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Social Networks and Member Participation in Cooperative Governance

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Abstract

This study explored the relations between the farmer-members' social networks and their interest in cooperative governance, specifically their willingness to be elected representatives. Several researchers assert that member interest in cooperative governance is related to social factors. The empirical basis consists of surveys of random samples of Swedish farmers conducted in 1993, 2003, and 2013. The results indicate a strong relationship between the social networks and the farmers' propensity to participate in cooperative governance. This relationship has persisted even though the investigated 20-year period was very turbulent for Swedish agriculture. Over time, members have become more willing to be elected when they receive backing from their social networks, with personal networks being more important than professional networks. The professional networks are related only to the level of aspiration and not actual participation in governance. [EconLit Citations: D73, P13, Q13]

1. Introduction

This study explored the relations between the farmer-members' social networks and their interest in cooperative governance, specifically their willingness to be elected for a position in one of the governmental bodies of their agricultural cooperatives. Cooperatives can have a variety of governing bodies, such as general assemblies, district councils, boards of directors, supervisory councils, advisory councils, nomination committees, and others (Bijman, Hendrikse & Van Oijen, 2013; Chaddad & Iliopoulos, 2013; Bijman, Hanisch & Van der Sangen, 2014). Members elect trusted fellow-members to represent them in these governing bodies. The cooperatives' strategies as concerns operations, financing, member policies, etc., are decided on by the Board of Directors or persons appointed by the Board. Other elected representatives prepare, implement, and follow up these strategies.

Members can be more or less involved in the governance of cooperatives. Some members are less interested, while others keep themselves informed about the operations, although to varying extents (Nilsson & Svendsen, 2011). Some members in the latter group involve themselves in member democracy by having discussions with other members, participating in meetings, or voting for elected representatives. There are also members who are interested in acting as elected representatives, some of whom then become elected (Österberg & Nilsson, 2009; Cechin, Bijman, Pascucci, & Zylbersztajn, 2013; Pozzobon & Zylbersztajn, 2013). The present study focuses on members' willingness to be elected representatives in agricultural cooperatives, and what differences might exist between those who aspire to be representatives and those who actually are. While many factors may influence members' willingness to be elected representatives, this study focuses on factors that are related to members' social networks.

Several studies suggest that social relationships are important in cooperative memberships (Mensah, Karantininis, Adegbidi, & Okello, 2012; Arcas-Lario, Martin-Ugedo, & Minguez-Vera, 2014; Feng, Friis & Nilsson, 2016). However, while socially based factors, such as solidarity, community feelings, and cooperative commitment, once motivated members to be active in the governance of cooperatives, it is unclear how such factors continue to function as motivators once the cooperatives have expanded their operations (Morfi, Ollila, Nilsson, Feng, & Karantininis, 2015). Members might hesitate to take the responsibility for being elected representatives when the cooperatives' increasingly complex business operations imply that elected representatives must have

major managerial skills (Hakelius, 2018). On the other hand, as memberships expand due to mergers, there is a larger pool of candidates, some of whom may have managerial skills. However, this does not necessarily imply that these members are willing to involve themselves in the governance of the organization or that they are sufficiently popular within the membership to be elected. This is a matter of the social relations between prospective elected representatives and other members.

This study aims to explore the relationship between members' social networks and their willingness to be elected representatives in their cooperatives. It includes the motivations of both members who are or have been elected representatives and those who aspire to get such positions. A special focus of this study is on whether this relationship changes over the years as the economic, political and social conditions are changing. Empirical material was collected through surveys conducted in 1993, 2003 and 2013 among members of Swedish cooperatives within all agricultural industries.

Several previous studies have investigated factors that motivate members' involvement in cooperative governance (Österberg & Nilsson, 2009; Cechin et al., 2013; Kronholm & Wästerlund, 2013). However, no study has focused specifically on the relation between social networks and members' willingness to be elected representatives. The present study adds to the strand of research on farmers' behavior in relation to their agricultural cooperatives, and specifically to the literature on why members are motivated to engage themselves in cooperatives (Arcas-Lario et al., 2014; Barraud-Didier, Henninger & Akremi, 2012; Hakelius & Hansson, 2016a,b; Morfi, Nilsson & Österberg, 2018).

Section 2 presents the theoretical basis for the study and the derived hypotheses. Since the study was based on data obtained from surveys of Swedish farmers in 1993, 2003, and 2013, Section 3 presents how agriculture has developed in Sweden during this 20-year period. This makes it possible to explore how members' propensity to participate in governance is related to economic, political, and social changes in the agricultural sector. Section 4 explains how data were collected and how the questionnaire was designed, as well as the design of models for analyzing the data. Section 5 contains an account of the results, which are then interpreted in Section 6. Section 7 comprises conclusions, including suggestions for future research.

2. Conceptual framework

2.1. Members' support from their social networks

An often-mentioned raison-d'être for cooperatives is that they have the ability of reducing members' transaction costs, but also other economic rationales have been suggested (Schrader, 1989; Van Dijk, 1997). Elected representatives have the task of promoting the economic interests of the membership. However, cooperative societies are basically social entities (Valentinov, 2004; Nilsson & Hendrikse, 2011). As such, they are infused with the values and morals of democracy, solidarity, equity, and equality (Hakelius, 1996; Morfi et al., 2015). Consequently, willingness to participate in cooperative governance will have both economic and social bases. Several previous studies indicate that, regardless of cooperative sector, country, and scientific approach, social factors motivate members to be elected representatives.

In a study of Spanish labor cooperatives, Romero and Pérez (2003) have found that democratic values and a cooperative culture facilitate participation in governance. In a study of British consumer cooperatives, Birchall and Simmons (2004) have written that collectivistic incentives, such as a sense of community and shared values, outweigh individualistic ones. Elected representatives have broader past experience in other organizations and on a higher confidence level.

Barraud-Didier et al. (2012) have found that members of French agricultural cooperatives engage in governance because of their affective attachment to the cooperative. Members who are emotionally

bonded to their organization are more likely to participate in its governance. A proxy for age was found to be significant. Similar findings have been reported by Cechin et al. (2013), who write about a group of Brazilian farmers who had been involved with managerial positions in a cooperative at least once. The length of membership and the commitment of these farmers were the most important factors in their involvement, while economic incentives influenced participation on the Board of Directors or various committees to a lesser extent. The significance of length of membership reflects that some members' interest in pursuing political careers increases with age. These members are keener to undertake social networking.

In their study of district council members of a Swedish forestry cooperative, Kronholm and Wästerlund (2013, p. 426) have found that members' involvement is "primarily founded on values and tradition, which implies that replenishment occurs primarily from the traditional types of forest owners". In an investigation of district council members in a Swedish agricultural cooperative, Morfi et al. (2018) have found that members involve themselves for individualistic reasons, but these motivational factors are linked to the fact that the members act within a social context. This is the case with factors, such as the fulfillment of norms, access to information, personal development, traditions, a sense of a cooperative community, and status, as well as appreciation by fellow farmers.

Thus, previous research indicates that members' willingness to be elected representatives in cooperatives is related to social capital. Social capital theory has become a widely used tool in research on cooperatives (Valentinov, 2004, Nilsson, Svendsen & Svendsen, 2012; Liang, Huang, Lu, & Wang, 2015: Feng et al., 2016; Deng & Hendrikse, 2018; Yu & Nilsson, 2018). Woolcock (1998, p. 153) characterizes social capital as "the information, trust, and norms of reciprocity inherent in one's social networks." The social capital paradigm may explain the relationships that potential and actual elected representatives have to other members. Through exchanges of information within their networks, people become more engaged. The network members develop a set of values, and the leaders of the networks may be individuals with a certain set of values, for example, a cooperative commitment (Leighley, 1990; La Due Lake & Huckfeldt, 1998; McClurg, 2003). Mutual inspiration, support, and recruitment evolve (Klofstad, 2007).

Hypothesis 1: The odds of members being involved in the governance of their cooperative increase as members' assessment of support from their social networks increases.

2.2. Professional *versus* personal networks

While social networks may be related to members' willingness to engage themselves in cooperative governance, there may be differences between different types of networks, such as the farmers' professional networks and their personal networks. *Professional networks* consist of other farmers, even those whose identity is not known by the individual. *Personal networks* include persons with whom the farmers have a close relationship, mainly family, relatives, and close friends. Professional and personal networks are characterized by bridging social capital and bonding social capital, respectively (Putnam, 2000).

Bridging social capital comprises relations of respect and mutuality between people who know that they are not alike in various socio-demographic or social identity respects. Bridging social capital links those with diverse experience, values, and backgrounds. *Bonding social capital*, by contrast, refers to trusting and cooperative relations between members of a network who see themselves as being similar in terms of their shared social identity. Bonding social capital involves multiple and intimate ties with individuals who hold common core values. The distinction between bridging social

capital and bonding social capital is not clear-cut, just as is the distinction between professional and personal networks[1].

Because farmers interact within both professional and personal networks, both bridging social capital and bonding social capital play a role, but it is likely that the latter is more important. The bonding social capital within personal networks implies that individuals exchange much information, and people have joint interests and a common ideology. Gezelius (2014) has found that farmers' decision-making processes are socially connected to a network, which includes family members, friends, and neighbors. Mutz (2002, p. 839) writes: "[T]he more people interact with one another within a social context; the more norms of participation will be transmitted." The members of a group that is characterized by strong mutual trust are prepared to support and promote each other. In cases of power-games, such as in cooperative elections, bonding social capital may be especially important.

While the bonding social capital within personal networks is likely to influence members' willingness to engage in governance processes, also the bridging social capital within professional networks is important, but not to the same extent (Fitzgerald & Curtis, 2012). The members' professional networks appear, for example, at farmer meetings and through mass media. Meetings among members strengthen cohesion and generate a sense of identification and community. Even though farmers are not acquainted with each other, they exchange ideas on issues associated with values or their practices and strategies (Chiffoleau, 2009). In a study of why UK farmers involve themselves in Farmers' Markets, Kirwan (2004) mentions the satisfaction from not only meeting customers but also interacting with other producers, like in a club.

Hypothesis 2. Personal networks increase the odds of member involvement in the governance of their cooperatives more than professional networks do.

2.3. The significance of other individuals' opinions

While networks with bonding social capital are likely to be more important than networks with bridging social capital when members consider whether to be elected representatives, there may be variations within both types of networks. Not all relations within a specific network play the same role. People have a varying amount of trust in different individuals in both their professional and personal networks.

According to Barraud-Didier et al. (2012), members have a stronger propensity to take part in cooperative governance if they feel that they get support from trustworthy persons in their networks. Uzzi (1996, p. 678) finds that, through social relations, the exchange of information is credible and embedded with "qualities and value beyond what is at hand-" Thus, the trust that is generated through social ties and built through information exchange could be vital for members' willingness to be elected representatives. Individuals appreciate opinions, depending on the assessed trustworthiness of the source.

Hypothesis 3: Members' willingness to be elected representatives increases along with the significance they attribute to other individuals' opinions.

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[1] A third category of social capital is *linking social capital,* explained as "the extent to which individuals build relationships with institutions and individuals who have relative power over them" (Hawkins & Maurer, 2010, p. 1780). As this concept concerns vertical relations between actors, such as between employees and the employer or between pupils and their teacher, linking capital is not relevant in the context of relationships among cooperative memberships.

2.4. Potential and existing involvement in governance

There are partly different conditions for members who are not elected representatives, but who aspire to be, and those who have or have had such a position. Several factors indicate that existing representatives have a high chance of being reelected. They have not only acquired knowledge of and experience with the logic of the cooperative business, but they have also been through a screening process before. They have relationships with other elected representatives and management. They are known by the membership and have a network of people who may support their reelection. If members at large appreciate the cooperative's performance, the existing elected representatives may enjoy much bridging social capital, and they will probably want to be reelected. Due to information asymmetry, they may also influence communication to the membership.

Members who are elected representatives and those who want to be elected differ concerning eventual economic remunerations and other economic benefits such as access to information or good business contacts (Cechin et al., 2013, Morfi et al., 2018). The elected representatives may have social motives, including prestige and esteem from others, a feeling of doing something good, an ideological conviction, or a family tradition (Morfi et al., 2018).

The situation is different for members who aspire to be elected representatives. Their campaigning may be burdensome not only in financial terms but also in social terms. If members fail to be elected after running for office, they will probably consider this a social loss, and therefore, they will be more likely to abstain from being candidates. When running for office, a member will consider the chance of being elected to be greater than the risk of being rejected.

Differences can be expected also between other member categories when it comes to members' willingness to run for office. Young members have more to lose than older members have as they can be expected to be less well known by the membership, less experienced in cooperative governance, and less oriented towards cooperative business (Hakelius, 1996). Thus, they will be less likely to aspire for office. Another dividing line may exist between farmers who are successful in their farming operations and those who are less successful, and between those with large farm operations and those with small ones. The farmers who are successful and those with large farms may be more respected in the community of farmers. This means that they have less risk of failing in an election, and therefore, people in these categories may be more willing to run for office.

Hypothesis 4: A member's odds of being an elected representative increase when the member has a strong willingness to be elected.

2.5. Members' interest in governance over time

In their attempts to adapt to evolving market conditions, cooperatives have become more vertically and horizontally integrated, whereby there is a growing need for professionalized governance. This may affect both members' social networks and their interest in being elected representatives. However, being an elected representative may be more demanding when a cooperative is, or is becoming, more complex. On the other hand, members may become more interested, because being in charge of a large organization may give them more prestige within both their personal and professional networks. As the positions are more important for the cooperatives' development, the choice of elected representatives is made with greater scrutiny, and the importance of the representatives' social talents, trustworthiness, and pedagogical skills may increase.

As the cooperatives' decision-making becomes still more centralized, the members' cooperative commitment is often asserted to decline (Hakelius, 1996). However, a group of members may have strong enough feelings of commitment and community that they wish to become elected (Birchall & Simmons, 2004; Morfi et al., 2015). An indicator of community feeling among farmers is the existence of both general and specialized farmer unions, frequent meetings at the grassroots level, and

the fact that farmers and farmer organizations have become quite active on social media. These observations indicate that the amount of bridging social capital within farming communities persists, while the farmers' personal networks and their bonding social capital is likely to remain unaffected. Thus, because opposite forces are in play, there is no basis for believing that the relationships between the members' social networks and their willingness to be elected representatives has changed over the years.

Hypothesis 5: The relationship between the farmers' social networks and their willingness to be elected representatives persists over time.

3. Swedish agriculture 1993-2013

3.1 The development of Swedish agricultural cooperatives

The data for this study were collected from Swedish farmers in 1993, 2003, and 2013. During this 20-year period Swedish agriculture went from being politically regulated (1993) to a state of turbulence (2003) and finally to a sector characterized by large-scale units and commercially-oriented farmers (2013). Due to a large number of mergers and acquisitions, the number of cooperatives has fallen. In 1993, there were about twenty regional cooperatives in the grain marketing and farm supply industry plus a large number of local cooperatives; seven regional cooperatives in the dairy industry, and six in the meat industry (Van Bekkum & van Dijk, 1997). In 2013, the number of cooperatives in all agricultural industries had fallen to about twenty (Hakelius, 2018). Very few cooperatives were newly established during this period (Hakelius, Karantininis & Feng, 2013).

A national agricultural policy was launched in Sweden in the late 1930s and became increasingly comprehensive over the decades (Rabinowicz, Haraldsson & Bolin, 1986; Rabinowicz, 2004). This policy limited foreign competition through high tariffs, and it weakened domestic competition by allowing cooperatives to have regional monopolies (Micheletti, 1987). In 1990, however, the Swedish parliament decided that all support was to be abolished over a five-year period, but little reform work was done. When Sweden applied for membership in the European Union in 1993, the reform process became even slower as decision-makers argued that the European Common Agricultural Policy would protect Swedish agriculture. Thus, in 1993, when the first data collection was conducted for this study, Swedish agriculture was largely under strict political control. Because agricultural cooperatives enjoyed favored treatment by the government, the cooperatives had high market shares. The apex organization for agricultural cooperatives reported the following figures for 1994: dairy 99%, meat 79-81%, farm inputs 75%, grains 75%, sugar beets 79%, and eggs 50% (Van Bekkum & van Dijk, 1997).

In 1995, when Sweden joined the European Union, it emerged that Swedish consumers preferred cheap imported products over domestic food. The agricultural cooperatives were slow to adapt their organizational principles (Nilsson, 1997). Therefore, they had to lower their prices, resulting in large financial losses for themselves and their members. In the years around 2000, the cooperatives in the major industries sought to rescue their existence through mergers. An almost nationwide grain marketing and farm input cooperative was formed in 2001 when nine cooperatives merged. Likewise, four regional meat cooperatives merged in 2001. In 2001, the market-dominating dairy cooperative merged with its Danish counterpart. This was the first step towards the creation of a transnational cooperative with dairy farmers in seven countries. In the years following the European Union accession, many foreign food processors established operations in Sweden. Thus, in 2003, when the second data collection took place, Swedish agricultural cooperatives were in a state of flux. Only the dairy cooperatives had succeeded in maintaining their market position.

Further restructuring meant that by 2013, the third data collection time point, the Swedish agro-food industry had undergone major changes. The transnational dairy cooperative had about 70% of the national milk intake. The second largest dairy cooperative was sold to a foreign investor-owned

firm in 2012. One foreign firm acquired the nation-wide meat cooperative and another one bought the remaining regional meat cooperative. The cooperatives' operations were amalgamated into the foreign firms (Hess, Lind & Liang, 2013; Nilsson, Liljenstolpe, Lind & Liang, 2014). Thus, no cooperative exists in the Swedish meat sector (Nilsson and Lind, 2015). In the grain marketing and farm input sector, the nation-wide cooperative was dominated by a market share of between 50 and 70%, depending on product category, competing with a few regional cooperatives and foreign investor-owned firms. Before Swedish accession to the European Union, the egg market was dominated by a cooperative, but in 2003, this cooperative was forced to become part of a foreign egg firm, although with a national membership organization of its own. The sugar beet growers belonged to a bargaining cooperative that sold to a foreign processor.

Official statistics reveal the metamorphosis that Swedish agriculture experienced in the investigated 20-year period (Statistics Sweden, 1994, 2004, 2014). The acreage of arable land decreased by 6%, and the number of farmers declined by 37%. The number of agricultural holdings decreased by 27%, while the average size of holdings increased. Agriculture has become very capital intensive, and farmers have become mostly specialized. Information technology is essential to all farmers. The average age of farmers has risen: 18-19% were aged 65 or older in 1993 and 2003, but this had increased to 31% by 2013. For example, the share of farmers above the age of 54 increased from 39% (1993) to 46% (2003) and to 59% (2013). In conclusion, conditions changed for Swedish farmers and Swedish cooperatives, and subsequently, there may have been changes in terms of relations between farmers and between the farmers and their cooperatives.

3.2 Cooperative governance structures

The Swedish law on cooperatives prescribes a governance structure that corresponds to what Chaddad and Iliopoulos (2013) call traditional. Consequently, the law requires equal voting. The general assembly is the ultimate deciding unit. In larger cooperatives, the general assembly consists of delegates, who are elected at district assemblies to which all members are invited (Morfi et al., 2018). In small cooperatives, all members have the right to participate in a general assembly that takes place at one single venue. In connection with the large mergers around the year 2000, a three-tier system was introduced. This system comprised district, regional, and apex levels. In 2006, the nation-wide grain marketing and farm supply cooperative returned to have only district and apex level governance (Nilsson, Kihlén and Norell, 2009), while the large meat cooperative continued with the three-tier system until it was demutualized in 2007 (Nilsson & Lind, 2015). The Swedish branch of the transnational dairy cooperative has kept the three-tier system, even though this deviates from the cooperative's governance structure in other countries. However, the control of the dairy cooperative's Swedish operations is in the hands of members from all seven countries.

The directors are elected by the general assembly. While the elected representatives at lower echelons of the membership organization are always farmers, one or a few non-member experts may be elected as directors (Hakelius, 2018). This practice became widespread during the turbulent years following Sweden's accession to the European Union. The practice still exists in the nation-wide grain and farm supply cooperative (Morfi et al., 2018). The power of the Chief Executive Officers varies between cooperatives, but it is not uncommon that they take part in the some board meetings, even though this may be seen as a violation of the principle that decision control and decision management should be separated (Fama & Jensen, 1983).

The legislation does not require supervisory boards (or an advisory council), but such have existed for an extended period in all cooperatives. All supervisory board members are elected at the general assembly, and they have the task of controlling and assessing the work of the Board of Directors and the Chief Executive Officer. A supervisory board has no decision rights. It meets two to four times a year.

Nomination committees are not required by the legislation, but they constitute a deep-rooted tradition in Sweden, and they exist whenever an election is to take place. They have the task of proposing candidates who are suited as elected representatives (Carlsson, 2007; Larsson-Olaison, 2010; Huhtala, Tuominen & Tuominen, 2020). The committee delegates are elected at the preceding year's assembly meeting. A committee proposes one, and only one, candidate for each of the positions that are to be filled. It happens very seldom that another candidate dares to challenge the nomination committee's suggestion, and so the suggested person is elected. The committee members are elected from among the members. The work of the nomination committees is completely concealed. An external observer would get the impression that, for many years, the nomination committees have not automatically proposed existing elected representatives to be reelected, while such a procedure was common in the 1990s.

The general assemblies decide not only about the choice of a professional auditing bureau but they also elect "member auditors." A few members are to present an analysis of the work of the board and the Chief Executive Officer at the general assembly meeting. This practice has been followed in all cooperatives for an extended period, but no legal requirements exist for this.

4. Methodology

4.1. Data

Repeated cross-sectional surveys. The study was designed as a repeated cross-sectional survey, which allows the identification of progressive changes concerning social networks in relation to members' interest in being elected representatives. In repeated cross-sectional surveys, the same individuals do not respond to the questions on the different survey occasions. An alternative approach to capturing changes between different periods would have been panel data, whereby the same sample of respondents is surveyed during all data collection rounds. However, such an approach would have given biased results because the respondents, at the times of the surveys, would have been of different ages. They would also have been fewer, particularly due to the structural changes in the farming population. During the investigated 20-year period major changes took place in the Swedish agriculture.

Database. There is no database that comprises all members of Swedish agricultural cooperatives, and the cooperatives are not allowed to hand over their membership registers. Thus, the research group had to rely on an official source, namely Statistics Sweden's database of owners of farmland. One problem is that this database comprises owners of even very small holdings, from two hectares and upwards. Because all farmers in the country are included in this database, all members of the agricultural cooperatives are also included. However, the database also contains many landowners who have such small plots that they cannot run farming operations. Because it is impossible to state how large a piece of land a landowner would need to own to be called a farmer, it is not possible to set a lower limit for who should be sampled. Thus, the database from Statistics Sweden, with the names of all persons with more than two hectares, was used.

Surveying. At all three data collection rounds, a questionnaire was sent to samples that were randomly chosen for each time period from Statistics Sweden's database of owners of agricultural land. The surveys were conducted in November and December 1993 (with some spillover into early 1994), March-May 2003, and April-June 2013. The questionnaires contained a variety of questions, including the questions used in the present study. These questions were the same in all three surveys. The questions are shown in Table 1.

Response rates. Questionnaires were sent to 2,134 persons in 1993, 2,250 in 2003, and 2,250 in 2013. After two reminders to non-respondents in the first two surveys and one in the last survey, the number of observations was 832, 900, and 900, respectively. This corresponds to response rates of

39%, 40%, and 40% in the respective years. However, some of the responses have missing values; therefore, those observations were omitted from the analyses.

Non-response analyses. Farmers who did not respond after they had received reminders were asked why they did not respond. There were three typical reasons, which, however, are not mutually exclusive. Some claimed an aversion to questionnaires. Others found the questionnaire too long. Not the least, the owners of the smaller holdings indicated that they did not have any farming operations, which is a consequence of the fact that the database comprises owners of land from two hectares and up. In the third group, there is no risk for self-selection bias.

Representativeness. It is not possible to state whether the respondents are representative for the population of Swedish cooperative members or Swedish farmers in general, because there is no register for any of the two groups, and the population of landowners comprises those who have no farming operations. However, an idea about the samples' relation to the population can be obtained with the help of descriptive variables: (1) The *average number of hectares per holding* has increased by about 30 percent in both the farming population and the group of respondents (Section 3.1 and Table 2, respectively). (2) The *average age increase* within the sample was from 49 to 54 years, while the official statistics report a corresponding rise in the average age among the general population (Section 3.1).

Dependent variables. Two dependent variables were identified for members' involvement in cooperative governance. These were potential involvement and actual involvement. *Potential involvement* refers to members' interest in the position as an elected representative. Potential involvement aimed to capture the effect of social networks on willingness to participate in democratic processes. Because not all members who want to be an elected representative will be elected, *actual involvement* estimates whether there are differences between representatives and non-representatives in terms of the role of social networks. Actual involvement was measured with a dummy variable controlling for the group of members who are, or have been, elected representatives. The concept of elected representative involved all governing bodies within a cooperative member organization – directors, district council delegates, member auditors, committee members, etc.

> Insert Table 1 here or slightly lower <

Independent variables. There were three independent variables for network characteristics. *Professional network* expressed members' perception of whether other farmer-members think they should be candidates for positions as elected representatives. *Personal network* expressed members' perception of whether persons within their near social network, such as family, relatives, and close friends, think they should be candidates. *Extent of influence* expressed how much the network is perceived to affect members' interest in being an elected representative.

Control variables: Four control variables were included, namely farmers' *satisfaction* with the economic results of their farming operations during the last five years, their *gender,* their *acreage* (including both owned and rented land), and their *age.* Because most farmers have two or more lines of production and, therefore, belong to more than one cooperative, it was not possible to distinguish between cooperatives in different agricultural industries. Table 2 presents descriptive statistics from the study.

> Insert Table 2 here or slightly lower <

Statistical computations. Logistic regressions and ordered logistic regressions were employed to capture the relations between network characteristics and actual involvement and potential involvement. To test the consistency of the results over time, pooled and unpooled models were compared with and without time-related interaction terms. Finally, an index was constructed using

factor analysis, and the resulting factor was used to perform an ANOVA to give a visual presentation of the results.

4.2. Models

In order to examine the relationship between social networks and actual involvement in cooperative management three logit regressions were estimated. The dependent variable took the value 0 if the respondent farmer had never been an elected representative of a farmer organization and value 1 for the opposite. The estimate function for the logit had the following form:

$$log \frac{d_i}{1 - d_i} = a_0 + a_1 willingmess_i + a_2 professional\ network_i + a_3 personal\ network_i \tag{1}$$
$$+ a_4 influence_i + + a_5 satisfaction_i + a_6 gender_i + a_7 acreage_i + a_8 age_i$$
$$+ u_i$$

where d$_i$ corresponds to the probability of a member having been an elected representative at least once.

Ordered logistic regressions were used to evaluate how social networks are related to members' willingness to be elected representatives. The dependent variable was categorical, and there was an inherent ordering of the different categories (from least interested to most interested) that made ordered logistic regression the most appropriate choice of model. The underlying latent variable model ($willingmess^*$) is the following:

$$willingness_i^* = +\beta_1 professional\ network_i + \beta_2 personal\ network_i + \beta_3 influence_i \tag{2}$$
$$+ +\beta_4 satisfaction_i + \beta_6 gender_i + \beta_7 acreage_i + \beta_8 age_i + u_i$$

In the ordered logistic model $willingness_i$ is a function of the continuous unmeasured latent variable $willingmess_i^*$, whose values determine the outcome of the observed ordinal variable. The continuous latent variable $willingmess_i^*$ has various threshold points that are estimated together in the model. Specifically, the model estimates the coefficients of the explanatory variables and also the cutpoints, or thresholds, that correspond to the different categorical outcomes after the division of the continuous logistic function. The probability that a member will be classified in the outcome $\leq$ j, where j represents different categories of the level of interest in the managerial positions, is given by the following:

$$\hat{P}(outcome_i \leq j) = \frac{exp(\widehat{ba_j} + \widehat{ba}'X_i)}{1 + exp(\widehat{ba_j} + \widehat{ba}'X_i)} \tag{3}$$

where X is the set of independent variables (professional network, personal network, extent of influence, satisfaction, gender, acreage, and age), and $\hat{b}$ represents the estimated coefficients and $\hat{b}_j$ the various cutpoints associated with the j outcomes.

The estimated probability of outcome j is given by

$$\hat{P}(outcome_i = j) = \hat{P}(outcome_i \leq j) - \hat{P}(outcome_i \leq j - 1) \tag{4}$$

Similarly, the probabilities of a member being included in the remaining categorical levels of interest in the positions as an elected representative were estimated using the maximum likelihood method. Alternatively, it would have been technically possible to dichotomize the dependent variable, willingness, since this variable does not involve a middle point, and to continue by estimating logit models however, this approach would reduce variability and therefore ignore information.

Additionally we opted for ordered logistic regression as opposed to categorical since the dependent variable has ordinal format.

In addition to estimating three separate logit models, the data were pooled together (pooled cross-sectional data), and the model was estimated including time dummies and interaction terms between the dummies and the variables of interest. The estimation function is given below:

$$
\begin{aligned}
D_i = a_0 &+ a_1 professional\ network_i + a_2 personal\ network_i + a_3 influence_i + a_4 Period_{2003} \\
&+ a_5 Period_{2013} + \beta_1 professional\ network_i Period_{2003} \\
&+ \beta_2 personal\ network_i Period_{2003} + \beta_3 influence_i Period_{2003} \\
&+ +\gamma_1 professional\ network_i Period_{2013} + \gamma_2 personal\ network_i Period_{2013} \\
&+ \gamma_3 influence_i Period_{2013} + control\ varlist + u_i
\end{aligned}
\tag{5}
$$

where:

$$D_i = \log \frac{d_i}{1-d_i},$$

$$Period_{2003} = \begin{cases} 1\ if\ period = 2003 \\ 0, otherwise \end{cases}$$

Coefficients a_1, a_2, and a_3 refer to the baseline scenario for 1993, estimating the log odds of being an elected representative at that time. To estimate the log odds of being an elected representative for every unit change in the variables of interest for the years 2003 and 2013, the coefficients of the baseline scenario and those of the interaction terms needed to be summed. For example, to estimate the effect that the professional network has on the log odds of being an elected representative for each period:

$$
\frac{\partial D_i}{\partial professional\ network_i} = a_1 + \beta_1 Period_{2003} + \gamma_1 Period_{2013} = \begin{cases} a_1 + \gamma_1, when\ Period_{2013} = 1 \\ a_1 + \beta_1, when\ Period_{2003} = 1 \\ a_1, otherwise \end{cases}
$$

We use principal component factor analysis to develop a scale where the three aspects of network characteristics - namely professional, personal networks and their extent of influence- identify a single dimension related to the core of these variables. We call this dimension "networks" and as a first step we use it in order to visualize the difference in the scores between elected and non-elected representatives. As a second step, we test whether there was a difference in the scores between members who were elected representatives and those who were not for the three time points.

5. Results

Table 3 summarizes the results of the logistic and the ordered logistic models with unpooled data. The first three columns below "Actual involvement" report the log odds of being an elected representative for a unit change in each of the dependent variables, for the years 1993, 2003 and 2013. Similarly, the columns below "Potential involvement" report the expected change in the log odds of having a higher level of willingness to be a representative arising from a one unit increase in each dependent variable for the years 1993, 2003 and 2013.

Table 4 reports the estimated total effects for every unit change in the variables of interest to the log odds of being an elected representative for the pooled data binary model (actual involvement). The results of function (5) with the pooled data can been seen in Table A1 (Appendix).

> Insert Table 3 here or slightly lower <

> Insert Table 4 here or slightly lower <

There were only minor differences between the coefficients in Table 3 and Table 4, and as expected, the standard errors changed. In Table 4, the coefficients were computed using a nonlinear combination of estimators. The standard errors were estimated by taking nonlinear transformations of the estimated parameter vector from the logistic regression of the pooled data (table A1) with the interaction terms and applying the delta method (Papke & Wooldridge, 2005).

The "Chow" test is usually employed to test whether there is a structural change in pooled cross-sectional data. The likelihood ratio test was used in this study as the equivalent of the Chow test for logit. The likelihood ratio test [LR chi^2(18) = 25.06 with Prob > chi^2 = 0.1232] showed that, for logistic regressions, adding variables (interaction terms) did not improve the model fit. Both models can be found in Table A1. In contrast, the LR test for the ordered logistic regressions showed that adding the interaction terms improved the model fit. [LR chi^2(18) = 2939.70 with Prob > chi^2 = 0.000.

Factor analysis was conducted as a means of constructing an overall scale for the network characteristics using the principal component factor method. We evaluated the Kaiser-Meyer-Olkin (KMO) overall measure of sampling adequacy in order to ensure the factorability of the sample. The overall KMO and the KMO of each individual item was above 0.5 which is the criterion for adequacy (Hair et al., 2010). The analysis generated three component-factors with only one of them having an eigenvalue above 1. Therefore we rejected the remaining two factors. All items (professional, personal network and extent of influence) have loadings above 0.65. Lastly, to construct the "Network" scale we estimated the factor score which is a standardized value that has a mean of 0 and a standard deviation of 1 (Acock, 2018). The scoring coefficients of the items [professional network =0.46, personal network = 0.49, extent of influence = 0.40] show how central each item is to the construction of the "Network" scale. Figure 1 illustrates the scores of each group (elected – non-elected) for the three time points. Non-elected people had negative scores, while elected representatives had positive ones at all three time points.

> Insert Figure 1 here or slightly lower <

An analysis of variance was chosen to test whether the differences in the means of the "network" scales were significant. Specifically, a one-way ANOVA was conducted to compare the effect of network characteristics on members who were, or had been, elected representatives and those who were not for each of the three time points, with the use of interaction terms. The results, reported in Table A2 (Appendix), show significant differences for elected representatives and non-elected representatives, and for the periods, but not for the interaction between them. Figure 2 visualizes the results of the ANOVA test. In other words, the ANOVA test indicated that there was consistent behavior that persisted over time.

Finally, we conducted "median" splits in order to generate dummies for the variables of interest and re-estimated the models presented in Table 3 and Table A1. These models report similar but larger increases in the odds of being an elected representative and willingness to be elected compared to their corresponding models.

The factor analysis and the ANOVA of the extracted factors verified the results of the regression models (Figure 1 and Figure 2). The factor loadings supported the hypothesis about higher chances of being an elected representative stemming from personal networks compared to the extent of influence. Additionally, as seen in Figure 1, the "network" factor had negative scores for non-elected representatives and positive scores for elected representatives for all time points. This supports the hypothesis of the existence of a perceived robust social network for members to be elected as representatives.

> Insert Figure 2 here or slightly lower

Hypothesis 1: With all other factors held constant for a unit increase in personal network, the odds of being an elected representative increased by 1.41, 1.33, and 1.62 for 1993, 2003, and 2013, respectively (exp of the coefficients reported in columns 1a, 1b, and 1c in Table 3). Professional networks did not change the odds of being elected at least on a 10% significance level. This supports hypothesis 1. It should be noted that social networks in this instance refer to members´ personal networks, and the term does not extend to their professional networks.

Hypothesis 2: Professional networks did not affect the chances for a member to be an elected representative. Additionally, even though the log odds were not significant, they had a negative relationship with the chances of being an elected representative for the years 2003 and 2013 (negative signs of coefficients reported in columns 1b and 1c in Table 3 and in Table 4). This supports hypothesis 2.

Hypothesis 3: The higher the members evaluate the opinions of other farmers, the stronger is their interest in governance positions. Specifically, for a unit increase in the extent of influence, the odds of a member being in the high interest level category versus the categories of lower interest were 0.266, 0.228, and 0.244 times greater for the years 1993, 2003, and 2013, respectively (coefficients reported in columns 2a, 2b, and 2c in Table 3). Additionally, the change in the log-odds was similar for the three investigated years. This supports hypothesis 3.

Hypothesis 4: Ceteris paribus, for a unit increase in potential involvement, the odds of being an elected representative increased by 1.87, 1.83, and 1.77 for 1993, 2003, and 2013, respectively (exp. of the coefficients reported in columns 1a, 1b, and 1c in table 3 or table 4). Stated otherwise, the odds of being an elected representative increased as members´ willingness to be elected increased, which supports hypothesis 4.

Hypothesis 5: Regarding potential involvement, a unit increase in personal network, the odds of a member being in the high interest level category versus the categories of lower interest were 0.311, 0.522, and 0.73 times greater for the years 1993, 2003, and 2013, respectively (coefficients reported in columns 2a, 2b, and 2c in Table 3). Similarly, for a unit increase in professional network, the odds of a member being in the high interest level category versus the categories of lower interest were 0.406, 0.222, and 0.130 times greater for the years 1993, 2003, and 2013, respectively. Both regressors were found statistically significant and increased the odds of a member being interested in governance at all three time points. This supports hypothesis 5.

Control variables: Among the *control variables,* farm size had a significant, but rather small, explanatory power. This may possibly mean that prestige has some importance. Farmers' satisfaction with the business results of their farm operations, their age, and their gender were not related to either of the dependent variables.

6. Discussion

The importance of social networks is in agreement with the view of agricultural cooperatives as having both social and economic objectives. The personal objectives of potential and actual elected representatives can be achieved via social networks. Representatives become popular as the memberships consider that they promote the cooperative's economic performance (Morfi et al., 2018).

This study supports the assumption that personal networks and thus bonding social capital are more important than professional networks and, consequently, bridging social capital. People are influenced by individuals they trust (Coleman, 1988; Feng et al., 2016). Farmers belong to a farmer community within which everybody has, at least partly, the same interests, and people are willing to support one another (La Due Lake & Huckfeldt, 1998).

The observation that the odds of being an elected representative increase as members become more willing to be elected has a certain parallel to the study by Morfi et al. (2018), namely those authors' comparison between the motivational factors for members to become elected representatives and the motivational factors for members to continue as elected representatives. The authors report that bonding social capital ("developing personal networks") is more important among aspiring members, while those who want to continue as elected representatives rank higher in terms of bridging social capital variables ("promote the district," "status and prestige," and "tradition and feeling of community").

A major difference between members' interest in being an elected representative was associated with the study's time dimension. All network characteristics were found to increase the odds of belonging to the category of members who were highly interested in being a representative. However, the coefficient for the odds for personal networks increased when moving from 1993 to 2003 and finally to 2013, while the opposite holds true for professional networks. Regardless, the support from social networks increased the odds of farmers expressing high interest in being elected representatives for all three time points. The amount of social capital is threatened because the Swedish cooperative business sector has declined, and there has been much consolidation (Nilsson et al., 2009; Österberg & Nilsson, 2009; Nilsson et al., 2012; Feng et al., 2016). These trends may, however, be outweighed as new governance and ownership structures have raised member involvement (Hakelius, 2018; Morfi et al., 2018). Another factor that may have stimulated bridging social capital is the emergence of new farmer organizations for information exchange, lobbying, and mutual support.

Members' interest in governing positions may be a consequence of their social networks, and at the same time, social networks may be a consequence of members' involvement in cooperative governance. Farmers hardly want to run for an office if they expect that the election will have a negative outcome for them. The support or discouragement that members experience in their networks functions as a risk-assessment tool (McClurg, 2006).

Such risk avoidance behavior also becomes likely when cooperatives have nomination committees or the corresponding units. Because nomination committee delegates are likely to feel embarrassed if their proposals are turned down by the assembly, they avoid suggesting members who can be deemed to only have a small chance of being elected. Thus, the nomination committees are likely to propose candidates that have strong social networks. Nomination committee delegates additionally have often strong networks, and they may seek candidates from within these networks.

7. Conclusions

This study found strong relationships between members' willingness to be elected representatives in their cooperatives and their social networks. This applies especially to personal networks. Support from family and friends may be associated with greater trust in comparison to support from professional networks, which consist of other farmers, including unknown people. The positive relationship between farmers' social networks and their willingness to participate in cooperative governance was found to persist even though both cooperatives and the farmer community had undergone profound changes.

As this study was conducted in a single country, Sweden, the findings cannot be generalized. However, because the data originates from a 20-year period, during which different institutional conditions ruled in Swedish agriculture, there is a chance that the findings are applicable to agricultural cooperatives in other settings.

Scholars within the field of agricultural cooperatives have for decades debated whether cooperatives have economic or social objectives. As this study found that members' willingness to take on a governance position is positively related to whether they experience that others consider

them to be qualified to run a cooperative business firm, the findings strengthen the view that cooperatives are social and economic entities at the same time. While a large part of present-day research on cooperatives concerns economic issues, this study indicates that social factors influence the governing bodies of cooperatives.

The findings of this study accentuate the need for elected representatives who are not only popular among the memberships but who also act in the long-term interests of members and promote the interests of the entire membership. This may be achieved through information and education directed to the Board of Directors and the newly elected directors as well as the nomination committee delegates.

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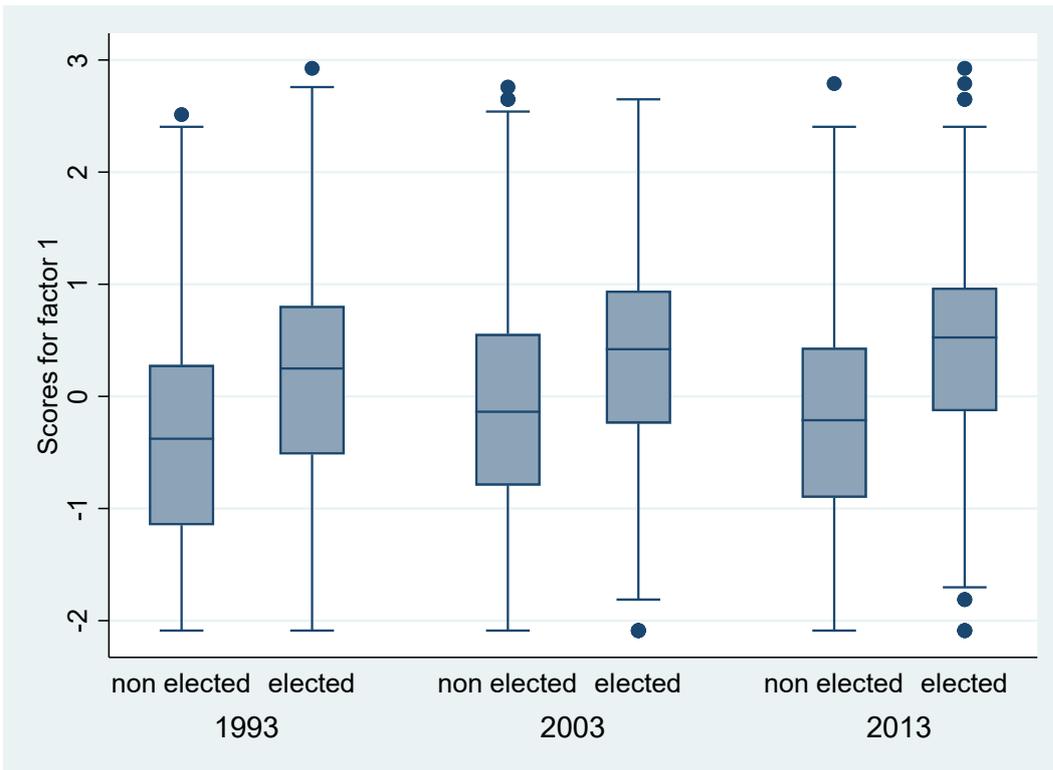
FIGURE 1. Network characteristics

Period x elected (dummy) interaction with 95% CIs
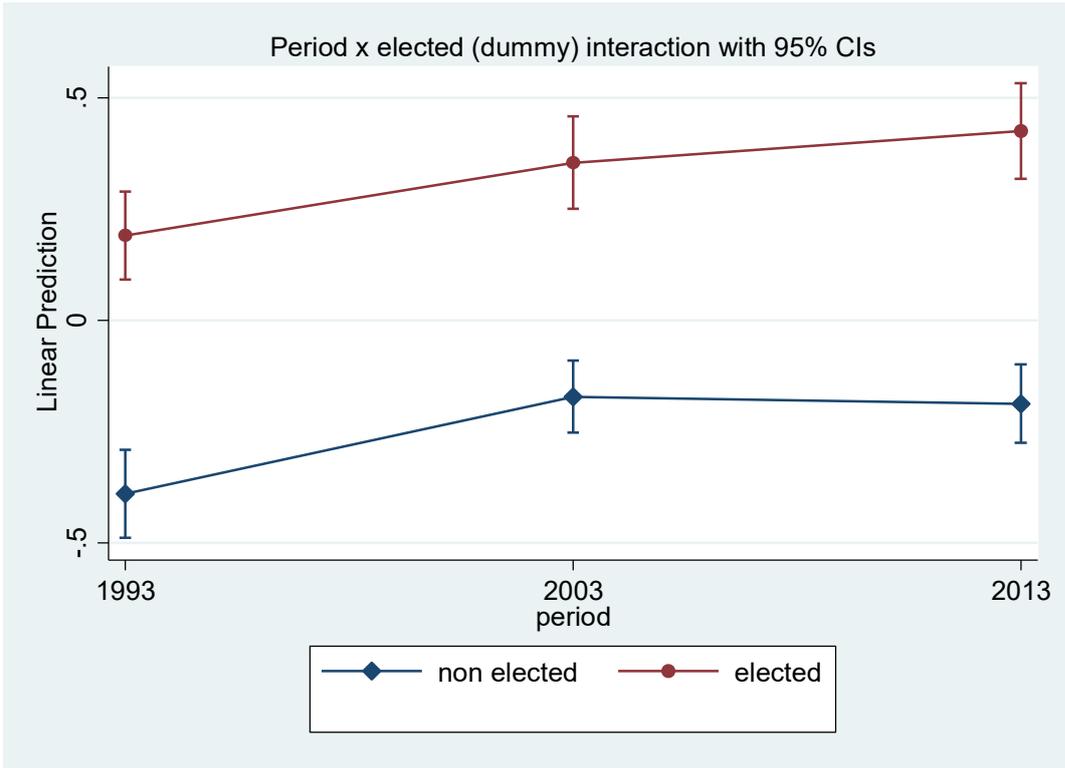
TABLE 1. Variables, questions and measurements

Variable	Statements and questions	Measurement
Actual involvement	Are you an elected representative or have you ever been one?	(0) Yes, (1) No
Potential involvement	I think it would be, (is) interesting to be an elected representative.	(1) Completely disagree, (2) Disagree, (3) Slightly disagree, (4) Slightly agree, (5) Agree, (6) Completely agree
Professional network	I believe that [none of, a few of, some of, many of, most of, all] the other farmers in the organization's local branch think I should participate in the democratic processes.	(1) None, (2) A few of, (3) Some of, (4) Many of, (5) Most of, (6) All
Personal network	I have [never, almost never, sometimes, quite often, very often] spoken with my personal network (neighbors, friends, relatives) about me participating in the democratic processes.	(1) Never, (2) Almost never, (3) Sometimes, (4) Quite often, (5) Very often
Extent of influence	The opinion of other farmers has huge significance in my decision to participate in the democratic processes.	(1) Totally disagree, (2) Disagree, (3) Slightly disagree, (4) Slightly agree, (5) Agree, (6) Totally agree
Satisfaction	Are you satisfied with the economic results of your farm enterprise during the last five years?	Seven-digit Likert scale from (1) Dissatisfied to (7) Satisfied
Gender	Male or female	(1) Male, (2) Female
Acreage	How many hectares are included in your farming operations	Number of hectares
Age	Age of the respondent	Number of years

TABLE 2. Descriptive statistics

Item	1993		2003		2013	
	Mean	S.D	Mean	S.D	Mean	S.D
Elected representatives	0.50	0.50	0.38	0.48	0.41	0.49
Willingness to be a representative (potential involvement)	3.32	1.56	3.05	1.64	3.11	1.62
Professional network	3.38	1.17	3.20	1.20	3.21	1.21
Personal network	2.21	0.92	2.29	0.94	2.27	0.94
Extent of influence	2.56	1.33	3.14	1.48	3.21	1.62
Satisfaction	3.99	1.52	3.42	1.69	3.74	1.71
Gender	1.03	0.18	1.15	0.35	1.15	0.36
Acreage	200.17	327.26	217.17	298.65	274.51	381.72
Age	48.61	11.95	54.44	11.36	55.41	12.07
Observations	690		803		717	

TABLE 3. Unpooled models

	(1) Actual involvement Logistic regressions			(2) Potential involvement Ordered logistic regressions		
	1993	2003	2013	1993	2003	2013
Willingness to be an elected representative	0.627*** (9.57)	0.605*** (10.24)	0.572*** (9.05)			
Network characteristics						
Professional network	0.129 (1.54)	-0.014 (-0.19)	-0.077 (-0.90)	0.406*** (6.16)	0.222*** (3.81)	0.130* (2.01)
Personal network	0.344** (3.12)	0.287** (2.87)	0.488*** (4.32)	0.311*** (3.64)	0.522*** (6.77)	0.739*** (8.43)
Extent of influence	-0.017 (-0.24)	-0.021 (-0.35)	0.048 (0.74)	0.266*** (4.56)	0.228*** (4.90)	0.244*** (4.91)
Control variables						
Satisfaction	-0.033 (-0.57)	0.041 (0.83)	0.095 (1.79)	0.064 (1.43)	0.067 (1.80)	0.027 (0.68)
Gender	-0.659 (-1.29)	-1.048*** (-3.96)	-0.496 (-1.91)	-0.669 (-1.69)	-0.029 (-0.16)	-0.083 (-0.45)
Acreage	0.000 (1.42)	0.004 (1.32)	0.000* (2.24)	0.000 (0.18)	-0.001 (-0.81)	0.000 (1.78)
Age	0.010 (1.43)	-0.012 (-1.61)	-0.012 (-1.70)	-0.004 (-0.73)	-0.012* (-2.26)	-0.015** (-2.71)
Cutpoint 1/ Intercept	-3.006***	-1.569*	-2.478***	0.233	0.790	0.668
Cutpoint 2				1.388*	1.740***	1.676***
Cutpoint 3				2.235***	2.341***	2.447***
Cutpoint 4				3.225***	3.373***	3.476***
Cutpoint 5				4.723***	4.875***	4.957***

GOF measures						
CCR	70.43%	73.10%	72.94%			
Pseudo R^2				0.0560	0.0559	0.0732
Observations	690	803	717	690	812	717

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 4. Total effects of the logistic regression on pooled data

		1993	2003	2013
Constant	-3.006***			
	(0.781)			
2003	1.437			
	(1.001)			
2013	0.528			
	(1.014)			
Professional network		0.129	-0.014	-0.077
		(0.0837)	(0.078)	(0.085)
Personal network		0.344***	0.286**	0.487***
		(0.110)	(0.099)	(0.112)
Extent of influence		-0.0176	-0.021	0.048
		(0.0737)	(0.060)	(0.064)
Willingness to be representative		0.627***	0.604***	0.571***
(potential involvement)		(0.0655)	(0.059)	(0.063)
Satisfaction		-0.0330	0.041	0.095
		(0.0580)	(0.049)	(0.053)
Gender		-0.659	-1.047***	0.264
		(0.513)	(-0.496)	(0.259)
Acreage		0.000480	0.004	0.000
		(0.000337)	(0.003)	(0.000)
Age		0.0107	-0.011	-0.012
		(0.00750)	(0.007)	(0.007)
Observations	2,210			

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendices

Table A1. Pooled data – models with and without interactions

VARIABLES	Logistic regressions		Ordered log. regressions	
	Interaction terms	No interaction terms	Interaction terms	No interaction terms
Professional network	0.129	0.0279	0.899***	0.263***
	(0.0837)	(0.60)	(0.0862)	(0.0359)
Personal network	0.344***	0.358***	0.664***	0.518***
	(0.110)	(5.88)	(0.112)	(0.0476)
Extent of influence	-0.0176	-0.0195	0.570***	0.216***
	(0.0737)	(-0.53)	(0.0788)	(0.0287)
Willingness to be representative	0.627***	0.602***		
	(0.0655)	(16.92)		
Satisfaction	-0.0330	0.0443	0.124**	0.0627***
	(0.0580)	(1.46)	(0.0581)	(0.0232)
Gender	-0.659	-0.826***	-1.130**	-0.202
	(0.513)	(-4.86)	(0.523)	(0.123)
Acreage	0.000480	0.000585**	2.25e-05	0.000261*
	(0.000337)	(3.01)	(0.000284)	(0.000143)
Age	0.0107	-0.00558	-0.00822	-0.0130***
	(0.00750)	(-1.34)	(0.00758)	(0.00318)
2003	1.437		-4.101***	
	(1.001)		(0.939)	
2013	0.528		-4.147***	
	(1.014)		(0.950)	
Professional network_2003	-0.143		-0.893***	
	(0.115)		(0.108)	
Professional network_2013	-0.206*		-0.875***	
	(0.120)		(0.111)	
Personal network_2003	-0.0574		-0.663***	

	(0.149)	(0.140)	
Personal network_2013	0.144	-0.646***	
	(0.158)	(0.146)	
Extent of influence_2003	-0.00369	-0.569***	
	(0.0955)	(0.0938)	
Extent of influence_2013	0.0658	-0.565***	
	(0.0982)		
willingness_2003	-0.0217		
	(0.0882)		
willingness_2013	-0.0547		
	(0.0910)		
Satisfactio_2003	0.0743	-0.113	
	(0.0763)	(0.0711)	
Satisfaction_2013	0.129	-0.136*	
	(0.0790)	(0.0727)	
Gender_2003	-0.389	1.073*	
	(0.577)	(0.561)	
Gender_2013	0.163	1.090*	
	(0.575)	(0.561)	
Acreage_2003	0.00379	0.000639	
	(0.00325)	(0.00265)	
Acreage_2013	8.15e-05	2.57e-05	
	(0.000420)	(0.000340)	
Age_2003	-0.0227**	0.00632	
	(0.0106)	(0.00969)	
Age_2013	-0.0233**	0.00806	
	(0.0106)	(0.00969)	
Constant	-3.006***	0.632	0.563**
	(0.781)	(0.787)	(0.272)
Observations	2,210	2,219	

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE A2. ANOVA

		Number of obs = 2353		R-squared	= 0.083
		Root MSE	= 0.95	Adj R-squared = 0.084	

Source	Partial SS	df	MS	F	Prob>F
Model	197.04	5	39.40	42.87	0.00
director	186.15	1	186.15	202.57	0.00
period	20.82	2	10.41	11.33	0.00
director#period	0.75	2	0.376	0.41	0.66
Residual	2156.89	2347	0.91		
Total	2353.94	2352	1.00		