THE VALUE AND COMPETITIVENESS OF FARMER COOPERATIVES – WITH EMPIRICAL EXAMPLES

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Abstract

Discussions about the advantages, disadvantages, position, competitiveness and value of members of cooperatives are ongoing. However, the performance of farmer cooperatives vs investor-owned companies is not easy to analyze, measure and compare. A number of important issues in measuring and comparing the value of cooperatives are identified. The objectives and success criteria of the two types of companies are different and therefore the same indicators can not necessarily be used in a comparison. Several different indicators may be necessary to give a complete picture of the performance of cooperatives.

From a theoretical point of view, potential advantages and disadvantages of farmer cooperatives are identified, and the cooperative model is shown to have significant and substantial both advantages and disadvantages.

The existence of potential economic impacts of farmer cooperatives is tested by examples based on Danish conditions with access to relatively reliable databases. Indicators as market shares, financial robustness and profit sharing seem to support and confirm the assumption of cooperative benefits.

Key words: Cooperative, advantage, disadvantage, benefits, performance, value

Purpose

Discussions about the advantages, disadvantages, position, competitiveness and value of members of cooperatives are ongoing. The starting point is that cooperatives and investor owned companies are equally effective. Cooperatives have some advantages but also some disadvantages. However, the value of farmer-owned cooperatives vs investor-owned companies is not easy to analyze, measure and compare. Advantages and disadvantages of cooperatives need to be highlighted and compared.

The purpose of the article is

- to discuss approaches to defining and measuring the international competitiveness of farmer-owned cooperatives,

- to list potential advantages and disadvantages of farmer cooperatives,

- to identify issues concerning the measurement and comparison of values and competitiveness of farmer cooperatives with other forms of ownership,

- to test whether expected economic values of farmer cooperatives can be confirmed on the basis of empirical studies and cases.

Literature review and discussions

For a long time, the benefits of farmer cooperatives have been analyzed or even more discussed among stakeholders. Selected results from a few recent publications are presented below:

Grashuis & Su (2018) have reviewed 56 peer-reviewed publications on farmer cooperatives. Cooperative membership was found to positively impact price, yield, input adoption, income, and other indicators of member performance. However, the authors underline, that the positive impact might in part be explained by publication bias, and that the evidence of a causal relationship of ownership and governance to performance has been elusive.

Alho (2015) examined the significance for hundreds of Finnish dairy and meat producers of membership of modern farmer cooperatives. The results showed that stable market channel was still the most important benefit that producers perceive as deriving from cooperative membership. The cooperative paying a competitive producer price was also an important benefit of cooperative membership for milk producers. However, pig farmers were in general dissatisfied with the pricing of the cooperative, which could be a consequence of the current market situation and not necessarily a consequence of the cooperative ownership.

Candemir, Duvaleix, and Latruffe (2021) conclude that cooperatives play a non-negligible role in farm economic sustainability and in the adoption of environmentally friendly practices. However, they also underline that only a few studies on the role of agricultural cooperatives and environmental sustainability have been published.

Farmer cooperatives and competitiveness

Competitiveness of a company, a cooperative, an industry or a country can be defined and measured in several different ways. There is no definitive consensus on how to define and measure it precisely, and it is often recommended to use several different indicators. As an example, analyzes from the IMD World Competitiveness Ranking contain data with 334 competitiveness criteria for each country (IMD, 2021). In both reports results of all criteria are presented and an overall ranking of all countries is also presented.

In all cases, competitiveness should be defined as a relative concept comparing companies with other companies.

Two different approaches defining and measuring international competitiveness have been selected:

On the one hand, results created by cooperatives are the foundation. Concrete results in relation to the goals defined by the cooperatives are analyzed. Competitiveness of the farmer cooperatives can be defined as the sustained ability to achieve the goals defined by the cooperatives. This takes into account that companies may have different goals to work towards.

Competitiveness can also be defined as the competencies to face competition and succeed in a competitive market. Competitiveness will then be the ability to sell products and services that meet market demand (price, quality, quantity) and at the same time secure resources (capital, labor, innovation, etc.) that enable the company to continue to compete in sustainable way in the future.

When measuring competitiveness based on a company's results, one will typically look at market shares, profits, growth, etc. in accordance with the goals of the company.

On the other hand the sources of competitiveness are the foundation. In this case, a company's relative competencies are assessed in terms of productivity, cost level, structure, know-how, management, etc. In this situation the sources of competitiveness are measured by comparing levels of cost, structure, size etc.

Competitiveness can be disrupted or effected by intervention by the government: Support in different ways can give companies an unsustainable or false competitiveness. This may not least be the case for farmer owned cooperatives, as significant market interventions and subsidies in the agricultural industry are quite common.

Measuring and benchmarking problems

The performance of farmer-owned cooperatives vs investor-owned companies is not easy to analyze, measure and compare. Typically, the objectives and success criteria of the two types of companies are different and therefore the same indicators can not necessarily be used in a comparison. A number of important issues in measuring and comparing the value of cooperatives are identified below:

- Investor owned companies will typically focus on shareholder values measured as long-term return on invested capital. Farmer cooperatives will typically aim to ensure members better sales prices and/or lower purchase prices. Indeed, better sales prices are a very visible and measurable competitive parameter and thus also performance indicator.

- The price advantage is often difficult to estimate. Ideally, a shareholder price should be measured compared to a counterfactual situation - ie a situation without cooperatives in a given market, which is only a theoretical option. In practice, a market where farmer cooperatives and investor-owned companies offer different prices for the same product in the same market is not sustainable. A long-term price advantage (or another financial advantage) to one company will have the consequence that customers or suppliers will move to this company. The result is that the mere presence of farmer cooperatives can affect - typically raise - farm gate prices for all farmers on the market.

- The value of a supply security goal is difficult to quantify. If a well-functioning perfect market already exists, problems in accessing relevant buyers or markets are less urgent, meaning that the value may be arbitrary or theoretical. However, examples from developing countries and from historical cases show that security of supply was a crucial factor that justified and created farmer owned cooperatives.

- Cooperatives also develop new hybrid models with elements of investor owned companies. Cooperatives also acquire and run share holding companies. This makes it even more difficult to identify cooperative competitiveness and benefits.

- Often, farmer cooperatives will have different purposes and different success criteria in, for example, developing and developed countries. Farmer owned cooperatives in many developing countries have more functions than purely commercial purposes: Social, regional or political activities can be part of the purpose, which makes it even more difficult to compare and not least quantify the value both nationally (versus commercial investor owned companies) - and internationally.

- Farmer cooperatives have fundamental strong competitive advantages in some areas, and less strong - or no - competitive advantages in other areas. Farmer cooperatives will typically perform poorly in those areas without competitive advantages due to the form of ownership. Farmer cooperatives in already competitive markets, or with a great distance to agriculture in the value chain might often face problems.

- Finally, a new dimension in the problems of measuring performance has emerged: Companies are increasingly choosing to include stakeholder values in their strategic goals: CSR, Corporate Social Responsibility, has long been part of the general cooperative principles formulated by ICA, International Cooperative Alliance: Cooperatives work for the sustainable development of their communities through policies approved by their members (ICA, 2022). With increasing number of multi-purpose strategies, measuring success and value for owners becomes even more difficult.

Taking these issues into account when measuring and comparing the value of cooperatives, a qualitative and comparative presentation of the advantages and disadvantages of farmer cooperatives is shown in structured form in Table 1.

Table 1. Cooperatives: Significant advantages and disadvantages compared to capital owned companies

Advantages	Disadvantages
Strong vertical integration	**Difficult to attract equity** The potential for attracting external capital from various kinds of investors is limited

Through cooperative ownership several links in the value chain can be connected and controlled **Low transaction costs** **The supply chain is effective, and supplies between the links are often at no cost to intermediaries or other sales links. The number of middlemen is low** **Security of supply and demand** **Both farmers and the cooperative have secure supply and demand.** **Relatively small demand for capital** **The supply obligation acts as a financial buffer, and thus the need for equity is reduced.** **Division of labor** **Farmers can focus on core business - to be excellent farmers - and leave up- and down-stream activities to their own cooperatives knowing that all benefits from this belong to and are returned to the farmers / members.** **Cooperatives are often financially robust** **The cooperative structure with the obligation to supply, etc. means that it is relatively rare that cooperatives go bankrupt.** **Evens out market power in the value chain** **Agricultural production typically comes from many small units, which individually have weak market power. By standing together in cooperatives, the bargaining power of these small units is strengthened, and it becomes more equal in relation to the other links in the value chain.** **More favorable and more stable prices** **The listed benefits materialize in more favorable and more stable prices for the members, and thus improved earnings.**	**Volume control is difficult** Because of members' delivery rights, cooperatives have limited scope for volume control. Cooperatives must receive members' production, even without having a final market. **Conflict of interests and dual role** Members' dual role as both owners and suppliers (or customers) can cause conflicts. Optimizing profit and farmers' sales prices **Lack of incentives for long-term investments** Since the cooperative owners basically can not withdraw their share of the value added from the company when they drop out, their economic incentive to leave money in the company for long-term investments and return can be limited. **Limited recruitment base to the board** Positions on the board are predominantly reserved for members, which results in a significantly reduced and often quite narrow basis for recruitment **Ties to produce** Cooperatives may have an implicit or explicit tie to the members' own supply of raw produce, which can cause non-optimal commodity composition. Low cost supplies giving cooperatives a better profit may not be an option **Focus on value chain around members** Cooperatives will, by virtue of their aim to benefit the supply and sales of their members, often focus on the links of the value chain, which lie closest to the members. Activities further down the value chain closer to consumers or very upstream into basic R&D can therefore be assigned a lower priority, even though they may be economically attractive.

Source: Own elaboration

Table 1 emphasizes that the cooperative model can have significant and substantial advantages and disadvantages. Cooperatives can thus be advantageous in situations where the special benefits are important and can be utilized. However, there may also be situations where the disadvantages are too crucial or where the benefits are less important.

Cooperatives can create advantages for some stakeholders and disadvantages for other stakeholders. The existence of farmer cooperatives may influence farmers, consumers, suppliers, the industry, the government etc.

Furthermore, farmer cooperatives may be a second best solution. Perfect competition on a market may be the best solution in some cases, so the question is whether the advantages, disadvantages and benefits of farmer cooperatives should be compared to a situation without cooperatives or without companies at all.

Finally, values – or impact – may have very different kinds of contents and aspects, for example economic, social, cultural and regional values. It is difficult to benchmark and combine such different values.

Empirical examples

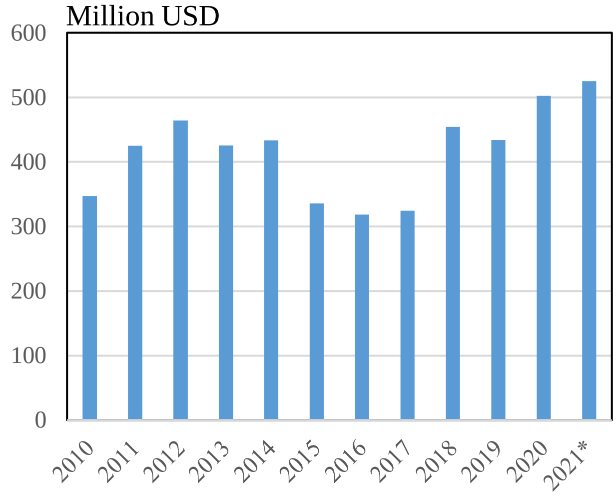
Performance, competitiveness and value of farmer cooperatives for the members are complicated to quantify – as clarified in previous paragraphs: Several different indicators may be necessary to give a complete picture of the benefits for the members, and the benefits can vary depending on country, sector, market conditions, economic conditions, purpose in cooperatives etc.

Furthermore, access to relevant statistics is scarce and a major barrier to empirical analyses. Information on prices as well as accounting data for the various forms of ownership may be necessary in order to be able to draw credible comparisons and conclusions. The following examples are based on Danish conditions with access to relatively extensive data sources.

A price and income advantage in the form of higher sales prices and cheaper input prices compared to the market price is a significant motivation behind farmers' preferences for cooperatives. In the same category is the sharing of the profits among the members, which is also a visible and attractive advantage for the members.

As an example of this, Figure 1 shows the total annual dividends from Danish farmer cooperatives to Danish farmers 2010-2021.

Figure 1. Annual dividends etc. from Danish farmer cooperatives to Danish farmers 2010-2021



Note: Includes distribution of annual profit to owners, supplementary payments etc.

2021: Estimate

Source: Own calculations on the basis of annual accounts from approximately 20 Danish farmer cooperatives

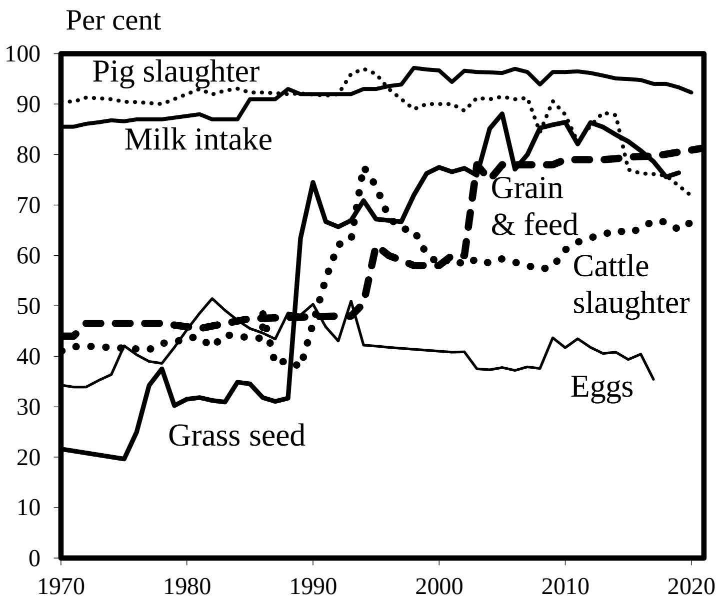
Total distribution of annual profit, supplementary payments etc. from farmer cooperatives to farmers amounts to 500 million USD per year. As an average of the period 2012-2021, these payments have accounted for approximately 35 percent of agricultural direct support and of agricultural income after financial items. The cooperatives thus have great value for the farmers measured on these ongoing extra payments from the cooperatives

The models for transferring economic benefits back to members vary from cooperative to cooperative. The general principle is that the members have a market price during the year. When the annual report is approved, the profit or typically a part of the profit is distributed back to the members depending on their economic activity with the cooperative. As a general rule, the profit sharing will be a price supplement in relation to a current market price. Some cooperatives prefer to give members a high selling price from day to day, whereby the profit for the year for distribution is relatively small. Other cooperatives use a model with a relatively larger profit, where the remaining payment can amount to up to 10-15 per cent of the market price. It also means that the calculated value for cooperative members, which is estimated in Figure 1, may underestimate the real total benefits.

The value and competitiveness of cooperatives compared to other types of companies can also be illustrated in another way: Competitive companies will typically expand because they will attract both suppliers and customers. For this reason, companies' market shares can be used as an indicator of competitiveness and economic performance. If a company has a good performance, which is passed on to the market, the company will automatically attract both suppliers and customers. A good performance - and a value and an economic advantage for the owners - will thus result in an increasing market share.

With this in mind, Figure 2 shows a long-term development in cooperatives' market shares for a number of important sectors in Danish agriculture.

Figure 2. Market shares for agricultural cooperatives in selected industries in Denmark



Sources: Own calculations based on Statistics Denmark (several issues), Danske Andelsselskaber (several issues a+b), DLG (1973, 2012), Danish Agro (2022), Danish Dairy Board (1982), LF (2022a,b,c) and annual reports from food companies and organisations.

As shown in Figure 2, the market shares of farmer cooperatives have, in general, increased during the period.

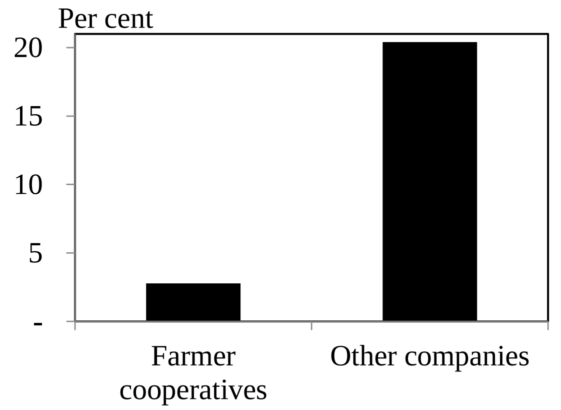
However, the figure only shows a sample of the agri food industries where cooperatives have existed. Cooperatives also exist – or have existed – in industries such as fruits and vegetables, potted plants, potatoes, potato starch, beverage and fish. In the poultry industry and in sugar industry farmer cooperatives have existed, but no more: They suffered economically, or they were acquired by foreign companies in order to increase consolidation and to benefit from economies of scale.

Farmer cooperatives have in several cases had problems in very capital-intensive sectors, in sectors far from farmers in the value chain and in highly competitive sectors. This indicates that the cooperative model naturally has limited benefits and value.

As shown in Table 1, cooperatives are often financially robust. Historically, cooperatives in the agri food industry rarely encounter such serious financial problems that they end up with bankruptcy or loss to creditors. Banks have relatively small losses on their exposures to cooperatives.

The fact that profits in cooperatives are more constant than in other companies has been examined by comparing the frequency of annual deficits in different types of companies in Denmark. During the 16-year period 2003-2020, the 11 included cooperatives had a negative result in 3 per cent of the years, while the corresponding figure for other types of company was 20 per cent, cf. Figure 3

Figure 3. Frequency (%) of negative results after tax in farmer cooperatives and other companies in the Danish agri and food industry, 2003-2020



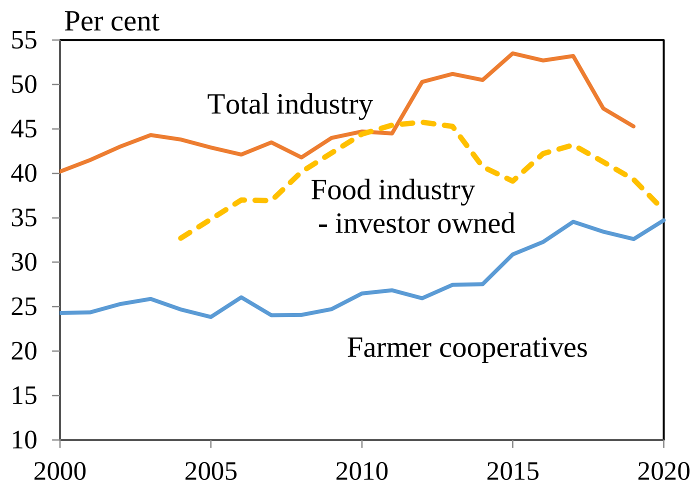
Note: Companies with an annual turnover > 0,5 bn DKK (80 mn USD)

Sources: Own calculations on the basis of annual accounts from companies

However, it should be noted that several of the foreign multinational companies such as Nestlé and Unilever had negative results in most years, affecting the average, although that did not change the conclusion. Financially robust farmer cooperative is valuable for both owners, suppliers, creditors, etc.

Robust cooperatives with farmers as the financial buffer can more easily attract capital from banks without large equity requirements. Farmers' supply obligation acts as a financial buffer, and thus the need for equity is reduced. Figure 4 illustrates an example of the relatively smaller need for equity in cooperatives.

Figure 4. Solvency ratios in farmer cooperatives, total industry and investor owned food industry in Denmark



Note: Solvency ratio: Equity / Assets * 100

Sources: Own calculations on the basis of annual accounts from 55 biggest companies and all farmer cooperatives in Denmark

The figure shows a significant difference in the solvency ratios between the total industry and the farmer cooperatives. The solvency ratio is in the interval 40-50 per cent in industry in total and around 30 per cent in the cooperatives. The difference in solvency ratios seems to be relatively stable and constant. The difference in the solvency ratios between the investor owned food industry and the farmer cooperatives has narrowed, mostly due to the internationalization of cooperatives and thus increasing equity needs.

Conclusions

Literature review showed that farmers prioritized the benefits and values of cooperatives in terms of stable market access and better prices. A number a potential advantages and disadvantages of farmer cooperatives are identified.

Measuring farmer cooperatives benefits, illustrated by competitiveness, is complex and can be done by analyzing the results of cooperatives or the sources of competitiveness. The results must be measured in connection with the goals that the companies have defined. The cooperatives often have more and different goals and sub-goals than other types of companies. Therefore, the performance of farmer-owned cooperatives vs investor-owned companies is not easy to analyze, measure and compare, and a number of critical issues are listed.

The qualitative analysis is supported by examples based on Danish conditions with access to relatively reliable databases.

Market shares, as an indicator of competitiveness and value for the owners, have in general been increasing. However, cooperatives in some sectors have had problems, indicating that cooperative ownership also has limited benefits and value.

Finally, it is confirmed, that farmer cooperatives are quite financially robust with stable economic results from year to year. With farmers being economic buffers in cooperatives, demand for equity is also relatively modest, which confirms the qualitative analysis.

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