

A farmer-controlled business from a farmer perspective

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RESEARCH ARTICLE

Abstract

The ownership of food processing firms affects farmers supplying those firms with agricultural products. This study examined the effects of supplying either a farmer-controlled business (FCB) or competing investor-owned firms (IOFs). An FCB is owned and controlled partly by farmers and partly by external investors. Analysis of data obtained from a survey of pig producers in Sweden indicated that partial ownership by farmers resulted in them perceiving the FCB as having some co-operative traits. The FCB suppliers were less inclined to exit, used their voice more, and showed greater loyalty than the IOF suppliers. In the long term, however, the farmers' relatively positive view of FCBs might change because this organizational form contains inherent conflicts between the interests of the farmers and the external investors. As competition intensity increases and primary agriculture becomes increasingly concentrated, the co-operative features of an FCB are due to become vaguer over time. These problems may threaten the long-term existence of FCBs.

Keywords: farmer-controlled business, co-operative, investor-owned firm, agriculture, member

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1. Introduction

A farmer-controlled business (FCB) is a corporate firm where a larger or smaller share of the stock is owned by farmers, either individually or through a farmers' society that owns stock in the FCB (Chaddad and Cook, 2004; Hess *et al.*, 2013; Hind, 1999). The remainder of the stock is owned by investors of different kinds. They may be local people in the firm's operating region, municipalities, business partners, a farmers' union, risk capitalists, or a stock exchange. The business operations of an FCB take place within the corporate firm, organized as a joint stock company or a limited liability company. However, the part-ownership by farmers means that the firm operates at least to some extent in the interests of farmers and not only for profit maximization for non-farmer investors. The objective of an FCB is affected by the proportion of seats on the board of directors held by farmers' representatives, the intensity of competition, and other factors.

The aim of the present study is to explore how farmers' decisions to deliver to a FCB firm or to investor-owned firms (IOFs) are affected by their assessment of the attributes

of these two types of firms. Such research is interesting because the amount of empirical research about farmer behaviour in relation to FCBs is scarce (Al-Hasan *et al.*, 2002; Hess *et al.*, 2013). In addition, the number of FCBs is increasing, as many agricultural co-operatives are being converted into FCBs (Boland and Cook, 2013; Fulton and Hueth, 2009; Gunnarsson Myrelid, 1999; Lamprinakos and Fulton, 2011; Nilsson and Gunnarsson, 2000). FCBs are now commonplace in countries such as the UK, Ireland, Finland, and South Africa, but they also operate for example in Sweden, Germany, and the Netherlands.

Many previous studies have examined farmers' view of their co-operative and their loyalty, attitudes, knowledge, and related constructs (Barbaud-Didier *et al.*, 2012; Bravo-Ureta and Lee, 1988; Burt and Wirth, 1990; Cain *et al.*, 1989; Hind, 1997, 1999; James Jr. and Sykuta, 2006; Jensen, 1990; Lind and Åkesson, 2005). The findings from these studies are quite diverse but there is a common feature, namely that there are systematic differences between farmers supplying to co-operatives and farmers supplying to IOFs. Farmers tend to appreciate the social links within the membership body and the fact that the co-operative constitutes a reliable

trading partner (Bhuyan, 2007; Gray and Kraenzle, 1998; Österberg and Nilsson, 2009). However, it is important that they can trust their co-operatives and feel that they are being properly treated (Borgen, 2001; Hansen *et al.*, 2002; Nilsson *et al.*, 2009).

The empirical data analysed in this study were obtained from a survey of Swedish pig breeders delivering to either an FCB or various competing IOFs. The FCB was established by conversion of a former traditionally organized co-operative, whereby the ownership was split between two farmers' societies and external investors, although with farmers occupying the majority of seats on the board of directors.

Owing to the farmers' part-ownership and part-control of an FCB, farmers may exhibit some loyalty to the FCB. The farmers' seats on the board of directors may ensure that the FCB offers better conditions for the farmers. Hence, there may be some factual co-operative traits that foster confidence among farmers.

The next section presents the theoretical basis of the study, leading to the formulation of three hypotheses. Thereafter, an account of the empirical study is given, including a presentation of the FCB and data collection, the choice of statistical techniques, and the results obtained. The final sections contain discussions and conclusions.

2. Theoretical framework

Exit, voice, and loyalty in co-operatives

A basic characteristic of the co-operative business form is that a co-operative has three roles, namely patron, controller, and owner (Barton, 1989). The co-operative's members are those individuals who deliver products to it, buy goods and services from it, borrow from it, work in it, do whatever they need to do, all depending on the type of co-operative concerned. The members are members because they reap benefits in their role as patrons to their co-operative. Co-operatives are commonly assumed to exist because members would have experienced high transaction costs had they operated on open markets (Williamson, 1989, 2000). Vertical integration in the form of co-operatives may reduce farmers' transaction costs (Hendrikse and Bijman, 2002; Hendrikse and Feng, 2013; Staatz, 1987).

For a co-operative to be of value to its members, it is necessary for the members themselves to control it. They must participate and be active in the general assembly, inform themselves about the business activities, elect a board and various committees, and be prepared to be

nominated and be elected into governing bodies. Hence, the monitoring role is subordinate to the patron role.

In order to monitor a co-operative, its members must own it. The ownership is generally collective, i.e. the individual members own shares that are usually not tradable and appreciable. Upon exiting the co-operative society, the members sell their shares back to the co-operative at par value.

It can be deduced from this that FCBs are not co-operatives, as the patrons do not have full ownership and full control. Nevertheless, in countries where FCBs are common, these businesses may be considered to be a special kind of co-operative.

The three roles played by co-operative members provide them with various possibilities to influence the business activities of the co-operative firm. Hirschman (1970) distinguishes between three major ways to affect an organization. The first way is exit, whereby actors may stop or reduce their exchanges with their current partnering firm, thus signalling dissatisfaction. In a co-operative context this can take place in all three roles. The members can reduce their patronage of the co-operative, or even stop the business relationship completely. Furthermore, members can reduce their activities in the member democracy system. Declining member participation at the general assembly, for example, is a worry for the leadership. Members may also exit the co-operative society completely, whereupon their shares are redeemed, with the result that the co-operative's equity capital is reduced. When new members are recruited to the co-operative the opposite occurs, as they contribute business volume, monitoring resources, and equity capital.

In the second way, referred to by Hirschman (1970) as voice, the members of a co-operative society have influence, mainly in their role as controllers. Voice in a co-operative is most evident when it comes to the formal member democracy system, but may also be exerted in the patron role, although this is not typical of co-operatives. Customers and suppliers may convey suggestions, complaints, and opinions to managers within all trading partnerships, irrespective of business form. The members have few possibilities to make their voice heard in their role as owners as the shares are not freely tradable. It should be noted that all kinds of signals may express both positive and negative opinions.

Loyalty, Hirschman's third category of reaction, does not involve the individual taking action to impose changes in the organization. However, members send signals to the co-operative leadership by being loyal, just as stakeholders

of an IOF provide signals by being loyal. The difference between the two organizational types is that co-operative loyalty is more far-reaching, as it involves signals in all three roles of membership, while the suppliers to an IOF send signals only in their role as trading partners. Co-operative loyalty has been noted historically because there must be at least some social capital within a membership. Members easily understand that disloyal behaviour is harmful to the co-operative and to fellow farmers.

The signal associated with trading partners' exit from an IOF is restricted, as the IOF's sales statistics do not reveal the reasons for changing volumes. The situation is different in co-operatives, where voice supplements the information given by a decision to exit. The combination of exit and voice is likely to promote member loyalty to a co-operative. Hence this combination has been claimed to be a competitive strength of the co-operative business form (Ollila, 1989). On the other hand, there are costs associated with running a member democracy system (Pozzobon and Zylbersztajn, 2013; Pozzobon *et al.*, 2012).

The farmers' use of exit or voice depends on the economic implications of each alternative. Hence, voice is presumably more likely than exit when farmers have made large irreversible investments in their farming operations. Their transaction-specific investments mean that they are locked into the co-operative (Helper, 1991). Another factor is whether the co-operative has much unallocated equity, i.e. capital that will not be redeemed to the members individually (Holmström, 1999). Due to these circumstances, exit is less attractive for members, so they are more inclined to express dissatisfaction through voice.

The paragraphs above indicate members' possibilities of signalling their opinions to their co-operative, compared with the influence that trading partners may have in IOFs. It is therefore interesting to compare farmers' behaviour to a co-operative and to a firm that is neither a co-operative nor an IOF, but an intermediary business form such as an FCB.

Hypotheses

Exit

Suppliers to an IOF can easily terminate their deliveries or reduce or increase them, although this is conditional on the existence of alternative attractive buyers and the terms of any supply contract signed in the past. There are no obstacles in terms of ownership relations, transaction-specific investments, or possibility to obtain advantages from the partner's equity.

There may be some barriers associated with exiting from a co-operative. The members may experience aversion from remaining farmer-members. The co-operative's bylaws may stipulate a long period until the exiting is completed and the shares are redeemed. Again, the ease of exiting depends on the existence of competing buyers and the terms of any existing contract. If there is no other attractive business partner, the barrier to leave a co-operative may be high for farmers with large transaction-specific investments.

Discontinuing deliveries to an FCB is easier for its suppliers, provided that there are other buyers for their agricultural products. They can retain their membership in the share-owning farmers' society. Any farmer exiting an FCB can expect some, but limited, social sanctions from other farmers. Since the FCB has farmer-directors, the farmers may have some trust in the FCB, although less than in a co-operative. This suggests that farmers have a lower propensity to stop delivering to the FCB than to an IOF in the event of dissatisfaction. The considerations above led to the empirical testing of this hypothesis:

H1: FCB suppliers rank lower as concerns propensity to exit than IOF suppliers.

Voice

When patronizing an IOF, the farmers have no formal voice option. They have the possibility to communicate with the staff at various organizational levels in a partnering IOF, and the staff may listen to some of the suggestions, complaints, and advice. However, when dissatisfied with an IOF the farmers have no formal possibility to influence any strategic decisions within the IOF. Without such a possibility the IOF suppliers are likely to resort to exiting if they are dissatisfied, or continue delivering despite their dissatisfaction.

The situation is different in a co-operative, as the farmers are not only patrons, but also controllers and owners. The members have the formal right to raise their voice, at least when it comes to electing directors. Members are able to induce strategic changes in the co-operative, as they have communication channels to the directors or other elected representatives.

The attributes that are typical of co-operatives are weaker in an FCB, although they do not disappear altogether. Given that an FCB is partly owned and controlled by a farmers' society, the farmers have the possibility of exerting their influence through voice. However, this is limited by the fact that the external co-owners have a rightful demand for capital returns. These demands are in fact legally binding,

as a majority owner is not permitted to discriminate against a minority owner. Hence, farmers have a possibility to exert their voice in an FCB, but only to a limited extent. The resulting hypothesis is:

H2: FCB suppliers rank higher in terms of voice than IOF suppliers.

Loyalty

Given that an FCB is operating under market conditions, co-operative principles like fair pricing and equal treatment cannot be expected. Members' information about what is happening in the market-place is limited, although the farmers have an information channel through the share-owning society. Members' loyalty to an FCB is not self-evident, as that would not only involve loyalty to fellow farmers in the owning farmer society, but also loyalty to the external owners. Even though external investors own only a part of an FCB, such firms must obey the laws of the market and act in the same fashion as IOFs.

Nevertheless, the fact that the board of an FCB is dominated by farmer representatives will mean that the FCB has a better reputation among farmers than the competing IOFs. The farmer directors are elected by the supplying farmers and, in order to be re-elected, they must ensure that the FCB has at least somewhat better policies towards the suppliers than IOFs provide. This is necessary to raise the degree of farmers' loyalty to the FCB. Hence, a third hypothesis is:

H3: FCB suppliers rank higher in terms of loyalty than IOF suppliers.

In summary, it is hypothesized that FCBs adopt an intermediate position between co-operatives and IOFs as regards all three ways in which suppliers can mediate their dissatisfaction or satisfaction with partnering firms.

3. Empirical approach

Empirical basis

In 2007, the market-dominating traditional slaughterhouse co-operative in Sweden sold its entire operating business to a Finnish FCB. This is one of Northern Europe's largest food processors within the meat industry, with operations in most countries around the Baltic Sea. It has 10,000 employees and a turnover of 2,125 million euros (2009).

When the Swedish co-operative sold its operations to the Finnish FCB, the payment was a number of shares in this FCB, which meant that the Swedish co-operative society continued to exist, but its only assets were shares in the FCB.

Most of the Finnish slaughter firm's equity capital is listed on the Helsinki Stock Exchange, but the board of directors is controlled by a Finnish farmer society. The explanation behind this ownership and control structure is that there are two categories of shares. One category has 20 votes per share and these shares are mainly owned by the Finnish farmers' society (Pyykkönen and Ollila, 2012). The other category of share, owned by the Stock Exchange, has one vote per share. Most of the stocks that the Swedish farmers' society received as payment are those with weak voting power. Hence, the Finnish farmers' society continues to dominate the board of directors. Table 1 shows the FCBs structure of ownership and control.

When the Swedish co-operative was sold, it had all the attributes of a traditional co-operative such as mainly collective ownership, equal voting rights for the members, and a principle of equal treatment of members. The co-operative was a market leader, with 60-80% market share depending on the animal species. It was the result of an almost nationwide merger in 1999 that resulted in a large, heterogeneous membership and a complex, diversified

Table 1. Ownership and control of the food processing farmer-controlled business studied (www.hkscan.com/en/hkscan1; www.sverigesdjurbonder.se).

Attribute	Owner category			Total
	Swedish farmers' society	Finnish farmers' society	Others	
No. of farmer-members	15,300	1,600	n.a.	n.a.
Directors (+ deputy directors)	1 (+1)	3 (+1)	2	6 (+2)
Share of the votes	12.5%	69.3%	18.2%	100
Share of the stock	12.8%	34.9%	52%	100

business structure. It had far-reaching vertical integration, from breeding to consumption-ready products. However, its financial results were poor due to the difficulties of integrating the operations of the merging co-operatives (Lind, 2011).

When the data were collected, the FCB slaughterhouse was paying the same price for the farmers' animals as its IOF competitors. However, when the former co-operative was acquired by the Finnish FCB, the IOFs were paying a higher price. This resulted in less volume for the co-operative which then led to costly over-capacity in all its business operations.

Sample and respondents

Data were collected during March 2009, i.e. two years after the co-operative's operations had been sold to the FCB. A postal survey was conducted among pig farmers, both suppliers to the FCB and those selling to IOFs, in Scania, the southernmost province of Sweden¹. This province was selected as it has intensive agricultural production, with pig producers accounting for approx. 30% of total pig production in Sweden. Scania also has many slaughterhouses. For example, the country's largest slaughterhouse facility, which is owned by the FCB, and five IOF slaughterhouses operate within the province or nearby. Hence, the slaughterhouses compete intensely for the farmers' pigs, and the farmers have many options to choose between.

A data-set comprising all Scanian farmers who were registered as pig producers was acquired from Statistics Sweden. A postal survey was conducted among the entire population of 664 farmers. When the deadline had expired only 118 pig producers had returned filled-in questionnaires. A reminder was sent to the farmers who had not answered, whereby another 57 pig producers replied. Hence, the number of usable questionnaires was 175.

It emerged, however, that the data set provided by Statistics Sweden contained inaccuracies. While in total 165 farmers responded in the first data collection round only 118 (71.5%) were actually pig producers and 47 farmers (28.5%) declared that they had stopped as pig producers. The proportion between active pig producers and former producers among respondents in the second data collection round was similar (57 and 23, respectively).

¹The data-set used in the present study is the same as that used by Hess *et al.* (2013).

Hence the actual population was smaller than the one reported by Statistics Sweden. Due to the current concentration trend in the pig industry it is unlikely that any new pig farming operation has started. It is probable that the correct population size was about 71.5% of the 664 reported by Statistics Sweden, i.e. 475 farmers. In that case, the response rate was about 36.8%.

Variables and questions

The dependent variable was whether the farmers deliver their pigs to the FCB or to one or more of the five IOF slaughterhouses, which are located where pigs can easily be delivered to them. The question was phrased as follows: 'Which slaughterhouse or slaughterhouses do you deliver to, and how large is the percentage of animals you deliver to each slaughterhouse?' The respondents were asked to indicate a percentage for each of the six named slaughterhouses or their sales on the spot market. The percentages had to add up to 100.

The farmers' decisions may be explained by their views on their relationships with their different business partners. The literature about farmers' choices between co-operative and IOF trading partners contains a large number of explanatory variables such as social links, trust, reliability, and treatment (see Section 1). On the basis of which variables could provide explanatory power, nine variables were chosen as independent variables.

Each of the nine variables was transformed into questions which were included in a questionnaire. The variables were arranged into the three modes of expressing dissatisfaction or satisfaction suggested by Hirschman (1970).

Exit

- *Dedicated assets* as perceived by the farmers. 'What kind of pig production do you have?' The respondents were asked to choose between Slaughter pigs, Piglets, or Integrated production, totally or partly. The production form that requires the largest amount of dedicated assets is integrated production, i.e. the piglets that are born on a farm are raised and fattened on the same farm.
- *Economic dependence* as perceived by the farmers. 'What percentage of your working hours do you spend on the farm?' The respondents were asked to state a percentage of their time spent on farming activities and the same for pig production.
- *Preference for co-operatives*: 'Assume that [the Swedish farmers' society] and [the Finnish farmer's society] withdraw as owners of [the FCB] or that any of the other slaughterhouses acquire pig farmers as owners – would

you then change your preference?’ The respondents were asked to indicate their opinion on a scale of 1-3 where 1 = Probably, 2 = Perhaps, and 3 = Probably not.

- *Distance* to the slaughterhouse. ‘How far is it to the slaughterhouse(s) to which you deliver your pigs?’ The respondents were asked to write the number of kilometers to their most frequently used slaughterhouse and their second most frequently used slaughterhouse.

Voice

- *Suggestion frequency* by the partnering firm as perceived by the farmers. ‘How many times during the previous year have you complained about anything or suggested something to the slaughterhouse(s) to which you deliver your pigs?’ The respondents were asked to state the number of complaints and suggestions to the FCB and to other slaughterhouses.
- *Suggestion treatment* by the partnering firm, as perceived by the farmer. ‘Which slaughterhouse will consider your suggestions, questions, and complaints the most?’ The respondents had three options, namely the FCB, Another slaughterhouse, and It doesn’t matter/I have no opinion.

Loyalty

- *Trust* as perceived by the farmers. ‘Which slaughterhouse do you trust the most?’ The respondents had three options: the FCB, Another slaughterhouse, and It doesn’t matter/I have no opinion.
- *Provision of information* from the buying firm as perceived by the farmers. ‘Do you receive market and financial information (regarding supply and demand of pigs and pork) from the slaughterhouse(s) to which you deliver today?’ The respondents were asked to answer either Yes or No.
- *Reliability of information* as perceived by the farmers. ‘This slaughterhouse provides the most reliable market information.’ The respondents had three options: the FCB, Another slaughterhouse, and It doesn’t matter/I have no opinion.

Calculations

Due to the complexity of producers’ choice of a buyer, it could be argued that the relationship between this choice and explanatory variables exhibits a non-linear form through a function $f(z)$. The logit model has proved to be convenient for establishing a logistic relationship when the dependent variable is binary, in this case the choice between two buyer categories.

A farmer’s choice of the FCB was denoted ‘1’ and the choice of an IOF or both an IOF and the FCB was denoted ‘0’.

Following Ben Akiva and Lerman (1993) among others, a typical logit model formulation was derived. The derived choice probability of choosing the FCB, $P(\text{FCB})$, was defined as an exponential function of z , where z is a linear function of n explanatory variables:

$$P(\text{FCB}) = f(z) = \frac{\exp(z)}{\exp(z) + 1}$$

where $z = \alpha + \beta_1 x_1 + \dots + \beta_n x_n$

Estimation of the logit model was performed using the econometric software program Gretl by Cottrell and Lucchetti². In order to determine the variables explaining the choice probability of delivering channel, we initially had the full set of explanatory variables of interest obtained from the survey. From there, we conducted backward elimination of insignificant parameters (with accepted significance level $P < 0.1$). In addition, we applied robust standard error according to Huber-White.

4. Results

The results from estimation of the logit model are presented in Table 2. In order to facilitate interpretation of the estimated coefficient of the logit model, the marginal effects on probability of the explanatory variables are presented.

According to the logit model regression, several variables explain the probability for the pig producers’ choice of slaughterhouse.

Exit

- *Dedicated assets*: The FCB suppliers were more engaged in investment-heavy integrated production or production of fattening pigs. Farmers who specialized in piglet production were more often suppliers to an IOF.
- *Economic dependence*: FCB suppliers tended to be more dependent upon the buying slaughterhouse, as more of them were full-time farmers than the IOF suppliers.
- *Preference for co-op*: The farmers’ preference expressed their psychological bonds with a trading partner. This variable reflected the producers’ propensity to switch between the FCB and IOF slaughterhouses. The FCB suppliers were less prepared to change between trading partners, while IOF suppliers were more prone to do so.
- *Distance*: A short distance between the farmer and the FCB slaughterhouse raised the probability of delivering to the FCB. Increasing distance (higher transportation costs) meant that the producer tended to deliver to an IOF or a combination of an IOF and the FCB rather than

² <http://ricardo.ecn.wfu.edu/pub//gretl/manual/en/gretl-guide.pdf>.

Table 2. Logit model estimation concerning pig farmers' choice of slaughterhouse, with the choice of the farmer-controlled business as the dependent variable.

Variable	Coefficient	Std. error	z	Marginal effect	Significance
C	-1.29	0.611	-2.11		**
Exit					
Dedicated assets	-1.21	0.436	-2.78	-0.263	***
Economic dependence	0.727	0.419	1.73	0.164	*
Preference for co-op	-1.19	0.547	-2.18	-0.259	**
Distance	-0.00696	0.00308	-2.26	-0.00164	**
Voice					
Suggestion frequency	0.834	0.501	1.67	0.195	*
Suggestion treatment	1.64	0.571	2.87	0.388	***
Loyalty					
Trust	1.33	0.674	1.98	0.321	**
Provision of information	1.25	0.453	2.75	0.270	***
Reliability of information	1.79	0.901	1.99	0.410	**
R ²	0.242				
LogL	86.911				

*Significant at $P < 0.1$ **significant at $P < 0.05$ *** significant at $P < 0.01$.

to the FCB only. The FCB suppliers' preference for their trading partner may be considered to be dependent on their view that this firm has geographical proximity.

Voice

- *Suggestion frequency*: If producers had once or twice found it worthwhile to direct complaints to an IOF or to the FCB, they were considered to have used voice. One or more complaints meant that the dummy variable 'Voice' was equal to unity for this respondent. The farmers' use of 'voice' increased their propensity to deliver to the FCB. The FCB suppliers were more closely linked to the FCB and so they were more inclined to use voice rather than exit.
- *Suggestion handling*: The FCB suppliers considered that the FCB is more receptive to suggestions, questions, and complaints than the IOF slaughterhouses.

Loyalty

- *Trust*: The FCB suppliers claimed to a larger extent than the IOF suppliers that their outlet is more trustworthy.
- *Provision of information*: This variable expressed the slaughterhouse's provision of market and financial information to pig producers. The perceived information contributed positively to the probability of delivering to the FCB.

- *Reliability of information*: The FCB suppliers considered the information from the FCB to be more reliable. Due to the size of the marginal effect, this variable had a relatively high influence on the probability of delivering to the FCB.

5. Discussion

Farmers' view of farmer-controlled businesses

All nine indicators used point in the expected direction. The findings indicate that farmers consider the FCB to have some co-operative traits. As the comparisons in the present study are between FCBs and IOFs, and not between FCBs and co-operatives, it is not possible to determine to what extent the FCB is considered to be a variant of co-operatives by the farmers.

The present study concerns one single case, which is not representative of FCBs at large. Furthermore, there is no other empirical research concerning farmers' views of FCBs in comparison with either IOFs or co-operatives, so it is not possible to compare the findings of the present study with those of previous studies.

One point of comparison is a previous study of farmers' motives for choosing between almost the same set of

slaughterhouses that are included in the present study (Lind and Åkesson, 2005). The data for the previous study were obtained through personal interviews with a sample of farmers in Scania. At that time the traditional co-operative had not yet been taken over by the Finnish FCB. The study compared the motivational factors behind pig farmers' choice between the co-operative and IOF slaughterhouses and found that the co-operative suppliers were more oriented towards co-operative ideology and social concerns than the suppliers to the FCB. Hence after the co-operative's operations were sold to the FCB the farmers have become less co-operatively oriented.

The fact that the farmers have a poorer view of the FCB compared to their view of the same firm, when it was a pure cooperative, indicates that there may be problems with the FCB business form. It is possible that intensified competition induces the FCB to adapt more IOF-like attributes as concerns pricing policies, services to farmers, and contractual conditions. If so the farmers' view of the FCB would be further impaired. As FCBs may change in character over time, they may be seen as a transitional form and not only as a hybrid organizational form. If the farmers' position declines sufficiently, they may be transformed into IOFs, fully owned by external financiers (Fulton and Hueth, 2009; Fulton and Larson, 2009).

The development of farmer-controlled businesses

FCBs are often established when co-operatives try to adapt to intensified competition through far-reaching vertical and horizontal integration. The vertical expansion requires investments of such magnitude that the farmer-members cannot afford to finance them. The complex business operations as a consequence of vertical operations require highly professional management. Hence, the members will have difficulties retaining full control, whereby agency problems and property rights problems may increase (Cook, 1995; Hendrikse and Feng, 2013). The horizontal expansion is likely to create distances between members and between members and the leadership. Because of weakened social ties member involvement shrinks (Nilsson *et al.*, 2009, 2012; Österberg and Nilsson 2009).

This development is illustrated by Pyykkönen and Ollila (2012) when they describe the process of hybridization in the FCB that is under study in this article. In the late 1980s the co-operative established a subsidiary, which split the ownership between the co-operative society and individual members. As the need for capital and professionalization increased, institutional investors were invited to be

shareholders in the mid-1990s, whereby the shares were publicly listed.

Interviews with stakeholders in this FCB were reported by Pyykkönen and Ollila (2012). The respondents expressed some worries. The membership becomes increasingly heterogeneous due to structural changes in agriculture, leading to conflicts between member categories. The large farmers in particular have reason to be dissatisfied because upon exit the farmers are redeemed the par value of their co-operative shares. The corresponding share value at the Stock Exchange is several times higher so the co-operative society kept the difference.

It is difficult for an FCB to maintain a balance of interest because:

[a] supplier may appreciate the highest possible producer price and the investor is expecting high dividends and the increase in market value of the company. ... There are no objective guide-lines for determining how much to pay to suppliers as higher price, compared to the interest paid to the investors (Pyykkönen and Ollila, 2012: 25).

As farmers become fewer in number, the remaining ones are not able to supply the FCB with sufficient capital. If

... in 2020 there are only 800 members in [the co-operative] and the largest 100 producers own around half of the cooperative's equity. ... The largest suppliers may require a larger role when making important decisions. ... They might demand the division of the [co-operative's] shares in [the FCB] to members. This would in fact mean the abolition of entire [co-operative] as such. Another alternative would be that ... [the] cooperative was changed to a limited liability company and the cooperative shares were changed into company shares (Pyykkönen and Ollila, 2012: 25).

The investors may lose their confidence in the FCB being controlled by farmers so they hesitate to invest more capital in the FCB. Hence the balance of power might tip in favour of the Stock Exchange. If so, the farmers' loyalty to FCBs is bound to diminish.

... (I)n the future the joining of the two series of [shares] must be considered. The strong role of the cooperatives that exceeds the owner share may decrease the attractiveness of the company from institutional investors' perspective. ... However,

that difference in voting rights has probably been discounted in the market value of the shares. ... Therefore, in order to keep the investors happy the company has to pay good dividends (Pyykkönen and Ollila, 2012: 23).

De Bont and Poppe (2012) present case studies of three Belgian and Dutch FCBs. These three differ from the FCB focused on in this study to the extent that the external investor is not a Stock Exchange but Belgian and Dutch farmer unions, whereby the FCBs seem to be less vulnerable.

In each of the cases the 'mother organization' has been able to take major decisions in investing capital, direct or indirect financed by their members. This is only possible in a situation where the 'mother organization' enjoys the confidence of the members (De Bont and Poppe, 2012: 35).

Nevertheless, there is a latent conflict between the members of the farmer unions and the suppliers to the FCBs. De Bont and Poppe (2012) do not address issues of future contingencies, for example what might happen to the FCBs if the animal breeders become an even smaller fraction of the farmers' unions' membership or how the farmers' unions' members react if the FCBs show poor financial results.

One rationale behind FCBs is that these firms have secured resources from the two main types of suppliers, i.e. capital from the investors and commodities from the farmers (Pellervo, 2000). Thereby the two parties become mutually dependent and conflicts may be solved easier through internal bargaining rather than through the market mechanism. This may be an advantage when the firm has sizeable transaction-specific investments. Nevertheless the two parties have divergent interests and the balance of power may shift. The locus of power within a value chain is with the organization, which supplies the chain's other links with the most important type of resource (Fulton, 1995). For example, the external owners may find that slaughter animals from the owning group of farmers are too expensive so they would prefer animals from other sources. Such opinions have, according to Swedish mass media, been expressed by the management of the FCB, focused on in the present study. While the FCB may get a safe supply of cheap inputs from other sources than the members of the cooperative, it is more difficult for the cooperative to raise capital from other sources than the existing external owners.

This reasoning implies that sooner or later the processing firm is likely to be converted from an FCB into an IOF. The

conflict of interests will threaten the survival of FCBs. '...in determining whether the costs of ownership are manageable for a given class of patrons, homogeneity of interest appears to be an especially important consideration' (Hansmann, 1996: 288). Such a conversion may, however, be deferred because of 'some path-dependency inertia in the ownership structure' (Mygind, 2009: 165).

6. Conclusions

This study investigates how farmers behave in relation to a FCB and to competing IOFs. An FCB is partly owned by farmers and partly by external investors, and its board normally has a majority of farmer representatives. Empirical data were obtained through a postal survey of Swedish pig producers delivering either to an FCB (previously a traditionally organized co-operative) or to some of the five IOF slaughterhouses in the region. The findings indicate that the FCB has some co-operative traits in the eyes of the farmers. All three hypotheses tested were supported by the data:

H1: FCB suppliers rank lower as concerns propensity to exit than IOF suppliers.

As the FCB farmers had larger irreversible financial investments they had a stronger reason to have a secure marketing channel for their products. Since they were more likely to be full-time farmers, they were more dependent upon the FCB in personal economic terms. The observation that the FCB suppliers express an appreciation for short geographical distances between their farms and the slaughtering plant's location may be an indicator of less propensity to leave the FCB.

H2: FCB suppliers rank higher in terms of voice than IOF suppliers.

The FCB suppliers' propensity to use voice may be a result of trust in the FCB. Trust in an organization is a consequence of being listened to, and being listened to results in trust.

H3: FCB suppliers rank higher in terms of loyalty than IOF suppliers.

Loyalty is often found in co-operative memberships as members try to avoid the uncertainty of doing business with IOFs. As an FCB is partly owned and controlled by the farmers, such an organization is likely to act in ways that strengthen farmers' loyalty.

The farmers regard the FCB as an intermediate business form between a co-operative and an IOF. It should, however, be recognized that an FCB can only to a limited extent support farmers as the leadership is obliged to consider the interests of the non-farmer owners. Thus it cannot afford to uphold traditional co-operative principles such as equal treatment of members and open pricing. An FCB is to a large extent obliged to operate in the same way as IOFs. In spite of all this, the members of the owning co-operative may still consider an FCB to have some co-operative characteristics.

There are a few possible explanations for the fact that the FCB suppliers considered this firm to have some co-operative traits. One is that the interval between conversion and data collection was short (two years), so the former members had perhaps not fully recognized that their co-operative had turned into another business form. In addition, the FCB's decision-makers at intermediate organizational levels are mainly the same people, working in the same manner as before.

However, it may also be the case that an FCB is actually a good trading partner for many farmers depending on the circumstances. Due to the farmer ownership and board seats an FCB is likely to provide better conditions for the farmers than an IOF. An FCB has to operate efficiently because this is demanded by the investors.

An FCB may also be a better trading partner for the farmers than a co-operative as the collective ownership and control within co-operatives may create agency problems. It may be that the members do not want to invest as much as is needed for preserving competitiveness or members may try to free-ride or the portfolio of assets is not optimal due to the lack of signals from the capital market. The resulting inefficiencies are the reason why many co-operatives have been transformed into other organizational forms in recent decades.

FCBs may be regarded as hybrids between IOFs and co-operatives, having inherited some co-operative features, such as a certain loyalty and trust that farmers often have toward their co-operatives. Likewise it has attributes from IOFs, which serve to enhance efficiency and market adaptation. On the other hand the two owner categories may also have given FCBs some attributes that are less positive for farmers. The traditional co-operative principles of equal treatment, fair pricing, equal voting rights, etc. must be relinquished. The farmers are usually unable to raise enough capital to invest in the FCB. The need for top-performing management in the FCB means that member control becomes difficult.

Hence the tensions between the two ownership categories of FCBs may become overwhelming in time. The built-in conflicts of interests might even mean that FCBs are converted into IOFs.

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