JOURNAL OF RURAL COOPERATION

Centre international de recherches sur les communautés coopératives rurales
International Research Centre on Rural Cooperative Communities
המרכז הבינלאומי לחקר קהילות כפריות שיתופיות

CIRCOM

VOLUME 27 No. 1 1999

CIRCOM, International Research Centre on Rural Cooperative Communities was established in September 1965 in Paris.

The purpose of the Centre is to provide a framework for investigations and research on problems concerning rural cooperative communities and publication of the results, to coordinate the exchange of information on current research projects and published works, and to encourage the organization of symposia on the problems of cooperative rural communities, as well as the exchange of experts between different countries.

CIRCOM

Information for Subscribers: The *Journal of Rural Cooperation* is a semi-annual periodical, aimed at the pursuit of research in the field of rural cooperation. Editorial enquiries and other correspondence should be addressed to CIRCOM, Yad Tabenkin, Ramat Efal 52960, Israel (Fax: +972-3-5346376). Subscription rate: $27 per annum (plus $3.00 sea mail; $6.00 airmail).

ISSN 0377-7480

JOURNAL OF RURAL COOPERATION

Vol. 27 No. 1 1999

CONTENTS

Farmer Cooperatives in the 21st Century: Young and Old Farmers in Sweden

by
Karin Hakelius
Swedish University of Agricultural Sciences, Uppsala, Sweden

Abstract

Young and old farmers in Sweden view their cooperative commitment differently. Young farmers generally see their cooperative commitment as a means to obtain economic advantages. Old farmers have the opposite view: They view the cooperative membership as a way of showing solidarity with peers, economic aspects being of secondary importance. The recent development of farmers' views upon cooperatives, combined with the great changes taking place on the European agricultural markets, imply problems for the traditionally organized farmer cooperatives which are predominant in Sweden. This paper starts off by describing some of the problems facing cooperatives today, these problems are analyzed, using agency theory, transaction cost theory, as well as property rights theory. Finally, the results of the theoretical discussion are used as a base for suggestions for improvements of the present situation for farmers and their cooperatives.

Members' Views Upon Farmer Cooperatives

A farmer who lived between 1890 and 1960 grew up in an agrarian society. During the period when the farmer's basic values and attitudes were formed (around 100 years ago), the Swedish society had only started to become industrialized. Farms were many and small, holding cows, horses, pigs, etc. The group "farmers" was homogeneous. During this period farmer cooperatives in Sweden developed, the aim being to become stronger on the market and to keep together as a group of peers. In this setting, the overlap was large between the value-set inside farmers' heads and the cooperative values, as listed by Münkner (1989:4-5):

- Self-help based on solidarity (a combination of egoism and altruism, self-help in groups as opposed to individual self-help)
- Democracy
- De-emphasis of the power of capital (neutralized capital)
- Economy
- Liberty

 ISSN 0377-7480

- Equity
- Social advancement through education

A farmer who was born in 1960 and only just now has started to farm has a much longer history in the educational system than the older farmer does. He has grown up in an industrialized society with less than 3 percent of the population being farmers. He has no experience of acting as a small farmer on a market without strong farmer cooperatives. Instead, he sees the cooperative organizations as big, slow organizations that do not work according to his wishes. He also has had constant contact with individuals who do not have any connection to, or interest in, farming. This contact with non-farmer individuals, as well as the higher degree of education, etc., has given him a different value-set (as can be seen in Table 1).

In addition, the industrialization process has lead to that the farm itself is highly specialized. One farmer may have a farm that mainly deals with crop production, while the neighboring farmer has an intensive milk production, and his neighbor works with steadily improving his hog production. Put short, farmers as a collective have become increasingly heterogeneous during the 20th century – they are specialized producers, are few, and they are influenced by modern aspects of living, including that:

- they have a higher degree of education;
- they look upon their farming operation as a firm and not as a way of life;
- most of their acquaintances and close friends are non-farmers; and
- they want to have the possibility to have time off during some periods of the year.

From this simple example, it is not difficult to understand that the older farmer's value set is quite different from the young farmer's one (see Figure 1). The problem, though, is that the farmer cooperatives have *not* changed their value set (the cooperative values) to adjust to the change in farmers' value sets. The growing heterogeneity within the body of members, combined with the value-change that has taken place, have lead to that the heterogeneity of value-sets in the member-group as such has increased. This implies that the value sets of members are more heterogeneous than ever before. The result from this is: (1) that the overlap between farmers' values and the cooperative values has shrunk; (2) that the value-overlap between different member categories has changed as well as shrunk; and (3) that standardized cooperative solutions of, for example, financing cooperatives, do not fulfill the requirements that many members have. This lead to a sense of dissatisfaction and confusion among members, causing the problems that can be studied at present.

Some of the differences in attitudes towards cooperative values can be observed in the results of a survey among Swedish farmers, during the winter of 1993–94, which

Table 1. Two age groups' ranking lists of cooperative values

	Young	Old
Whether to become a member of the cooperative:		
Help for self-help (solidarity)	1	1
Economic efficiency and sharing of risks	2	2
Freedom to move in and out of the cooperative	3	3
Whether to do business with the cooperative:		
Economic efficiency	1	3
Fairness	2	2
Help for self-help (solidarity)	3	1
Whether to take part in the democratic process in the cooperative:		
Democracy	3	3
Help for self-help (solidarity)	2	1
Economic efficiency in the cooperative	1	4
Fairness	4	2

Source: Hakelius, 1996:173-174.

is used as the empirical base of this article. The list in Table 1, shows how young and old farmers, respectively, "rank" some cooperative values. Farmers were asked to answer questions concerning: (1) why they are members of farmer cooperatives; (2) why they choose to trade or not to trade with farmer cooperatives; and (3) why they choose to take part or not take part in the democratic process of the cooperative. Table 1 shows what young and old farmers thought to be the most important values when they made up their minds concerning these three levels of cooperative commitment. As can be seen, there are no differences when it comes to ranking the values most central in the membership decision. This might seem a bit strange, but it is probable that the explanation lies partly in the fact that farmers know what they are *supposed* to answer when asked why they are members of farmer cooperatives. It was clear throughout the study that when asked about cooperative matters on a general level, farmers tended to answer in a way that they knew was expected of them, *i.e.*, they answered the statements in the questionnaire according to something that may be labeled "the cooperative spirit". For example, if confronted with the statement "The idea behind cooperatives is a good one", a majority (about 94 percent) of the farmers agree to this statement (Hakelius, 1996).

For the two additional decisions – trading with the cooperative and commitment to the democratic process, respectively – there are clear differences in how farmers view important values in these two processes. Here, farmers have been able to

make a proper choice between, for example, doing business *exclusively* with the cooperative, or whether sometimes doing business with a non-cooperative actor on the market. Due to this, farmers' individual views upon which cooperative values are most important in these two decisions have emerged more clearly and therefore, it has been possible to see that there are differences in the way farmers of two different generations look upon cooperatives.

Hence, old and young farmers have different views on cooperative activity. These differences lead to some problems facing farmer cooperatives today:

- Young farmers are less interested in committing themselves to the cooperative, especially to the democratic process within the cooperative;
- Old farmers do not understand why the young demand the cooperative to generate a higher-than-traditional profit;
- Conflicts arise among farmers concerning, for example, the often-used principle of distance neutrality (The freight costs are paid by the cooperative, hence farmers close to the cooperative's plant subsidize farmers far away from the plant.);
- Cooperative leaderships find it difficult to make investments in new products and new markets. The reason mainly being the static model used to finance the cooperatives.

The old farmers are more "faithful" to their cooperative, *i.e.*, they do not trade with other actors on the market to the same extent as younger farmers tend to do. This causes conflicts among members.

The starting-point for this article is the discrepancy in the views upon cooperatives held by young and old farmers, respectively. Younger farmers will become increasingly less interested in committing themselves to the farmer cooperatives in the future, since they do not see that farmer cooperatives solve their problems. Instead, they will turn to other actors on the market, which leads to increasing problems within the cooperatives. In order to find some possible solutions to the present problems, property rights theory, agency theory, and transaction cost theory are used. From these theories, some hypotheses will be presented. These hypotheses describe possible solutions to the problem of generational differences in the attitudes towards cooperatives. In a section to follow, the hypotheses are tested, using empirical data from a Swedish survey. The concluding section makes a feedback-loop from the theoretically derived hypotheses to the empirical situation and gives some general ideas for what could be done in order for cooperatives to still be active and successful in the 21st century.

From Theory to Hypotheses

Before continuing the discussion concerning the generation-specific differences in attitudes towards cooperatives, some theoretically derived hypotheses will be

formulated. As mentioned earlier, the three theoretical frameworks used are property rights theory, transaction cost theory, and agency theory.

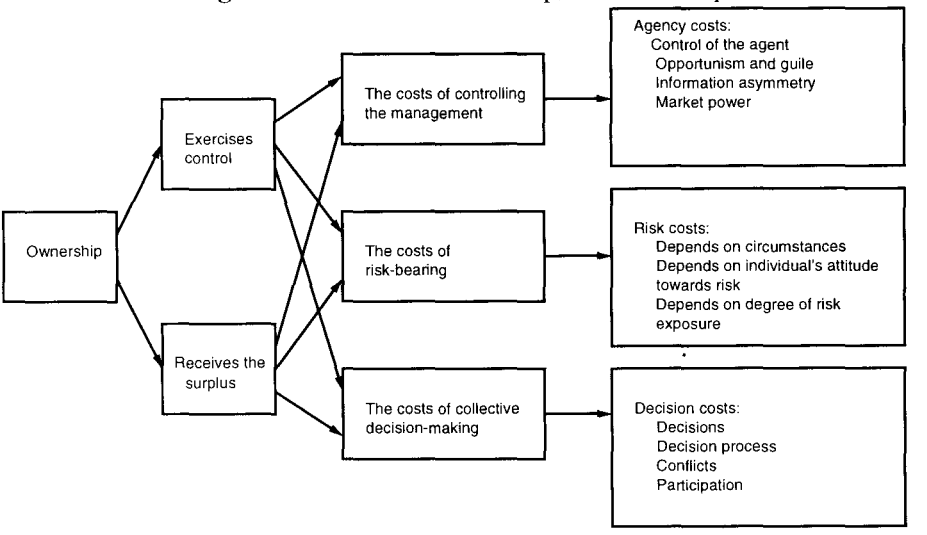
Property Rights Theory

Property rights theory states that the division of ownership rights determines the *distribution of returns.* It does, however, also determine who is entitled to *practice control* over the activity. The ownership in itself does not merely generate benefits, costs are also generated (after Hansmann, 1996:53-54):

- Costs are generated through the fact that the owner faces a certain degree of *risk*;
- Costs are often generated through some degree of *collective decision-making;*
- Costs also stem from the fact that the owner has to *monitor* the management.

These sources of costs may be labeled *Risk costs, Decision costs,* and *Agency costs* (Figure 1). Since many farmers own their farming operation, and since tenants have rights similar to ownership rights, Swedish farmers generally experience that they are full owners of their farms. This generate the costs described in Figure 1, but it also generates a surplus, which in many cases is at least as big as the costs. As long as the ownership costs are lower than (or equal to) the benefits of ownership, the farmers go on as farmers.

Figure 1. The costs of ownership, and its consequences



Source: Hansmann, 1996:53-65 (adapted by the author).

From this, the following hypothesis is formulated:

Hypothesis 1: *Young and old farmers have different views upon the property rights to the cooperative enterprise. Young farmers do not value the present traits of the cooperative ownership, which implies that they have a negative attitude towards cooperative commitment.*

Transaction Cost Theory

Transaction costs are sometimes described as the friction generated in a transaction. Williamson defines a transaction as (1985:1): "A transaction occurs when a good or service is transferred across a technologically separable interface. One stage of activity terminates and another begins."

The three main sources of transaction costs are: Asset specificity, uncertainty, and frequency (*ibid.*, 1985:52-61). *Asset specificity* refers to whether an asset is possible to redeploy (Klein and Leffler, 1981). Williamson mentions four different types of asset specificity, namely: "site specificity; physical asset specificity; human asset specificity; and dedicated assets" (Williamson, 1985:55).

Following the strong strive for becoming increasingly effective on the farms, the degree of asset specific investments continuously grows. The investments are both in the form of technical equipment and buildings and in the form of investments in human assets. This is an example of what Williamson (1979:241) labels *idiosyncratic goods:*

> Idiosyncratic goods and services are thus ones where investments of transaction-specific human and physical capital are made and, contingent upon successful execution, benefits are realized. Such investments can and will occur in conjunction with occasional trades where delivery for a specialized design is stretched out over a long period (for example, certain construction contracts)...idiosyncratic transactions are ones for which the relationship between buyer and supplier is quickly thereafter *transformed* into one of bilateral monopoly – on account of the transaction-specific costs referred to above. This transformation has profound contracting consequences.

In some instances, farm products, if studied along their way from farmer to consumer (through the cooperative) can be looked upon as idiosyncratic goods. Williamson's example of idiosyncratic goods, *i.e.*, "constructing a plant" or "site-specific transfer of intermediate product across successive stages" (*ibid.*:247), indicate that some farm products could be considered as being idiosyncratic. This implies that different modes of contracting would be beneficial to the farmer and his cooperative.

Central to the asset specificity-factor is the degree of *risk* that comes with the investment in a specific asset. A highly specialized farm implies exposure to greater risks, compared to when farms were small, diversified and acting on a protected

market. Hence, transaction costs have grown during the strive for effectiveness. This is also true for the cooperatives – they have undergone a development from small, local organizations towards increasingly large and complex organizations with considerable amounts of investments in specific assets.

The degree of *uncertainty* in a certain transaction determines the level of uncertainty-related transaction costs generated. Here, the selection of governance structure is important, since different types of transactions demand different types of governance structures. There are two general sources of uncertainty, according to Williamson (1985:57):

> Primary uncertainty is of a state-contingent kind, while secondary uncertainty arises "from lack of communication, that is from one decision maker having no way of finding out the concurrent decisions and plans made by others" – which Koopmans judges to be "quantitatively at least as important as the primary uncertainty arising from random acts of nature and unpredictable changes in consumer's preferences" ([Koopmans] 1957:162-163).

The *frequency* of a transaction also influences the level of the transaction costs. Williamson (1979:246-253) shows that different governance structures suits different transaction frequencies. He also shows that there is an element of increasing return to scale also regarding this aspect of a transaction: frequent, standardized transactions do not require any specialized governance structure in order to keep transaction costs on a fairly low level. The best way of managing such transactions is to let the market powers prevail. Recurrent transactions, *i.e.*, transactions that take place quite frequently, need a highly specialized governance structure. Finally, occasional transactions of a non-standardized character do not always require a transaction specific governance structure. However, there might be a need for a third party to enter into this type of transaction. Williamson also points out what type of contract is best suited for the different types of transaction frequencies.

Naturally, all three sources of transaction costs interact, making it impossible to say *ex ante,* what level of transaction costs will be incurred for a certain transaction. In most cases, though, they are large enough to influence the outcome of the transaction. Hence, they should be considered, alongside with the traditional production costs.

According to transaction cost economists, man is not perfectly rational, but rather *boundedly rational.* The individual cannot – and does not – feel a need to have a complete picture of everything worth knowing about a certain situation. He cannot handle all relevant information concerning, for example, the market for wheat. Instead, he is content with knowing that he probably knows enough to arrive at a decision that is rather good. He has a feeling for when it is time to stop searching

for and processing information. Hence, he keeps on searching for information and processing it as long as the perceived costs are lower than the benefits. Once these costs exceed the benefits, he reaches a decision. He still would like to obtain maximum utility through his decisions but he also values time and effort spent on looking for and analyzing information. Therefore, he stops the process and reaches a decision before costs exceed benefits.

Since man is boundedly rational, he has a tendency towards acting in an *opportunistic* fashion, if possible. Opportunism, sometimes in the form of free riding, is another important source of transaction costs. Both factors also cause externalities, *i.e.*, effects that reach factors and actors that are outside the relationship in question.

The transaction cost theory generate the following hypotheses:

Hypothesis 2: *Young and old farmers have different backgrounds, which generate contrasting traits. In addition, they experience different farming conditions (due to geographical location, degree of specialization, degree of debt, etc.). This implies that they are exposed to different levels of transaction costs.*

Hypothesis 3: *Young and old farmers have different demands on the cooperative contract. This implies that farmers would become more committed to their cooperative if the cooperative contract could be tailor-made for each farmer.*

Agency Theory

Agency theory is built upon the *relationship* between the *principal and the agent.* The principal gives the agent a task to perform and in doing so, he gives up total control over how this task is performed. The agency relationship causes transaction costs to emerge. The main causes of the transaction costs are (see Figure 1; Williamson, 1985; Jensen and Meckling, 1976; Pratt and Zeckhauser, 1991):

- *The principal's control of the agent:* Once the principal has given away total control over the task to be performed, the only thing left to do for him is to monitor the agent;
- *Opportunism and guile:* If one party knows that the other does not have enough information, or lacks the capability to monitor the agent, opportunistic and guileful behavior may develop;
- *Information asymmetry:* Differences in the level of knowledge may cause one party to unknowingly accept contractual terms that are not beneficial to him;
- *Ex post and ex ante market power* (Hansmann, 1988:273-280): Depending on what market power the parties have ex ante and ex post, different agency problems may emerge.

Central to the agency relationship is the *contract* between the principal and the agent – whether it is written or oral. The contents of the contract also determine what

externalities will emerge. All of the above-mentioned sources of transaction costs originate from what type of contract exists between the principal and the agent.

In the cooperative case, one way of analyzing it – using agency theory – is to see the farmer as the principal and the cooperative (or rather its management and board of directors) as the agent. In such a setting, farmers should constantly monitor what the cooperative is doing. If, however, the management holds information that the farmer does not, the cooperative may use this advantage and see to that those in the management and on the board of directors get more money in the future. Another possibility is to look upon the body of members as the principal, the cooperative and each individual member being the agents. In such a setting, both agents (the cooperative and each member) have to be monitored by the principal (the body of members). Such a model includes that each individual member may act opportunistically and hereby needs to be monitored by the principal – and may therefore be a more realistic model.

The following hypothesis, relating to agency theoretical aspects of the issue central to this article, emerges:

Hypothesis 4: *Young and old farmers have different views upon the contents of the cooperative contract. This implies that agency costs are created within the cooperative.*

Comparing the Empirical Findings with the Hypotheses

This section uses the proxy-variables "educational background", "the farm", "satisfaction with economic result", "geographical location", and "social networks" in order to identify attitudinal differences between young and old farmers. The four hypotheses generated in the previous section are tested and conclusions drawn. The hypotheses, once again:

H_1: *Young and old farmers have different views upon the property rights to the cooperative enterprise. Young farmers do not value the present traits of the cooperative ownership, which implies that they have a negative attitude towards cooperative commitment;*

H_2: *Young and old farmers have different backgrounds, which generate contrasting traits. In addition, they experience different farming conditions (due to geographical location, degree of specialization, degree of debt, etc.). This implies that they are exposed to different levels of transaction costs;*

H_3: *Young and old farmers have different demands on the cooperative contract. This implies that farmers would become more committed to their cooperative if the cooperative contract could be tailor-made for each farmer;*

H_4: *Young and old farmers have different views upon the contents of the cooperative contract. This implies that agency costs are created within the cooperative.*

Educational Background

About 30 percent of the farmers only have grade school (Table 2). Most of these farmers (88 percent) are 41 years old or more. The majority of those with grade school and one university degree are between 31 and 60 (85 percent). Of those over 61, there are 54 percent who have only grade school. If all respondents who have grade school and *at least* one university degree are analyzed, it is possible to see that 10 percent of those between 21 and 40 belong to this group, 15 percent of those between 41 and 60, and only 5 percent of those between 61 and 80. These findings support the assumption that the young farmers have a longer educational history than do older ones.

Looking at this with transaction-cost theory glasses, the younger farmers have a greater investment in education, compared to the older farmers. Younger farmers have a higher degree of *human asset specificity,* with respect to education (Williamson, 1985). This makes younger farmers more capable to analyze markets on their own, making them less dependent on the cooperatives. They are to a greater extent trained in critical and analytical thinking and in searching for necessary information. They tend to know more about how a society and an economy works, making them more censorious and demanding of how the cooperative is run. This educational discrepancy between young and old also means *information asymmetry* (see for example Shleifer and Vishny, 1996; Anderlini and Felli, 1998) between the age groups, which leads some individuals to behave opportunistically and guileful towards others. Hence, the existence of information asymmetry, in combination with the human traits opportunism and guile, may result in agency problems and transaction costs for the entire principal-agent relationship. Such costs are, for example, monitoring costs and managing costs. In short: Hypothesis 2, with respect to bounded rationality and lack of trust, as well as Hypothesis 4, with respect to reaching a contract that is beneficial for both agent and principal, are supported by the empirical data.

Table 2 shows the degree of schooling of farmers, in combination with their position as elected representatives. Note that included in the Table are all 825 respondents and that half of them have never been directors of the board. Of these, 38 percent have only grade school while 24 percent (22+65+13/412) have grade school and at least one university degree. in the group of respondents with an experience of being an elected representative (413 farmers), a number of 254 farmers have been directors between one and ten years; 109 farmers have been directors for up till 20 years, and 50 farmers have been board members for up till 50 years. These findings indicate that those who have been elected representatives, generally tend to have more years of schooling. Other studies support this result, and there is an

ongoing discussion whether the tendency that older, large, and well-educated farmers represent farmers as a collective, is solely an advantage.

Table 2. Summary of the degree of schooling of farmers, combined with their position as elected representatives

No. of years as elected representative	Only GS	GS+AC/SS	GS+UD	GS+AC + VD/UD	GS+FF/AG + VD/UD	No. of respondents
0	158 (38.3%[1])	154 (37.4%[1])	22 (5.5%[1])	65 (15.8%[1])	13 (3.2%[1])	412
1-10	61 (24.0%[2])	122 (48.0%[2])	12 (4.7%[2])	38 (15.0%[2])	21 (8.3%[2])	254
11-20	18 (16.5%[3])	56 (51.4%[3])	0	24 (22.0%[3])	11 (10.1%[3])	109
21-50	11 (22.0%[4])	22 (44.0%[4])	0	13 (26.0%[4])	4 (8.0%[4])	50
No. of respondents	248	354	34	140	49	825

[1] of 412; [2] of 254; [3] of 109; [4] of 50

GS: grade school or equivalent; AC: agricultural college; SS: secondary school; UD: university degree; VD: vocational degree; FF: farm foreman; AG: agronomist.
Source: Hakelius, 1996.

Cooperative collaboration is a way of expressing bounded rationality. Members know that they can make short-term deals with other market actors, still many of them ignore this and trade only with the cooperative. Another example of the expression of bounded rationality is the willingness to become an elected representative: for many, the individual costs of being an elected representative exceed the benefits. Still, many farmers become elected representatives. One way of explaining this is to state that Hypothesis 2 is true, *i.e.*, members are boundedly rational and they are willing to settle with a less-than-optimal solution, as long as they feel that they do not loose too much by doing this. The issue, now, is that it seems like an increasing number of the members feel that they cannot accept that the membership costs more than it give back.

Still, many choose to stay on as members without committing themselves to the democratic process, *i.e.*, not becoming elected representatives or attending member meetings. Instead, they practice the art of *opportunism,* which causes transaction costs for the cooperative as a whole. They take advantage of the fact that they have access to the products and services of the cooperative – they become free riders: sometimes only in the democratic process (by belonging to the cooperative, but not taking part in the monitoring of it), sometimes also in the economic aspect of

the cooperative (by trading with the cooperative only in those cases where a better business deal is not at hand).

Bounded rationality and opportunism influence the direct transactions within the cooperative. They do, however, also generate *externalities.* One example is that if many members (or even a few members with a high rank within the body of members) practice opportunism and do not commit themselves to either the cooperative trade nor the democratic process within the cooperative, these may influence other members to do the same. If the process continues, a general feeling that it is not necessary to commit oneself to the cooperative may emerge, causing negative effects on the possibility for the cooperative to go on in the future. Such a scenario supports Hypotheses 2 and 4, which imply that due to lack of trust and problems to formulate a contract between the member and the cooperative, transaction costs and agency problems are created. It is also possible to state that this development shows that Hypothesis 1 is correct: farmers do not feel as if they own the cooperative. Hence, they mainly use their membership as a tool to strengthen their own, private, farming operation (which they feel that they own and control). This aspect is commented further in the following section.

The Farm

According to the 1997 Annual Report of the Federation of Swedish Farmers (LRF) there are less than 100,000 farms in Sweden and the median age of farmers is 52 years (Table 3). The average acreage is 32 hectare arable land and 45 hectares of forest, and 55 percent of the farms are owned and cultivated by the owner (45 percent of the farms are leased). About 50 percent of the forests are owned and cultivated by the farmers. Hence, Swedish farms are to a great extent *privately owned.* This may influence farmers' attitudes towards the farming operation.

Table 3. Some facts and figures about Swedish agriculture

Aspect	Figure
Farms with more than 0.3 hectares	90,500
Median age of farmers (years)	52
Average acreage of arable land (ha)	32
Average acreage of forest (ha)	45
Acreage cultivated by the owner (%)	55
Acreage cultivated by lease holder (%)	45
Farms without animal production	38,800, or 43%
Average number of dairy cows per dairy farm	30.3
Total acreage of productive forest land (ha)	22.6 million
Privately-owned forest land (ha)	11.5 million

Source: The 1997 annual report of the LRF, adapted by the author.

Table 4 shows the general structure of the 2,134 farmers in the *total sample.* It

tells us about the general structure of different farm-sizes and the age of the farmers that own and run these farms. Out of the 825 respondents, almost 20 percent belonged to the smallest farm size; ~38 percent had medium-sized farms, and almost 43 percent had large farms. Of those in the group born 1929 or earlier, 15 percent were born in 1914 or earlier (*i.e.* they were over 80 years of age) in the 2–20 hectares group. The corresponding percentage for the 21–50 hectares farms is 1 percent, and for those farms over 51 hectares, ~2 percent. Among the youngest farmers, less than 1 percent of those in the smallest farms are born in 1964 or later, the corresponding figure for the middle-sized farms is 3.4 percent, and for the largest farms 2.6 percent.

Table 4. General structure of respondents

Aspect	2-20 hectare farms	21-50 hectare farms	51- hectare farms
Number of respondents [1] (total 2,134	704	713	717
Born 1954, or later	59, or 8.4% [2]	165, or 23.1% [3]	79, or 11% [4]
Born 1930-1953	330, or 46.9% [2]	426, or 59.7% [3]	542, or 75.6%.[4]
Born 1929, or earlier	315, or 44.7%[2]	122, or 17.1%[3]	96, or 13.4%[4]

[1]The sample was stratified into three groups, consisting of ~700 farmers each; [2]of 704; [3]of 713; [4]of 717.

Source: Survey data from the Hakelius survey, carried out during the winter of 1993-94.

The farmers in the 2–20 hectares group are fairly "old", almost 45 percent having reached the retirement age (65 years). For the farm-sizes ranging from 21 hectares and onwards, the majority of farmers are middle-aged. The list of selected farmers to take part in the survey also shows that farmers with small farms tend to be non-members to a greater extent (64 percent) than do farmers with medium-sized (20 percent) and large farms (11 percent).

These figures show, together with the LRF-figures at the outset of this section, that the future farm size will be bigger than the historical one. The specialization process is still strong and the young farmers will manage large farms, looking upon these as firms – not as a way of life – and will want to be looked upon as *owners* of their farms – not mere trustees. This also indicates that the young farmers have a different view upon the ownership of the cooperative itself. The reason for this is that it is inconsistent that a farmer would look upon his farm-ownership, and his cooperative ownership in totally different ways. Even though he might be prepared to accept that the cooperative ownership to a greater extent implies larger decision costs, due to the collective ownership, he will probably not accept to be treated as an insignificant part of the collective "owners". This indicates that Hypotheses 1, 2, and

4 are correct.

There are additional facts that support Hypothesis 1: today, only 20 percent of the cooperative capital is allocated. Farmers pay a pre-set sum in order to become members. There is a ceiling to the membership-fee and once the member wants to exit the cooperative, he will get the nominal value of his membership fee back. Few cooperatives pay interest on members' capital, still fewer make it possible for members to invest "extra" sums of capital into the cooperative. Put short, the financial system of Swedish cooperatives does not render the member/owner a genuine owner-role as explained by the property-rights theory.

The conclusion is that in order for farmers to once again feel that they are genuine owners of the cooperatives, a review is needed, concerning what contracting-standards are used. Hence, there is a need for a link between the frequency of the transaction and the type of contract to be used. This would imply that Hypothesis 3 is also supported. In this process, one should consider that different commodities may be traded with varying frequencies, and that different farmers, trading the same commodity, may do this with various frequencies. After analyzing this, it will be possible to combine the type of transaction with the most suiting type of contract, hereby lowering transaction costs for all involved parties.

Satisfaction with Economic Results

Of those farmers who have no debts, ~51 percent are more than 61 years old. A clear majority of those stating that they have a high degree of debts are between 31 and 50. Hence, there is a correlation between age and level of debt. When the farmer is new in the business, he needs capital, making the economic situation for young farmers more pressing than that of the older farmers, who have had some decades to pay off their debts. Naturally, this situation also influences the attitude towards cooperatives.

Young farmers are often exposed to larger *transaction costs* than are old farmers, who have only a low degree of debt, or none. This supports Hypothesis 2. The transaction costs that the young, indebted farmer is exposed to are generated from a higher degree of *uncertainty.* This stems from the fact that when you borrow money, you give up full control over the capital. A borrower has to act as the lender wants him to and this causes a higher degree of uncertainty and hereby-increased transaction costs. Another important factor that may lead to either high or fairly modest transaction costs is the *contents of the contract* that exists between the lender and the borrower. In some cases the cooperative is the lender and the member the borrower. This implies that Hypothesis 4 is correct. Factors such as *asymmetric information,* and ex post and ex ante *market power* (Hansmann, 1988:273-280) affects who benefits and who pays in the transaction between the lender and the borrower.

Another source of increased transaction costs for the farmer with a high degree

of debt is that when he has borrowed money and used this loan in order to invest in his farming operation, he exposes himself (and in the end also the lender) to a greater degree of *risk*. Should the farmer not be successful in his investment, he might have to quit as a farmer, but he will still have his loans to pay off. If he cannot pay the loans, costs will be incurred on the lender. Hence, young farmers tend to be more afraid of being cheated by others, and among these others are the individuals acting as their agents in the cooperatives. All in all, this supports Hypothesis 2, with respect to the farmer's age.

Table 5 shows the distribution of farmers' views upon the questions "How is the profitability of your farm?", "What economic result have you had over the past five years?", "How big are your debts compared to your own capital investment on your farm?", and "Are you satisfied with the economic results on your farm during the past five years?" (Hakelius, 1996). Most farmers (63 percent) rank their profitability as fairly low and many are dissatisfied with the economic situation. A clear majority (61 percent) expresses dissatisfaction with the economic situation in, at least, the age groups ranging from 31 to 70.

Table 5. Farmers' views upon four issues dealing with the economic results of their farming operation. 1= low/almost only debts/dissatisfied; 6=high/no debt/satisfied.

Issue	1	2	3	4	5	6	No answer
Profitability of farm	155 (18.8%*)	172 (20.8%)	195 (23.6%)	149 (18.1%)	100 (12.1%)	41 (5%)	13 (1.6%)
Economic result	44 (5.3%)	101 (12.2%)	163 (19.8%)	221 (26.8%)	132 (16%)	142 (17.2%)	22 (2.7%)
Debt/equity investment	46 (5.6%)	73 (8.8%)	119 (14.4%)	216 (26.2%)	212 (25.7%)	143 (17.3%)	16 (1.9%)
Satisfaction	152 (18.4%)	201 (24.4%)	153 (18.5%)	138 (16.7%)	106 (12.8%)	61 (7.4%)	14 (1.7%)

*All percentages are based upon the 825 respondents.
Source: Hakelius, 1996.

These findings indicate that younger farmers both understand and care more about the economic situation on their farm. As mentioned above, this is partly due to the fact that young farmers tend to have a higher degree of debt. It is, however, not unrealistic to say that the second main cause to this higher degree of interest in the economic aspect of farming also is due to the ongoing value-change, described earlier. Given that the young and old have different value-sets, they also have different views upon the economic aspect of both their own farming operation and the farmer cooperatives. This, combined with the fact that younger farmers often need to borrow money in order to build up their farms, make them more demanding and more prone to call the cooperative way of acting in question, *i.e.* Hypothesis 2 is supported.

Another result of the young farmers' more economic view upon farming and cooperative commitment is that they are willing to negotiate with the cooperative about business deals. Generally, older farmers are not interested in this, since they have different values and since they want to go on as before in their relationship with the cooperative. In a situation when many business deals are a result of a negotiation process, transaction costs and agency problems arise. As in the case with the relationship between the lender and borrower, referred to above, the contents of the *contract* between the cooperative and the individual farmer become crucial, determine what agency problems and therefore also what transaction costs will emerge. For example, *information asymmetry* and the time and effort spent by the principal in *monitoring* the agent will settle which party to the transaction wins and which one loses. The above results indicate that Hypothesis 1, with respect to future property rights requirements from members, Hypothesis 3, and 4 are true.

Another aspect of this increased willingness among some farmers to write contracts with the cooperative is that *externalities* will emerge. For example, if a big, young farmer is successful and manages to write a beneficial contract with the cooperative, the consequence may be that the cooperative has to compensate the good price given to this individual farmer by increasing prices to other farmers. Another consequence can be that the cooperative reaches a poor annual profit, hereby having less to distribute to the members as a collective.

Geographical Location

Sweden is an elongated country. The northern tip of the country is on the same latitude as southern Greenland, or the northern part of Russia, *i.e.*, above the Arctic Circle. The most southern part of the country is on the same latitude as southern Russia. In the south the growing season is 240 days, in the north the corresponding period is 170 days (Eriksson *et al.*, 1977:35). The yearly amount of precipitation is varying between 15–25 percent, with a mean of 700 mm in the south and 500 mm in the north (*ibid.*:41-42). Snow is present 150–180 days per year in the north, the corresponding figure for the southern part of the country is about 40 days per year (*ibid.*:43). Hence, farming in Sweden implies fairly different possibilities, depending on where in the country you are an active farmer. These differences in the conditions for farming were assumed to also influence the general attitude towards cooperatives. It was found that (Hakelius, 1996:158):

> . . .farmers in the northern part of Sweden both trade less frequently with the farmer cooperatives and attend fewer member meetings.

In order to shed more light upon this, additional reasons for the difference in trade frequency and meeting frequency were sought for. For example, it was suspected that this could be explained by differences in the number of hours put into working on the farm. The hypothesis was that farmers in the north worked more hours on their farms

than a farmer in the southern part of the country. If this was true, the low degree of cooperative commitment in the north may partly be explained by farmers not having enough time to engage in cooperative matters. This hypothesis was, however, rejected, since a majority of farmers in the south said they worked between 41 and 80 hours per week on their farms, the corresponding number for the farmers in the northern part of the country being between one and 40 hours.

Another explanation to this could be that the cooperative spirit, or tradition, is lower in the north of the country, compared to the south. This theory is supported by analyzing the differences in answers given by farmers in the south and in the north respectively to the statement: "The farmer cooperatives become more effective if the members can do business with investor-owned enterprises when the cooperatives do not offer the best business transactions." Discrepancies related to north and south are also found for other statements in the questionnaire, such as:

- "It is important to me that all members in my farmer cooperative exclusively trade with it";
- The frequency with which the farmers state that they have done business with the cooperative;
- The intention to remain members of the cooperative;
- The frequency of attending member meetings.

Hence, regional differences in farmers' attitudes towards cooperative activity are present. This fact is also noteworthy when the future cooperative model is discussed. Farmers in the north generally seem less positive to cooperatives than do southern farmers. One general conclusion to be drawn here is that certain geographical areas are more positive to cooperatives than other areas.

As mentioned above, one explanation is the climatic differences, influencing what crops can be grown and the level of investments needed in order to keep animals. Hence, the level of *asset specificity* varies over the country, as do the levels of *uncertainty* and *complexity.* These three factors cause transaction costs, which in turn may influence the attitude towards cooperatives. The difference in the work-hours invested in the farm, indicate that many farmers in the north have other jobs (or are partly unemployed), besides being a farmer. If a farmer does not solely depend on the farm-income, this may also influence his attitude towards cooperatives. He might be less sensitive to transaction costs and agency problems, since he has an external income to rely on. In addition, many farmers in the northern part of Sweden receive EU-money to stay on as active farmers. This might be beneficial to the farmer and his family, and to a certain degree also to the region, but it also twists price signals and keeps the farmer farming by artificial means. This northern agricultural sector most certainly would not survive without the EU-money. This, in turn, implies that there are large transaction costs in this system.

In the northern part of the country, there is often a great distance between the farm and the cooperative's plants. This implies costly transports, and transaction costs related to these transports. Many farmers do not trade that often with the cooperative, either because they trade with others or because they need, for example, the grain and grass produced on their farm in their milk production. Hence, the *frequency* of trade between some farmers and the cooperatives is often low, also causing transaction costs. From this, it is possible to suggest that Hypothesis 2, with respect to differences in the geographical location, and Hypothesis 3 seem to be correct.

If age is combined with the geographical location, it is possible to discern some geographical areas having a relatively large proportion of farmers in a certain age group. Some examples are:

- In Scania (the province furthest south), 20 percent of the farmers in the sample are between 21 and 30 years old;
- In six areas in the southern half of Sweden, and in three areas in the northern half, there are no farmers in the age group 21-30;
- Of those between 61 and 70, 13 percent have their farms in the area Östergötland (in the southeast part of the country), another 12 percent have a farm in Scania. Only 0.8 percent of those in this age group have their farm on the island Gotland (in the Baltic Sea) or in Norra Älvsborg (on the West Coast);
- For farmers between 41 and 50, 11 percent have their farm in the area of Östergötland, 9 percent in Scania, and 8 percent in the area Örebro (in the southern half of the country).

Hence, there are clear differences concerning different geographical areas' age distribution. This may be one additional source of finding an explanation to why certain geographical areas show different attitudes towards cooperatives. For example, the fact that such a large proportion of those in the northern part of the country belong to the older generation of farmers may be part of the explanation to why these farmers trade less with the cooperatives, as well as attend fewer member meetings.

Social Networks

When asked about to what degree the farmer was influenced by others' when confronted with decisions concerning his cooperative commitment, it turned out that they do not really take into consideration what others might think about their decisions. Some of them say that they sometimes discuss cooperative matters with others, but few seem to be influenced by others' views, once they are supposed to make a decision of their own. This can be shown by so-called estimated regression functions, formed by using the LISREL-program (Jöreskog and Sörbom, 1993) – see Figure 2. These functions describe, among other things, the importance of the

farmers' personal attitude ("attitude"), and the degree to which the farmers take into consideration what other individuals close to them think in these issues ("s norm"). Here too, the decisions from Table 1 were studied.

Figure 2. Estimated regression functions for the membership, business, and democracy decisions facing cooperative members.

```
Member=0.57*attitude - 0.066*s norm, Error var.= 0.63, R²=0.37
      (0.14)           (0.14)                    (0.11)
        3.98            -0.46                     5.48

Business=-0.48*attitude - 0.15*s norm, Error var.=0.66, R²=0.34
      (0.12)           (0.12)                    (0.11)
       -4.01            -1.28                     6.20

Dem. Proc.=0.40*attitude - 0.23*s norm, Error var.=0.67, R²=0.33
    (0.0072)          (0.079)                   (0.072)
        5.57            -2.95                     9.37
```

Source: Hakelius, 1996:129.

The 0.57, -0.066, etc. are the estimated partial regression coefficients, showing the "importance" of the attitude and social norm in the three decisions studied. The figures within brackets are the standard errors of the regression coefficients (which should be as small as possible, since a small value denotes a good measure of the parameter estimate), and below the standard errors we find the t-values (the parameter estimates divided by the standard error).

From these three functions, the general conclusion may be drawn that farmers' own attitudes seem to be the main influencer on farmers' decisions, others' opinions being of little or no importance. In some cases, though, the opinions of close friends and relatives may play a role, for example: it seems like others' opinions may somewhat influence the decision concerning taking part in the democratic process of the cooperative.

These findings can also be studied through an analysis of farmers' answers to the statements: "Other farmers' opinions have a large influence on my decision to be or not be a member/to do business or not with the cooperative/to take part or not take part in the democratic process". The replies to these three statements are summarized in Table 6. As seen in the table, a majority disagrees to these statements, which is analogous to the discussion above, where this issue was studied, using the LISREL-program.

Table 6. Summary of answers given by the 825 farmers concerning whether other farmers opinions have a great influence on their decisions related to the three levels of cooperative commitment studied

Issue	Disagree (strongly-weakly)	Agree (strongly-weakly)	No answer
To be or not be a member	604, or 73.2%	201, or 24.4%	20, or 2.4%
To do business or not with the cooperative	660, or 80.0%	138, or 16.7%	27, or 3.3%
To take part or not take part in the democratic process	545, or 66.1%	205, or 24.8%	75, or 9.1%

Source: Hakelius 1996:218,228,239.

develop in a group, though, a certain degree of value-overlap needs to exist among the participants. Hence, social networks were easily formed when farmers tended to have value-sets that corresponded to a great extent to the cooperative values, *i.e.*, in the beginning of this century. Then, the values of the farmers were unique, making farmers feel that they ought to stay together and that they had a good tool for this, *i.e.*, the cooperatives. Put differently, farmers' investments into *asset specific social relations* were large, making cooperation a good and beneficial solution to how to earn money on farming. Another way of putting it is to state that Hypothesis 2, with respect to the relationship between age and transaction cost-exposure, is correct.

Today, young farmers have formed social networks with non-farmers to a greater extent than ever. This is partly due to the fact that there are few farmers in the society, and farmer-children attend the same schools as other children. Hence, they have made their asset specific social relations-investments into groups of people that are mainly non-farmers. This makes them feel that there are no big transaction-cost-savings to be made on cooperating with other farmers. This, in turn, makes the option of trading with other, non-cooperative, firms more interesting to the younger farmers. As mentioned above, many of the cooperative transactions are of the so-called idiosyncratic character, *i.e.*, "where investments of transaction-specific human and physical capital" (Williamson, 1979:241) are made. This implies that the success of the transactions depends to a high degree upon trust between the involved parties, which in turn implies that the decreasing level of trust between farmers today is a problem. When the trust is not there, the transaction costs grow and so do the agency problems. This indicates that Hypothesis 2, with respect to the lack of trust between farmers, is true, as well as Hypotheses 3 and 4.

Another form of transaction cost that grows when trust is not present among farmers is the one generated by *externalities:* The cooperative is built to fit persons who trust each other and who have asset specific investments made into social

relations. When trust is lacking and the asset specific investments into social relations also have changed, the transaction cost gains obtained by joining together in a cooperative are lost. Put differently, Hypothesis 2 finds additional support in the empirical data.

In order to change this situation, new foundations for creating trust between farmers, and hereby recreating strong social networks, have to emerge. One way of doing this is to make the relationship between the farmer and the cooperative, as well as between farmers as such, more relaxed and flexible, allowing for individual solutions to a higher degree than today.

Discussion and Conclusions

It is evident that there exist differences between how old and young farmers look upon their cooperative. Since it is not possible to change a person's age, other variables that are changeable have to be found. Here, the proxy variables "educational background", "the farm", "satisfaction with economic result", "geographical location", and "social networks" were used to further analyze why farmers are not as committed to their cooperatives as they once were.

By using *property rights theory*, the first hypothesis was formulated, namely: "Young and old farmers have different views upon the property rights to the cooperative enterprise. Young farmers do not value the present traits of the cooperative ownership, which imply that they have a negative attitude towards cooperative commitment." By analyzing the proxy variables educational background, the farm, and the satisfaction with the economic result, this first hypothesis was supported. The conclusions are:

- Young farmers usually have more years of schooling than old farmers. This implies that they have a different view upon their farming operation and that they want to have their individual goals for their farms fulfilled. These goals do not rely on having a cooperative to help out;
- Instead, young farmers are first and foremost able to feel that they have control over how their invested capital is used (both in their farms and outside the farm). Due to the way traditional cooperatives are financed, they do not want to support this type of enterprise;
- Those who are highly endebted and feel that the economic result on their farms is dissatisfying (*i.e.*, mainly young farmers) are exposed to higher risks than farmers who say they are satisfied with the economic results of their farming operation (*i.e.*, mainly older farmers). This leads to that farmers under economic pressure are less positive to put money or effort into a cooperative activity.

What could be done to change this? The key to the problem lies in making farmers feel that the cooperative membership gives them the property rights as, for

example, the ownership of the farm does. The most important measure that has to be taken is to transfer some of the collective capital into individualized capital. Other solutions is to change the financial structure – to let farmers choose themselves in what parts of the cooperative production they want to invest money – and to change the way that cooperatives traditionally are governed. In short: measures have to be taken which lead to that members feel that they can exercise control and receive a surplus from their cooperative ownership (see Figure 1).

Transaction cost theory generated two hypotheses: "Young and old farmers have different backgrounds, which generate contrasting traits. In addition, they experience different farming conditions (due to geographical location, degree of specialization, degree of debt, etc.). This implies that they are exposed to different levels of transaction costs."; and "Young and old farmers have different demands on the cooperative contract. This implies that farmers would become more committed to their cooperative if the cooperative contract could be tailor-made for each farmer." Here, it may be stated that many of the problems facing farmer cooperatives today, can be possibly analyzed through the transaction-cost framework:

- Human traits, such as age, educational background and bounded rationality, as well as farming conditions such as geographical location, lead to different levels of transaction costs;
- Since many – mainly young – farmers have borrowed money, this influences their satisfaction with the economic result of the farm. By borrowing money, farmers expose themselves to higher risks, hereby increasing transaction costs;
- If a link between the type of transaction and the type of contract used for this particular transaction was created, transaction costs would be lowered. The type of contract should be determined through the factors "frequency" and "investment characteristic". These, in turn, could be defined by analyzing proxy variables such as "the farm", "satisfaction with economic result", "geographical location", and "social networks", used here;
- One important factor when striving for lower transaction costs is the social network between members. If the social links between farmers are strong and clear, less transaction costs will occur. It is also important that the links between the body of members and the cooperative organization are well defined and function in a satisfying manner.

Here, the advice to be given to traditional farmer cooperatives is to become more flexible, *i.e.*, to allow individualized contracting to a higher degree. This will correspond better to young farmers' demands on cooperatives, and in the long run, it could make the social networks stronger. Also, cooperatives have to make sure that market signals reaches members. If this is done, all will benefit in the end.

Finally, the hypothesis generated by the *agency theory*: "Young and old farmers have different views upon the contents of the cooperative contract. This implies that

agency costs are created within the cooperative." By analyzing this hypothesis with respect to the five proxy variables, it was clear that there exist agency problems in traditional farmer cooperatives. For example:

- The higher educated, more specialized younger farmers – who look upon the ownership of the cooperative in basically the same way as their ownership of their farm – demand that their cooperative allows them to negotiate over contractual terms. They do not consider the well-being of all members as being the goal of the cooperative. Instead, they demand sound economic thinking from their cooperative;
- The degree to which the farmer is satisfied with the economic result, influences his attitude towards the agent, *i.e.*, the cooperative. Here, the agency effects become clear in those cases where the cooperative is lending money in some way or another to the member. A central factor is the asymmetric information and ex post and ex ante market power;
- The growing lack of trust between members as a group and between members and the cooperative creates agency costs.

The solution here mainly rests upon making the business relation between the farmer and the cooperative more flexible. General contracts, which traditionally have been used to regulate the farmer-cooperative interaction, belong to the past. The reason for this is that farmers today are heterogeneous in many respects (values, production, education, etc.). Hence, contracts between the cooperative and its members need to be customized in order to consider each farmer's needs.

References

Anderlini, L. and Felli, L. "Describability and agency problems". *European Economic Review*, 1998, 42:35-59.

Eriksson, J., Hammar, O., Högborg, E., Jansson, S., Vahtras, K. and Wallén, C. *Växtodlingslära. Del 1 – Marken.* (Plant Production. Part 1 – The Soil.) Stockholm: LTs förlag, 1977.

Hakelius, K. *Cooperative Values – Farmers' Cooperatives in the Minds of the Farmers.* Dissertation No. 23. Uppsala: Swedish University of Agricultural Sciences, 1996.

Hansmann, H. "Ownership of the Firm". *Journal of Law, Economics, and Organization*, 1988, 4:267-304.

———. *The Ownership of Enterprise.* Cambridge, MA: The Belknap Press of Harvard University Press, 1996.

Jensen, M.C. and Meckling, W.H. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure". *Journal of Financial Economics,* 1976, 3:305-360.

Jöreskog, K. and Sörbom, D. *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language.* Hillsdale, NJ: Lawrence Erlbaum Associates Publishers, 1993.

Klein, B. and Leffler, K.B. "The role of market forces in assuring contractual performance". *Journal of Political Economy*, 1981, 89:615-641.

Koopmans, T. *Three Essays on the State of Economic Science.* New York: McGraw-Hill, 1957.

LRF. 1997. *Annual Report.* Stockholm: The Federation of Swedish Farmers, 1997.

Münkner, H-H. *Cooperative Ideas, Principles and Practices.* Marburg/Lahn: S&W Druckerei und Verlag GmbH, 1989.

Pratt, J.W. and Zeckhauser, R.J. *Principals and Agents: The Structure of Business.* Boston, MA: Harvard Business School Press, 1991.

Shleifer, A. and Vishny, R.W. A Survey of Corporate Governance. NBER Working Paper Series, Working Paper 5554. Cambridge, MA: National Bureau of Economic Research, 1996.

Williamson, O.E. "Transaction-Cost Economics: The Governance of Contractual Relations." *The Journal of Law and Economics,* 1979, 22:232-261.

_____. *The Economic Institutions of Capitalism.* New York: The Free Press, 1985.