Cooperatives in Transition

Studies of Ownership during a Merger

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Abstract

The aim of this thesis was to explore the relations and perspectives that members have on the cooperatives they patron. Agricultural cooperatives in the Swedish tradition have often been multipurpose cooperatives, thus serving farmers with a heterogeneous background. For this to be successful, it has been important to educate members and to develop the trust between members and other actors in the cooperative. In a merged cooperative, trust and heterogeneity may influence the uncertainty that the cooperative faces before the new organizational structure has been imposed. Thus the first paper in this thesis explores how trust among actors is developed and maintained after a merger, by analyzing the role member representatives has in mediating between members and managers. The second paper covers how heterogeneity in farmers' backgrounds may influence their heterogeneity in preferences for a reallocation of equity. The first paper shows that member representatives have a leadership authority that managers use for getting information accepted by members. The second paper shows that members in a cooperative have different perspectives on the cooperative depending on whether they have a high level of investments or a high level of patronage. The conclusions of the two papers are that member representatives are important in mediating information in a cooperative, possibly because of the face-to-face communication they have with both members and managers. And the different perspectives that members have on their cooperative may be explained by the heterogeneity in preferences that they have.

Keywords:

Cooperatives, merger, trust, equity, member commitment, Cooperatives, equity, heterogeneity, preferences, property rights, free rider problems, canonical correlation analysis, factor analysis

Dedication

To Håkan…

Nuet byter planer med framtiden. Solen in och molnen ut igen.
Bob Hund

Contents

List of Publications

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

I Nilsson, L. (2010). Trust Keeping in a Merging Cooperative (manuscript).

II Nilsson, L. (2010). Reallocation of Equity (manuscript).

Abbreviations

EU	European Union
IOF	Investor Owned Firm
JSÅ	Jordbruksstatistisk årsbok
LRF	Lantbrukarnas Riksförbund (Farmers Association)
MD	Mejeriselskabet Danmark
NAFTA	North American Free Trade Agreement
NGC	New Generation Co-operatives
NIE	New Institutional Economics
TCE	Transaction Cost Economics
US	United States of America
USDA	United States Department of Agriculture
VDPR	Vaguely Defined Property Rights
WWII	World War II

1 Introduction

When small-scale producers aim to trade their products, they sometimes realize that the best way to do this is to take control over the bargaining, marketing, and even processing of the products. For farmers, the solution has often been to form a cooperative, to overcome problems with buyers' cartels, marketing to consumers, and future uncertainties. With the formation of cooperatives, farmers also become business owners, which brings both opportunities to profit from the business and the responsibility to finance it. Horizontal coordination and vertical integration thus move farmers into a new position in the market, from a buyer/seller position to a combined buyer/seller and owner position. Thus, the relationships the farmer has with the cooperative, its managers, and its employees have different characteristics from those the farmer would have with an investor-owned firm owned by non-farmers. These characteristics are somewhat determined by the institutional arrangements that surround the operations (i.e., the farmers and the cooperatives), but also by the purpose of the farmers' involvement with their cooperative. A Danish cooperative differs from a Swedish cooperative and a consumer cooperative running retail stores differs from a farmer's cooperative processing grains into cereals and flour and marketing them to consumers.

The following studies were initiated out of interest in how members react to changes in the institutions surrounding the member–cooperative relationship. The first study focuses on the relationships between members, elected member representatives (i.e., directors), and managers, as a large number of cooperatives merged into a single cooperative while introducing sequences of new organizational structures. The second study concerns the ownership and residual rights to the cooperative, since a jurisdictional change let the cooperative reallocate previously collective equity into individually allocated equity. The common theme is the exploration of responses to changes in interactions with the cooperative.

This thesis explores ownership interactions between members and their cooperatives when there are changes in the settings surrounding them. Two studies were conducted, one exploring trust in a newly merged cooperative with, for members, an unfamiliar organizational structure, and another exploring member perception of investment issues in cooperatives in light of a jurisdictional change allowing for equity reallocation.

1.1 Background

For over a century, cooperatives have been an important part of the agricultural sector for Scandinavian farmers (Rydén, 2004, Skurnik & Vikriälä, 1999). From WWI to 1990, Swedish agricultural and forest cooperatives organized to negotiate agricultural policies and regulations with the state (Hakelius, 2002). In 1990, it was decided that the agricultural sector would undergo a five-year transition to a completely unregulated condition, without any subsidies, quotas, or other interventions from the Swedish state. However, by the time these five years had elapsed, Sweden had applied for membership in the European Union, making the agricultural sector once again part of a regulated market, albeit one with considerable competition. The years of a national, protected market left farmers and their cooperatives inexperienced in handling market competition. Some of the practices that farmers and their cooperatives had grown accustomed to were not particularly well suited for a more competitive market (Hakelius, 2002). The changes in agricultural policy came fairly suddenly, leaving farmers and their cooperatives little time to prepare. As Hakelius (2002) and Svensson (1997) have demonstrated, managers and directors of cooperatives had unrealistic expectations regarding the level of investment necessary for Swedish cooperatives to gain shares in a larger market.

It has also been pointed out that, since the main stakeholder in these cooperatives at the end of the twentieth century was the state, cooperatives had become oriented towards bureaucratic management, instead of being market oriented (Nilsson & Björklund, 2003). This was a result of the agricultural policy after WWII, when the political focus was that Sweden should be self-sufficient in food and agricultural cooperatives became the executors of the agricultural policy. The agricultural policy was determined via settlements involving most political parties and representatives of the cooperatives (notably, cooperatives were members of the special interest organization for the agricultural sector, whereas investor-owned firms—IOFs—were excluded) (Johansson, 1994). Consequently, legislation concerning cooperatives was sometimes more influenced by ideological values than by the economic reality of the agricultural sector, since agricultural policy protected farmers from foreign competition. One example was that the financial rewards of ownership were restricted in various ways, or heavily taxed, compared with the rewards accorded to patronage (Hakelius, 2002). Rewarding patronage makes farmers overproduce but, as long as the state regulated production by means of quotas and promised to buy all overproduction, cooperatives did not have to set prices that reflected market supply or demand. These changes explain why older farmers emphasize economic solidarity between farmers, while younger farmers emphasize that cooperatives should become more market oriented (Hakelius, 1996). The ideological values that influenced the agricultural policy were largely the values of the Social Democrats, since they were the ruling party for most of the post-war period. One goal of the agricultural policy, apart from making the country self-sufficient in food, was to ensure that agricultural workers (including farmers) earned incomes on par with those of industrial workers (Lindahl, 2004). This view of farmers as more or less workers, not *owners* of farms and cooperatives, also helps explain why the patronage role was emphasized more than the ownership role in cooperatives, resulting in restrictions on how capital was returned to the members.

Changing markets for agricultural cooperatives are not unique to Sweden, however. In western economies, cooperatives facing changing markets, agricultural policies, or jurisdictional factors have tried different approaches to deal with changing demands (Nilsson et al., 2009). Chaddad and Cook (2004) provide a typology of cooperative and hybrid arrangements, in which residual rights are sometimes apportioned only to members and sometimes to external investors as well. Changing agricultural markets may have contributed to the bankruptcy of cooperatives (Fulton & Larson, 2009, Fulton & Giannakas 2007), the transition of cooperatives to IOFs, or the acquisition of cooperatives by IOFs (Chaddad & Cook, 2007, Van der Krogt, Nilsson & Høst, 2007). Still, many cooperatives have maintained a traditional organization with a high degree of collectivism

(Nilsson et al., 2009). Nilsson and Björklund (2003) discuss collectivism in terms of the three relationships of patronage, control, and ownership. In patronage, they argue that the collectivism is apparent in the principles of equal treatment and transparency, which is rational for the cooperative business if its members produce in similar quantities of similar quality. In the control relationship, collectivism is evident in the one-member-one-vote principle, regardless of the member's amount of patronage of or investment in the cooperative. When the membership is homogeneous in terms of patronage and investment, this rule is rational, but when the membership is heterogeneous it is not. In the ownership relationship, their main argument is that, when the cooperative accumulates capital from revenues, unallocated equity accumulates, constituting the collective ownership retained by many cooperatives. In Swedish cooperatives, unallocated equity comprises roughly 80% of equity (Nilsson, 2002, Hakelius 2002). This unallocated equity is a result of the profits that cooperatives have chosen not to return to their individual members.

In cooperatives retaining a high proportion of unallocated equity, it may be easier for the managers to execute decisions (Murray, 1983) because the members do not feel a strong sense of ownership over money that does not pass through their hands. Consequently, managers in cooperatives may use covert accumulation as a strategy to finance the cooperative's business (Murray, 1983). Some of the problems experienced by cooperatives in western economies may be because they have entered stage four of the typology suggested by Cook (1995), in which the cooperative has become so large and heterogeneous that member commitment decreases and leaves room for agency problems; the cooperative may then restructure, close down, or become an IOF to ameliorate vaguely defined property right problems. Perhaps cooperatives have been forced to adapt to new business environments that they are incapable of handling (Nilsson et al., 2009).

1.2 Outline of the thesis

This thesis comprises two papers, both focusing on the individual in the cooperative. The first paper focuses on member preferences for the reallocation of equity in the cooperative, members having been asked for their responses in their roles as members, owners, and patrons.

The second paper focuses on how particular elected members, namely, directors, can play a bridging role in a cooperative, linking members and managers by aligning their interests and building consensus to make the cooperative function properly.

1.3 Limitations of the studies

There are several limitations to the studies presented here. First, the cooperative studied is a Swedish one operating under Swedish legislation. This means that some of its features may not be comparable to those of a cooperative operating under a different jurisdiction. Second, both studies were initiated when the cooperative was undergoing a major merger. This was intentional, but leads to the limitation that the results may not be applicable to cooperatives under more stable conditions. Third, both studies examined only one cooperative, again making comparisons with other cooperatives difficult. The studies are thus snapshots of a particular cooperative during a transition phase, revealing details that may not be visible at other times.

2 Definitions and theoretical framework

2.1 What is a cooperative?

Discussions of what constitutes a cooperative often start with the "Rochdale pioneers," a group of British workers in the weaving industry who formed a consumer cooperative in 1844 (Barton, 2000). These pioneers established guidelines that have in various versions come to be known as the Rochdale principles. One summary of the guidelines states that a cooperative is characterized by

> 1) democratic control; 2) freedom for new members to join; 3) payment of limited interest on capital; 4) distribution of the surplus among the members in proportion to their purchases; 5) cash trading; 6) purity and quality of the products; 7) education of the members; and 8) political and religious neutrality. Two further principles were added at a later date: 9) sale at market price and 10) voluntary membership. (Craig, 1993, p. 32)

These guidelines have influenced many definitions of what a cooperative is. The International Cooperative Alliance, for example, refers to their principles as a modernized and revised version of the Rochdale principles. In 1984, Sexton wrote in his doctoral thesis that there was no common definition of what constitutes a cooperative, which has led to confusion in research into cooperatives. One reason for this is that different scholars emphasize different parts of the guidelines. For example, while one scholar might consider democratic control the key feature setting cooperatives apart from investor-owned firms, others stress limited returns to capital or something else as "the" distinguishing feature. A definition formulated by an economist might well resemble the following:

A cooperative will be defined throughout this dissertation as a firm that operates under the modern interpretation of the Rochdale principles, that is, member-patron ownership, member-patron control, operation at cost, limited returns on invested capital, and, often, the duty to educate membership. (Condon, 1990)

However, not only economists study cooperatives, but other types of scholars do as well. A sociologist has defined a workers' cooperative as follows: a) the establishment is autonomous; b) employees can become members of the enterprise by means of nominal share holdings; c) one member-one vote; d) members can participate in decision making at all levels of the enterprise; and e) members share in profits (Stryjan, 1989). As can be seen from these two definitions, the two scholars are not really talking about the same thing.

However, in 1987, the USDA formulated a definition that has become widely used among economists researching cooperatives:

A cooperative is a user-owned and controlled business from which benefits are derived and distributed equitably on the basis of use.

Three fundamental principles for the cooperative enterprise are identified:

The user-owner principle: The people who own and finance the cooperative are those that use the cooperative.

The user-control principle: The people who control the cooperative are those that use the cooperative.

The user-benefits principle: The cooperative's sole purpose is to provide and distribute benefits to its users on the basis of their use. (USDA 1987, as quoted in Barton, 2000)

This definition is often shortened to say that a cooperative is a user-owned, user-benefiting, and user-controlled business (see, e.g., Österberg & Nilsson, 2009). This short version has gained many supporters, and will be used here. However, many non-scholars, as well as non-economists, would not call an organization a cooperative without emphasizing such things as the one-member-one-vote principle, free entry for new members, and social responsibility, making it important to specify the definitions used.

It should also be mentioned that, although the Rochdale guidelines have been very influential, another cooperative school has had an enormous impact on European cooperatives, namely, that of the Raiffeisen cooperatives. Wilhelm Friedrich Raiffeisen established a list of cooperative principles that has influenced legislation on cooperatives in several European countries (Nilsson, 2000). The basic features of his principles are as follows: 1) cooperatives should be so small that you can see the whole membership from a church spire; 2) cooperatives are founded to help small, independent farmers, but should be open to even the poorest farmers; 3) there should be no entrance fees, no or very low business share prices, and no dividends; 4) the liability of member farmers in case of bankruptcy is unlimited; 5) administrative tasks are divided among members appointed to a committee; 6) loans have a very short period of notice; 7) cooperatives should be multipurpose ventures; and 8) profits from the business should go to a charitable fund (Prinz, 2002). These principles sometimes confuse discussion of what actually constitutes a cooperative, and cause some cooperatives to engage in practices that are economically self-defeating.

In addition, there are various ways of viewing the relationship between cooperatives and their members. In their review of performance measurement in cooperatives, Soboh et al. (2009) distinguish between studies that view the cooperative as a nexus of contracts, as an independent business, and as a vertically integrated firm.

2.2 Cooperatives and the agricultural sector

In understanding why farms are often family based, that is, why farms have often not evolved into large specialized corporations, it must be realized that the seasonality of crop or livestock farming restricts the natural stages of production (Allen & Lueck, 2005). As a result, economies of scale cannot be realized in many cases, as the costs of monitoring hired labor would be too high (Hansmann, 1996, p. 47). By running farming as a family business, the reduction of moral hazard in hiring employees exceeds the gains accrued by a specialization of production (Allen & Lueck, 2005).

However, this also means that the primary producers are quite small and have little bargaining power versus the purchasers of agricultural products. Some crops, such as fruits and vegetables, are perishable and lose value soon after production (i.e., described as temporal asset specificity in transaction economics), leaving farmers in a vulnerable position (Cook, 2000). One solution would be to form a bargaining cooperative with other farmers in the same situation. Cooperatives are especially good at dealing with opportunistic behavior when there are fixed assets on both sides of the transaction (Ollila, 1989), such as in dairy production. Another problem for farmers is that buyers, generally fewer in number than the farmers, can more easily form cartels to hold prices down, meaning that farmers receive unfavorable prices. A cooperative could be a solution here as well, functioning as a yardstick for other firms (Schrader, 2000; Nourse, 1922). Furthermore, much of the agricultural production is subject to the holdup problem, meaning that there will be underinvestment due to fear that the buyer will act opportunistically and acquire the quasi-rents of the production (Klein et al., 1978). By coordinating farmers in cooperatives and integrating vertically, rents can be safeguarded against (Klein, 2005). In some cases, the primary agricultural product does not generate any profit but, if the primary producers form a cooperative, they can capture the profit generated in the vertically integrated processing industry. Cooperatives in the agricultural sector take many forms, but can be broadly divided into the following categories: *bargaining cooperatives*, which bargain on behalf of a number of producers to obtain the best possible price; *marketing cooperatives*, which market the products that members produce to expand the market and raise prices; *processing cooperatives*, which aggregate primary products and process them, and often markets the products as well; *supply cooperatives*, which ensure that members obtain the inputs they need when they need them; and *service cooperatives*, which are often credit unions or utility unions providing services to their members.

2.3 New institutional economics and cooperatives

Neoclassical theory has been criticized for treating the firm as a black box, an approach that does not help us understand the existence of cooperatives. New institutional economics (NIE) theory offers tools for analyzing the intra-organizational aspects of cooperatives, as one premise of NIE is bounded rationality, i.e., people are rational but only to a limited extent

(Simon, 1945). NIE also abandons the neoclassical economics assumptions of perfect information and costless, immediate transactions, instead assuming that transactions are costly because individuals have limited information and mental capacity, making them uncertain of future events and outcomes (Ménard & Shirley, 2005). In the case of cooperatives, transaction cost economics (TCE) theory proposes asset specificity as an explanation of why cooperatives are sometimes a better solution than IOFs are (Staatz, 1984).

2.3.1 Trust and cooperatives in the context of transaction cost economics

One direction in NIE is transaction cost economics (TCE) theory, which assumes that transactions have costs, acting as friction in the economic system. If the friction is too high, there will not be any transactions. Adapted to cooperatives, TCE theory explains the existence of cooperatives, since they can solve the problems of asset specificity, reduce uncertainty, and deal with negative externalities that others can impose on farmers. It may also be more efficient for farmers to integrate downstream than for an investor-owned firm to integrate upstream (Staatz, 1984). TCE theory also helps us understand why trust is crucial to cooperatives: a high level of trust in an organization may reduce transaction costs by reducing costs in general (Hansmann, 1996). Borgen (2001) has demonstrated that, when members identify themselves with the cooperative, this generates trust in the cooperative. A few studies have found higher levels of trust in cooperatives than in IOFs (Casadesus-Masanell & Khanna, 2003; James & Sykuta, 2006). Trust among members and between members and management teams has been demonstrated to predict group cohesion, which in turn measures the commitment members have to their cooperatives (Hansen et al., 2002).

There are multiple definitions of trust (Wilson, 2000); one commonly used definition is that "trust is the extent to which one believes that others will not act to exploit one's vulnerability" (Hansen et al., 2002; Morrow et al., 2004). Trust has both cognitive and emotional (i.e., affective) dimensions (Lewis & Weigert, 1985). In their explorative study, Hansen et al. (2002) demonstrate that both types exist in the two marketing cooperatives they examined. They suggest that in complex cooperatives members have more reason to monitor management, leading to cognitive trust being more important than affective trust in such cooperatives. Morrow et al. (2004) build and test a model of affective and cognitive trust in cooperatives. For Swedish cooperatives, it has been suggested that older farmers exhibit less trust in cooperative boards than do younger farmers (Österberg & Nilsson, 2009). The authors interpret this lower trust on the part of older members as due to the weaker performance of cooperatives today than when Sweden had its own agricultural policy. The authors also believe that older members may be less willing to accept new business practices; when such practices are introduced, older members hold the board accountable for them.

Table 1 Components of trust

Cognitive trust	Affective trust		
	High	Low	Virtually absent
High	Ideological trust	Cognitive trust	Rational prediction
Low	Emotional trust	Mundane, routine trust	Probable anticipation
Virtually absent	Faith	Fate	Uncertainty, panic

Source: Lewis and Wiegert (1985)

Related to the concept of trust is member commitment, which can be applied to the patron, investor, and member roles (Österberg & Nilsson, 2009). It is conditional, meaning that members will stay committed to their cooperative as long as they believe it is genuinely acting in their interest (Fulton & Giannakas, 2001). The financial problems that have troubled some large western cooperatives seem to be linked to a decline in member commitment, which in turn results in poor decision making by managers (Fulton & Giannakas, 2007).

2.3.2 Agency theory applied to cooperatives

Agency theory (Jensen & Meckling, 1976) offers explanations of the relationship between cooperative members as agents and the cooperative principals (Vitaliano, 1983, Murray, 1983[1]). Studies using this approach have pointed out that cooperative boards, which consist mostly of members and seldom have external directors, often have a strong position in the short-term dealings of the cooperative, since these are close to their ordinary

[1] Murray actually uses the term "officials" in his analysis of British cooperatives, as he includes both managers and directors. This is rather unfortunate, since his reasoning on covert accumulation would fit well with agency theory.

dealings as farmers, but that these directors may have a weaker position when it comes to long-term investments (Murray, 1983. In Swedish cooperatives, as in all firms, employees are always represented on the board. Fulton and Larson (2009) point out that there are several principal–agent relationships in a cooperative, members being the ultimate principals and board members their agents. However, board members are also principals in their relationships with senior cooperative managers. In their study of the financial failure of the Saskatchewan Wheat Pool, they recognize that, as the cooperative changed its financing structure by introducing external investors and board members, neither farmers nor investors had any incentives to monitor management activities. In a model developed to explore how producers with different degrees of productivity sell their products to a downstream processor in the form of either an IOF or a cooperative, Bontems and Fulton (2009) demonstrate that goal alignment between members and cooperatives is essential to avoid the informational costs faced by IOFs.

2.3.3 Property rights approaches in cooperative research

Another productive approach to analyzing cooperatives is the property rights approach, adapted to cooperatives via the concept of vaguely defined property rights (VDPRs). VDPR problems can increase in cooperatives that have become too complex for their members to grasp, and include the free-rider, horizon, portfolio, control, and influence cost problems (Cook, 1995). *Free-rider problems* in cooperatives can be both internal and external. One example of an internal free-rider problem is when new members immediately gain access to benefits, thereby diluting the value of these benefits to previous members. External free-rider problems occur when non-members benefit from the mere existence of the cooperative. The *horizon problem* occurs when the timeframe for returns generated by an investment exceeds membership duration, making members hesitant to let the cooperative invest in projects that have a longer planning horizon than they do themselves. This could lead to underinvestment in the cooperative. Some studies have questioned whether the horizon problem could really arise in cooperatives. Olesen (2007), for example, demonstrates that, if there is a horizon problem in cooperatives, it causes overinvestment rather than underinvestment, while Fahlbeck (2007) finds no support for any horizon problem in his study. *Portfolio problems* are common, since members have little chance to adjust the cooperative asset portfolio to their personal risk preferences. Members sometimes see investment in a cooperative as a risk-reduction strategy if investments in their own operations are more risky. In cooperatives that handle several different products, cross-subsidization may create conflict in the absence of separate capital pools. Hendrikse and Smit (2008) model the product portfolio choices of cooperatives versus corporations, which may somewhat reflect the differences between cooperative members as owners and external investors as owners. This highlights the fact that portfolio problems in a cooperative can be multiple. First, each member has to decide whether to invest in the cooperative, whether the capital would be of better use in the farm operation, or whether it would pay even better to invest the capital elsewhere. Second, the cooperative has to make product portfolio choices, weighing the various interests of individual members against the interests of the cooperative as a whole. *Control problems* in cooperatives are essentially principal–agent problems, i.e., it may be difficult for members of a cooperative to monitor and control management actions. Finally, *influence cost problems* occur when members of the cooperative try to influence the decisions of the cooperative, thus incurring costs to the cooperative, partly because of the activities taking place and partly because ineffective decisions are made. The problem is more severe in multipurpose cooperatives, where there is greater member heterogeneity. Influence cost problems are more common if members have no real opportunity to exit the cooperative, i.e., when no competing cooperatives or investor-owned firms are available. A study of a Norwegian meat cooperative demonstrates that economic factors are what count in member perceptions of whether they have any influence in the cooperative, but that member age did not matter (Gripsrud et al., 2000). Iliopoulos and Hendrikse (2008) find that influence cost problems are lower in cooperatives where management is well paid and powerful, but that they increase where members have heterogeneous preferences, average member age is high, or the cooperative operates several product lines. The horizon problem is treated as a special case of influence cost problem in their study. The heterogeneous preferences they define include differences in volume and quality delivered, geographical differences, age differences, and the impact these have when overall costs are calculated for the various members.

3 Empirical Models and Methods

Because the underlying interest of the studies constituting this thesis was response to institutional change, i.e., change in member relationships with the cooperative, both studies used an explorative approach. In the first paper, which was interested in *how* stakeholders understood the merger, a qualitative approach was deemed more useful, especially since mergers are infrequent in the daily lives of members/cooperatives. An interview approach was chosen for that study, in which content analysis could be used to generate a better understanding of what was happening in the relationships between the members, member representatives, and managers of the cooperative. In the second paper, which examined reactions to an equity reallocation, a quantitative approach was chosen because: a) many of the statements included in the study refer to recurring events in the relationship between members and the cooperative, i.e., statements on interest on invested capital, dividends, refunds, and other financial activities that cooperatives declare to members in their annual statements; and b) the study was interested in determining whether responses differed due to heterogeneity in background variables, which meant that a quantitative approach was more suitable.

3.1 Qualitative method

3.1.1 Semi-standardized interviews and categorization of responses

For the first study, an interview methodology was chosen. The interviews should preferably have been conducted face-to-face, since facial expressions and body language are parts of communication that get lost in telephone interviews (Berg, 2009, p. 122). There are several disadvantages to telephone interviews: some potential respondents screen incoming calls, avoiding numbers they do not recognizes, and some potential respondents have unlisted numbers, making them difficult to reach (Berg, 2009, p. 123). However, two circumstances made telephone interviews the best solution. First, the respondents lived quite far apart and it would have been too time consuming and costly to visit them at their farms or workplaces. Second, the interviews were conducted in the spring, meaning that not all respondents had unlimited time to participate in a study. For those reasons, telephone interviews were deemed the best way to gather the information.

The interviews were semi-standardized, meaning they were somewhere between the standardized interview, in which respondents are asked questions in the exact same way and order, and the unstandardized interview, in which interviewers start with the assumption that they do not know the questions, since they have not yet started the interview (Berg, 2009). The semi-standardized interview offers the advantage of predetermining themes and most of the questions, so that interviewee responses can be compared, while allowing for follow-up questions from the interviewer; it gives the interviewer time to rearrange questions during the interview and adapt the language to suit the respondent. This helps the interviewer obtain more information from the respondent by adapting the interview to the situation.

When analyzing the transcribed interviews, content analysis was used, which is essentially "*a careful, detailed, systematic examination and interpretation of a particular body of material in an effort to identify patterns, themes, biases, and meanings*" (Berg, 2009, p. 338). In content analysis, several approaches can be used. For this study, I chose an interpretative approach in which social actions and human activity can be inferred from transcribed texts that the researcher can analyze. One way to do this is to count elements in the text, which may explain why there is debate as to whether content analysis should be considered a qualitative or quantitative method (Berg, 2009). In the study in the first paper, the interviews were subject to deductive categorization (Kvale, 1997; Saunders et al., 2003), after which the themes present in the categories were counted.

3.2 Multivariate method

For the second study, of reallocations of equity in a cooperative, a multivariate method was chosen. Members of a cooperative completed a questionnaire to provide information regarding expectations concerning reallocations of equity, the ease with which managers make independent decisions in the cooperative, and expectations concerning the views of cooperative members. Responses to statements were scored using a five-point semantic scale. The statements in the questionnaire had been developed from three propositions concerning how respondents were thought to respond.

The relationships examined were of a dependent type, with several dependent variables in a single relationship, in which the variables were non-metric. According to Hair et al (2010, p. 12), a canonical correlation analysis with dummy variables is the most suitable method for analyzing such data. Before the canonical correlation analysis was performed, factor analysis was performed to reduce the data (Hair, 2010, p. 99).

3.2.1 Factor analysis

According to Hair (2010), the primary purpose of factor analysis is "to define the underlying structure among the variables in the analysis" (p. 94). Factor analysis finds the variables that are highly correlated, reducing them to a single variable. Data reduction allows for easier analysis. It is the researcher's responsibility to ensure that the variables grouped into a factor fit together and that the factor is valid. The method could be used either as a confirmatory tool, which it is hoped will confirm the predetermined factors, or as an exploratory method for finding underlying patterns among the variables. In this case, the factor analysis was used in an exploratory way. After the factor analysis was carried out, omitting variables that turned out not to load, an oblique rotation was performed. Rotation is done because it almost always improves the interpretation of the factor solution. In this case, an oblique rotation was carried out, that is, a rotation that allows factors to be correlated instead of totally independent (Hair, 2010, p. 116).

3.2.2 Canonical correlation analysis

A canonical correlation analysis allows the study of two sets of variables and the linear relationship between these two sets.

A canonical correlation analysis was chosen because the categories to be tested against each other had not been predetermined. The canonical correlation method allows both metric and non-metric variables to be tested simultaneously, and places few restrictions on the data analyzed (Hair, 2010, p. 237). The drawbacks are that the results may be more difficult to interpret, and that the method is sensitive to changes in the dataset.

4 Data and limitations of the data

In the second paper, the data cited comprise responses to a written survey sent to members of a grain and supply cooperative. The dataset was initially compiled for a master's thesis (Nilsson, 2002); it was subsequently used as described due to the realization that a factor analysis and consequent canonical correlation analysis could extract more information from the data.

For the interview study, various stakeholders of the same grain and supply cooperative were interviewed. Originally, the interviews were compiled to illustrate the implementation of a new organizational structure in the cooperative (Vinge, 2005), but during the analysis it was found that what the stakeholders were talking about had much more to do with trust building in the cooperative. The interviews were then reanalyzed in light of this new focus. The strength of the interviews is that they were carried out immediately after a merger and the implementation of a new organizational structure; this timing was opportune, as there was a higher incidence of conflicting interests and unresolved issues testing the trust between stakeholders and within the organization at this time. The interview results indicated that this period provided ample material representative of the trust building processes of interest. For that very reason, it was impossible to go back to the members and conduct additional interviews when it was found that there was a lack of interviews with one group of stakeholders in the cooperative, which was of course a drawback. However, it was decided that the results of the study were informative, even though one group was not satisfactorily covered.

5 Results

In the following studies, the theories presented have been used in exploring cooperatives subject to institutional change. Both studies examined the same cooperative at a time when the newly merged cooperative had transformed from a more federated structure into a national multipurpose cooperative. The first study explores how members of this cooperative view investment issues, in light of a jurisdictional change allowing for a reallocation of equity. The second study explores how trust between the members and managers of a newly merged cooperative may be mediated by board members, especially when a new organizational structure is implemented in the cooperative.

5.1 Trust in merging cooperatives

The study of how members and managers recognize the work of member representatives in a newly merged cooperative demonstrates that these representatives play a mediating role between members and managers. Both opinion making and consensus building go on in cooperatives, and representatives initiate these processes. Representatives can also execute leadership authority, which serves as a proxy for trust in the cooperative. The study concludes that representatives at various levels of a cooperative undergoing major changes help maintain trust between the various actors in the cooperative by smoothing out conflicting interests and resolving misunderstandings.

5.1.1 Specific contribution of the study

This study contributes to the literature by demonstrating the importance of member representatives in cooperatives at a time marked by major changes in both the cooperative and the agricultural sector at large.

5.2 Reallocation of equity in cooperatives

The study of how members in a cooperative would react to reallocations of equity found that the planning horizon and level of investment of each member influenced how the respondent experienced economic rationality, cooperative values, and internal free-rider problems in the cooperative. Members with high levels of investment in the cooperative were found to be more economically rational than were members with low levels of investment. The most striking finding was that members with high levels of investment were also reluctant to accept new members or increased patronage. This finding indicates that members with a high level of investment in the cooperative recognize internal free-rider problems. They may perceive that the acceptance of new members and increased patronage would affect their benefits from the cooperative, as the possible reallocation would be diluted. However, it was not found that other forms of heterogeneity, such as differences in patronage, age, or production among members, influenced their preferences regarding equity reallocation.

5.2.1 Specific contribution of the study

Paper II contributes to the literature by demonstrating that the level of investment made by members of a cooperative influences how they perceive newcomers to a cooperative. Members with a high level of investment are not as positive toward newcomers as are members with a lower level of investment, indicating that members with high levels of investment perceive internal free-rider problems differently than members with lower levels of patronage.

6 Conclusions

The study of equity reallocations in a cooperative concludes that, in this cooperative, there was a considerable difference in preferences between members with a high level of investment and members with a high level of patronage. Members with a high level of investment have a sense of ownership in the cooperative, and would prefer not to divide their investments with internal free-riders in the form of new, non-contributing members. Interestingly, one group of members of the cooperative displayed strong ownership preferences, even though such issues had not been emphasized for many years. This was also interesting given that the levels of individual investment were generally very low, since most of the equity was unallocated. That members with a strong owner orientation perceived newcomers as free-riders was an unexpected but important result. This finding should lead cooperatives to analyze more thoroughly how profits are distributed to members.

The study of trust in the cooperative concludes that, during a transition period, member representatives play an important role in bridging information asymmetries and aligning the interests of the members, cooperative, and managers. For a cooperative undergoing such a transition, face-to-face communication between the involved parties seems to be more effective than relying on written communication. That managers attend meetings organized by member representatives, instead of organizing their own, indicates that the leadership authority retained by member representatives plays a vital role in ensuring that members actually listen to what managers want to say. Without the member representatives, members are doubtful and critical of the information given by managers.

7 Further Research

First, the reallocation issue was researched in a cooperative in which the patron role has been emphasized, and in which members could be both sellers and buyers of the same products. For comparison, it would be interesting to study a forest cooperative. Transactions between members and the cooperative in forest cooperatives are not nearly as frequent as in agricultural cooperatives, so the ownership role of members might be emphasized much more than the patron role. In forest cooperatives, there is also considerable heterogeneity among members. When the forest cooperatives were first formed, members lived on their properties in the forested areas; nowadays, one third of the members of forest cooperatives live outside the areas where the cooperatives operate, meaning that these non-residents have less access to the meetings and informal connections than do local residents. It would be interesting to study whether this heterogeneity influences member roles in such cooperatives, as well as whether the frequency of transactions with the cooperative influences how members view their cooperatives.

Another interesting study would be an analysis of influence and interlocking relationships among cooperatives. Most cooperatives in the agricultural sector are enrolled in the major special interest organization for the Swedish agriculture sector, Lantbrukarnas Riksförbund (LRF). The board members of some cooperatives even accept assignments in several cooperatives, and the same consultants may serve several agricultural cooperatives. In the case of equity reallocation, it was quite obvious that one particular cooperative was the driving force behind implementing the jurisdictional change allowing such reallocations; preliminary analysis suggests that the remaining cooperatives were influenced by that cooperative. It would be interesting to trace whether there was a greater emphasis on the ownership role in agricultural cooperatives following the 1996 jurisdictional change, and whether cooperatives were influenced by each other in this.

Finally, I have a suggestion for a study of newly started cooperatives. In the Swedish agricultural sector, many of the large cooperatives have faced great obstacles and in some cases outright failure since entrance into the European market. At the same time, new cooperatives are forming in other areas, such as wind power generation, small-scale food processing, and social cooperatives. A similar development has happened in other western countries, sometimes resulting in the formation of "new generation cooperatives." It would be informative to examine whether the new, small-scale cooperatives share any traits with the American new generation cooperatives, or whether these newly started cooperatives, unlike the old ones, have made any changes in their statutes, taking the vaguely defined property rights into account.

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