


Mergers among agricultural cooperatives. A literature review with an empirical illustration

Jerker Nilsson, Karin Hakelius^{*} 

Swedish University of Agricultural Sciences, Department of Economics, P.O. Box 7013, SE, Uppsala 75007, Sweden

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ABSTRACT

This study presents a literature review about mergers of agricultural cooperatives. Since about 1950, merger waves have caused a sharp decline in the number of cooperatives in Western economies. Financially weak cooperatives are acquired by financially stronger neighboring cooperatives, whereby the members of the former cooperative may continue their farming operations. Merging memberships is, however, more difficult than merging cooperative business firms. The case of a merger in the Swedish grain marketing and farm supply industry illustrates the conceptual framework. As knowledge of mergers is essential to understanding the cooperative business model, suggestions for further research are provided.

1. Introduction

The modern history of cooperatives is a history of mergers. Many of the agricultural cooperatives in today's western economies are the result of numerous mergers elicited by the cooperatives' quest for economies of scale and scope. Some researchers claim that expansion is an immanent trait of the cooperative business form (Cook, 1995; Hind, 1999).

Researchers often analyze mergers together with acquisitions (M&A) or even extend the conceptual framework to comprise also strategic alliances and joint ventures (van der Krogt et al., 2007; Trejo-Pech et al., 2021). However, the present study covers only mergers. Following Grashuis (2023, p. 500), "a merger involves the creation of a new entity through the merger of two or more entities, while an acquisition involves the purchase of one entity by another entity". For cooperatives, merging is a natural expansion strategy when compared to organic growth and acquisitions (Demko, 2018; van der Krogt et al., 2007).

The cooperatives that farmers established in the late 19th and early 20th centuries were village based. As the early cooperatives turned out to improve the members' economy, neighboring farmers followed suit. Thus, the establishment of cooperatives was a genuine popular movement. Because the village cooperatives worked under similar conditions, farmers found that mergers would strengthen their businesses. After

further mergers, there were regional cooperatives, and later on what corresponded to national and even transnational cooperatives (Blokland et al., 2012; Nilsson & Madsen, 2007).

Since then, however, the number of cooperatives has declined. The pattern has been similar in most Western countries (Agrell & Karantininis, 1999; Barton et al., 1993; Garoian & Cramer, 1968; Strandskov, 2019). Based on USDA statistics, Demko (2018, p. 10) reports: "From the 1940s to 1990s, the number of agricultural cooperatives have dropped by 70 %". Between 2000 and 2016, the number of U.S. agricultural cooperatives declined another 41 %. Nevertheless, the aggregated figures for the remaining cooperatives indicate that U.S. cooperatives have retained their members and business volume, while strengthening their financial positions.

Table 1 exhibits how the number of Swedish cooperatives in various agricultural industries has changed during the last century. In most industries, the number of cooperatives increased up until 1940, but a decline occurred from 1950 onwards. The main explanation behind this decrease is that poorly performing cooperatives have merged with stronger cooperatives. In recent decades, many cooperatives have experienced the fate of being "converted into an IOF, merged with another cooperative, or dissolved" (Iliopoulos & Cook, 2023, p. 62). It should be noted that the figures in Table 1 do not reveal the skewness in

^{*} Corresponding author.

E-mail addresses: Jerker.Nilsson@slu.se (J. Nilsson), Karin.Hakelius@slu.se (K. Hakelius).

the industries, for example, that one cooperative may have a dominant position.

Researchers have paid much attention to mergers among investor-owned firms, but this literature is not fully applicable to mergers between cooperatives, because of cooperatives' specific attributes when it comes to ownership rights and decision making (Chaddad & Iliopoulos, 2013; Iliopoulos & Cook, 2023). However, the studies that deal with mergers of cooperatives are fewer and form a fragmented pattern. Among these studies, there are surveys among samples of merged cooperatives, mainly with the purpose of exploring whether the cooperatives have benefitted from the mergers (Grashuis, 2023; Hudson & Herndon, 2002; Meliá-Martí et al., 2021). Another branch of research involves case studies (Agrell & Karantininis, 1999; Strandskov, 2019), conceptual analyses (Reynolds et al., 1996; Swanson, 1985), and analyses of mergers in a specific industry, country, or region (Utterström, 1980; van der Krogt et al., 2007).

Even though knowledge about mergers is crucial to understanding the cooperative business form, there is no comprehensive treatment of the topic. Thus, the present study aims at providing a coherent analysis of the literature about mergers among agricultural cooperatives in Western economies. Such a state-of-the-art study may be a valuable contribution to our knowledge about cooperatives.

To illustrate the conceptual discussion, the study also presents a unique case study of a merger that resulted in one of the largest agrifood firms in Europe, where no less than nine cooperatives and their apex organization in the Swedish grain marketing and farm supply industry merged simultaneously on January 1, 2001. While it is not possible to claim representativeness from a single case study, a case study may contain more details and in-depth information compared to a survey among a number of cooperatives.

An advantage of analyzing a merger that took place several years ago is that it is possible to identify the long-term development of the new cooperative, where the cooperative has had a chance to demonstrate whether the merger was a success or a failure. Another advantage of using an old case is that individuals who were involved in the merger are willing to disclose sensitive facts.

This case is interesting because of the large number of cooperatives that were involved. Most often, mergers take place between two partners. However, Strandskov (2019) reports that in the period 1960–2010, no less than 12 of the 43 mergers among Danish slaughterhouse cooperatives involved three or more cooperatives – at the most, six cooperatives were involved in one merger.

The next sections summarize the research about various aspects of agricultural cooperative mergers. These sections explain why cooperatives conduct mergers; the cooperatives' motives for merging; what characterizes merging cooperatives; what characterizes the merger process; and whether the mergers are successes or failures. Each of these aspects are illustrated in the case study that is presented in the

subsequent section. The last section comprises conclusions, including suggestions for further research.

2. Overview of previous research

After the topic of this study was delineated in the preceding section, the present section concerns the attributes of the studies that serve as the bases of this literature review. When identifying studies on cooperatives mergers the authors followed the general advices for writing literature reviews in the field of management science (Tranfield et al., 2003; Fisch & Block, 2018). Many studies were identified with the help of different search engines, such as ResearchGate, Google Scholar and Web of Science, whereby a variety of search words were used, such as “merger”, “merge”, “consolidation” and “amalgamation”, “M&A”, and “acquisition” as well as “agricultural cooperative”, “farmer cooperative” and “agrifood firm”. The authors have prioritized publications in the English language, published during the last few decades.

The research on cooperative mergers may concern a variety of agrifood industries or – in the case of most case studies – a specific merger. There are, however, also studies that discuss cooperative mergers in general terms. About half of the previous studies have been conducted in the USA. The references to European contributions have authors from a range of countries – the Czech Republic, Denmark, Finland, Germany, the Netherlands, Spain, Sweden, and the UK. In cases when mergers may be contingent upon certain conditions within an agricultural industry and a country, the name of that industry and that country is mentioned.

The referenced literature covers a broad spectrum of dimensions, though most often a study focuses on one single aspect of cooperative mergers. Thus, there are studies that discuss the reasons for mergers, the initiation of a merger process, and the outcome of mergers. Several studies comprise quantitative analyses of data from a large sample of mergers, whereby the authors seek to disclose whether the mergers have resulted in successes or failures. Other aspects are less researched, possibly because researchers have difficulties getting access to inside information about sensitive issues like the merging partners' negotiations or the role of the leaderships.

3. Institutional conditions for mergers

As the number of cooperatives has decreased in the post-war period, researchers have coined the concept “merger waves”. In his PhD thesis, Utterström (1980) explains merger waves in terms of social influences between cooperative leaders and members. Because of that, many merger decisions are made hastily whereby the merged cooperatives perform poorly. Thus, they are forced to merge again. Indeed, Grashuis (2023, p. 508) writes: “[A]s other parties in the agrifood industry consolidate, farmer cooperatives may feel pressured to become larger

Table 1
The number of cooperatives in various agricultural industries in Sweden from 1910 to 2020. *

Cooperative industry	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Dairy cooperatives	550	565(+3 %)	715 (+27 %)	726 (+2 %)	375 (-48 %)	233 (-38 %)	46 (-80 %)	24 (-48 %)	14 (-42 %)	7(-50 %)	6 (-14 %)	5 (-17 %)
Meat cooperatives	3	21 (+600 %)	25 (+19 %)	37 (+48 %)	25 (-32 %)	24(-4 %)	19 (-21 %)	10 (-47 %)	7 (-30 %)	6(-14 %)	1 (-83 %)	0 (- 100 %)
Forestry cooperatives		0	0	30	29(-3 %)	23 (-21 %)	12 (-48 %)	9 (-25 %)	11 (+22)	8(-27 %)	4 (-50 %)	3 (-25 %)
Credit cooperatives	0	4	5(+25 %)	10 (+100 %)	10 (±0 %)	12 (+20 %)	12 (±0 %)	12 (±0 %)	12 (±0 %)	0 (-100 %)	0	0
Smaller grain marketing and farm supply cooperatives	850	1353 (+59 %)	662 (-51 %)	795 (+20 %)	619 (-22 %)	347 (-44 %)	144 (-59 %)	86 (-40 %)	49 (-43 %)	39 (-20 %)	5 (-87 %)	4 (-20 %)
Larger grain marketing and farm supply cooperatives	19	17(-11 %)	20 (+18 %)	23 (+15 %)	23 (±0 %)	22(-4 %)	19 (-14 %)	19 (±0 %)	17 (-11 %)	11 (-35 %)	1 (-91 %)	1(±0 %)

* Sources: Johansson, (1994); the website of the Federation of Swedish Farmers (LRF), 2024; The Swedish Board of Agriculture, (2024).

just to stay even, which is in part consistent with merger wave theory". In a study of mergers of Danish cooperatives, [Strandskov \(2019, p. 988\)](#) states "consolidation by one company resulted in similar consolidation by others". [Hudson & Herndon \(2000\)](#) moreover report that at the end of the 1990s nearly four-fifths of a group of US cooperatives received merger offers, and a large share accepted them.

[Richards and Manfredi \(2003a, p. 156\)](#) suggest that merger waves "arise as a response to structural changes (shocks) in the macro economy such as increased foreign competition, deregulation, changes in disposable income, and aggregate stock market performance". Thus, cooperative mergers can be explained by market expansion, technological development, consolidation among both competing firms and upstream and downstream industries, political regulations, etc. Because firms thus continually adapt to changing business conditions, they often consider themselves subject to ever-increasing competitive pressures ([Hudson & Herndon, 2000; Hudson & Herndon, 2002](#)).

However, not all cooperatives will merge. Many small cooperatives will flourish if they experience economies of scale within their local area, member commitment, local embeddedness, and good logistic conditions ([Feng et al., 2016; Meliá-Martí et al., 2021; Nilsson, 2022](#)).

The basic attributes of the cooperative business form have implications for cooperative mergers ([Chaddad & Iliopoulos, 2013](#)). *First, cooperative property rights* imply that cooperatives have capital constraints. Related to this is risk aversion. Members prefer to invest in their own farming operations rather than in their cooperatives. Contributing to the cooperatives' capital constraints is that investments are disincentivized by the fact that there is normally no market for cooperatives' equity capital and often low interest rates, if any at all ([Hudson & Herndon, 2002](#)). While investor-owned firms have the objective of attaining a high value of the investors' shares, cooperative mergers "should seek to maximize the present value of the members' investments" ([Richards & Manfredi, 2003b, p. 190](#)).

The importance of cooperatives' capital constraints is seen in an analysis of the consolidation within the dairy industry in the European Union ([van der Krogt et al., 2007](#)). Due to the cooperatives' capital constraints and thereby risk aversion, cooperatives are significantly more prone to merge with each other and involve themselves in strategic alliances. These strategies require no or small amounts of capital and are less risky. Investor-owned firms, on the other hand, tend to expand by acquisitions as investors have the possibility to raise new capital if needed to buy another firm.

Cooperative decision rights also affect consolidation processes ([Chaddad & Iliopoulos, 2013](#)). Democratic decision-making is by definition decentralized and thus time-consuming. The cooperative decision rights imply that sensitive social factors are essential. Cooperative decision-making diverges from that of investor-owned firms, which are more likely to have concentrated power, which facilitates quick decision when restructuring an organization.

Conservatism among a membership may delay or prevent mergers ([Meliá-Martí et al., 2021](#)). Furthermore, those in leadership may not want to lose their positions. [Strandskov \(2019\)](#) reports that solidarity and loyalty towards the local cooperative was strong as long as the local cooperative was able to pay a competitive price. [Vandeburg et al. \(2000, p. 2\)](#) write that members are afraid of "losing the firm's identity and the quality of services to which they are accustomed".

Thus, a merger between cooperatives can be regarded as two simultaneous mergers, i.e., one merger between cooperative business firms and another one between cooperative memberships. In contrast, a merger between investor-owned firms is just one single merger. In a cooperative merger, there are both economic and social factors. The merger must benefit not only the cooperatives' businesses and the members' businesses, but must also be positively received by the membership. The advantages for both the cooperative and the members are related, i.e., the members will accept the merger deal if they are satisfied with the expected benefits. By merging, cooperatives can obtain better performance to the benefit of all member categories ([Strandskov,](#)

[2019](#)). Moreover, a merged cooperative gains a stronger financial basis and can offer more attractive prices and services. Spreading the risks is especially important because risk aversion is a general characteristic of cooperatives ([van der Krogt et al., 2007](#)).

For a cooperative to thrive there must be *social capital* within the membership. When the early cooperatives merged with other local cooperatives, the cooperatives' character was not threatened. Likewise, later on, mergers are often conducted between cooperatives within the vicinity. It is easier to reap synergies in close-by business operations, and neighboring memberships have similar attributes. Furthermore, the competition becomes less stiff ([Grashuis & Elliott, 2018](#)).

The governance of large cooperatives resembles that of investor-owned firms ([Bager, 1994; Hind, 1999](#)). In a large and heterogeneous membership, the members have weak incentives to govern their cooperative, and they are less qualified to govern a cooperative with large and complex business operations. In such cooperatives, there is less social capital in the memberships ([Ajates, 2020; Gaurwitsch & Nilsson, 2010; Grashuis & Elliott, 2018; Nilsson et al., 2012](#)). The members' role as patrons dominates, while their roles as investors and controllers suffer ([Hansen et al., 2024](#)). With poor member control, the leaderships will have more power.

Large cooperatives with strong top management are likely to merge. The managers have power to influence merger decisions and they want to gain more prestige, higher salaries and a better position on the market for managers. Thus, large cooperatives have a higher chance of merging, also because they are an attractive partner and can more easily incorporate smaller cooperatives. Some large cooperatives have merged so frequently that mergers have become a regular business activity ([Utterström, 1980; Trejo-Pech et al., 2021; Nordmilch, 2024](#)).

However, when a cooperative has become very large, the probability for more mergers tends to decrease ([Grashuis and Franken, 2020](#)) since such a cooperative already has the resources it needs. Furthermore, antitrust legislation may prevent further mergers ([Agrell & Karantininis, 1999; Grashuis & Elliott, 2018; Grashuis, 2023; Hudson & Herndon, 2002](#)).

4. The merging partners' motives

For mergers to take place, both or all merger partners must expect advantages. Most often, a smaller and financially weak cooperative is assimilated into a larger and financially stronger cooperative within geographical proximity ([Barton et al., 1993; Kenkel et al., 2003; Meliá-Martí and Martínez-García, 2015; Trejo-Pech et al., 2021](#)). Thus, a merger constitutes a win-win solution as the small cooperative's members can continue their operations even though it will have partly different operations. The same pattern appears in a study of mergers between Finnish cooperative banks. According to [Huutilainen et al. \(2021, p. 339\)](#), "acquirers search for economies of scale and other efficiency gains. They also want to increase their market share, broaden their customer base, boost revenue growth, diversify business and product lines and/or alter their risk profile through asset restructuring". The acquirer thus rescues the acquired cooperative from insolvency.

The terms "acquiring" and "acquired cooperatives" are used by some authors ([Meliá-Martí & Martínez-García, 2015](#)). Other labels are "surviving" and "non-surviving" ([Hudson & Herndon, 2002; Kenkel et al., 2003](#)) and "bidders" and "targets" ([Hudson & Herndon, 2002; Trejo-Pech et al., 2021](#)). In the present study, the first-mentioned concepts are given preference.

The pattern of one-plus-one mergers is typical for the post-war consolidation of cooperatives. By far most mergers are horizontal, whereby the cooperatives can obtain economies of scale as well as increased market power ([Hudson & Herndon, 2002; Blokland et al., 2012](#)). Horizontal mergers are also easier to conduct, because the cooperatives and their members remain within their existing type of operations. Despite the dominance of horizontal mergers, there may sometimes be elements of vertical integration, for example, when a

cooperative with value-added operations merges with one that is weak in those areas (Agrell & Karantininis, 1999).

Mergers are less likely between cooperatives that have a good financial status and provide good economic conditions for their members (Meliá-Martí et al., 2021). In such cooperatives, the members want to preserve their independence, and they tend to care about social capital as well as their embeddedness in the local area (Strandskov, 2019).

The members of both the acquiring and the acquired cooperative will be offered better prices and better services, which is crucial for their approval of the merger plan (Agrell & Karantininis, 1999; Blokland et al., 2012). However, apart from the economic gains, social factors are also important. The social capital within the membership is crucial (Ajates, 2020; Meliá-Martí et al., 2021).

While a merger may be seen as a defensive action by the acquired cooperative, a merger may also be offensive. Offensive mergers are those where none of the merging partners has financial difficulties. The difference between the two situations is, however, difficult to establish, because an offensive and proactive merger might occur in anticipation of future threats and not a response to realized difficulties.

When cooperatives merge with other cooperatives at the same stage of the value chain, there will be a larger volume of produce to process. A merger may result in *economies of scale* in practically all business functions. In the literature on cooperative mergers, many types of economies of scale are mentioned (e.g., Vandeburg et al., 2000; Kenkel et al., 2003). It concerns production, product development, administration, transportation, marketing, information systems, logistics, et cetera. A merger will result in the avoidance of a duplication of staff. A larger cooperative could economize its financial solutions, i.e., it does not have to have as much equity capital as counted in relation to the business volume, and as memberships join, the average of governed costs will fall.

Mergers may also be motivated by *economies of scope*, i.e., the merging parties' business activities supplement each other, often through downstream vertical integration, because more profits can be expected with value-added production. In the merger between the two largest Danish dairy cooperatives, one cooperative was successful with its low-cost strategy while the other one had a value-added strategy with strong brand names (Agrell & Karantininis, 1999). Likewise, the two partners had operations in different markets, so the new cooperative could expand geographically. However, in such mergers, good coordination may be difficult as a result of different corporate cultures (Meliá-Martí et al., 2021; Strandskov, 2019).

Achieving *market power* may be a strong motive for cooperative mergers as there are opportunities for higher profits (Hudson & Herndon, 2000). Agrell & Karantininis (1999) conclude that market power was the most likely motive for the merger between the two largest Danish dairy cooperatives. The new cooperative gained a strong position on both the upstream and downstream market, i.e., it could exploit almost monopsony and monopoly power. Furthermore, cooperatives tend to merge with others in the geographical neighborhood, which means that it is easier to integrate memberships, because they are probably socially and culturally close.

Some researchers discuss problems associated with cooperative mergers. For example, the parties might have agreed upon a merger without having a clear strategy for the new cooperative (Nilsson & Lind, 2015). Thus, some mergers do not work out as planned. For example, the acquiring cooperative might have misjudged its "ability to integrate and manage a more complex operation" (Parliament & Taitt, 1989, p. 22). However, merger decisions are irreversible. A dissatisfied merger party cannot renege on their commitment.

As a merger results in more sizeable and complex business operations as well as larger and more heterogeneous memberships, members become less willing and less competent to control the cooperative. Large-scale operations require a management style that is similar to that of investor-owned firms (Bager, 1994). Thus, Hind (1999, p. 536) comments on the development towards manager control: "As this

development takes place incrementally, the decision-maker do not notice fading the social capital within the membership rather than those of the farmers, are realized".

5. The merger process

It is unlikely that merger initiatives originate from members as individual members do not have an incentive to act but prefer rather to be free riders. Due to information asymmetry between the leadership and the rank-and-file members, the idea about a merger typically comes from the leadership of one of the merging partners, most likely a CEO (Blokland et al., 2012; Nilsson & Madsen, 2007). CEOs often receive a higher salary in a larger firm and raise their value on the labor market for managers. Board members, on the other hand, are less knowledgeable and will avoid the risk of a poor reputation in proposing a merger to which the members are opposed (Hudson & Herndon, 2000).

The management has knowledge about the cooperative business firm's strengths and weaknesses but also social networks with leaders of other cooperatives. The merging partners may already have some collaboration, for example, joint ventures, whereby the cooperatives are to some extent dependent upon each other. If so, a merger is only a natural next step. Thus, Agrell and Karantininis (1999), in their analysis of the merger between Denmark's two largest dairy cooperatives, stress the importance of the cooperatives' pre-merger collaboration.

When the cooperatives' boards have decided that a merger is worth considering, a merger committee is set up with the task of developing a merger plan (Reynolds et al., 1996; Swanson, 1985). As the representatives of the involved cooperatives negotiate, the plan becomes successively more detailed and comprehensive. It includes all business functions and involves a large number of managers. The final merger plan is presented at meetings where the members are informed about the details and how they will be affected. A final merger plan, probably revised according to members' opinions, is presented to the members for approval or rejection.

For both the elected and professional leaderships, it is of importance that the final merger plan is approved by the memberships. Members of crisis-struck cooperatives are most likely to approve of a deal, while the acquiring cooperative's members may approve a merger with a smaller cooperative and expect better trading conditions due to economies of scale. The prices that the new cooperative will offer are crucial, and these prices are the result of cost savings and market power that can be achieved through the merger. The members will, however, also consider a number of "soft" factors. The committee tries to anticipate possible objections from the members and find solutions to each objection. Such issues concern the name and identity of the new cooperative, the location of the headquarters, the organizational structure, and the composition of the board.

Even though there are difficulties in amalgamating two cooperative business firms, there may be huge problems in joining two cooperative societies (Blokland et al., 2012; Nilsson & Madsen, 2007). Each cooperative society has its own culture and there are probably no personal connections between the members of different cooperative societies. Bridging the cultures may be even more difficult when the merging cooperatives have been competitors, because then there may be a sense of animosity (Agrell & Karantininis, 1999).

Cross-national mergers pose special difficulties. In the merger between the largest dairy cooperatives in Denmark and Sweden, respectively, there were not many problems regarding competition but large differences concerning organizational cultures, financial structures, legal conditions, and competition rules. Thus, while the business activities were quickly integrated by the management team, it took three years until the board had succeeded to integrate the two cooperative societies into one (Blokland et al., 2012; Nilsson & Madsen, 2007). Controversies about the attributes of the cooperative societies may explain why many merger proposals are rejected (Meliá-Martí et al., 2021).

The merger between the major dairy cooperatives in Denmark and Sweden was initiated when their CEOs met to discuss the future of the dairy industry (Lidén & Stenvall, 2012). They, in turn, succeeded in convincing their board members. Persuading their memberships was, however, more difficult, because neither of the cooperatives were in crisis. The absence of financial problems affected the merger committee's arguments, which announced it as a "merger between equals"; this meant that the cooperatives were considered to be of equal strength. This argument was essential, because, in this way, neither the Danish nor Swedish members had to consider themselves losers or winners. However, later research reveals that this argument was not correct (Bergh & Svensson, 2011). The Danish cooperative had, in fact, assets in the form of international market channels, top qualified staff and other resources, which could not be replaced, while the Swedish counterpart had accumulated much financial capital that the Danes could use for further expansion. Moreover, the headquarters and the management remained in Denmark.

In mergers where the partners do not agree in terms of equality, money transfer from the better off cooperative to the poorer cooperative may be necessary to reach a deal (Agrell & Karantininis, 1999). Such a Pareto optimal solution may compensate for the distress within the membership of the poorer partner.

At any stage of the negotiation, conflicts between the parties may lead to the interruption of the process. Merger discussions may fail when the participating cooperatives want to preserve their own assets (Nilsson & Lind, 2015). Blokland et al. (2012) present a case where personal chemistry did not work out well as both CEOs wanted to be in control, and Strandkov (2019, p. 991) states that the "cultural fit" between two partners may be underestimated because of differences in management styles and organizational cultures that could complicate the expected synergistic potential".

Reynolds et al. (1996, p. 1) recommend merging cooperatives to involve an external person, a facilitator, who "initiates teambuilding discussion aimed at finding alternative ways around the deadlocks". Similarly, Fulton et al. (1996, p. 1) focus on interpersonal relations: "Successful agreements require not only attention to the financial and operational components but diligence in the interpersonal dynamics of trust, commitment and open communication".

After a merger plan is approved by the memberships, the leaderships want the integration to take place quickly, thereby preventing any opposition. The merger committee does not want to give the members a chance to change their opinion.

6. Outcomes of mergers

Many researchers have estimated various financial variables for cooperatives that have merged (Barton et al., 1993; Grashuis & Elliott, 2018; Kenkel et al., 2003; Meliá-Martí & Martínez-García, 2015; Parliament & Taitt, 1989; Parliament et al., 1990; Richards & Manfredo, 2003a; Richards & Manfredo, 2003b; Sedláček et al., 2013; Trejo-Pech et al., 2021, Grashuis, 2023). Considering the large number of cooperatives in many researchers' samples, the investigations have mainly concerned small cooperatives. Many studies measure the financial variables over a short period of time.

The findings from previous research are divergent. Some examples are as follows:

- Kenkel et al. (2003) report that mergers lead to improved profitability, higher efficiency and sales growth.
- Parliament and Taitt (1989) found that no performance improvements were achieved.
- In an analysis of mergers and acquisitions among all cooperatives that were registered in the USDA database between 1976 and 2016, Demko (2018, p. 1) found that these "cooperatives' total assets and equity have been increasing".

- Grashuis (2023) investigated how a significant number of large cooperative mergers and acquisitions developed over 15 years. He states (p. 498) that: "Farmer cooperatives with M&A activity generally have lower profitability, efficiency and liquidity than farmer cooperatives without M&A activity, both at the time of the merger or acquisition as well as afterward." An interpretation here is that the database comprises weak cooperatives, which try to find rescue by becoming larger, but they will generally fail.

The overall conclusion is thus that cooperative mergers at large have the consequence that the cooperative's and thus the farmer's survival chance increases. Mergers therefore lead to long-term cost savings, profitability, and capital strength.

7. The case of the Lantmännen merger¹

7.1. Institutional conditions for the merger

Prior to the Swedish accession to the European Union in 1995, the country's agricultural sector operated under an extremely protective agricultural policy (Rabinowicz et al., 1986; Rabinowicz, 2004). The policy involved high tariffs on imported food products and a ban on competition between agricultural cooperatives. Cooperatives dominated all agricultural industries, and the government favored cooperatives at the expense of investor-owned firms. The cooperatives were the governments' negotiation partners as the prices on agricultural products were settled through a political process.

Because of this policy, the Swedish agricultural sector was highly inefficient and unprepared for the low-priced imported food products from the European Union member states (Micheletti, 1987). Thus, in the years around 2000, three large mergers among cooperatives took place, namely in the grain marketing and farm supply industry, the meat industry, and the dairy industry. This case study presents the merger in the first-mentioned industry. The merger resulted in a new primary cooperative, *Lantmännen*, with nation-wide operations. It involved nine of the eleven regional cooperatives as well as their jointly owned secondary cooperative SLR (Svenska Lantmännens Riksförbund), henceforth called *the Federation*. One of the regional cooperatives that did not join at the time of the merger joined later. A foreign firm acquired the final one a few years later, whereby *Lantmännen* started its own operations in the region and thus acquired nationwide operations.

The regional cooperatives operated in one or a few of Sweden's administrative provinces. Thus, they covered the entire country, and they dominated the markets, because competitors were few and weak. Although formally self-governed, the regional cooperatives were economically dependent upon the Federation, which owned many large processing plants and had a substantial role in supplying all sorts of farm inputs as well as facilities for exporting grain. The strong vertical integration between the cooperatives and the Federation is seen in the fact that all the regional cooperatives had the word "Lantmännen" in their names. Thus, the regional cooperatives and the Federation together formed the *Lantmännen Group*.

All the regional cooperatives were the result of numerous mergers of smaller cooperatives, often established in the late 1800s. During the years prior to the large merger, there were some mergers between neighboring regional cooperatives. The Federation was established in 1905 but has roots back to 1895.

The regional cooperatives were very dissimilar. Some of them

¹ This section is based on a number of personal interviews (the chairman of the Federation; the Chief Executive Officer of the Federation; and the Member Relations Officer of *Lantmännen*) as well as written information (*Lantmännen's annual reports 2005, 2010, 2015 and 2020, Fusionsutredningen (the Merger Report), 2000; Ett landslag för Lantmännen – Målet är Europatoppen (A National Team for Lantmännen – Aiming for the Top of Europe), 2000*).

operated within a province with large animal production while others had extensive crop production. They also differed much in size. In 1995, the smallest one had 2393 members while the largest had 25,691 members.

Except for the above-mentioned regional cooperatives, the industry comprised some small, local grain cooperatives, most of which were members of the regional cooperatives. A few medium-sized cooperatives had retail stores for farm supplies, grain elevators and in some cases mills and feed production plants (Feng et al., 2016). They operated independently and were thus not involved in the merger.

7.2. The merging partners' motives

The Swedish accession to the European Union meant a threat to the inefficient cooperatives in the grain marketing and farm supply industry. Investor-owned firms might acquire some of the largest regional cooperatives. The Federation's subsidiaries with valuable processing plants and farm supply organizations would be a target for acquisitions, and farming throughout Sweden would be affected.

This problem was aggravated by the structural development within the farmer population. The national agricultural policy had fostered a large number of small-scale farmers, many of whom were elderly. In 1995, the regional cooperatives' aggregate number of members was 75,407. According to forecasts, the number of farmers would decrease to about 51,000 over a ten-year period and reduce even more later on. Furthermore, the cooperatives' businesses were adapted to the farmers having mixed production, but the farms of the future would not only be larger but also more specialized. Thus, the cooperatives would have to deal with a more differentiated type of operations. Already at the end of the 1990s, 80 % of the turnover derived from approximately 12,000 farmers.

With fewer members, it would be difficult to keep the many units within the Lantmännen group. Moreover, a smaller number of members would not be able to have ownership of the money, which was invested in the processing plants. Only 18 % of the members account for 72 % of the turnover and 46 % of the investment capital. Conversely, about 60 % of the members account for only 7 % of the turnover and 23 % of the investment capital.

The Lantmännen group dominated the markets. The group purchased about 80 % of all the grain produced in Sweden, and for seed, pesticides, animal feeds, fertilizers, et cetera, the market shares were between 63 % and 80 %. The group's lowest market share concerned tractors and combine harvesters, with 39–40 %.

7.3. The merger process

The Swedish accession to the European Union ignited discussions among the leading figures within the Federation about merging the regional cooperatives and the Federation. After the Board of the Federation supported the idea, a merger committee was set up with the Federation's CEO and secretary of the board as responsible figures. In the fall of 1998, the Federation's board had a meeting with the Advisory Council, which consisted of around 25 delegates from the regional cooperatives.

In connection with the Federation's general assembly in 1999, there was an extra council meeting with group work about important issues for the future of Swedish agriculture. The board's discussions were summarized in 28 points, concerning, for example, the ability to take initiative, the development of the members' financial situation, the use of resources, internet trading, and pricing based on the members' performance.

The logic behind these points was as follows. The Lantmännen group constituted partial vertical integration, as all organizations were dependent upon each other yet each of them had their own decision-making body. This meant poor coordination and many suboptimal outcomes. If the organizations were merged into a primary cooperative,

one decision-making body would work out a coherent strategy.

At an early stage of the merger process, the plans were kept secret, because there was a fear that widespread knowledge would create anxiety and rumors among the regional cooperatives' memberships and staff. Only the Federation's board and members of the Advisory Council knew about the plans.

As the merger committee formulated its merger plan, it made sure to include items that were palatable for the farmer. The farmers were to perceive the new cooperative as giving them benefits without deviating very much from their existing regional cooperatives.

Cost savings. The merger is meant to strengthen the Swedish farmers' competitiveness. Because of substantial cost savings of all kinds, the farmers should get better prices, while the service level should be preserved. Through centralized management, there is less need for a large staff, and cost savings could be made in logistics, through the closing of plants with low capacity utilization, et cetera.

Market Areas. The merger committee proposed that the regional cooperatives' operations should remain, though modified as Market Areas. These were to be responsible for business matters within the former regions and preserve the market orientation and local connections. The Market Area organization would remain as the local market organization at least at the same level of service as in the current situation. This organizational model was intended to appeal to the regional cooperatives' managements and the boards who could otherwise create resistance to the merger. At the time when the merger proposal was made public, nobody mentioned that this organizational model would be costly and that it would be dissolved a few years after the merger.

A new primary cooperative. A new primary cooperative could be formed, and the regional cooperatives as well as the Federation should merge into this one. Thus, all the assets of the regional cooperatives and the Federation should be incorporated in the new cooperative. In this way, nobody should have the feeling of being a loser. Not only the regional cooperatives but also the Federation should be regarded as acquired cooperatives.

Merger-of-equals. Given the dissimilarities within the group of regional cooperatives, there would be a risk that cooperatives with more production plants would demand financial compensation. It was, however, impossible to assess a monetary value to the assets, because during the era of the national agricultural policy, the production plants had no market value. Likewise, lessons from other mergers indicate that financial compensation will lead to conflicts. The merger-of-equals strategy was thus in danger as one of the larger regional cooperatives considered itself to have more valuable assets than the others. It claimed that it would rather collaborate with Danish or German cooperatives, but such options turned out to be impossible. Thus, it finally accepted the merger-of-equals solution.

The *traditional cooperate principles* should permeate the new cooperative's dealing with the farmer-members, i.e., they should receive patronage refunds. These principles are also imbedded in the Swedish legislation on cooperatives.

Profit-oriented subsidiaries. Some of the cooperative's operations could not be governed by cooperative principles, because that would conflict with market signals. Instead, such operations should be located in several divisions for machinery, retail chain, laboratories, energy, et cetera. These subsidiaries should be profit oriented. A large share of the profits should be paid as capital returns in proportion to members' investments in the cooperative.

Name. The merger committee proposed that the name of the new cooperative should allude to the traditional terminology. Thus, it should be called Svenska Lantmännen. As the word "Svenska" means "Swedish", this would signal that it should be a cooperative for the entire country. However, after a few years, the name was changed into Lantmännen.

Democratic membership organization. The merger committee suggested that the lowest echelons of the membership organization should remain unchanged even though the regional cooperatives become

Market Areas. Thus, the first layer should be the existing village groups; the second one should be districts with a few village groups' representatives; and the third should be the former general assembly of the regional cooperatives. As this membership organization was very costly, it was later changed into a two-echelon structure (Morfi et al., 2018; Nilsson et al., 2009).

During the period November 1999 to January 2000, the merger committee focused on the statutes for the new cooperative and ensuring that agreements were signed. Information provided to the Advisory Council and the staff was processed and carried out. The merger issue was dealt with at the regional cooperatives and in the Federation's board. On January 1, 2001, the new cooperative was formed. The merger report was published in February 2000. A broad discussion within the organization – at district meetings – took place. To facilitate the discussions, a small folder with key messages from the merger report was produced.

The Federation's CEO said in an interview that 93 % of the Advisory Council members were in favor of the merger when the proposal was brought to the regional meetings. The Federation's last meeting was held on May 11, 2000, and Lantmännen's first board meeting was held on May 15, 2001.

7.4. Outcomes of the merger

As shown in Table 2, Lantmännen's financial results have undergone a positive development since the merger. The cooperative has become financially strong, just as forecasted by the merger committee. Turnover increased during the period by 54 %, and the balance sheet expanded by around 60 %. Moreover, the total operating profit increased by 1853 %, and the distribution of money paid to the members increased by 217 %. The dividends and the emission of the bonus shares increased by about 470 %, while the total costs have increased by around 48 %, in addition to the subset 'personnel costs', which were almost 20 % higher in 2020 compared to 2005. Finally, the cash flow increased by nearly 408 % during the period and the equity ratio increased from 38 % to 45.8 %.

The operating profits in relation to the net sales gives the key figure 'operating margin'. During the period, the operating margin increased by 1200 %. In 2020, there were 19,172 members, while in 2005, there were 28,759 members, i.e., a decrease of nearly 60 %. One reason for this is

the structural changes in agriculture; another is that Lantmännen has introduced a limit for their members' turnover, and those not reaching this limit are asked to exit.

It is arguable whether there is a causality between the merger and the economic and social status of the cooperative. After the merger, the new cooperative has made a large number of strategic decisions that have affected the cooperative's results. Thus, there is a causality in the sense that the merger was a precondition for the decisions.

Among the structural changes are the following:

- Lantmännen's Market Area organization was abolished in 2006. After this, the headquarters decided to close most of the small local plants and restructure the membership organization into only two echelons. Thus, there were gains as concerns administrative problems and better coordination of the firm's activities.
- During the 2010s, Lantmännen introduced new financial instruments, which gave individual property rights to a significant part of financial capital (Hakelius & Nilsson, 2020). This has resulted in much member involvement and willingness to invest.
- With a large amount of financial capital, Lantmännen has been able to acquire many subsidiaries both domestically and internationally, mainly working with grain processing and farm supplies.
- Except for the economic outcomes, there are social aspects for the farmer-members. As several surveys among representative samples of members have been made over the years since the merger (Feng et al., 2016; Gaurwitsch & Nilsson, 2010; Morfi et al., 2018; Nilsson et al., 2009), and the findings indicate a positive trend. The members exhibit an increasing social capital in terms of satisfaction, trust, loyalty and similar social capital variables.

8. Conclusions

8.1. Findings

From the late 1800s until the 1940s, the number of agricultural cooperatives increased steadily in the Western economies, but there was a sharp fall in the following decades. The main explanation is that intensified competition has forced local and regional cooperatives to merge. Most often, a cooperative with financial problems has joined a

Table 2

Lantmännen's economic development 2005–2020. Source: Lantmännen's annual reports 2005, 2010, 2015 and 2020.

Aspect	Measure	2005	2010	2015	2020	Change (%)
Cost savings	Staff efficiency = wages/turnover (%)	17.8	15.3	14.5	13.8	-22.5
	Capital turnover rate (times)	1.26	1.27	1.25	1.14	-9.5
	Total costs	29,809	35,671	35,162	44,196	+ 48.3
	Personnel costs	5317	5502	5169	6362	+ 19.7
	Inventory/turnover (%)	15.5	14.5	15.2	13.2	-14.8
	Depreciation costs/turnover (%)	5.1	0.7	3.4	4.5	-11.8
	Financial costs/turnover (%)	1.4	2.6	-0.3	-0.4	-71.4
Profit increases	Sales/Total Assets (%)	126	127	125	114	-9.5
	Turnover	29,807	35,988	35,660	45,990	+ 54.0
Profitability	Return on equity, total capital (%)	4.0	7.0	5.0	6.0	+ 50.0
	Profitability, equity (%)	8.0	7.0	8.9	10.2	+ 27.5
	Total profit distribution to members (MSEK)	290	343	448	919	+ 217.0
	• Local patronage refunds (MSEK)	75	95	189	305	+ 306.7
	• Central patronage refunds (MSEK)	64				
	• Proposed dividend (MSEK)	51	68	193	291	+ 471.0
	• Bonus shares issue (MSEK)	100	177	50	306	+ 206.0
Liquidity	• B shares (MSEK)	–	3	16	17	+ 467.0
	Cash flow (%)	128	119	127	128	±0
	Balance sheet liquidity (%)	231	215	229	230	-0.4
Capital strength	Cash flow (MSEK)	552	2692	2167	2803	+ 407.9
	Debt ratio (times)	1.77	1.59	1.37	1.18	-33.0
	Equity ratio (%)	38	38.6	42.2	45.8	+ 20.5
Balance sheet (MSEK)	24,568	27,009	30,081	39,331	+ 60.1	
Operating profits (MSEK)	120	1059	1351	2223	+ 1853.0	
Operating margin (%)	0.4	2.9	3.8	4.8	+ 1200.0	
Number of members		48,759	36,050	27,032	19,172	-60.7

neighboring cooperative with a better financial position. Thus, there is an acquiring and an acquired cooperative. Only more seldomly do three or more cooperatives merge simultaneously.

When cooperative leaderships consider a merger, they hand over the planning task to a merger committee with representatives from both or all the cooperatives and sometimes together with external experts. After having negotiated the conditions, the merger committee presents a merger plan for the memberships, receives responses from the members, and then modifies the merger plan. Sometimes, one of the merging parties transfers money to the other one, but “mergers of equals” seem to be a widespread pattern. Most often, the general assemblies of the merging parties approve the merger plan.

Mergers tend to take place where the acquired cooperative has a financial crisis. Thus, the members are likely to make a quick decision. In some cases, mergers take place in anticipation of a threat, which means that some members do not realize the upcoming crisis. Thus, the merger committee must consider not only the long-term consequences of a merger but also stress short-term argument to convince the members.

While a merger might solve acute financial problems, continued difficulties may arise. Thus, another merger is likely. In the literature, the expression “merger waves” is widespread, implying that a merger may help only temporarily. After a merger has taken place, the business conditions change continually, including competitive intensity, technological advances and governmental decisions. In empirical studies, it is hardly possible to isolate the impact of a merger from the impact of these factors.

The case study in the preceding section illustrates the above-mentioned elements. It is, however, impossible to claim any representativeness, because all cooperative mergers are unique. The case study presents a merger where, by far, most of the cooperatives in the Swedish grain marketing and farm supply industry merged into a nationwide cooperative, Lantmännen. A new, empty cooperative was established in the year 2000 to be the acquiring cooperative, and the regional cooperatives as well as their federative organization were the acquired cooperatives. The cooperatives did not experience any acute financial problems but the new market conditions following the Swedish accession to the European Union in 1995 would pose serious threats.

Because many members did not face this threat, promises of better prices were not sufficient, but the merger committee had to propose many elements that would appeal to the members. The regional cooperatives' members, managements and boards were assured that a merger would not imply major changes. However, after the merger was completed and the decision power was concentrated to the newly-formed cooperative, major efficiency-raising measures were undertaken.

8.2. Suggestions for future research

Considering that mergers are an essential part of the cooperative organizational form, research about cooperative mergers is important. A difficulty is that cooperative mergers take place under different circumstances, with variation in agricultural industry, location, cooperative size, and pre-merger financial status. Thus, different research methodologies are needed, including qualitative approaches and case studies with a focus on the social patterns within the memberships. While surveys among cooperatives and memberships are also desirable, they are difficult to interpret.

Although previous research has sought to determine cooperatives' post-merger performance, there is a lack of research about how the farmer-members are affected. If the members of a problem-burdened cooperative continue their farming operations after a merger, such a merger is successful. A study of mergers in the Danish pork industry concludes that almost all the 63 investigated cases were successful, because the farmers could continue their operations. However, it is impossible to know the nature of the farmers' situation had the merger never occurred.

The outcome of a merger concerns not only the economic performance of the cooperative and the members but also the social conditions for the memberships. There is little scientific knowledge about how farmers think prior to, during and after a merger. Knowledge about how the members of both acquiring and acquired cooperatives look upon a merger, and how they are affected, is an urgent topic for future research.

The members of an acquired cooperative will belong to a new membership, which is due to affect their sense of community. Likewise, the elected representatives and the management of an acquired cooperative are affected as they lose their positions, resulting in poorer career prospects. Furthermore, there are consequences for the members of the acquiring cooperative as well as for the management.

When evaluating the outcome of a merger, the time dimension is important. If data refer to a period shortly after the merger, the cooperatives have not had time to amalgamate. If, on the other hand, data are collected much later, the new cooperative has made strategic decisions, which have affected the outcome more than the merger itself. Thus, analyses of the merger outcomes should cover a number of years after the merger.

CRedit authorship contribution statement

Karin Hakelius: Writing – review & editing, Data curation, Conceptualization. **Jerker Nilsson:** Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Data Availability

Data will be made available on request.

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Personal messages

- Interview with the former Chairman of the Federation, Olle Hakelius, on October 27th, 2002.
- Interview with the former Chief Executive Officer of the Federation, Håkan Hellmo, on September 2nd, 2002.
- Interview with the former Member Relations Officer of Lantmännen, Anna Carlström, on April 9th, 2019.