The human values behind farmers’ loyalty to their cooperatives

Li Feng¹, Jerker Nilsson², Petri Ollila³, Kostas Karantininis⁴


Abstract

The present study indicates that farmers’ loyalty to their agricultural cooperatives is to a high degree determined by “soft” factors such as their conception of cooperative membership as a shelter against large trading partners, their appreciation of the cooperatives’ information being honest, and their long-term experience of cooperatives. The empirical basis of the study is a survey among farmers in Finland.

1. Introduction

Many agricultural cooperatives are facing challenges with respect to globalization, industrialization of agriculture, and competition from large multinational corporations in the agri-food and forest industries. The cooperative organizations respond by mergers – increasingly often across borders – sometimes by de-mutualisation or by seeking new organizational forms. Another challenge for cooperatives concerns member loyalty and member commitment. This is not only true in the primary sectors but in cooperatives at federative echelons.

The concepts of loyalty and commitment are key values in a cooperative context. They are *sine qua non* for the success and adaptation of cooperative enterprises. These two values not only refer to the consistent patronage of cooperatives, but also to participation in decision making, to invest in the cooperative and to contribution to the firms’ development. Members’ commitment and loyalty are necessary for the adaptation of the cooperative to an ever-changing economic and institutional environment.

Member loyalty and commitment are often expressed as “social capital”. The social capital that a cooperative creates within the organization has been claimed to be the most valuable asset of the cooperative (Nilsson, Svendsen and Svendsen, forthcoming). Related to loyalty but not identical are member solidarity and member involvement, also watchwords in a cooperative context.

---

¹ Feng Li is post-doc of industrial organization, Department of Economics, Swedish University of Agricultural Sciences, P.O. Box 7013, SE-750 07 Uppsala, Sweden. Phone: +46 18 67 17 84. E-mail: Feng.Li@slu.se

² Jerker Nilsson is professor of agricultural co-operatives and marketing, Department of Economics, Swedish University of Agricultural Sciences, P.O. Box 7013, SE-750 07 Uppsala, Sweden, as well as Department of Work Science, Business Economics and Environmental Psychology, Swedish University of Agricultural Sciences, P.O. Box 53, SE-230 53 Alnarp, Sweden. Phone: +46 18 67 17 68. E-mail: Jerker.Nilsson@slu.se

³ Petri Ollila is associate professor in food marketing, Department of Economics and Management, University of Helsinki, PL. 27, 00014 Helsinki, Finland, Phone +358504151199. E-mail: petri.ollila@helsinki.fi.

⁴ Kostas Karantininis is Professor, University of Copenhagen, Denmark; and Guest professor of industrial organization, Department of Economics, Swedish University of Agricultural Sciences. E-mail: Karantininis.Konstantinos@slu.se
Members can express their remorse or disagreement to the management’s discretion through exit or voice. Cooperatives outperform IOFs in environments where exit is very costly (Holmström, 1999). When exit is cheap cooperatives’ existence is threatened, unless members can insist on “voice”, i.e. to influence their cooperative’s decisions. The choice of exit versus voice by cooperative members depends among other things, on two factors, namely availability of outside options and loyalty. The availability of outside options could be for instance, another cooperative or an IOF offering higher prices, or the possibility to switch at low cost into another productive activity, or even to create a new “beehive” cooperative (Karantininis and Hakelius, 2011). Loyalty on the other hand has no direct monetary benefits. Although monetary benefits could be expected in the longer term, loyalty could be an outcome of “cooperative ideology” (Fulton, 1999).

Exit from a cooperative is not always permanent. Instead, farmers can patronize another cooperative or IOF for some period and return to their original cooperative. This could be either the result of opportunistic arbitrage, i.e. because the farmer finds a better price elsewhere or it could be a “silent voice”. Farmers could give the cooperative leadership a message by stepping out for some time. Such “hop on – hop off” behavior of cooperative memberships has not been investigated previously.

This study concerns farmer loyalty to their cooperatives societies. Its aim is to explore the importance of some factors that may influence farmers’ cooperative loyalty, namely their values concerning cooperative ideology, their experience with cooperatives, their appreciation of the cooperatives’ treatment of them, and the farmers’ tenacity to complain. The data for the empirical study is collected through a survey among Finnish farmers. The study explores to which extent members’ value are decisive for the farmer’s relationship to their cooperative.

The two core concepts – loyalty and values, respectively – are discussed in the next section. Following this is a section describing the data, including the Finnish farmers’ access to cooperatives, and the data collection and the measures in the questionnaire. Next follows an account of the methodology used and then a section with findings. A discussion and conclusions end the report.

2. Theoretical framework

2.1 Loyalty

Determinants of cooperative membership have been subject to research in several prior studies (Österberg and Nilsson, 2009). A problem is that the various authors use more or less different concepts, though related.

Loyalty can be regarded as a behavioral or an attitudinal concept. The former means that a loyal person exhibits repeat behavior, implying that he or she tends to patronize the same trading partner over and over again. The attitudinal dimension means that the person has a predestination to patronize the same partner repeatedly. This study focuses on the behavioral interpretation of loyalty.

While loyalty often refers to buying or selling behavior, it may also comprise other types of behavior. In a cooperative context the concept loyalty may express a member’s behavior as an
investor in the cooperative as well as his or her behavior in the governance role, i.e. the member’s acts in order to monitor the cooperative. This study comprises all the three member roles. Actually these three are inseparable, as the farmer who wants to trade with a cooperative is normally obliged to invest in it according to law and bylaws. Likewise all members have the right and the possibility to exert influence in the cooperative organization, even though many members do not take this opportunity.

As loyalty is interpreted as members’ actual behavior in the patron, investor and governance roles, it is in principle possible to make objective measurements. More or less all cooperatives have statistics concerning the members’ trade, their investments, and often also their participation in the general assemblies at different organizational levels. This information is, however, confidential. Hence, the alternative is to get data from the members’ own statements.

According to Hirschman (1970) loyalty plays a key role in the process of an organization’s recuperation. Loyalty “can serve as socially useful purpose of preventing deterioration from becoming cumulative, as often does when there is no barrier to exit” (Hirschman, 1970, p.79). In a cooperative loyalty means that a member sticks to his or her organization and tries to affect the organization from inside (“voice” option in Hirschman’s terms). If a member according to rational market behavior changes his or her patronage to another trading partner (“exit” option in Hirschman’s terms) he or she would loose the possibility for voice. Thus, loyalty raises the exit barrier and activates the voice option.

Hirschman further argues that the combination of voice and exit is more powerful than either one used separately. Almost all organizations have these two options available in principle, but not necessarily at equal transaction cost (Ollila, 2009). A cooperative is the only one organization where an individual (member) has both options built into the same institution (Ollila, 1989).

2.2 Values

Values are overarching criteria that people use to make choices (Etzioni, 1990). The concept of human values is multi-faceted and used differently by different authors. For example, Hardin, Phillips and Fogarty (1986, 1) point at the result they obtained in a literature review comprising 400 books. They found no less than 180 definitions. Values may be moral, personal, social or aesthetic (Williams, 1968). It has been discussed whether values are universal and set apart from actual knowledge, or if they are based on individuals’ past knowledge (Jackson, 2009). In both cases values have a connection to moral. Values can also be understood as sets of Standard Operating Procedures how individuals lower their transaction costs of making decisions in new situations. Values make the longer-range decision criteria as more important than short-run obvious gains. In this way values lead into behavior that may be called loyalty.

Some human values are of a general character, influencing how an individual behaves at large, while other values are more specific and may concern, for example, behavior in relation to cooperative organizations. “The values possessed by an individual “direct” what attitudes and opinions he has about various aspects of life”. (Hakelius, 1996, 24) The values of interest in this study are the latter ones, i.e. those that influence the farmers’ view of different types of trading partners.
Human values spread from altruism to egotism, from individualism to collectivism, from social concerns to private benefits, etc. The stance chosen in this study – given that the study seeks to explain the farmers’ choice of trading partners – is that human values range on a scale between ideological motivations to self-interest seeking motives. The human values that are used in this study constitute, roughly speaking, a scale, where one end is that the farmer is motivated by (cooperative) ideology and the other end is that the farmer wants the best possible deal with his or her business partner, irrespective of whether this firm is a cooperative or an investor-owned firm.

The measurement of human values has involved much research. This is so because individuals can seldom give accurate answers when asked about their values. The values are, so to say, hidden in the minds of individuals. Hence, there are specific scientific techniques of revealing the human values. One is the laddering technique, implying that the researcher asks the respondent to clarify his or her decision by asking “why” questions until the respondent no longer has any answer – so a human value is reached (see, for example, Lind, 2011). Another approach is the Theory of Planned Behavior (Ajzen, 1988; Hakelius, 1996), in which one of the components concerns human values. In this study, however, the farmers are asked about their values, understood as motivational factors. This approach is defendable as the values are of a specific type.

2.3 Loyalty and values in prior research

A number of prior studies focus on cooperative members’ behavior in specific decision situations, such as their choice between cooperative and investor-owned partner firms (Bravo-Ureta and Lee, 1988; Cain, Toensmeyer and Ramsey, 1989; Jensen, 1990; Wadsworth, 1991; Lind and Åkesson, 2005; Zeuli and Betancor, 2005). Others concern how various practices, conducted by the cooperatives, affect the members’ opinions (Misra, Carley and Fletcher, 1994; Bhuyan, 2007).

A variety of explanatory variables occur in the studies, such as size of farm operations, dividend policies, raw product price level, and specialization in farming. Some studies state that the various economic factors that affect the profitability of the farm enterprises are important for member loyalty, and other expressions of satisfaction (Fulton and Adamowicz, 1993; Gray and Kraenzle, 1998); others state that the fact that cooperatives constitute an assured marketing channel and that they provide services to the members and the community are more important than the price levels (Bravo-Ureta and Lee, 1988; Cain, Toensmeyer and Ramsey, 1989; Jensen, 1990). Medium-sized farmers are the most positive ones, according to Klein, Richards and Walburger (1997), whereas Zeuli and Betancor (2005) find that large farmers are more critical. Burt and Wirth (1990) conclude that firm size does not explain farmers’ attitudes and behavior towards cooperatives.

A recurrent theme in the prior studies is the farmer’s age as a determinant though several researchers treat this variable as a proxy – it may stand for remaining membership period, for example. Some studies indicate that older farmers tend to be less positive to the cooperatives, whereas others maintain that old farmers more often embrace a cooperative ideology, or they are more conservative (Hakelius, 1996 and 1999; Lind and Åkesson, 2005). Still other studies find that the farmer’s age has no importance for their relation to cooperatives (Burt and Wirth, 1990; Wadsworth 1991).
Furthermore, socio-psychological variables are found in the prior studies. Robinson and Lifton (1993) mention lack of social cohesion and commitment. Siebert (1994) identifies conservatism and individualism as inhibiting factors to cooperative development. Another study reports that the members’ ideological and traditional view of cooperatives explains their preference for unallocated equity capital (Fahlbeck, 2007). Borgen (2001) finds that the more the farmers identify themselves with the cooperative the more trust they have in the management of the cooperative. Bhuyan (2007) focuses on members’ view of their influence in the cooperative. He states that “the likelihood of cooperative abandonment was higher if members perceived that their input was not valued by the management in making decisions”, and “Regarding member dissatisfaction with their ability to have a voice in their cooperative’s decision making process, older members are more likely to be dissatisfied”.

2.4 Assumptions

As can be seen “soft” variables such as farmers’ views on cooperatives do not seem to provide any convincing results in the prior research when it comes to determine the farmers’ choice of a cooperative trading partner. Nevertheless, the account above may lend itself to a few assumptions to be investigated in an empirical study. Hence it is assumed that farmers who are loyal to their cooperatives …

- embrace a cooperative ideology,
- have long-term experience with cooperatives,
- are more likely to use power or to advance personal interests through the cooperatives,
- consider the cooperatives to give them protection on uncertain markets,
- do not regard the cooperative membership as pure business,
- do not have a predestination to patronize the same partner repeatedly
- feel that the cooperative treats them fairly and provides good and reliable information, and
- use voice option more often.

3. Data

An account of the agribusiness in Finland is provided in section 3.1. Section 3.2 describes the data collection and the resulted sample. Measures used to quantify the dependent and independent variables are listed in section 3.3.

3.1 Structure of the Finnish agribusiness

Finland is the northernmost country having agricultural production in the commonly understood sense. Agricultural production takes place in about 65,000 farms. Two thirds of the farms have plant production as main production line, and one third have animal production. However, animal production counts for 52% of the total agricultural income (MTT, 2011). In addition to agricultural production, a typical Finnish farm has a forest area larger than the field area.

As Table 1 shows high figures for cooperative market shares it should be added that agricultural cooperatives in Finland are peculiar in an international comparison. Traditionally organized cooperatives are rare. Instead, there are several hybrid cooperatives, for example
co-owned by farmer societies and the Helsinki Stock Exchange. Through using different classes of stocks, each with different voting power, the farmer societies have succeeded to keep control of the processing firms, i.e. the cooperative societies have the majority of directors in the boards even though the Stock Exchange has the majority of the stocks.

<table>
<thead>
<tr>
<th>Field of food processing</th>
<th>No. of proc.units</th>
<th>Hired personnel</th>
<th>Turnover</th>
<th>No. of co-ops</th>
<th>Co-op market share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain processing and bakeries</td>
<td>874</td>
<td>9054</td>
<td>1300</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Meat slaughtering and processing</td>
<td>141</td>
<td>9348</td>
<td>2786</td>
<td>5</td>
<td>81</td>
</tr>
<tr>
<td>Dairy processing</td>
<td>71</td>
<td>5028</td>
<td>2350</td>
<td>26</td>
<td>98</td>
</tr>
</tbody>
</table>

Sources: TNS Gallup (2010) and Cooperative yearbook (2010)

These special traits of the Finnish cooperative sector must be taken into account when interpreting the findings of this study. One can not beforehand classify these firms as non-cooperative as their status is determined by the farmers’ opinions. If the farmers think that the hybrid cooperatives are cooperative firms, they must be considered to be so.

An exception to this pattern is Valio, by far the largest dairy processor. This is, however, not to say that Valio is a cooperative – it is a limited liability firm. The owners of Valio’s stock are, however, no external financiers. Valio is fully owned by 18 regional and local cooperative societies with dairy farmers as members, and their share of stocks is, in principle, proportional to their delivery volumes. Valio is operating throughout Finland, but it has also extensive exports to the neighboring countries. The local and regional farmer societies have no processing of their own. All the milk that is delivered by their farmers is processed and marketed by Valio.

The second largest dairy processor in Finland is Arla-Ingman Oy. It is fully owned by Arla Foods. Arla Foods is a dairy cooperative with Danish, Swedish and German members, but the Finnish dairy farmers are not members of Arla Foods. Most of the suppliers to Arla-Ingman Oy have organized themselves in regional societies in order to coordinate themselves, thereby trying to gain more bargaining power.

In the meat sector there are two hybrid cooperatives. They are limited liability companies and the stocks are owned by farmer societies as well as the Stock Exchange in Helsinki. The largest meat processor is HK Scan. It operates in nine countries and is one of the leading meat processors in Europe (turnover in 2010 was 2114 million Euros). Two farmer associations own stocks in HK Scan, namely the Finnish LSO and the Swedish Sveriges Djurbönder. The control of the processing firm is in the hands of LSO as this society owns a large number of the stock to which much voting power is connected. The Swedish farmer society as well as the Helsinki Stock Exchange own stock with weak voting power (LSO has 69%, Sveriges Djurbönder 12.4% of votes). This may be an explanation to why Swedish farmers have hardly any loyalty to the Swedish subsidiary of HK Scan (Liang, 2009).

Another large meat processor is Atria (turnover 1300 million Euros in 2010). In the Finnish market Atria is the leading meat processor with its 30% market share. Atria has three ownership societies – Liwakunta, Itikka and Österbottens kött (only the last has its own meat procurement), all of them conducting no processing and marketing on their own. When Atria was established in the early 1990s it was decided that the three societies should have an ownership share in relation to members’ volume of deliveries, but as the relative production...
volumes changed, conflicts arise. Atria has extensive sales volumes in the Baltic Sea region and even production in the neighboring countries on the basis of animals acquired in these countries. The foreign animal breeders do, however, not have any ownership in Atria.

Forestry is an integral part of Finnish farming. Metsäliitto is a cooperative owned by about 128,000 forest owners. The membership being much larger than the number of farmers is because many farmers’ daughters and sons have inherited forest the fields being left for next generation farmers. Metsäliitto has a market share of 40% of Finnish lumber markets. Its turnover in 2010 was 5,400 million Euros. It operates in 30 countries.

3.2 Data collection and sample

Data was collected via a mail survey to a representative sample among Finnish farmers, both members of cooperatives and non-members. The data collection was conducted via Gallup Finland who has omnibus surveys every month to farmers, i.e. a number of questions for this study were included in Gallup Finland’s questionnaire. The data was collection in the summer of 2010.

The total number of answers was 1296. All answerers had not fully completed the questionnaire, which caused problems in some analyses. The main fields of production of the respondents are presented in Table 2:

<table>
<thead>
<tr>
<th>Main field of production</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cows</td>
<td>27.2</td>
</tr>
<tr>
<td>Meat cattle</td>
<td>11.6</td>
</tr>
<tr>
<td>Pigs</td>
<td>8.1</td>
</tr>
<tr>
<td>Other animals</td>
<td>2.6</td>
</tr>
<tr>
<td>Grain</td>
<td>31.7</td>
</tr>
<tr>
<td>Other plants</td>
<td>8.6</td>
</tr>
<tr>
<td>Other production</td>
<td>3.9</td>
</tr>
</tbody>
</table>

The average field area was 49 hectares (max. 690 ha) and the average number of dairy cows was 26 (max. 200). These figures indicate that the sample does not deviate much from the average for all Finnish farmers, which is 46 hectares and 27 cows.

The average age of answerers was 54 years the oldest being 91 years and the youngest being 20 years. 85% were men and 15% were women. In the sample 29% belonged to a dairy cooperative (of which 85% to Valios’ ownership societies), 27% to either Lihakunta or LSO meat cooperative and 59% to Metsäliitto forest cooperative.

3.3 Measures

The dependent variable is the number of times that the farmer has switched between different trading partners. The respondents are asked how many times they have switched between cooperative and investor-owned trading partners during the last five years.

The independent variables capture three aspects. The first aspect stands for the voice option, according to the Hirschman terminology. The farmers’ propensity to use voice in relation to the trading partner is measured in terms of number of complaints and proposals. The
respondents were asked to answer the question: “During the last three years, how many times have you complained or proposed something to the cooperative or the company you deliver your products to?”

The second aspect measures the extent to which the members trust the cooperatives. The question is “As how reliable do you regard the information that you obtain from your cooperative?” The respondents answer with a 5-point Likert scale running from (1) “fully disagree” to (5) “fully agree”.

Another six questions in the questionnaire cover the third aspect, i.e., motivation for the respondents’ membership in terms of loyalty, cooperative ideology and similar social capital issues. The respondents answer the following six statements with a 5-point Likert scale, running from (1) “fully disagree” to (5) “fully agree”.

1. Ideology: “Cooperative ideology keeps me as a member in my cooperative”.
2. Experiences: “Experiences from a long-time cooperation keep me as a member in this cooperative”.
3. Power/own interest: “A possibility for using power or advancing my own interests through the cooperative keep me as a member in this cooperative”.
4. Shelter: “Membership is a shelter against large producers”.
5. Pure business: “The membership in the cooperative is a pure business relation to me”.
6. Ready to switch: “If I get the same advantages through delivering my products to another buyer, I do not have any problem for switching the buyer”.

Two control variables are used in this study, namely age and farm size. The respondents were asked to state their year of birth and the field area of their farms, expressed in hectares.

4. Method

Because of the discrete nature of the dependent variable, a stepwise logistic model is used to examine the relationship between the independent variables and the number of switches after controlling for age and farm size. The logistic model estimates the log-odds of one outcome occurring relative to the baseline category. In this analysis, no switch is the reference category. Denote the baseline category “no switch” as $i$, the model for the $j$th category (i.e., no of switches is $j$) is:

$$
\log\left(\frac{p_j}{p_i}\right) = B_{j0} + B_{j1}X_1 + B_{j2}X_2 + \ldots + B_{jn}X_n
$$

The odds-ratio $p_j/p_i$ represents the change in the odds of a particular number of switches relative to the reference category (no switch) that is associated with a one-unit change in a particular independent variable holding constant all other variables. The logistic coefficients that result from the analysis can be interpreted as the change in log odds that is associated with a one-unit change in the independent variable. A positive coefficient represents an increase in the likelihood of switching a certain number of times relative to no switch, whereas a negative coefficient represents a decrease in the likelihood of that outcome.

The answers to the Number of switches question vary from null to seven. Of the respondents who answer this question, 77.2% say that they do not switch at all and very few (1.2%) have
switched more than three times. The categories with more than three switches are too small to be treated as separate categories. Hence we start with a binary logistic model (model 1) with two categories: stay (no switch) or exit (one or more switches). Then a multinomial logistic model (model 2) is used to further distinguish four categories: 0, 1, 2, or 3 switches.

The statistical package SPSS (version 19) was used for the numerical calculation. The test of whether a parameter is different from zero is based on two statistics generated by SPSS, namely the likelihood ratio test and the Wald statistic. The likelihood ratio test is used to determine if a parameter is related to the probability of exit choice overall, and, if so, the Wald statistic is used to determine if a parameter is related to cases with a particular number of switch.

5. Findings

The number of cases with valid data for the variables is 484. There are respondents of all age spans, ranging from those born in 1920s to 1990s. Most respondents (over 90%) were born between 1940 and 1979 though. Most farms have less than 70 hectares. More than half of the respondents have never complained or proposed something to their cooperatives. A summary of the findings is provided in Table 3.

<table>
<thead>
<tr>
<th>Table 3: Predictors of members’ exit choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>sign</td>
</tr>
<tr>
<td>Voice</td>
</tr>
<tr>
<td>Reliable information</td>
</tr>
<tr>
<td>Ideology</td>
</tr>
<tr>
<td>Experience</td>
</tr>
<tr>
<td>Power/own interest</td>
</tr>
<tr>
<td>Shelter</td>
</tr>
<tr>
<td>Pure business</td>
</tr>
<tr>
<td>Ready to switch</td>
</tr>
<tr>
<td>Farm size</td>
</tr>
<tr>
<td>Birth year</td>
</tr>
</tbody>
</table>

The Pearson and deviance chi-square goodness of fit statistics indicate that the data are consistent with the model assumptions. The stepwise model selects automatically the "best" variables to use in the model based on the improvement of log likelihood. We use the log likelihood function to assess the significance of each independent variable and the overall model. The chi-square statistic is the difference in -2 log-likelihoods between the final model and a model with intercept only. The results of model 1 are summarized in Table 3 with the significant variables as the result of the stepwise selection process. The change in defiance (-2 log likelihood) that is associated with addition of the independent variables to the model suggests a statistically significant improvement in fit.
Table 4: Likelihood ratio tests of model 1

<table>
<thead>
<tr>
<th></th>
<th>Chi-Square</th>
<th>Degree of freedom</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>14.129</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Experience</td>
<td>5.076</td>
<td>1</td>
<td>.024</td>
</tr>
<tr>
<td>Reliable info</td>
<td>4.615</td>
<td>1</td>
<td>.032</td>
</tr>
</tbody>
</table>

Table 5 presents the results of the Wald statistic. Three predictors significantly influence the members’ propensity to switch between buyers. Consistent with our hypothesis, the variable “voice” has significantly positive association with the dependent variable. Namely, after controlling for other variables, the odds of switching are higher for members who use their voices. The high percentage of inactive members contributes to the observed large share of members who stay with the cooperatives. Member value variable “experiences” is a statistically significant predictor of the cooperative members’ exit choice as was expected. The farmers who stay at the cooperatives because of their long-term good experience are less likely to exit. Furthermore, members who consider the information they receive from the cooperative as highly reliable are less likely to switch between trading partners, which also confirms the hypothesis.

Table 5: The coefficients of predictors

<table>
<thead>
<tr>
<th>Coefficient</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>.198**</td>
</tr>
<tr>
<td>Experience</td>
<td>-.245*</td>
</tr>
<tr>
<td>Reliable info</td>
<td>-.285*</td>
</tr>
</tbody>
</table>

* significance at 5%, ** significance at 0.1%

The likelihood ratio tests of model 2 are presented in Table 6. The three variables that explain the members’ propensity to choice a specific number of switches as compared to the reference category (no switch) are different from model 1. “Voice” is still significant while the motivational factor “shelter” and age also account for the members’ exit choices.

Table 6: Likelihood ratio tests of model 2

<table>
<thead>
<tr>
<th></th>
<th>Chi-Square</th>
<th>Degree of freedom</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelter</td>
<td>28.274</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Voice</td>
<td>17.215</td>
<td>3</td>
<td>.001</td>
</tr>
<tr>
<td>Birth year</td>
<td>12.999</td>
<td>3</td>
<td>.005</td>
</tr>
</tbody>
</table>

Table 7 shows the coefficient of each significant variable across different categories. The variable ‘voice” has significantly positive association with the dependent variable in all categories. Namely, after controlling for other variables, the odds of switching are higher for active members who propose or complain more often than for those inactive members. Consistent with our hypothesis, member value variable “shelter” is a statistically significant predictor of the cooperative members’ exit choice. Farmers who value the membership as a shelter against large producers to a larger extent are less likely than others to switch often. The significantly negative effect of “birth year” in category 3 indicates that young members are more likely to switch frequently (three times in five years) as compared to old members.
6. Discussion and Conclusions

The results from the analysis show the importance of and the relationship between voice and exit in cooperatives. Farmers who have raised voice before are more likely to exit often. This may indicate that a temporary exit is used as a complement rather than as a substitute of voice. Members who raise voice will strengthen the “loudness” of their voice by exiting, perhaps in order to induce the cooperative leadership to pay more attention to their demands or complaints. An alternative explanation is that these two variables are highly correlated and there is no causality between them. It is a self-selection problem, i.e. members who are in general active and curious with their business are more “mischievous” and often speak up in their cooperative while they are looking for best options for their business. This needs further investigation.

It is interesting that ideology does not play any role. This is in line with previous studies (See for example Fulton, 1999). Farmers today are more pragmatic about their cooperative. They patronize the cooperative seeking specific results, such as better price, or even an instrument against market failures. This is shown with the variable shelter against large trading partners being significant.

The findings suggest that older producers are more likely to switch back and forth between different trading partners. This can be interpreted as one more indication of the lack of cooperative ideology. If cooperative ideology was strong it would be among the older members of the cooperative. Instead, younger members are more loyal than older ones. Younger members are less experienced and also more insecure, perhaps being more exposed to loans. The cooperative to them is a shelter and they want to maintain it strong.

These results are interesting both for practitioners and for students of cooperatives. Practitioners will have to pay more attention in convincing old members about the benefits of their cooperative, and they should rely more on the younger generation of members, for they need the cooperative more and they will support it further. Also, cooperative practitioners must give more room for voice. They should accommodate voice more, pay more attention and react to it, because when there is voice there is also exit.

<table>
<thead>
<tr>
<th>Table 7: The coefficients of predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Number of switches</td>
</tr>
<tr>
<td>Voice</td>
</tr>
<tr>
<td>Shelter</td>
</tr>
<tr>
<td>Birth year</td>
</tr>
</tbody>
</table>

* significance at 1%, ** significance at 0.1%
References


MTT 20011. The figures about Finnish Agriculture have been collected from ”Finnish Agriculture and Rural Sources of Livelihood 2011”, Agrifood Research Finland, Economic Research, Publication 111.


Ollila, P. 2009, Principles of Institutional Economics – with applications to cooperative enterprises, Helsinki University, Departments of Economics, Working papers 56.


TNS Gallup Finland, 2010, Food Facts.

