 2007: 17; North, 1990).

[1] Hogeland (2013) notes that agrarians attributed farmer decline to the decline in open markets, not to productivity increases that made farmers redundant. It is possible that the rapid increases in four-firm concentration ratios in the red meats industries some two decades after the industrialization of the beef industry overshadowed the impact of productivity increases on farmer attrition.

Although the term "institutions" is used in this study, North notes that lock-in is ultimately about how organizations choose among alternatives such as competing technologies (North, 1990: 95). Cooperatives could continue their commitment to open competitive markets (the dominant but suboptimal technology) or develop a cooperative version of the superior technology, industrialization. To the degree information is imperfect and incomplete, choices like this will be made under conditions of uncertainty that will inflate perceptions of how much the switch will cost.

Woerdman (2004) proposes a model of lock-in that accounts for the impact of culture, history, perceptions and learning through changes in switching costs.[2] The latter offer a point of entry to infer the cultural impact of agrarian ideology on cooperatives' decision-making. The model (below), conceptually similar to North (1990), presumes the following:

1. The existence of a superior alternative institution or technology which competes with a dominant, sub-optimal institution.
2. The dominant sub-optimal institution exhibits increasing or stable effectiveness (e.g., problem-solving capacity).
3. Pronounced knowledge gaps and uncertainty (incomplete information) exist regarding the superior institution.
4. Large switching costs are required to shift to the superior alternative.

Self-reinforcing mechanisms are an important dimension of Woerdman's model:

> In general, a lock-in becomes more likely when there are more self-reinforcing mechanisms at work, for instance, when not only switching costs are perceived to be large, but also when there are substantial network externalities and learning effects that lower the running costs of the dominant institutional arrangement. Nevertheless, the costs of switching to a superior institutional arrangement, for instance arising from legal problems and cultural resistance, are likely to play a crucial role in issues of institutional change, precisely because institutions are made up of formal and informal constraints [e.g., North, 1990: 68] (Woerdman, 2004: 69).

Culture's impact on technological decisions can have a potent ethical dimension, e.g., the prospect of serfdom, which increases the probability of lock-in:

> Culture can be self-reinforcing if the values in a society somehow favor the dominant institution and somehow reject the superior institution as unethical... The more of these subgroups of society share common values against the superior alternative, the higher the information, bargaining and decision-making costs are and the stronger lock-in is likely to be" (Woerdman, 2004: 64).

Thus, agrarian ideology is assumed to be the primary cultural influence on cooperatives confronting 20th century industrialization. Three propositions suggest its impact on cooperatives:

1. Agrarian ideology elevated family farmer importance and requirements to a degree that became culturally difficult for farmer-owned cooperatives to challenge.
2. Behaviors theoretically associated with family-owned enterprises were reinforced by agrarian ideology.
3. Agrarianism triggered an institutional lock-in limiting the cooperative community's ability to perceive how industrialization could benefit them.

Ideologically, family farmers were far more than agricultural producers: they were the foundation of the American economy and American values.[3] Agrarianism spelled out how respect for family farmers could be expressed by fostering their survival, welfare, independence and prestige. This producer-orientation or "producerism" (Barron, 1997) was arguably reinforced to a considerable degree by preferences and behaviors that Roessl (2005) and Goel (2013) associate with family businesses.

Industrialization fostered the belief that once all farming was done by corporations, family farmers would disappear (Breimyer, 1995; Kirkendall, 1991). Cooperatives believed that they had a responsibility to protect or buffer members from market adversity (Hogeland, 2006, 2013). These factors contributed to a strong but inflexible organizational culture within agrarian-influenced cooperatives. If family farmers no longer existed, there would be no need for farmer-owned cooperatives. According to Sorensen, a culture can be considered strong if "norms and values are widely shared and intensely held throughout the organization" (Sorensen, 2002: 72). Such normative consistency reduces and contains the anxiety of dealing with an unpredictable and uncertain environment (Sorensen, 2002: 73).

5. Agrarianism's ideological implications

Agrarian ideology begins with the premise that agriculture is the most basic institution in the economy since all occupations depend on farmer-produced food and fiber. Agricultural prosperity ensures the nation's prosperity. Farmer choice is an integral component of agrarianism: those who want to farm should be free to do so (Tweeten, 2003). Similarly, farmers should be free to be their own boss by determining the "what, when, where, why and how" of production and marketing.

Strategically, the intrusion of factory farming into a landscape previously dominated by family farming called for a tacit revaluation of the latter along the lines of a competitor analysis (i.e., here's what we can do, here's what our competitors do, etc.). But such dispassionate analysis was overruled by the revolutionary socio-economic nature of industrialized agriculture. Industrialization challenged the ability of cooperatives to define and sustain a social order encompassing family farmers, open competitive markets, and marketing cooperatives. Anthropologist Erica Schoenberger comments, "When these struggles are sufficiently acute, they amount to a kind of cultural crisis in which competing models of the social order, and the material and human resources and identities tied to them, are threatened with devaluation and oblivion" (Schoenberger, 1997: 122). To agrarians, industrialization threatened to transform formerly independent family farmers to a "degraded peasantry or at least reduced to a subsistence basis of existence"; there was no middle ground (Ross, 1948: 67).

Agrarian ideology derived its power from the assumption that "the farm and its problems were something apart and essentially different from the characteristic phenomena of business enterprise" (Ross, 1948: 67). The alternative to exalting or deprecating a part of the total economy was to regard farmers as businessmen like any others having similar concerns about specialization, standardization, labor displacement, capital apportionment, credit provision and market adjustments (Ross, 1948: 67). Similarly, farmers who wanted more independence could be seen as no

[2] Woerdman defines a lock-in as the dominance of a sub-optimal situation (e.g., open competitive markets) in the presence of a superior alternative (e.g., industrialized agriculture). Optimality is defined in terms of efficiency; industrialized agriculture's normative standard of cost leadership fulfills this criteria. He argues that his neo-institutional framework accommodates history, learning, culture and perceptions better than possible with efficiency-oriented neoclassical or new institutional economics.

[3] In 1782, Thomas Jefferson concluded that the moral and social character of the U.S. depended on the family farm.

different than other entrepreneurs who sought freedom from interference in the way their business was conducted.

6. California's early industrialization

It seems reasonable to assume that agrarianism's belief in the pivotal importance of agriculture was shared to some degree by all U.S. cooperatives. However, unique features of California's agriculture, particularly in the Central Valley, predisposed it to industrialize some decades earlier than the Midwest, Great Plains, and Northeast (McClelland, 1997). The latter continued to rely on patriarchal family farm labor and so, for this paper, are assumed to represent the core domain of agrarian-influenced cooperatives. These areas lacked access to the supply of excess ethnic or minority labor which McClelland indicates prepared California for industrialization by 1910. Added to this advantage was California's legacy of estate or hacienda production which boosted cultural familiarity and acceptance of large scale production (Hogeland, 2010).

In 1922, California attorney and cooperative organizer Aaron Sapiro combined elements of California experience into a model of cooperative organization and marketing popularly known as "orderly marketing." Sapiro began by extolling industrialization: "The factory system is recognized as the key to all forms of productive industries to-day all over the world-except in agriculture... The farmer is the only part of modern industry... in which you have individual production" (Sapiro, 1993: 81).

In general, Sapiro offered a cooperative alternative to producers' tendency to dump excess supply from bumper harvests on the market. Instead, cooperatives should provide a home for the growers' product and use accumulated inventory to develop new products to stimulate consumer demand. Investing in processing or preservation technologies – canning, refrigeration and drying – would allow cooperatives to release excess production to the market in a progressive "orderly" manner.

For example, by 1925 Sunkist growers had increased fruit utilization by transforming oranges from a single hand-held breakfast fruit to a glass of juice made from multiple oranges. The Sunkist extractor was specifically designed to use off-size fruit and wind-damaged fruit that would not sell as fancy Sunkist table fruit because all produced the same quality juice (Nourse, 1925). In 1922, Sun Maid scored a consumer success by packaging raisins in convenient snack-sized boxes called "Little Sun Maids" (Gary Marshburn, telephone conversation, July 24, 2008; Cotterill, 1984).

The far-sighted orderly marketing norm anticipated the values of industrialized agriculture, urging cooperatives to guarantee supply through marketing contracts with some 85–95 percent of producer-members (Sapiro's recommended target).[4] This commitment could propel the cooperative into being sole supplier of a particular specialty crop.[5] (Such specialization was facilitated by California's geographically compact micro-climates).

Sapiro's model provided a template for important 20th century specialty crop cooperatives outside of California, notably, Ocean Spray Cooperative (cranberries) and Welch's (Concord grapes). However, Sapiro's model represented a highly specialized, marketing-intensive cooperative that was conceptually and financially out of reach of the small family farmers in the Midwest, Great Plains, and the Northeast who produced fungible commodities like milk, meat and grains.[6] Cooperative philosopher and economist Edwin Nourse commented on cooperatives performing agricultural rationing such as orderly marketing:

> To be sure, a few cooperatives which stand in a class by themselves have already attained a degree of success comparable with the best achievements in industrial lines. But these are in comparatively small branches of specialized agriculture where economic organization was already on a high level. Before anything like the same result could be achieved in the great staple lines of production, where the demand for [price] stabilization is most acute, there would have to be a fair degree of concentration of executive responsibility in their operating organization (Nourse, 1930: 132).

7. Serfdom's implications

During the 1920s and 1930s – considered a "golden age" of agriculture – collective action surged. Rudimentary markets and chaotic distribution channels for basic commodities like milk, grain, and fruit provided new opportunities for cooperative marketing. Moreover, new antitrust legislation curbed many of the horizontally-integrated "trusts" dominating 19th century meat packing, oil, railroads and grain markets.

Nevertheless, as early as 1922, Nourse saw emerging within agriculture market power so centralized and hierarchical it seemed feudal (Nourse, 1922: 589). Subsequently, the metaphor of "serfdom" was used throughout the 20th century by agrarian-influenced cooperatives to suggest how industrialization's contract production could reduce entrepreneurial and independent farmers to the equivalent of hired hands – so-called "piece wage labor."

In 1900, most counties could point to someone who started as a tenant or laborer and through hard work, luck, sharp dealing or intelligent cultivation, retired as a landlord owing several farms (Danbom, 1979: 7). In 1917, Ely introduced the concept of the 'agricultural ladder' as a model of occupational progression to farm ownership. The ladder showed how the agrarian virtue of hard work could allow a landless, unpaid family laborer to progress from being a hired hand and tenant farmer to an independent owner-operator (Kloppenburg & Geisler, 1985). Yet, the serfdom metaphor suggested just how tenuous such occupational progression could be.

Late 19th century farmers formed cooperatives in response to market exploitation or failure. Although such exploitation affected farmer costs and returns, as a rule it did not impinge on farmers' understanding of themselves as entrepreneurial and independent. Agrarian ideology lauded family farmers for taking on the risks of farming with a frontier attitude of self-reliance. Such farmers answered to no one except themselves. The small farmer was "first of all a self-directing individualist who could be counted on to resist with vigor the encroachments of outside authority" (Robinson, 1953: 69).

Industrialized agriculture brought a new institutional logic[7] to agriculture by putting efficiency and profitability first and using vertical integration to bypass farmers' decision-making power over agriculture. Industrialization was market driven, seeking growth in identifying and satisfying consumer preferences.[8] Research has indicated that the norms and prescriptions dictated

[4] In practice, 60 percent was a more realistic goal. It was possible, said one observer, "to get one-third of the growers together in an organization; these can get another third to join; but no power outside the Almighty can draw the other one-third in" (Kraemer and Erdman, 1933: 120).

[5] Specialty crops refer to fruits, vegetables and nuts.

[6] Late 20th century cooperative emphasis on adding value to corn by producing ethanol or other bio-fuels led to the concept of the "value-added" cooperative which could be considered a contemporary adaptation of Sapiro's model.

[7] Institutional logics provide a rationale for organizational diversity. They have been defined as overarching sets of principles that prescribe "how to interpret organizational reality, what constitutes appropriate behavior, and how to succeed... To the extent that the prescriptions and proscriptions of different logics are incompatible, or at least appear to be so, they inevitably generate challenges and tensions for organizations exposed to them" (Greenwood et al., 2011: 318).

[8] For example, latent Asian demand for pork motivated the late 20th century industrialization of the pork industry.

by family logics are often at odds with the prescriptions dictated by markets (Greenwood et al., 2011).

Power, reflected in ownership and governance arrangements, determines which logics will more easily flow into organizations and be well received (Greenwood et al., 2011). Family logics formally embedded into an organization's ownership structure are a very effective conduit for increasing familial influences within the organization. Not surprisingly, farmer-owned cooperatives believed they had a mandate to protect and foster family farming (Hogeland, 2006).

8. Expectations

This inductive study proposes that cooperatives used two agrarian metaphors, serfdom and "cooperatives are like a family," to foster cooperative and farmer expectations of industrialization and cooperatives.[9] These expectations gave producers and cooperatives a way of understanding industrialization's potential impact on family farmers and how co-ops fit into that scenario. Cooperatives did not know in advance where and how industrialization would evolve. These expectations arguably allowed cooperatives to "manage" the uncertainty associated with structural change they neither initiated nor desired.

Expectations like these are important because firms make promises based on them. In turn, expectations imply that such promises will be fulfilled (Borup, Brown, Konrad, & Van Lente, 2006). Yet, more often than not, expectations are misleading or wrong, leading to misallocated resources and investment (Brown, Rip, & Van Lente, 2003). Yet, so little is known about the dynamics of expectations that it is not clear how mistakes regarding long-term transitions can be avoided (Brown et al., 2003).

The term "expectations" should encompass both positive and negative expectations, e.g., early promises and early warnings (Nerlich & Halliday, 2007: 48). Serfdom was a negative expectation; cooperatives are like a family was its positive counterpart. Expectations are important because they have a "performative effect" of eliciting action and investment from individuals, institutions and government. In a broader sense, performative suggests how new technologies, new identities, or audience reactions "come into being" (Taylor Nelms, personal correspondence March 27, 2014).

Expectations are meant to command audience attention. There's a risk in this – Ferraro, Pfeffer, and Sutton (2003: 5) argue that "great theories in social science attain their status not because they are true, but because they are interesting, and engage the attention of their audience of experts and practitioners." Serfdom was a disaster metaphor intended to provoke urgency and action. But what kind of action? By themselves, metaphors do not indicate what actions should be taken and when (Nerlich & Halliday, 2007: 51).

Nourse's prescription for combatting potential serfdom was the normative concept of cooperatives as "competitive yardsticks" first iterated in 1922 (Nourse, 1922). By 1945, he had expanded it into the argument that cooperatives should intervene in thinly-traded markets to restore farmer choice through an "extra bid" as the yardstick concept was popularly called (Nourse, 1945). The concept of cooperatives as "competitive yardsticks" was intended to ensure farmer survival by restoring market choices precluded by monopoly. Such choice was essential to the agrarian concept of family farmers as independent and entrepreneurial.[10] From a pragmatic standpoint, the competitive yardstick norm arguably gave small producers in particular hope that cooperatives could be counted on to resolve their market difficulties.

There seems to have been little expectation among cooperatives that producer investment would support these endeavors. In 1922, Nourse declared, "The farmer's need of capital in his own business dictates that he go no farther afield than necessary in marketing or processing undertakings" (1922: 597). However, producers' market access was being squeezed at the same time that industrialization's increased scale and global perspective brought cooperatives into competition with agribusinesses like Cargill, Continental, ConAgra, and Archer-Daniels Midland (ADM). Moreover, Nourse's competitive yardstick norm called for cooperatives to keep a step ahead of the competition in innovation. Between 1954 and 1970, the capital requirements of cooperatives more than doubled. After 1962, capital was supplied by debt financing, not from members' equity contributions (Griffin, 1973: 8).

In 1973, Farmland Industries, then the second largest U.S. cooperative, tacitly endorsed Nourse's philosophy: "The high cost of capital investment in agriculture requires that a farmer and his local cooperative use as much of their own funds as possible, on his farm and at the local grain or farm supply cooperative. That means if a regional [cooperative] can borrow money elsewhere, it should do so. Indeed, it has a responsibility to do so" (Lindsey, 1973: 10). Expanding despite the 1970s energy crisis and inflation required large regional cooperatives to incur further debt, a pattern that continued through the 1990s (Duft, 1985; Gherty, 2004).

By the 1970s, apprehension regarding serfdom had evolved into the larger issue, "Who will control U.S. agriculture?" (North Central Public Policy Education Committee, 1972). At this time animal scientists were on the verge of resolving the health and other issues (i.e., how to raise large animals under confinement) that prevented integrated pork production. Serving independent pork producers was a particular cooperative strength. Irrespective of equity requirements, the prospect of losing feed sales increased pressure on cooperatives to rescue producers from a particular economic destiny.

When cooperatives assume risk on behalf of producers they exhibit a behavior associated with "cooperatives are like a family," as discussed in the following section.

9. Cooperatives are like a family

Schoenberger's observation, "Strategy is the way firms envision a social order and their position in it" may explain why agrarian-influenced cooperatives, prompted by the serfdom metaphor, interpreted industrialization as an attack on the established rural social order (Schoenberger, 1997). This falls within the purview of cooperative behaviors seen by Nilsson and Hendrikse (2011) as inherently conflictual: member interests as a cooperative group or society are at odds with the cooperative's business objectives.

Agrarians like Nourse sought an social order rendered ideal, stable, predictable, and straightforward by clear boundaries between what farmers did (e.g., crop and livestock production)

[9] The new field of the sociology of expectations examines how recent scientific and medical advances have been interpreted through media "hope and hype." Since agricultural industrialization was also driven by scientific and technological innovation, such studies have implications for cooperative strategy.

[10] As the century progressed and the impact of industrialized agriculture became clearer, the monopoly engendered by industrialized agriculture was more accurately described as the "concentration and centralization of agriculture." When explaining the competitive yardstick norm in 1945, Nourse expressed concern that large cooperatives could grow and expand into monopolies who would act no differently than other monopolies who had exploited farmers. In his exposition, Nourse objected strongly to Sapiro's model of cooperative industrialization. An analysis of the competitive yardstick norm using critical discourse analysis suggests that Nourse's penultimate goal was keeping rural society in a balance or equilibrium that was contingent on keeping "big business" at bay (Hogeland, 2007; Nourse, 1945).

and what occurred independently elsewhere in the supply chain, e.g., manufacturing, transportation and finance (Nourse, 1945).[11] Agrarians saw industrialization as a violation of the natural order because it combined multiple functions under one roof (Buttel & Flinn, 1975: 135).

Further contributing to the perception that industrialization was unnatural was the comparison it evoked with Soviet-style agricultural collectivization (Robinson, 1953). Many cooperatives encountered industrialization at a time when vertical integration was too new and unknown to displace competitive markets as an economic ideal. Hayek's influential book, *The Road to Serfdom*, published in 1945, criticized central planning compared with the efficiency and choice offered by competitive markets. That same year, Nourse proposed the competitive yardstick norm to suggest how additional competition would improve producer returns and market choices. Consequently, agrarianism's vaunted "freedom for" market choice could also be seen as a "freedom from" the coercion associated with industrialization's hierarchy.

Corroborating empirical evidence of Nourse's prediction of serfdom further heightened cooperatives' concern. By 1981, USDA economists noted how industries of small, scattered, independent producers selling through open markets became the basis for highly concentrated, integrated, and industrialized agricultural subsectors (Reimund, Martin, & Moore, 1981: 3). They concluded that industrialization disproportionately affected the small producers who represented the majority within the first subsectors to industrialize – broilers, fed cattle, and processing vegetables. Initially, these growers produced as a sideline, risk management strategy of diversifying the farm enterprise. Products were sold in local markets; producers could enter or exit production easily. Within twenty years (e.g., 1954–1974), economists observed industrialization's greater capital intensity raise productivity. Processors gained managerial and decision control through grower production contracts. Conditions of exit and entry became more difficult for growers (Reimund et al., 1981: iv).

Agrarian ideology situated family farming within a complex socio-economic normative framework. Such multi-dimensionality made it much harder for farmer-owned cooperatives to see how they could benefit from industrialization. Even by the end of the twentieth century, it was not clear whether producers should resist industrialization or try to capture part of the benefits (Hayenga, 2000). In contrast, the primary norm of industrialization was simple and direct: the low-cost producer survives (Drabenstott, 1995; Hogeland, 2006). Under these circumstances, there was no readily available or obvious solution for cooperatives. Groups and organizations have different criteria – or, in the case of family farmers, different commodity orientations – for evaluating an organization because they make different demands of it. This complexity prevents such conflicts from being resolved through maximization or other simple calculations (Pfeffer & Salancik, 2003: 93).

Management theorists have observed that mid-century [investor-owned] firms who initially considered themselves a 'community,' a 'family,' or simply a coalition of stakeholders eventually adopted a 'market' metaphor (Ferraro et al.). This metaphor allowed firms to see employees as commodities that can be acquired, dismissed, or even exchanged through mergers and acquisitions. As the pace of industrialization quickened, fear of undergoing a similar cultural transformation arguably led cooperatives to intensify what was "cooperative" about their business.

As the century advanced and farm numbers continued to decline, cooperatives intensified calls for greater cooperative commitment and loyalty. Cooperatives routinely used member education to enhance producer commitment. However, a more subtle and personalized way of stimulating loyalty is presented by Fulton (1999). He argues that member commitment to a cooperative depends on an advantage not obtainable from investor owned firms (IOFs) such as an ideology which espouses particular outcomes. Fulton suggests that collective action problems can be overcome if members get a private benefit in addition to the collective one.

One adjustment to industrialization was open to all cooperatives: how they related to producer-members. The metaphor, cooperatives are like a family, reflects how cooperatives personalized[12] the connection between cooperative and farmer-member to position themselves, in a manner of speaking, as the exact opposite of serfdom (Rich, personal communication, March 2013; Hogeland, 2004; Wells, 1996).

Within the organizational values and behaviors associated with the metaphor cooperatives are like a family is considerable room for managerial flexibility, private benefits, and special considerations (i.e., late harvests, a small window for planting, etc.). Interviews with some 30 local and regional cooperative managers led Hogeland (2004) to identify values which arguably provide a basis for the private benefits suggested by Fulton:

- Being altruistic, not exploiting the business for a profit;
- Emphasizing service over making money;
- Valuing the "small and personal" over the "large and impersonal";
- Displaying an unwillingness to let go of relationships, things, or places;
- Allowing a cooperative to assume risk on behalf of producers;
- Attaining cooperative self-sufficiency to minimize farmer dependency on those perceived as outsiders;
- Preferring to subordinate individual goals to the good of the whole; and
- Valuing equality ("treating everyone equally").

These behaviors are assumed to define the metaphor, "cooperatives are like a family."

This metaphor suggests that farmers saw cooperatives through the lens of their own family orientation. Indeed, Goel (2013) anticipated such overlapping between family and business subsystems. Manager observations suggest that the boundaries between cooperative and farm were blurred, allowing cooperatives to be seen more as a lenient parent than as businesses subject to market constraints. For example, if producers produced a fruit variety or size not demanded by the market, the cooperative might quietly absorb the loss in revenue from marketing such fruit. In effect, such producers shifted their price risk to their cooperative. The implicit social contract implied in the "cooperatives are like a family" metaphor presents an example of another characteristic of family enterprises hypothesized by Roessl (2005): the existence of informal structures which are not necessarily explicit.[13]

Historical evidence from 19th century rural California suggests that exchange between family farmers and neighbors also involved

[11] Was Nourse an agrarian? He endorsed industrialization (1930) but added a caveat: "cooperatives simply represent an effort to devise a form of control which will permit of the benefits of large-scale organization but will restore the independence and utilize the personal contribution of the many under thoroughly democratic principles" (1922: 589). His emphasis on independence reflects belief in a core agrarian principle considered antithetical to industrialization.

[12] "Personalizing" is an anthropological concept drawn from Wells (1996) and Rich (2010) reflecting how participants in a potentially exploitative economic relationship act to increase their agency and reduce exploitation.

[13] Nor would such institutional structures be transparent as that would defeat their purpose of providing the necessary cooperative flexibility to provide private benefits.

informal structures (Welker, 2013). Farmers' interest in building strong communities similar to those they had left behind fostered a complex economic culture that straddled an agrarian past and a cash-based modern economic order. The informal economy represented debts that were rarely ascribed a precise value, almost never explicitly balanced, nor held to a strict timetable for repayment. A loose system of barter prevailed.

These obligations arose primarily from the need for harvest labor but day-to-day tasks such as farm maintenance, transportation, and meals were also important. The family dimension was a significant aspect of the informal economy because family members could provide services to offset "debt" incurred by the household head. "A farmer's ability to operate successfully depended in large part upon his willingness to be lenient when he dealt in particular goods and services. If he acted otherwise, he ran the risk of offending his neighbors and thus jeopardizing his personal reputation and by extension his credit" (Welker, 2013: 405).

The easy-going nature of the informal economy hints at farmers' unwillingness to be boxed in. Next, discussion turns to the overlap between agrarian ideology and family business characteristics regarding the pivotal importance of choice and independence.

10. Family business characteristics and agrarianism

Agrarianism argued that farmers needed independence and market choices to survive. Indeed, founding father Thomas Jefferson considered freedom and independence to be farmers' birthright. The freedom to choose gave farmers their status as risk-taking entrepreneurs. Choice was also integral to farmer identity: "Without choice," said cooperative educator Owen Hallberg in 1980, "a man is but a number, an instrument, a thing" (1980: 21)."

Roessl (2005) hypothesizes that family businesses tacitly embrace a myth of unlimited freedom of choice and independence. For family farmers, choice meant a freedom from interference that allowed them to be "their own boss." This emphasis was consistent with "living in a world where people will and ought to pursue their individual interest above all else" (Ferraro et al., 2003).

The myth of unlimited freedom of choice and independence implies, as Roessl suggests, that cooperation requires a willingness to forego other options. Cooperatives' overriding agrarian-influenced need to ensure producer choice arguably prevented them from seeing open markets as an outdated method of coordination.

This can be seen from a snapshot of 20th century open markets for livestock. For most of the century, there were no objective measurement technologies that could measure the animal's "percent lean."[14] Visual inspection was the norm. Consequently, at open competitive markets such as auctions and terminal markets[15] animals were marketed in lots with the producer receiving the average market value of the lot. The rationale for open markets was their potential to provide price premiums that would reward producers with lean animals. Unfortunately, open market prices were not sufficiently fine-tuned to distinguish between superior and poor quality, thereby penalizing better producers. Moreover, consumer preferences for lean meat were inadequately addressed by average pricing. This may explain why the white and red meat industries were among the first to be industrialized. In fact, clinging to obsolete products and production technologies and preferences for maintaining the status quo are other characteristics of family businesses identified by Roessl.

Roessl also hypotheses that family-owned businesses are associated with values or tendencies that can limit cooperation and cooperative behavior. This is evident in the light touch or even "hands off" approach preferred by farmers from the organizations they owned (Hogeland, 2013). In 1935, H. E. Babcock famously declared: "I regard a farmer-owned, farmer-controlled cooperative as a legal, practical means by which a group of self-selected, selfish capitalists seek to improve their individual economic positions in a competitive society" (Babcock, 1935: 42). To this way of thinking, "if the farm was profitable, the cooperative did not have to be" (Stokes, 1957: 12).

11. Other contributions to institutional lock-in

The potential for exploitation hardened farmer attitudes and fostered an "insider/outsider" culture where farmers were reluctant to trust non-farmers (Hogeland, 2010). This is suggested by a 1923 editorial in *Successful Farming*: "Just as sure as the packers, the great bankers, the leading manufacturers or the big corporations propose something that their business experience has shown would be beneficial to... the farmers... the farmers assume an aloofness that is dramatic" (1923: 8).

An insider/outsider culture can also be seen as a preference for predictability and stability, as in the following characteristics identified by Roessl:

- A resistance to change in organizational cultures; a preference for maintaining the status quo.
- Clinging to obsolete products and production techniques.
- Difficulty questioning existing business strategies.

Hogeland (2001) studied cooperative receptivity to the late 20th century innovation of identity-preserved grains (which prompted the industrialization of the grain industry). Study findings suggest the existence of an insider/outsider dimension, a preference for maintaining the status quo (including obsolete products) as well as difficulty questioning existing business strategies.

In this study, surveyed local (locally-owned) cooperative managers classified their cooperative as either: an Innovator (being "first" is a priority); Follower (willing to innovate but more cost sensitive); or Status Quo (conservative, cautious, slow to react, and independent). Each category represented one-third of respondents.

Innovator-respondents handled a much greater IPG volume than Followers and Status Quo. Interdependence demonstrated through partnering with regional cooperatives and investor-owned firms (IOFs) appeared to underwrite Innovators' willingness to bet on new products. The more traditional and independent cooperatives appeared to retain the independence and isolation that is the historical norm of grain cooperatives, including a competitive, even adversarial relationship with regional cooperatives.

Unlike Innovators, Status Quo and Followers saw less evidence of producers adopting IPG in their marketing territory. They preferred to focus on getting the best price for producers through a unidimensional focus on traditional marketing practices such as arbitrage. In contrast, Innovators operated in a multidimensional world where many avenues and perhaps some money-losing detours could ultimately achieve a similar end (Hogeland, 2001: p. iii).

The concept of multiple closed and self-contained business systems functioning in relative isolation from others – similar to Nourse's 1945 concept of the ideal economy and Status Quo grain cooperatives – strikes Djelic and Quack (2008) as outdated. They

[14] The scientific orientation of industrialization fostered objective measurement to determine the 'percent lean' or yield of a hog carcass by using a probe to measure back-fat thickness and the loin eye. This post-slaughter measurement fine-tuned the price-quality relationship by providing incentives and feedback which farmers could use to improve production.

[15] Terminal markets originated at the end of a rail line. Famous terminal markets were the Chicago Stockyards and the Kansas City Stockyards.

argue that isolated and self-contained national business systems are incompatible with organizational involvement in multiple institutional environments (e.g., transnational) with different and sometimes conflicting rule systems.

12. Lock-in and cooperative experience

Following is a brief summary of how each feature of lock-in identified by Woerdman corresponds to problematic aspects of industrialization encountered by cooperatives.

12.1. Existence of a superior alternative institution or technology

Industrialized agriculture was broadly superior to open competitive markets because it streamlined production and marketing to lower transaction costs.[16] The multiple choices prized by agrarian ideology and family farmers came at the cost of excess handling from a marketing system containing too many middlemen, i.e., commission agent, dealer, handler or broker. Each time livestock were transferred from one marketing agency (or location) to another they were watered, fed, and sorted, delays which put them at risk of going "out of condition" (chiefly, gaining excess weight).

Grain was similarly vulnerable to loss of condition due to selling practices like arbitrage and the industry's practice of commingling and blending lots for an average (No. 2) quality. Such mass marketing required end users to adapt grains to their specific requirements.

Economists were aware of the consequences from "duplication of effort." In 1922, Nourse suggested that the "despised middleman system" added an unnecessary layer of costs that could be eliminated if farmers controlled the marketing system and operated on a strict cost-of-service basis (Nourse, 1922: 590, 583). In his opinion, middlemen and further processors heaped commissions and monopoly profits on food marketing through product and brand proliferation – activities which seemed frivolous and pointless. Nourse sourly concluded, "'Salesmanship' so-called has become our god" (1922: 580). Too often farmers and cooperatives agreed, believing that money spent on product development and market research shortchanged producer returns.

Reluctance to identify and respond to buyer preferences can also attributed to a general sense among farmers and cooperatives that buyers were adversaries who took income from farmers by driving down the price of food. This perspective conceivably limited cooperatives' ability to see modern consumer marketing as a source of revenue that could counterbalance industrialization's emphasis on cost minimization.

12.2. The dominant sub-optimal institution exhibits increasing or stable effectiveness (or problem-solving capacity)

"An increasing or stable problem-solving capacity of the dominant arrangement is a necessary self-reinforcing mechanism" (Woerdman, 2004: 68). However, by the 1980s open markets were beginning to create more problems than they solved. The number of bids livestock producers received was declining noticeably: a 1987 survey indicated producers uniformly reported receiving one bid less than they had received five years earlier (Hogeland, 1988).

In the grain industry open markets were also counterproductive. Producer-members and managers of local cooperative elevators preferred arbitrage over making formal commitments to market grain through an integrated cooperative grain system (Turner, Heifner, Nichols, & Wisner, 1978: 16). "Optimal use of the facilities individually did not result in optimal use of the facilities as a system" (Ginder, 1991: 16). In sustaining marketing facilities that were underutilized the cooperative sector incurred a high level of debt. An agricultural depression during 1983 led producers to rebuke cooperatives for having "too much cooperative baggage," such as bureaucracy, inefficiency, and excess capacity" (Cook & Ilipoulos, 1999: 527). In 2002, Farmland Industries reduced cooperative involvement in the grain industry to the post-harvest "first handler" local cooperative level by selling many cooperative assets to Archer Daniels Midland (ADM). Farmland Industries also filed for bankruptcy that year.

Producer goals like "getting the market 'top' [price]" through arbitrage interfered with the straightforward movement of commodities to their ultimate destination. Seeking the "continuous throughput" of the factory line in moving commodities from one stage of production to another, industrialization's vertical integration lowered transaction costs compared with the hit-or-miss coordination of open markets.

The advantages of vertical integration were particularly evident in pork production. Hogs were systematically moved from one stage of production to another according to their biological requirements. For example, feeder pigs progressed from the nursery to grow-out to finishing to market (ready) hogs. Each stage was accompanied by specific feeding regimens and potential housing adjustments. Moreover, consistent genetics meant that the hogs were predictably lean with standardized pork cuts.

Open competitive markets did not foster such consistency because producers were free to choose when and where to market. Farmers might risk commodity deterioration by waiting for markets to improve. Producer willingness to buy genetics from farmer-breeders further contributed to product inconsistency.

12.3. Pronounced knowledge gaps and uncertainty (incomplete information)

In[17] 1995, survey results from 670 locally-owned feed and grain cooperatives revealed that the Midwestern federated system linking regional and locally owned cooperatives could boost cooperative prominence in the pork industry (Hogeland, 1995). Yet, debate over cooperatives' future role was complicated by the massive structural changes overtaking the industry. In overhauling production and marketing as they had been known, the pork industry was assuming characteristics of a completely new (or emerging) industry, notably, a high degree of uncertainty. No single production technology, breed, or production facility (pork building) had been sufficiently proven to become the industry standard.

The transition from single-site farrow-to-finish production to multi-site production within the 1980s is a striking example of how swiftly perceptions regarding the most efficient technology can change.

In the early 1980s, the reigning technology for hog production was farrow-to-finish in self-contained confinement units. As hog production became specialized in two- or three-site production (i.e., a feeder pig production unit, nursery, and finishing floors), the technical dimension of raising hogs increased. Multiple sites accommodated all-in, all-out production (AIAO) where hogs of the same age were moved as a group from one site to another to allow complete cleaning and disinfection between litters. AIAO reduced the disease potential inherent in the mix of ages and

[16] An agrarian perspective on transaction costs is supplied by economist Harold Breimyer (1995: 197): "Insofar at the doctrine of minimization of cost and maximization of consumer satisfaction is taken seriously, the responsible economist must follow the lead of the Nobel Laureate Douglass North in looking into the big wastage of transaction costs. If we were truly concerned to treat our consumers as well as our resources permit, we would find a way to deliver products to them without all the hoopla and ballyhoo that are the mark of today's merchandizing."

[17] Both this section and the following draw on Hogeland (1995).

weights associated with continuous flow management. Like another facility-dependent innovation, split-sex feeding (feeding barrows and gilts separately), AIAO reduced variability in marketing weights not attributable to genetic diversity. Greater consistency in slaughter weights enabled packers to automate part of the kill line.

By 1995, AIAO had caught on among all sizes of Iowa producers at the nursery stage, but only about a third of those surveyed used this practice in the grow-finish phase of production. To capture the advantages of AIAO or split-sex feeding, the typical Midwest farrow-to-finish facility needed to be remodeled by adding walls and pit dividers to make finishing rooms with new ventilation systems, etc. Despite these technological advances and widespread perceptions that Iowa's infrastructure was aging, more than half of the surveyed producers had no plans to remodel or build new facilities.

Such turnover in production technologies within the pork industry is not out of the ordinary. Typically, within emerging industries, the technologies and products which confer an edge in the opening phase of an industry are not sufficient to carry a firm through later stages of industry development.

12.4. Large switching costs

Despite the uncertainty posed by the pork industry, cooperative involvement was motivated by the belief that members would be worse off if integration forced formerly independent family farmers to become contract growers subject to anonymous corporate authority. Moreover, the uncertainty characteristic of emerging industries gave cooperatives reason to believe that modernizing and upgrading the facilities and techniques of small producers in particular might allow them to hang on, if not survive and prosper.

Accordingly, regional cooperatives Land O'Lakes, Farmland Industries, and Countrymark, Inc., developed cooperative variations of a "pork system" replicating key advantages of integration such as standardized genetics, pork buildings and technical support. These systems included a market element: regional cooperatives relied on locally-owned cooperatives to market feed and feeder pigs to pork producers, efforts that were complimented by collectively-owned slaughter and processing plants. The pork system developed by Land O'Lakes included a floor price in the member contract. By shifting risk from producers to the cooperative, the floor price can be regarded as an expression that "cooperative are like a family."

Significant cooperative involvement continued until, at the end of 1998, a temporary shortage of industry slaughter capacity caused hog prices to plummet to 16.5 cents per pound. The break-even price was 36–40 cents per pound. Integrated systems are vulnerable to bottlenecks causing interruption in the continuous flow process from farm to slaughter. The crisis was sufficiently severe to trigger a shake-out of independent producers from the industry. However, the floor price in the Land O'Lakes member contract shielded members from the full impact of the price collapse. Nevertheless, losses of $26 million ultimately led the cooperative to transition out of providing a floor price (Hogeland, 2006). By 2005, the cooperative had sold its pork operations.[18]

[18] From this experience came the recognition that cooperatives could serve farmers better by creating innovative value-added products. That is, cooperatives would become part of industrialized agriculture but not by becoming indistinguishable from those they sought to challenge. Cooperatives also realized that they were investments which had to be competitive with producers' other investment choices. In the decade that followed, cooperatives continued to expand their goals and outlook. For example, Land O'Lakes sought to apply its broad-spectrum strengths in food production and branded-product marketing to the task of 'feeding the world' (Policinski, 2010).

13. Discussion and conclusions

This study explores the relationship between family businesses such as family farming and cooperation by examining the overlap between agrarian ideology and characteristics of family businesses hypothesized by Roessl (2005) and Goel (2013). This connection is explored in a particular context: the 20th century industrialization of agriculture. This period challenged the primacy of family farming in U.S. agriculture through the spread of a competing corporate-led model of production based on vertical integration. Decisions ordinarily made by family farmers such as what to produce, where, and when, and for what market were co-opted by corporate hierarchy. Agrarian ideology conditioned family farmers and farmer-owned cooperatives to see industrialization's contract growers as the equivalent of hired labor or – worse – as "serfs" subject to a new kind of feudal hierarchy.

Metaphors like "serfdom" and "cooperatives are like a family" are important because they show how agrarian-influenced cooperatives and farmers represented the world to themselves and how they perceived the conditions for action in that context. The term "serfdom" reflected farmers' belief that they would be victimized by industrialization's restrictive production contracts. "Cooperatives are like a family" reflected the efforts of cooperative managers to compensate by upholding the dignity and independence of farmer-owners.

The primary method cooperatives used to compete with industrialization for most of the 20th century was the market-stimulating competitive yardstick norm. In effect, this norm sought to turn back the clock to the pre-industrialization era when open markets gave family farmers more choices. This emphasis supports Roessl's hypotheses that family businesses are driven by a myth of unlimited free choice and independence and tend to cling to outdated technologies.

The question motivating this study is why institutional [or organizational] inertia persists despite indications that change is urgently required. This study attributes delay to agrarian ideology which was proposed to work in the following way: First, agrarian ideology elevated family farmer importance and requirements to a degree that became culturally difficult for farmer-owned cooperatives to challenge. Second, agrarian ideology reinforced behaviors theoretically associated with family-owned enterprises. Third, these factors triggered an ideological lock-in limiting cooperatives' ability to see industrialization as a mix (from their standpoint) of both positive and negative aspects.

Woerdman (2004) argues that the potential for lock-in is revealed by four conditions: a superior technology competes with a dominant sub-optimal technology; the latter continues to be effective; little is known about the superior technology, and high switching costs are required to implement it. In his model, culture is a particularly strong self-reinforcing mechanism when the superior technology is rejected as somehow unethical. Moreover, "when a superior alternative exists but is barely known among those who choose, other inputs are beliefs and expectations shaped by both personal and collective experiences and culture" (Woerdman, 2004: 66).

For most of the 20th century, the pejorative term, "serfdom" substituted for direct cooperative and producer experience with industrialization. Woerdman (like North) argues that cultural change is a slow process which can take years, even decades. It is likely that the metaphor of serfdom, and agrarian ideology in general, fostered such preconceived notions of industrialization that benefits were largely inconceivable. As Schmid says, "We see what we have a language to see" (2004: 267).

Moreover, industrialized production was capital intensive and large scale which meant switching costs were high. However, by the late 20th century, severely declining market competition

prevented open markets from effectively performing basic functions like price discovery and market-clearing. The unlimited free choice sought by producers came through a market system with too many middlemen (marketing agencies). Duplication of effort increased marketing costs. Open market failure forced marketing cooperatives to consider alternatives. Moreover, compensating farmers through the attributes of "cooperatives are like a family" did not respond to the core problem presented by the serfdom metaphor: the reduction in producers' decision-making authority in contract production.

Woerdman indicates that lock-in can reversed to become institutional "break out," especially when "traditional firms possessing... large financial means commit themselves to the development of this [superior] trajectory" (Woerdman, 2004: 75) (Break-out implies the superior technology is adopted). The variations of industrialized pork production developed by Farmland Industries, Land O'Lakes and Countrymark in the late 20th century had strong market elements in sourcing feeder pigs and feed but nevertheless represent such development.

Direct cooperative experience with producer contracting reduced switching costs in a setting where limited information and uncertainty about industrialization would have otherwise prevailed. Direct experience also weakened the power of the serfdom metaphor, allowing cooperatives to evade ideological lock-in. Reducing switching costs is the key to organizational transformation. This requires leaders who can recognize when the old culture has become counterproductive, and can envision and impose a new culture. "The essence of leadership, in this context, is the ability to step outside one's cultural assumptions in order to effect the change" (Schoenberger, 1997: 119).

It is also possible that farmer decline had to reach a critical threshold which represented a point of no return before cooperatives could question existing business strategies. Greenwood notes that "organizations are more likely to abandon an institutionalized template when facing adverse situations, such as resource scarcity" (Greenwood et al., 2011: 340).

Expectations based on metaphor have intrinsic shortcomings – they are unavoidably reductionist and selective – highlighting some aspects of an issue while hiding others. Family farmers traditionally managed risk through a diversification that usually encompassed livestock production. Under industrialized agriculture, the integrator owned the animals raised by the contract grower. The serfdom metaphor focused on the loss in farmer identity and status associated with contract production. The metaphor did not reflect how producers benefited from shifting the risks of market determination and animal ownership to integrators. By the end of the 20th century, farm lenders began demanding that producers have a contract in hand specifying market destination before facility financing could be discussed.

Likewise, the positive expectation that cooperatives are like a family overshadowed the costs of this strategy to cooperatives. The most problematic aspect of this construct was cooperative willingness to assume risk on behalf of producer members. It is possible that cooperatives interpreted this metaphor to include the distributive justice Nourse (1922: 594) counted as a producer prerogative. If so, then cooperatives likely tried to ensure that producer-members would receive the return they were implicitly or explicitly promised. Cooperative interest in seeing producers get a fair shake in the marketplace may have led them to put programs in place via cross-subsidization (without expecting commensurate equity contributions) to enhance members' market opportunities. Cook (2004) regard cross-subsidization as a situation where ownership rights are misaligned with use, control, investment incentives and benefit distribution. He observes that such situations were a contributing factor to recent bankruptcies among large multipurpose cooperatives (including Farmland Industries' bankruptcy in 2002).

In retrospect, cooperatives' efforts to protect producer-members from "serfdom" put them under extraordinary moral and therefore financial pressure. The consequences for cooperatives suggest that Schoenberger was correct when she concluded – as quoted in Section 1 – that metaphors "allow for the sorts of story in which overwhelming evidence in favor of one interpretation of the world can be repeatedly ignored, even though this puts the assets of the firm and the position of the decision-makers at extraordinary risk" (Schoenberger, 1997: 136). "Serfdom" was a polarizing concept. It is possible that narratives which challenged the universality of the serfdom concept (i.e., that serfdom was an inevitable and inescapable consequence of industrialized production) would have given cooperatives an alternative perspective.

Cook (1997) speculated that the mission, objectives, and/or goals of cooperatives really are different from investor-owned firms. This study situates that difference in agrarian ideology. Bolstered by its overlap with traits and preferences associated with family business, as hypothesized by Roessl and Goel, agrarian ideology was indeed hegemonic.

Did Serfdom Occur? In Section 8, this study draws attention to the potential for expectations to be misleading or wrong and so lead to misallocated resources and investment. Consequently, an important question for cooperative scholars and policy makers is, "Did serfdom occur?" Fieldwork conducted by anthropologist Ronald Rich (2010) in the Midwestern pork industry from 1998 to 2001 suggests that the producer "serfdom" anticipated by agrarians was not universal. Because contractors must supervise many growers with many animals, they cannot fully monitor grower behavior. The contracting relationship is vulnerable to moral hazard where incorrect or unauthorized grower actions may not be clearly evident. Consequently,

> contractors who exploit growers risk a counterproductive backlash capable of raising costs and decreasing profitability. Although both contractors and growers recognize the potential for inequality and conflict in their relationship, Rich concluded that trust, honesty and personal integrity are more associated with contracting than conflict. Of 27 contract operations he studied, 20 were farm based, following existing lines of friendship, neighborhood, work, and kin. These close and natural associations allow Midwestern family farmers, contractors and growers alike, to manage their participation in 'exploitative agriculture development more generally' (Hogeland, 2013: 112; Rich, 2010: 109).

Agrarian expectations of industrialization were more pessimistic, i.e., "An industrial system is implicitly regimented, privately and publicly. Its internal interdependence is so intricate as to straightjacket both processes and people" (Breimyer, 1995: 4).[19]

To oversimplify industrialization in this manner was to get it wrong in a way crucially important to cooperatives: "Firms can hold competitive advantages simply because their rivals entertain erroneous beliefs about them" (Foss, 2007: 1). Rich's ethnographic findings present a solid economic basis for contract hog producers to be an integral part of decision-making. The negotiated context of pork production, especially among the farm-based contract operations Rich studied, exists "in part as a result of the frail quality of industrial hogs; contractors are reliant on contractees to raise a distinctly fragile commodity that requires immediate attention to biological issues (health) and infrastructure (barn conditions)" (Rich, personal communication, May, 2013).

[19] The word "straightjacket" perfectly captures how independent family farmers anticipated being immobilized by contract production.

For decades, agrarian-inspired disaster motifs like serfdom, straightjacket and feudalism seemed to have limited cooperatives' ability to see themselves as resilient, able to foster new institutional designs within industrialization's complexity. Because cooperatives appear to have been on the side-lines looking in, they may not have known it was possible to have a nuanced response to industrialization. This suggests that cooperatives should assess future agricultural developments more carefully before rejecting them.

Why would agrarians regard industrialization in such emotionally freighted terms? Maintaining farmer status and importance was a core agrarian issue much more important than identifying a role for cooperatives. Agrarians' choice of terminology conceivably reflected fears that industrialized agriculture was revisiting a century-old conflict over whether farmers should be regarded as capitalists (as agrarianism suggests) or radicalized as workers (Taylor, 1989) (This identity conflict may be the reason Nourse (1945) criticized the Sapiro model for bringing a "big stick" of union-like militancy to cooperation). A close reading of the competitive yardstick norm led Hogeland (2007: 46) to conclude that Nourse's primary concern was the welfare of farmers, not cooperatives. This was a crucial distinction liable to be overlooked by agrarians: the two are not the same. Even though cooperatives are farmer-owned, what is good for farmers – unlimited choice and independence for example – may not necessarily be good for cooperatives.

Agrarianism's influence on 20th century cooperatives provides support for Roessl's concept of "informal structures which are not necessarily explicit." Agrarianism added additional often subtle constraints to cooperative decision-making beyond cooperatives' role as "user-owned, user-benefiting, and user-controlled" organizations. As this study shows, additional constraints – especially the impromptu expression of "cooperatives are like a family" – can raise the cost of doing business and, if taken too far, may jeopardize the organization's survival.

On a day to day basis, agrarian values and goals can be incompatible in key respects with other cooperative priorities as Foreman and Whetten (2002) indicate. The extent of this incompatibility is seen by Greenwood et al. (2011) as an indicator of organizational complexity. Further research might foster greater transparency in cooperative decision-making by examining agrarianism's impact. Does evidence suggest that agrarian priorities have become a "taken for granted" unchallenged aspect of day-to-day cooperative transactions? If not, how are trade-offs between agrarian and economic priorities negotiated?

Alternatively, because institutions seek to instill and reproduce the values they require, members must have some need that is met by *agrarian-influenced* marketing cooperatives. Do members feel that an agrarian identity or connection increases cooperative legitimacy and trustworthiness? To what extent does agrarian ideology foster an increase in cooperatives' social capital relative to the losses anticipated by Feng, Friis, and Nilsson (2015) in response to increasing organizational complexity among cooperatives? If so, how does this connection position cooperatives for competitive advantage? Is family always the most salient expression of ideology for members? How does an agrarian-influenced cooperative identity inform the self-concept or identity of producer-members?[20] Much contemporary market research examines how retail product choices are perceived by consumers to reinforce a desirable identity or self-concept. Retail products are frequently status-enhancing or aspirational. How agrarian ideals affect farmer-members' service or product choices is not as clear.

[20] The concept of "performative" suggests that identity is not a fixed once-and-for-all decision but a fluid concept that is continuously being enacted and reinforced through choices and experiences.

Another research topic is the potential interaction between agrarian values and metaphors as tools that help cooperatives navigate the cooperative life cycle. Both the serfdom metaphor and "cooperatives are like a family" positioned cooperatives as a haven relative to the competitive turbulence spawned by industrialized agriculture. What kind of metaphor would be useful for a start-up cooperative with a need for greater member cohesiveness? How can metaphors help mature cooperatives differentiate themselves from other agribusinesses?

Many countries, especially those with a feudal legacy or landowning class, have an agrarian heritage. Further research could examine how agrarian ideals in various settings affect cooperative decision-making. Cross-country comparisons could further clarify how ideology helps and hinders cooperative development.

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