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Differentiated voting and membership composition – the case of a large Swedish dairy cooperative

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ABSTRACT

This study comprises theoretical and empirical analyses of differentiated voting rights in the governance of agricultural cooperatives with self-interest seeking members. A survey was conducted among representative samples of members and General Assembly delegates of a large Swedish dairy cooperative while two important decisions were under consideration. Because of the equal voting rights regime, the majority of small-scale farmers encouraged the General Assembly to reject both efficiency-raising measures. However, if the large-scale farmers had had more voting power, both proposals would have been accepted. Because of limited spatial competition, the large-scale members could not "voting by their feet".

***Keywords**: Proportional voting; Board of Directors; General Assembly; member democracy; organizational costs*

1 Introduction

This study presents theoretical and empirical analyses of the voting rights members have in the internal governance of agricultural cooperatives in Western, competitive economies. “Internal governance refers to … decision-making processes, the role of the different governing bodies, and the allocation of control rights to the management (and the agency problems that go with delegation of decision rights)” (Hanisch and Rommel, 2012, p. 6). The analyses involve economic and social conditions for differentiated voting rights as opposed to equal voting rights, i.e., the principle of “one member, one vote”.

Most cooperatives in most countries apply the principle of equal voting rights, and in some countries, it is even required by law, as reported by Van der Sangen (2014). However, even in countries where differentiated voting is allowed, only few cooperatives make use of this opportunity.

Despite the dominance of equal voting rights, economists have recommended differentiated voting rights in agricultural cooperatives from the 1920s onwards (Nourse, 1928; Emelianoff, 1942; Phillips 1953; Boynton and Elitzak, 1984; Knutson, 1985; Kappelman, 1990; Gray and Butler, 1991). The authors advocated governance according to “use” and not “user”. The argument is that differentiated voting rights will encourage the governing bodies to make better strategic choices. In large and heterogeneous memberships, comprising a large number of small-scale farmers who try to pursue their personal interests, there is a risk for decisions that are not in the interest of the membership at large. Differentiated voting gives power to members, who have larger production volumes, and they tend to be younger, more professional, more experienced, better educated, and more expansion oriented compared to the small-scale members (Iliopouloos and Hendrikse, 2009).

> It should be clear ... that equal voting would tend to exclude those who might feel that their interests might not thus be adequately protected. (Robotka, 1947, p. 139)

The large-scale farmers are important for the cooperative, but the small-scale farmers do not always recognize this. Investor-owned competitors will try to handpick large-scale farmers with efficient production, high and even product quality and good location (Ollila, 1984). Likewise, large-scale farmers can exit from their cooperatives because cooperatives normally follow the principle of open memberships. Therefore, by satisfying the interests of the large-scale producers, cooperatives will strengthen their performance (Knutson, 1985).

> There is a fear among some that proportional voting can lead to the domination of smaller producers by larger ones. However, this situation should be no less acceptable or equitable than the domination of larger producers by smaller ones, as is possible under equal voting mechanisms. If cooperatives are to be responsive to the needs of larger producers, who in some situations may be essential to the continued success of the organization, voting should be apportioned according to patronage. (Royer, 1992, p. 81f)

The literature on voting rights in cooperatives seems to lack empirical evidence. Thus, the present study has a pioneering character. It contributes to the literature about voting rights in agricultural cooperatives, and more broadly, the internal governance of cooperatives. It presents a survey among members of a large Swedish dairy cooperative, which was at the time experiencing a financial crisis and had exorbitantly high costs. This study indicates that if this cooperative had had differentiated voting rights, two decisions that would ameliorate the problems would have had different outcomes compared to what they came to be under the ruling equal voting rights regime.

This study aims at exploring the importance of differentiated voting rights in agricultural cooperatives, whereby a large Swedish dairy cooperative functions as a case in point. The study posits that under certain conditions, more voting rights to large-scale farmers would benefit the performance of cooperatives: First, in a membership that is large and heterogeneous, the members become anonymous to each other, and thus, individuals may try to enhance their self-interests, especially if the members experience harsh economic times. Second, if the large-scale farmers do not have alternative trading partners to turn to, they cannot “vote by their feet”. Thus, the large-scale farmers are locked into the cooperative and subject to the arbitrariness of the small-scale members.

The next section presents theoretical analyses of voting rights in cooperatives. In Section 3 follows an account of why the investigated cooperative faced problems that could eventually be alleviated with differentiated voting rights as well as a presentation of the empirical study. The findings of the empirical study are then accounted for in Section 4. While Section 5 contains a discussion of the findings, Section 6 presents conclusions, limitations and suggestions for further research.

2 Conceptual framework

2.1 Points of departure

In this study, differentiated voting refers to a *differentiation in relation to the members' patronage.* Alternatively, differentiation could be related to other variables such as the members' investments in the cooperative. Such a differentiation is, however, not relevant in a cooperative context, because cooperatives exist for members to patronize it, while the ownership is subordinate to patronage. Members' businesses with their cooperatives decide whether the cooperative performs well for the members (Dunn, 1988). For a firm to perform well, the power must lie in the hands of those who provide the resources that are most important for the firm's operations (Hart and Moore, 1996).

The concept of differentiated voting rights is equivalent to unequal, or multiple, voting rights, although *the concept of proportional voting rights* is used by many authors (e.g. Iliopoulos and Cook, 2023). However, strict proportionality between patronage and voting rights implies that a few very large members could dominate the cooperative, either alone or in collusion (Robotka, 1947). Differentiated voting, on the other hand, can be designed in innumerable ways, comprising a varying number of votes to members within different classes of patronage. Thus, it is possible to adapt the voting regime to the conditions of various cooperatives and protect minority interests, thereby promoting cohesion within the membership (Iliopoulos and Cook, 2023).

Democratic governance of cooperatives is widely recognized. However, cooperative democracy is often considered synonymous with a principle of one member, one vote (International Cooperative Alliance, 2023). On the condition of membership heterogeneity, differentiated control of an economic activity is just as consistent with democratic rule as is equal voting rights. It is a fallacy to consider the equal treatment of members as being equitable (Kappelman, 1990). Indeed, differentiated voting rights are compatible with the general definition of cooperatives: "In a cooperative, the user is the focal point, with the direct status of user, owner, and control vested in the same individual" (Dunn, 1988, p. 85).

> Voting on a basis of the amount of business transacted with the cooperative is likewise democratic in that it recognizes the differences in economic interests of the members and the importance of volume to an association's effectiveness as a marketing unit. (Schaars, 1957, p. 192)

The general topic of voting rights is covered by a huge amount of theoretical and empirical research, although the specific topic of voting rights in cooperatives is little researched. In the economics and management literature, the focus is on investors' voting in proportion to the amount they have invested. When political science and sociology scholars analyze voting rights in the context of governments and civic societies, they conclude that voting should be equal. This also explains why equal voting rights have a strong position in the world of cooperatives (Reynolds, 2000); cooperatives started as a popular movement among small actors, and in the early days, the memberships were not as heterogeneous as today.

The present study focuses on *traditional cooperatives with a representative member governance.* This cooperative business form dominates within the agricultural sector in most countries. When a membership is small, all members can congregate to decide about the cooperative's strategies. With a larger membership, representative governance is needed. The membership is split into smaller units where the members elect trusted delegates to represent them in the next higher echelon of the membership organization.

The cooperative that is subject to empirical analyses in this study provides an example of a *membership organization.* Members within geographically defined districts elect District Councils. The chairpersons of these councils constitute the General Assembly, which congregates once per year and is the cooperatives' highest decision-making body. The General Assembly elects a Board of Directors, and in such elections, the delegates from the districts vote in proportion to the number of members in their districts. The Board of Directors makes decisions about the business activities, although the Board of Directors must have proposals concerning strategically important issues approved by the General Assembly. The Chief Executive Officer's task is to execute the strategies made by the Board of Directors, not making any strategic decisions on his own.

During recent years, many researchers have directed their attention to *hybrid models for agricultural cooperatives* (Cook, 1995; Bijman et al., 2013; Chaddad and Iliopolous, 2013). They present models where a cooperative society runs its business operations together with external financiers, much power is delegated to the employed management, the members have individual ownership of the cooperative, or the member benefits consist primarily of capital returns. These organizational models have implications for the member governance, since they entail that property rights and decision rights are different from those in the traditional cooperative model, where the members via their elected representatives are responsible for all strategic decisions.

2.2 Membership composition

Many researchers claim that the social capital theory provides explanations for the structures and strategies of cooperatives, including their governance (Iliopoulos and Valentinov, 2022; Nilsson, 2023). Thus, social capital theory may serve as the basis for an analysis of whether member interests can best be satisfied through equal or differentiated voting rights. Social capital includes "the information, trust, and norms of reciprocity inherent in one's social networks" (Woolcock, 1998, p.153), and the existence of social capital means that an individual may gain access to the resources of other individuals (Bourdieu, 1986).

To the extent that there is social capital in the relations within a membership, and in the relations between the members and the elected representatives as well as the management, the governance of cooperatives will be positively affected. For example, thanks to social capital, there will be better information exchange at all organizational echelons as well as a lower risk the leadership will make decisions that do not satisfy member interests. Moreover, members will be more active in monitoring the cooperatives' business activities, and the agency costs are reduced as the social ties make members less inclined to cheat. Social capital across generations also facilitates long-term investments and enables members to agree upon the cooperatives' goals, incentive structures and strategies. Finally, by securing social capital in its external relations, a cooperative will enjoy a good reputation and be an attractive business partner.

In sum, social capital incentivizes members to be loyal with respect to patronage, investments and governance. Consequently, if a cooperative has poor social capital, it will have difficulties keeping its cooperative business form (Nilsson et al., 2012, Nilsson, 2018). Therefore, it is essential for the leadership to promote social capital within the cooperative organization.

The organizational structures of cooperatives can be elucidated by other theoretical approaches as well. Thus, researchers have suggested that cooperatives organize themselves to receive the lowest possible organizational costs. Iliopoulos and Cook (2023) presented four main classes of cooperative organizational costs, namely (1) risk-bearing-related costs, (2) costs of controlling managers, (3) collective decision-making costs, and (4) costs for securing strategic investments. The organizational costs are to be borne by the members. Within these categories, there are, e.g., monitoring costs and influence costs. For example, the members at large will face influence costs if a subgroup of members or the management succeeds to influence the cooperative's decisions to their advantage (Iliopoulos and Hendrikse, 2009). Overall, if a cooperative does not succeed in keeping the various kinds of costs sufficiently low, this cooperative and its members will be in danger, which is similar to the conclusions drawn from the social capital theory, i.e., cooperatives with weak social capital are threatened.

Although the social capital theory and the organizational costs framework are paradigmatically different, the two approaches send the same messages. The existence of social capital in the relationships between various individuals will reduce different types of organizational costs. Similarly, the two approaches say that cooperative decision-makers try to have a high amount of social capital and a low level of organizational costs, respectively. This is especially so, because a representative governance structure causes higher costs as compared to the governance of investor-owned firms (Iliopoulos and Handrikse, 2009; Pozzobon and Zylbersztaijn 2013: Iliopoulos and Cook, 2023).

Newly established cooperatives usually have small and homogeneous memberships, which allow for low organizational costs. Even if the founding members have self-interest motives for their initiative, they want to recruit more members in order to reap economics of scale in the cooperative's operations (Olson, 1965). However, the new members should have characteristics similar to themselves, whereby there will be good conditions for social capital, i.e., trust, mutuality and cohesion. In small cooperatives, the entire membership can congregate in the same venue to discuss and unite upon strategic decisions (Reynolds, 2000). Interdependency within the group of members fosters mutual trust. Moreover, members often come from the same social class and a specific geographical area, which further facilitates good communication. The leadership rests on the shoulders of trusted members, and while "[d]emocracy does not mean that the conflicts among the members can be settled [but] they can, in an ideal case, be optimally controlled" (Ollila, 1984, p. 104). Thus, the principle of equal voting rights maintains good conditions in small memberships.

The conditions for cooperative governance become different as the memberships change over time, and the size and the degree of heterogeneity increases. It has been claimed that cooperatives have an inherent drive to expand in order to reap economics of scale and scope (Cook, 1995). This is a major explanation for the fact that mergers between cooperatives occur frequently (van der Krogt et al., 2007). Likewise, many members expand their operations, yet at the same time, small-scale farmers remain (Iliopoulos and Cook, 2023). New members enter continually and existing members exit, and the membership heterogeneity changes constantly with respect to members' age, the size of farming operations, the choice of agricultural technologies, financial status, as well as social factors such as involvement and attitudes, all of which affect members' interests in a cooperative.

In large and heterogeneous memberships, there are poorer conditions for social capital (Feng et al., 2016). Members have a weak incentive to involve themselves in governance because a single member's vote cannot affect any decision

(Gaurwitsch and Nilsson, 2010). Many members therefore choose to be free riders when it comes to the governance of their cooperatives (Nilsson and Svendsen, 2011).

Large cooperatives tend to accept members with divergent attributes, because the new members contribute to the cooperative's production volume and thus lower average costs as well as the financial capital (Olson, 1965). As members join one by one, an increase in membership heterogeneity takes place incrementally; thus, the original governance principle of equal voting rights is upheld (Nilsson et al., 2012), and so long as there is a sufficient amount of social capital within a group of leading farmers, the power remains within this group (Morfi et al., 2021).

Farmers belong to cooperatives because of their self-interest seeking motives. A cooperative is a safer trading partner while an investor-owned firm might act fraudulently. Both small- and large-scale farmers have the possibility to save transaction costs through a cooperative membership, as they have transaction-specific assets, are subject to uncertainties and face limited competition within their local area (Hendrikse and Feng, 2013). However, a cooperative is more important for large-scale farmers, and large-scale farmers are more important for the cooperative. A cooperative with predominantly small-scale members may be a risk (Knutson, 1985). While both categories may benefit from each other, small-scale farmers are more dependent upon the large-scale farmers than vice versa. Therefore, a cooperative must consider large-scale farmers' interests more than small-scale farmers' interests.

Small- and large-scale producers have partly different interests. Large-scale farmers are more often professionals, have sizeable monetary investments in their farms, and are dependent on their farms for their livelihood. Small-scale farmers, on the other hand, are often older, may work part-time, and often not very indebted.

In large memberships, there will be members who patronize the cooperative to a minor extent or even just occasionally as well as those who do not involve themselves in the governance at all (Gaurwitsch and Nilsson, 2010). The group of marginally involved members may even comprise the vast majority of the membership. These members may regard their cooperative as just one business partner among others. However, taking part in governance is voluntary. While the definition of a cooperative implies that members have the right to vote, they are not obliged to do so; they have the right to conduct business but loyalty is not required (Dunn, 1988). However, the fact that people are members suggests they place trust in the cooperative even if they do not conduct much trade with it. Even relatively passive members express sympathies to their cooperative through their decision to be members. If members have a positive perception of their cooperative, the cooperative enjoys at least some social capital.

2.3 The promotion of member interests

Even in cooperatives with many marginally involved members, there is high involvement by other groups of members (Gaurwitsch and Nilsson, 2010). They take part in the meetings, inform themselves and vote. Moreover, there are those who aspire to be elected representatives (Morfi et al, 2021). Thus, the governing bodies consist of highly involved members. The representatives have the option of listening either to other involved members or the entire membership, which in reality means the large number of small-scale farmers. Since small-scale farmers constitute a majority in a large and heterogeneous membership, the elected representatives may be at risk if they prefer the former option, i.e., they may not be popular and thus reelected.

If an elected representative acts in order to gain personal benefits, this will result in agency costs for the entire membership. Agency costs will also appear when representatives favor one category of members, because then other member categories will suffer.

Members have two major options in disciplining the leadership of an organization. They can, for example, express their dissatisfaction through voice and exit (Hirschman, 1970). The voice option may take the form of voting at general assemblies in order to remove the existing leadership, and since being dismissed is a threat to the existing leadership, the dissatisfied members have a means of power. They may take action individually, or – if the dissatisfaction is strong and widespread – they may organize their resistance. Voice can also consist of other signals from members to the leadership, such as expressions of criticism and appreciation, complaints, suggestions and other gestures. Furthermore, cooperatives sometimes even conduct surveys among their memberships.

Voice can also consist of the establishment of opposition groups, both informally and formally. Members may involve themselves in analyzing their cooperative's "activities and conducting lobbying directed to members, elected representatives, management and the general public" (Nilsson and Ollila, 2007, p. 48). Organized protest groups are likely when many dissatisfied members cannot exit, because they are locked-in into the cooperative due to large transaction specific assets and poor alternative business opportunities.

Members may form opposition groups and try to lobby for their interests. For instance, if the leadership supports the large-scale members, the small-scale members may protest, but it is more likely that the large-scale members will form coalitions in order to influence the governing bodies, because they are more likely to be involved than the small-scale members.

The other form of expressing dissatisfaction is through "exit", i.e., the members "voting by their feet". There is a significant difference between the consequences of large- and small-scale farmers' with respect to exit, and as dissatisfaction may give rise to social capital within a group, members might organize a joint exit (Hakelius et al., 2013). When individual members stop patronizing the cooperative and withdraw their investments, this may be a threat to the leadership. It is especially problematic if many large-scale members exit within a short time span, thereby withdrawing their patronage and creating higher average costs for the remaining members by removing their financial investments (Nilsson and Lind, 2015). Alternatively, these members may remain as members yet reduce their patronage. The leadership is likely to listen to these members if there is a threat of sizeable exit.

Much dissatisfaction is likely to concern the fact that cooperatives generally follow the principle of service-at-cost, which implies that the members are responsible for the costs and the proceeds that they impose on the cooperative. If the small-scale members are many in number, they may force the cooperative to follow a strategy of cross-subsidization from the larger members to the smaller ones. One possible explanation for why cross-subsidization is so widespread is that there is social capital within the membership, implying that large-scale farmers, for solidarity reasons, support smaller-scale farmers. However, in cases when large-scale farmers have financial difficulties, such social capital is less likely. Likewise, "service-at-cost" is not easy to handle. It is impossible to calculate the costs that a specific member can impose on the cooperative and the proceeds. Hence, this principle is not compatible with the cooperative principle of equal treatment.

2.4 The governing bodies' communication with the members

On the theoretical presumption of opportunism, i.e., the seeking of self-interest with guile, one may expect agency related problems in large membership organizations. Due to information asymmetry, the agents (the leadership) may reap personal benefits that actually belong to the principals (the members) (Jensen and Meckling, 1976). The elected representatives and management may moreover collect unduly high rents at the expense of the members. Not all agency costs can be eliminated, but the members can reduce them if they are willing to carry monitoring costs.

One type of agency cost appears when a governing body makes an investment decision that benefits one member category more than the others. Here it is perhaps the most highly involved members, to which the elected representatives themselves belong, that wield the most influence. Alternatively, the elected representatives may be dependent on a specific member category, or a certain group may deliberately undertake influencing activities (Iliopoulos and Hendrikse, 2009).

Other agency costs appear when the leadership ignores urgent decisions or postpones decisions. Problems may also appear when the leadership has bad information about the opinions and conditions within the membership, which is more likely in large and heterogeneous memberships. Similarly, the elected representatives will have difficulty conveying complicated and sensitive information to such memberships or may even distort information.

There is a mutual relationship between the communication elected representatives have with members and the communication that takes place within the membership. This creates a dynamic situation. Information from the representatives causes members to discuss it, and as they may as a result change their opinions, the elected representatives receive new signals. Thus, there are learning processes within both categories, whereby over time, both elected representatives and members gain new knowledge and change their opinions in an unpredictable way. It is, however, more likely that the group of highly involved members will change their views and opinions than the group of less involved members, and as learning processes are dependent upon the members' involvement, this means that there are differences between large- and small-scale farmers.

The elected representatives will have limited knowledge about most members' opinions, as such are poorly involved and anonymous both to each other and the leadership. In the absence of social capital, the leadership will have to resort to impersonal communication. Still, in the case of equal voting rights, the elected representatives are dependent upon these numbers. Nevertheless, there is a good opportunity to gain social capital in the relations between the elected representatives and the highly involved members.

Members tend to be more involved when they experience limited spatial competition, i.e., the cooperative is the only potential trading partner. As these members are thus dependent upon their cooperative, they will react strongly when the cooperative's performance is poor.

2.5 Hypothesis

The theoretical discussions above lend themselves to a hypothesis, which is tested empirically in the following sections:

The governing bodies of cooperatives with large and heterogeneous memberships are more likely to decide on efficiency-raising measures if the cooperatives have differentiated voting rights rather than a regime of equal voting.

The analyses on the preceding pages also indicate that several factors must hold for the hypothesis to be claimed:

- Small- and large-scale members have divergent interests.
- There is limited social capital, whereby members tend to pursue their own interests.
- The small-scale members constitute a majority within the membership.
- The elected representatives want to be appreciated among the members.
- The governing bodies have difficulty communicating with the members, especially with members who are poorly committed.
- Due to learning processes, both elected representatives and members may change their opinions over time.
- When members have difficulties finding a better business partner to substitute the cooperative, they will care more for the governance of the cooperative.

The next section comprises a test of the hypothesis. It presents a case study of a cooperative that fulfills the above-mentioned conditions.

3 Case study

3.1 Institutional conditions

This study rests on a master's thesis conducted at the Swedish University of Agricultural Sciences (Nilsson [Jörgen], 1995) concerning a Swedish dairy cooperative as it operated in the mid-1990s, i.e., during the era when Sweden joined the European Union (EU). At its EU accession in January 1995, Sweden had to abolish its extremely protective national agricultural policy (Rabinowicz et al., 1986; Rabinowicz, 2004). This policy caused the country's entire agrifood sector to become inefficient (Micheletti, 1987). The policy involved high tariffs on imported food products and implied a ban on competition between cooperatives. Agricultural cooperatives dominated all agricultural industries, and the government favored cooperatives at the expense of investor-owned food producers. Furthermore, the cooperatives were the governments' negotiation partners as the prices on agricultural products were settled through a political process. Governmental support for agriculture thus gave rise to excess production volumes, the export of which was subsidized.

The farmers, the cooperatives and all other firms in the agrifood sector had adapted to this protected market environment. Thus, Swedish agriculture was not competitive when food producers in the other EU member countries offered low-priced food products (Nilsson, 1997; Nilsson and Lind, 2015).

In the years following the EU accession, the cooperatives tried to make radical strategic reorientation. However, the national agricultural policy had fostered a conservative mentality and many small-scale farmers. All cooperatives followed the principle of equal voting, and most had difficulties adapting their policies and structures to intense international competition. During the decades to come, there were many domestic and international mergers in the cooperative sector as well as acquisitions from foreign firms (Nilsson, 2022).

3.2 The cooperative

A study was undertaken in late 1995 within one of the cooperatives that was hit by international competition. Operating in the southernmost province of Sweden, it was the country's second largest dairy cooperative with 12.1% of the national milk production. The study comprised a survey among samples of members with different scales of operations as well as General Assembly delegates.

The cooperative had a monopsony position, as there were no other dairy processors within its operational area, and one neighboring cooperative, which was dominant in the dairy industry. However, it was not an attractive business partner for the members of the investigated cooperative for economic and cultural reasons.

The cooperative in question had a representative governance structure. The 1,927 members (1994) belonged to nine geographically defined districts (Morfi et al., 2018), and at the districts' annual meetings, members of the District Councils were elected. The District Councils' chairpersons and deputy chairpersons served as delegates at the General Assembly, together with a number of other elected representatives. The General Assembly had 72 delegates and one annual meeting, where it elected the Board of Directors, which in turn had frequent meetings. When the Board of Directors wanted strategic decisions to be made, its proposals had to be approved by the General Assembly.

During the course of the early 1990s, the membership became more heterogeneous in terms of the members' scale of operations (Table 1). The number of members decreased, and many small-scale members exited. However, the small ones kept their dominance within the membership. The aggregate volume of production moreover increased as many large-scale producers expanded their operations.

As the Swedish EU accession approached, the leadership saw a need for strategic changes. Thus, in early 1994 and early 1995, respectively, the Board of Directors presented two proposals that would lead to a stronger financial status and more efficient production within the membership (Nilsson and Bärnheim, 2000). However, the General Assembly

rejected both proposals. Before the General Assembly made its decisions, the delegates had sought the opinions of farmers within their home districts.

Table 1.
Attributes of the cooperative's membership in 1994 and 1995

	1990	1994	Milk quantity, 1994
Average delivery (tons/year)	157	212	
Members (number)	2,564	1,927	
Members who deliver …			
less than 100 tons/year	39.8%	28.2%	8.4%
100–300 tons/year	50.0%	53.1%	46.0%
300–900 tons/year	10.2%	17.2%	35.9%
more than 900 tons/year	0.0%	1.5%	9.7%
	100.0%	100.0%	100.0%

In 1994, the Board of Directors proposed raising the minimum quantity that the members were allowed to deliver when the cooperative's milk trucks collected milk from the members. The cooperative could save costs if the minimum quantity was raised from 100 to 200 kilograms per delivery. The new rule would affect only extremely small farms, but the in-transport costs for very small quantities was high. The existing model implied cross-subsidization from the large farms to the small ones.

In 1995, the Board of Directors proposed a new financial model. The existing scheme implied that the members' investment should be related to their delivered volumes, although the curve was digressive and there was a ceiling for how much even the largest producers should invest. Thus, the large-scale producers had to invest a very small amount compared to their production volume. The members did not receive any return on their investments. The total amount of equity from the members was small, and the system was vulnerable as many members were elderly and would soon retire, whereby they would have their investments reimbursed. At the same time, the cooperative needed money to strengthen its competitive position.

The proposed financial model would strengthen the cooperative's balance sheet and provide incentives for members to invest. The proposal implied, first, that all members should invest a fixed amount of SEK 20,000, and second, that the members should invest an amount in direct proportion to their milk delivery. The cooperative would pay interest on the latter investments, which was thought to incentivize members to invest, but not on the former, because the fixed amount represents the cooperative's administrative costs for having a member. In total, the investments were digressive in relation to the turnover, i.e., the investment amount per quantity of delivered material decreases with increased turnover. However, this does not express any cross-subsidization.

With the board's proposal, there would be a better correspondence between the members' use of the cooperative's resources and their return. Structural changes within the membership would moreover be stimulated, because the fixed investment would incentivize the very small members to exit. Overall, the proposed system would strengthen the cooperative's financial strength and competitiveness.

The two efficiency-raising measures were later accepted and implemented. These measures were, however, not sufficient to rescue the cooperative. In 2012, a multinational investor-owned dairy processor acquired it.

3.3 Methodological approach

In order to investigate whether the decision outcomes would be different if the members had differentiated voting rights, a postal survey was conducted in the fall of 1995 among representative samples of the cooperative's members and General Assembly delegates. The questionnaire comprised questions about the respondents' view of the two strategic decisions, which the Board of Directors proposed and the General Assembly rejected. The respondents were given presentations of the proposals and were then asked to state whether they were positioned "mainly positive" or "mainly negative" to each of the proposals. Furthermore, the questionnaire comprised some background variables: how many years had members had been farmers; what was their educational level; were they or had they been elected representatives; had they attended the yearly district assemblies and other meetings arranged by the cooperative; and what was their propensity to get in touch with elected representatives. Thus, the questionnaire only had seven questions so it was quick to fill in and could attain a high response rate.

The selection of respondents was done with assistance from the cooperative's member relations officer. Because the samples were chosen from within the cooperative's register of members, it was possible to conduct a stratified sampling according to the scale of the members' farm operations. The rationale behind the stratified sampling procedure was to gain a sufficiently large number of respondents in each size category. Thus, representative data from all farm sizes could

be achieved. A stratification was done so that half of the large members, with deliveries of more than 1,000 tons per year, were asked to participate. Within each stratum, every tenth member in the cooperative's register, as arranged by supplier number, was chosen to be a respondent, which is to say the sampling was random.

For the same reason, the General Assembly delegates constituted a stratum of their own, thus ensuring that a sufficiently large number of responses could be analyzed. Half of the 72 General Assembly delegates were randomly chosen as respondents, and in the statistical analyses of the data, the stratification was taken into account.

The questionnaire and a cover letter were prepared in collaboration with the chairperson of the board, the member relations officer and his assistant, as well as an expert in marketing research. The questionnaires, the letter and a stamped response envelope were then sent by post to the sampled respondents. The farmers were given a fixed day for answering the questionnaire. After this date had expired, those who had not responded received a reminder with a new deadline. After the second deadline had expired, another 14 members and one General Assembly delegate answered, but these questionnaires were discarded.

The rank-and-file members and the General Assembly delegates received the same questionnaire. Questionnaires were sent to 199 of the members, while the number of General Assembly delegates who received the questionnaire was 38. After the two reminders, the number of filled-in questionnaires was 120 and 35, respectively. This corresponds to a response rate of 60.3% for the members and 92.1% for the General Assembly delegates. There were no incompletely filled-in questionnaires.

The statistics concerning the respondents' personal data suggests that members who are more than 50 years of age have been involved in milk production for a greater number of years than those below 50 years. It is noted that the members with small-scale operations are older and less educated compared to those below 50 years of age. Thus, the older members would have received fewer votes with differentiated voting rights. Highly educated members (those with a college or university degree) have on average larger farms. They would thus have received more votes in the case of a differentiated-voting regime.

3.4 Classes of votes

To estimate the consequences of differentiating voting rights, different models for differentiation can be identified. The differentiation of voting rights in relation to members' delivered volume can be done in countless ways, as one can vary both the maximum number of votes for the largest farms and the breakpoints where an additional vote is allocated. Influenced by the voting right schemes of many Dutch and Belgian agricultural cooperatives, seven options were identified (Table 2). These options range between the largest farm receiving between two votes and ten votes, with breakpoints varying between 200 and 1,000 tons delivered per year. Because the cooperative's member relations office provided detailed information about the members' delivery volumes, it was possible to link the respondents' answers to the two proposed efficiency-raising measures and each one's production volume.

Table 2
Ways of differentiating voting rights in relation to members' production volumes

Option	Member's production as tons of milk per year	Number of votes
Option 1	~27 –199	One vote
	200 – 999	Two votes
	1,000 or more	Three votes
Option 2	~27 – 199	One vote
	200 or more	One vote for each started 100 tons, though a maximum of 10 votes
Option 3	~27 – 499	One vote
	500 or more	Two votes
Option 4	~27 – 499	One vote
	500 – 999	Two votes
	1,000 or more	Three votes
Option 5	~27 – 699	One vote
	700 or more	Two votes
Option 6	~27 – 699	One vote
	700 – 999	Two votes
	1,000 or more	Three votes
Option 7	~27 –- 999	One vote
	1,000 or more	Two votes

It is not possible to state which allocation of votes is the best one for cooperatives in general or even for a specific cooperative, if any. The allocation of voting rights must depend on the membership's size and structure, the amount of social capital, and the spatial competition (Ollila, 1984). Thus, as the membership structure changes over time, it is possible to adapt the distribution of votes (Iliopoulos and Cook, 2023).

Space does not allow for a presentation of these results when all seven options are combined with the respondents' answers concerning the two proposals from the Board of Directors. Instead, the analyses are restricted to the two options that the investigated cooperative's leadership considered most suitable for the cooperative at the time when the investigation was conducted. These two were the first and second option. Thus, a member who delivers two or three times more than another should receive two or three votes.

Option 1 means that one vote is given to members with up to 200 tons of delivered milk per year while two votes are given to members with a volume between 200 and 1,000 tons per year, whereas members with more than 1,000 tons per year receive three votes. According to option 2, there is one breakpoint for each 100 tons, but no member has more than ten votes.

4 Results

4.1 Consequences of equal and differentiated voting rights

The overall conclusion is that the efficiency-raising measures within the investigated cooperatives suffered as large- and small-scale farmers had equal voting rights. According to Table 1, the size of the cooperative's membership had declined between 1990 and 1994, but it was still so large that social capital within the membership at large was limited. One individual member cannot know almost 2,000 other members. Table 1 also shows that the membership was increasingly heterogeneous in terms of scale of production. The majority were small-scale farmers, whose opinions can be expected to differ from those of the large-scale farmers. The summary of the results from the survey shown in Table 3 confirms that such differences exist.

Table 3.
Percentage of those positive to the two efficiency-raising proposals

	Proposal 1: raised fee for milk collection	Proposal 2: members' investment in A shares
The General Assembly's decision	< 50% (in the spring of 1994)	< 50% (in the spring of 1995)
Results from a survey in late 1995:		
A. General Assembly delegates	40%	74%
B. The entire membership, equal voting rights	52%	57%
C. The entire membership, differentiated voting rights according to option 1 (two votes for mid-sized and three votes for large-scale members)	59%	53%
D. The entire membership, differentiated voting rights according to option 2 (one vote for small-scale members, several votes for large-scale members)	64%	60%

The figures in Table 3 lend themselves to several conclusions. However, when interpreting the results in the two columns, one must take into consideration that the survey was conducted about a year and a half after the General Assembly made the decision regarding Proposal 1 while only half a year transpired between the decision regarding proposal 2 and the time of the survey. This means that the respondents had more time to consider Option 1 than Option 2. A comparison between the two columns indicates that both the General Assembly delegates (Row A) and the members, when they had equal voting rights (Row B), became more positive to Proposal 2 than Proposal 2. The opposite observation is made for Rows C and D, which is to say that the large members were not as important in Proposal 1. Here the large-scale members seem to have found alternative solutions to the issue regarding members' investments.

As the General Assembly delegates, elected within an equal voting rights regime, rejected the two proposals, row B in Table 3 shows says that the members would be slightly positive to both proposals even though they have one vote each, while rows C and D say that there would be a clear majority if differentiated voting were applied. The increasing membership heterogeneity, with more members having large-scale production, means that both proposals would be accepted.

The farmers' answers to the survey questions were more positive, compared to the views they expressed to the General Assembly delegates at the district meetings. This can be seen from the percentages of 52% and 57% in row B. The fact that the General Assembly rejected the proposals can be understood in light of the strong criticism given at the District Council meetings. When the membership as a whole votes according to the one-member-one-vote principle, there are small majorities in favor of the proposals. The members have changed their opinions, which is likely to be the result better information, i.e., the members have discussed with each other, collected information, contacted the elected representatives, etc. Most likely, it is mainly within the large group of small-scale farmers that opinions have changed. There has been enough social capital among these farmers to realize that strategic changes are required. The governing bodies who have thereby also changed their opinions may have observed these opinion changes within the large group of small-scale farmers, of which the high percentage (74% for row A) for proposal 2 is an indicator.

If the cooperative had had differentiated voting in accordance with option 1 or option 2 when the General Assembly delegates were elected, there would be a stable majority for both proposals (Rows C and D). All figures are higher than the ones in row B, which express equal voting. The two variants of differentiation result in a respective majority of 64% and 59% for proposal 1, while the results for proposal 2 are respectively 60% and 53%. Both efficiency-raising measures would be accepted.

Furthermore, row D has higher figures than row C, which means that option 2 results in a higher acceptance than option 1. If the members with the largest production volume receive three votes, the outcomes would be positive, but they would be still more positive if the largest ones received even more votes. The larger the production farmers have, the more they like the two efficiency-raising proposals.

Row A indicates that the General Assembly delegates have changed their opinions, since at the General Assembly meetings, they rejected both the proposals, but in the survey, they expressed strong support for proposal 2 (74%). As concerns proposal 1, the General Assembly delegates were negative both at the meeting and at the survey (40%). One tentative explanation is that the delegates consider the higher milk collection fee to be a minor problem, which will nevertheless result in a solution when more and more of the small-scale members stop their operations. A new financial structure is, on the other hand, an urgent problem to be solved if the cooperative is to survive as an independent firm. Another tentative explanation is that the General Assembly delegates have been influenced by the rather negative comments they have heard from the many small-scale members at the district level. The change from <50% to 74% in row B may also be due to discussions within the group of delegates or communication with members.

Both figures in row C are higher than those in row D. As row C expresses that the largest producers receive three votes while in row D, the largest ones only receive two votes. The difference between the two rows means that the largest producers are more positive to both efficiency-raising measures than smaller mid-sized producers are.

While the General Assembly rejected both proposals in 1994 and 1995, respectively, the same individuals gave different answers in the survey, the most noteworthy being 40% for proposal 1 at row A. The General Assembly delegates remained negative to proposal 1, even though the members were positive. One possible reason is the time perspective. For proposal 1, a year and a half elapsed between the General Assembly meeting and the time of the survey, while for proposal 2 there was only half a year between the two occasions. It may be that both members and elected representatives had time to reconsider their positions, discuss these with each other and reevaluate the proposal. More specifically, it is possible that the General Assembly delegates have found that the fee for collecting small deliveries of milk is not very important, because the number of small-scale producers is declining rapidly (Table 1). Proposal 2, on the other hand, is crucial as it concerns whether the cooperative will have the financial resources to survive; thus, both members and elected representatives were positive to proposal 2.

Information asymmetry generally characterizes hierarchal organizations. The District Council members, the General Assembly and the Board of Directors are knowledgeable in different ways. The General Assembly delegates rejected the proposals, as they did not know that the members were positive to both the proposals (row B). Likewise, a majority of members had voted for candidates who were opposed to proposals, which the members wanted to be implemented. These observations indicate problems in the links between the members and the governing bodies. It may be that the elected representatives have not succeeded in forwarding important facts, or that members have information that the governing bodies do not understand. If the voting rights were differentiated, it would be easier for the elected representative to keep connections to the smaller group of large-scale farmers. At least for proposal 2, there is a fairly good fit between the General Assembly delegates' opinions and those of the large-scale farmers (74% in row A and 60% in row C).

4.2 Distribution of voting rights

Table 2, as well as rows C and D in Table 3, show different ways of distributing the votes if a differentiation regime is applied. The leadership of the investigated cooperative first considered options 1 and 2 more interesting than options 3-7, and then – after the figures in Table 3 were calculated – they decided that option 1 was worth further analysis.

Thus, Table 4 shows that the skewness within the membership has major consequences for the distribution of power if option 1 is applied.

The small-scale members, i.e., those who receive one vote, constitute 61.3% of the membership, but they have only 31.1% of the cooperative's total volume of milk. As they deliver less than 200 tons per year (see Table 2), they receive one vote each, but due to their large number, they receive no less than 43.8 of all votes. In comparison, the mid-sized farmers receive two votes each, which render them 53.5% of all votes. The largest farmers then receive 2.7% of the votes. Together, the mid-sized and the largest producers thus have a majority of the votes with 56.2%.

As shown in Table 4, the small-scale farmers had a majority of their own (61.3%) when the one-member, one vote rule applies. With differentiation according to option 1, they still have 43.8%, which is sufficiently high to give them a chance to dominate, especially if they make alliances with some mid-sized farmers. The large-scale producers constituted a small minority but due to the structural development in the dairy sector, the proportions will change over time, giving the largest producers more influence.

Table 4.
Distribution of members, milk and voting power if option 1 was implemented as preferred by the investigated cooperative's leadership (figures from late 1995)

Members' scale of operations (Tons of milk per year)	Number of votes	Percentage of votes	Percentage of members (N=2063)	Percentage of the cooperative's milk volume (N=408 million tons)
Small 27-199	1 vote	43.8%	61.3%	31.1%
Mid-sized 200-999	2 votes	53.5%	37.4%	60.3%
Large 1,000 or more	3 votes	2.7%	1.3%	8.6%
		100.0%	100.0%	100.0%

The farmers' answers differed from those they gave at the district meetings. This is seen from the percentages of 74% and 52% in rows A and B in Table 3. The fact that the General Assembly delegates rejected the proposals can be understood in light of the strong criticism from the members. When the membership as a whole votes according to the one member, one vote principle, only a small majority (52%) accepted the proposal for collection quantity, which must be due to a certain change of attitude since the matter was brought up.

The above-mentioned observations indicate that differentiated voting would have strengthened the cooperative's competitiveness. It is, however, unlikely that the investigated cooperative would introduce differentiated voting, not only because of legal restrictions but also because Swedish farmers have a firmly established view that cooperatives should have equal voting.

5 Discussion

The relationship between social capital and the membership composition has been dealt with in many studies (Nilsson et al., 2012; Iliopoulos and Cook, 2023). Iliopoulos and Hendrikse (2009) found that within a heterogeneous membership as well as in a large membership, there is a risk for high influence costs. Some member groups influence the decision to their own advantage and to the detriment of the membership at large.

The empirical study concerns two proposals for efficiency-raising measures, both of which were rejected by the cooperative's General Assembly, which was elected according a regime of equal voting. However, the survey shows that if the cooperative had had differentiated voting rights, there was a slight majority among the members for both proposals, which would thus have been accepted. Thus, the General Assembly mistakenly interpreted the opinions among the members. The General Assembly cared too much about the small-scale members who were expected to be against the proposals. The large-scale members were more positive than the small-scale members.

If the cooperative had had differentiated voting, there would be a strong majority for both proposals among the membership as a whole. The large-scale farmers declared themselves very positive, and in case the differentiation would give several votes to the large-scale farmer, the majority in favor of the two proposals would be overwhelming; however, it would be strong even with only a more moderate differentiation.

With differentiated voting, the governing bodies have an incentive to listen to members with large operations. Because the number of large-scale farmers is smaller, it eases the communication for both the governing bodies and the farmers. Furthermore, large-scale farmers tend to be younger, better educated and forward-looking, all of which is positive for the future of the cooperative as a whole.

One explanation for why the General Assembly rejected the two proposals is that elected representatives adapted their positions to those opinions expected among the large number of small-scale members, because they wanted to be popular and reelected (Morfi et al., 2018). There is a possibility that small-scale members or groups of them jointly try to influence the governing bodies, but the data do not allow for such a conclusion, nor is there much social capital in the relations between small-scale members.

The small-scale farmers' interests are different from the interests of the membership at large. Being on average older, they have fewer years left until their retirement, which is to say that they may influence the governing bodies to apply a short-term perspective, which means influence costs for the cooperative and the other members (Iliopoulos and Hendrikse, 2009). The small-scale farmers are less educated, less progressive and conservative. In the investigated cooperative, the small-scale farmers were used to being cross-subsidized by the large-scale members.

The study indicates poor communication between the governing bodies and the membership, as is often the case in large memberships with representative governance structures (Gaurwitsch and Nilsson, 2010; Nilsson and Svendsen, 2011). The General Assembly frequently misjudged the opinions of both small- and large-scale members.

Another indicator of communication failures is that the members, at the time when the strategic decisions were made, had not understood the implications of the decisions. When the survey was conducted several months after the decisions were made, member opinions had changed, which is to say that the members might have had time to change their opinions. Furthermore, the elected representatives changed their personal views about the two efficiency-raising measures.

A cooperative's leadership has difficulties conveying relevant information to a large membership. Likewise, the information from the members to the elected representatives becomes poorer in large cooperatives with representative governance. Information about member interests is filtered as it passes through sometimes several layers of the representative governance structure. Under these conditions, the governing bodies must guess the members' opinions, whereby it is likely that they will listen mainly to the large number of small-scale members. The result is that the membership at large will suffer from high influence costs (Iliopoulos and Hendrikse, 2009).

6 Conclusions

The findings of this study support the hypothesis, put forwards in Subsection 2.5: *"The governing bodies of cooperatives with large and heterogeneous memberships are more likely to decide upon efficiency-raising measures, if the cooperatives have differentiated voting rights rather than a regime of equal voting."* Because of anonymity and self-interest-seeking members, there is a risk that the governing bodies under the condition of equal voting rights will not make decisions that serve the best interest of the membership as a whole. With differentiated voting rights, cooperatives can avoid some of the governance problems, which burden cooperatives with equal voting rights.

The findings are evidently not representative for cooperatives in general, not even other large traditionally organized cooperatives. Still, the findings present some indications, and they fit with the theoretical arguments for differentiated voting rights in cooperatives where the memberships are so large and heterogeneous that members' self-interest seeking harms the social capital.

One caveat is that the members of the investigated cooperative could not "vote by their feet", because there was no alternative business firm within the cooperative's operational area. With well-functioning spatial competition, dissatisfied members can conduct business with another partner. If such a threat is credible, the large-scale members have more power, and competing firms are generally more interested in doing business with large-scale producers. If large-scale members exit, a cooperative's competitiveness suffers, whereby even more large-scale farmers will consider exiting. Thus, a vicious circle is set in motion, and the cooperative will be left with only small-scale farmers. Another caveat is that the empirical study reflects a situation where the cooperative and the members faced a crisis, because the Swedish accession to the European Union caused a sudden loss of competitiveness.

A single empirical study, like the present one, cannot provide sufficiently strong evidence for differentiated voting rights in cooperative memberships. Thus, replication studies of cooperatives that operate under other conditions would be desirable, whether with surveys or experimental economics design. The topic of differentiated voting rights is also worth further empirical research because it is related to the incentive structures of both members and elected representatives. Research is needed regarding whether cooperatives' governing bodies have long-term or short-term perspectives, the nature of their dependence on specific categories of members, their eventual support for certain member groups and other issues concerning agency problems, information asymmetry and social capital. Furthermore, one might wonder if cooperatives' governing bodies abstain from certain decisions because they fear the majority of small-scale farmers, therefore hesitating to explain difficult issues for the members and thus leaning towards status quo-solutions. Further research may elucidate why most cooperatives stick to the equal voting regime, and whether there are other solutions to the problems concerning large- and small-scale farmers' diverging interests.

In today's agrifood industries, there is a growing sector of hybrid cooperatives. Farmers and external parties share the control rights and property rights of these firms. There is thus a need to explore the balance of power between the external parties and the farmers, both large- and small-scale. Their governance is likely to function differently from traditional cooperatives.

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