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Are Co-operatives a Way to Integrate Small Farmers in Supply Chain Networks? Preliminary Thoughts on Hungary

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Abstract

Vertical coordination in agri-food chains is a significant and increasing phenomenon in Central and Eastern European Countries (CEEC). It has been observed that this development prefers large scale production. However, the agricultural sector is still a mixture of small scale and large scale farming in these countries. Hence, for small scale farmers, horizontal collaboration can be assumed to be a prerequisite for remaining in the market. Therefore, the goal of this paper is to investigate whether co-ops are appropriate means for integrating small farmers into modern supply systems. Further, we want to analyze how cooperatives can cope with the quality demands they face in modern distribution channels.

Key words: supply chain network, cooperative, CEEC

Introduction

Swinnen (2005) shows that vertical coordination in agri-food chains is an important and growing phenomenon among transition countries of Europe and Central Asia. He also indicates that vertical integration in these countries it is even

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more widespread in scope and complexity than in western economies. A major reason for verticalization is to form private contractual initiatives to overcome disruptions of supply. In this scenario, traders, agribusinesses, and food companies contract with farms and provide inputs and assistance in return for guaranteed and quality supplies (Dries and Swinnen, 2005; Gow and Swinnen, 1998; Swinnen, 2005). Quality can particularly be regarded as a main catalyst for this development (Gorton et al. 2006).

The transition process of the retail sector from state-run retail shops and retail cooperatives and farmer markets to western style, large format retailers was accompanied by heavy foreign investments and therefore also by changes in the procurement systems. The following are six major changes (Dries et al. 2004): (1) shift from local store-by-store procurement to (nationally centralized) large and modern distribution centers, (2) shift to regionalization of procurement over procurement by countries, (3) shift from traditional brokers to new, specialized wholesalers, (4) increasing use of global logistic firms, (5) shift to preferred supplier systems, and (6) shift to high, private standards of quality and safety.

One of the best examples for such development is the retail sector that evolved in Hungary. That evolution began in the 1990s. In 2002, modern retail formats accounted for around 50% market share (BBE, 2006). The rapid development of modern retailers was accompanied by heavy investment of western retailers in Hungary. In 2005 foreign retailers were dominating the Hungarian retail market (LZ, 2007). Because the 'big players' in retail markets are more or less identical to those in Western Europe today, there were no significant differences with regard to procurement systems and quality demands, and therefore there were also no significant differences in vertical coordination (Hanf and Pieniadz, 2007).

The agricultural sector in CEEC is still a mixture of small scale – even household – production and large scale farming. Retailers and processors favor large scale production in order to lower the complexity of their supply chains. Yet, the findings of Dries and Swinnen (2004) show that small scale farmers find their place in vertical coordinated chains. Nevertheless, some international retailers have told us that they demand that small scale farmers build horizontal cooperatives to provide products that meet the qualitative and quantitative demands of the retailers. Farmers who do not meet these demands are excluded from the procurement systems. Horizontal collaboration can therefore be assumed to be a prerequisite for (small scale) farmers to stay in the market.

Although cooperatives are often considered the traditional form of horizontal cooperation, on several occasions we observed that their advantages were absent but their problems have not been addressed. This seems unusual because many scholars have shown that co-ops have a particularly hard time coping with quality demands. Therefore, the question arises: are co-ops the right approach to

integrating (small) farmers into modern supply systems? Furthermore, we want to know how cooperatives can cope with the quality demands they face in modern distribution channels.

To answer these questions we will proceed as follows. First we will introduce the concept of vertically coordinated supply chain organizations. Afterwards, we will elaborate on cooperatives and discuss their challenges in supply chain organizations. We will finish by presenting an example from Hungary that demonstrates that ‘modern’ co-ops are capable of dealing with the demands of a vertical agribusiness. Hence, (some) cooperatives are suitable for integrating small farmers in supply chain networks.

Supply chain networks

As shown above, vertically coordinated chain systems are gaining in importance in the agribusiness sector. Food products are usually not produced in vertically integrated food chains, but rather in vertical cooperating networks. A self-evident reason for forming vertical networks instead of single-line chains is the differing size of firms along the food chain. Using inter-firm potentials, enjoying protection against market power, and employing economics of scope are other examples of reasons to collaborate. Another important reason for the verticalization of the agri-food business is that due to changed quality perceptions of both consumers and politicians, quality is no longer the concern of a single firm, instead, the whole food chain has to work together to ensure quality (Hanf and Hanf, 2007).

Although networks have been the object of intensive scientific research for many years, there is no consensus on elementary characteristics (Kasperzak, 2004) such as the number of actors required to constitute a network or the autocracy of a network’s companies. We will use the term ‘network’ in the following sense: networks are “specific properties of transaction relationships, typified by relationships in which formal and informal sharing and trust building mechanisms are crucial” (Zylbersztajn and Farina, 2003). Therefore, they address all questions on inter-organizational relationships of more than two firms (Omta et al., 2001).

Furthermore, we only analyze networks which understand collaboration as common work of numerous actors to achieve common goals (e.g. Chandra and Kumar (2001). Since the achievement of common goals demands a joint (collective) strategy, we once more restrict our research on strategic networks, which can be characterized as pyramidal-hierarchic collaborations (Jarillo, 1988). Thus, they possess a focal firm that coordinates the network firm in a hierarchical style. Additionally, the intensity of the relations within strategic networks is rather high and inherently contains recurrent interactions (Burr, 1999). The focal firm is

generally that firm which is identified by consumers as being ‘responsible’ for the specific food item. The other network actors are more or less heavily dependent on the focal company because of (long-lasting) explicit or implicit contracts (Wildemann, 1997). Due to this structure and strategic nature, such a network possesses a focal actor that sets the network strategy and coordinates its implementation in a hierarchical manner (Jarillo, 1988; Harland et al. 2001; Sanders, 2005). This managerial task can be divided into two domains – the tasks of cooperation and coordination. Problems of cooperation stem from conflicts of interest and may cause motivation problems (Gulati et al., 2005). Problems of coordination refer to difficulties with aligning actions of independent firms created by a lack of shared and accurate knowledge about decision rules that the other parties are likely to use, as well as the unawareness of existing interdependences.

Because strictly coordinated vertical linkages are important in the agri-food business both to guarantee credence attributes and gain cost advantages, we will later address strategic networks which are defined as “netchains” (Lazzarini et al., 2001) or as “supply chain networks” (SCN) (Hanf and Kühl, 2004). By definition, a supply chain network represents an interconnected system with a large variety of complex relationships such as alliances, horizontal and vertical cooperation, and forward and backward integration in supply chains (van der Vorst et al., 2005). Therefore, supply chain networks represent strictly coordinated systems that include a focal company, which is responsible for coordination and other elements, such as suppliers, consumers, and logistic services (Lorenzoni and Baden-Fuller, 1995).

The role of cooperatives

As noted, supply chain networks can be characterized as firms that are embedded within a complex network of horizontal (i.e. strategic alliances, joint-ventures) and vertical (buyer and supplier) relationships (Lazzarini et al., 2001; Omta et al., 2001). In the context of food products it is obvious that a multitude of agricultural producers are needed for a sufficient supply. This is particularly true in Central and Eastern Europe, where the majority of agricultural producers are small and the output of many farmers must be combined to achieve the demanded quantity. Hence, there is a need for horizontal collaboration. In this context, co-operatives are often mentioned.

In general, a cooperative can be understood as a user-owned and user-controlled business that distributes benefits upon the basis of use (Barton, 1989). Thus, the principles of cooperatives can be delineated by the identity of users and owners, the democratic principle of voting, and the non-existence of entry barriers.

Additionally, the legally manifested business aim to nurture their members can be seen as a further characteristic of cooperatives (Anschhoff and Henningsen, 1986; Laurinkari and Brazda, 1990). Traditionally, the aim to establish countervailing power has been regarded as the most important duty of a cooperative (van Dijk, 1997). Other business aims such as correcting market failures, guaranteeing markets, and enhancing margins can be seen as levers to implement the main business aim (Cook, 1997; Sykuta and Cook, 2001).

However, cooperatives also have some problems. By using a property rights approach, Cook (1995) pointed out five general sets of problems: free riding, horizon, portfolio, control, and influence cost. Using a principal-agent approach and the concepts of opportunistic behavior, conflicts of interest, asymmetric information, and stochastic conditions Eilers and Hanf (1999) show that it is not clear who principal and agent are, i.e. both the cooperatives and the members can be principals and agents. Therefore, neither leadership mechanisms nor selective terms of delivery can be enforced by the cooperatives, i.e. the members can deliver all the commodities which alternative dealers do not accept. Cooperatives that are forced to accept these commodities face the problem of adverse selection.

Additionally, Fulton and Giannakas (2001) show that the cross-subsidization and member heterogeneity in large, centralized, multipurpose co-ops may lead to substantial financial pressures for the cooperative because their members do not see strong connection between the success of the co-op and their own business. Furthermore, Karantininis and Zago (2001) showed, by applying a game theory model, that farmers would rather sell their commodities to investor-owned-firms than sell them to open co-ops if they had the choice.

Fulton (1995) concludes that if markets disappear as a result of increased vertical coordination, cooperatives may also begin to disappear. Hendrikse and Bijman (2002) share this belief that the investment by the processor or retailer becomes more important for the total chain value than the investments by the farmers. The authors consider that a further limitation for cooperatives is that the majority of the cooperatives are quantity rather than quality orientated and lack end consumer orientation, resulting in not having well known brands.

Our short literature overview indicates that even though cooperatives have advantage, the problems - particularly those related to quality - might still outweigh them. Therefore, it is not clear whether co-ops are a feasible way to integrate (small) farmers into modern distribution channels and their demands on (high) quality products. Hence, we will first discuss whether the 'traditional' co-op model is useful. We continue by introducing some co-ops that 'modernized' their business concepts to overcome some of the disadvantages that traditional cooperatives face.

Because traditional cooperatives stick to the conventional business model of cooperatives, they face all of the limitations mentioned above. Therefore, such co-ops are challenged by the problem of adverse selection because their members can only deliver the commodities which alternative dealers do not accept. As a result, we assume that they will continue to be quantity rather than quality orientated. However, as the development (even in transition countries) in modern distribution channels clearly shows, the demands for quality will continuously increase, so traditional cooperatives will have to increase their quality to remain in the market and integrate their members into supply chain networks. Therefore, they will have to strengthen their contracting policy.

In the context of contract production, Sykuta and Cook (2001) showed that co-ops' governance structure and ownership (see definition of Barton, 1989) give them advantages over investor owned firms, so that farmers are more willing to accept contracts by their 'own' cooperative, assuming that they are not being cheated (Schulze et al, 2007). Considering the disadvantages mentioned by Cook (1995) and Eilers and Hanf (1999), we assume that even though contracts are more willingly accepted, traditional cooperatives will still have problems marketing high quality products. Overall, we assume that in the context of verticalization and thereby in supply chain networks such cooperatives will – if at all – act as product bundling units (larger suppliers) but surely not as focal companies.

Because of the above described development, it is better to say that some co-ops have modified rather than modernized their business concepts. The previously mentioned general agency problems (Cook, 1995), quality problems (Eilers and Hanf, 1999), and problems caused by heterogeneous business interests of the members (Fulton and Giannakas, 2001) have led to the “modern” co-ops installing a centralized authority. As a result, they can select their members, including replacement members when necessary. Thus, these co-ops have a closed membership. Furthermore, the co-op has the right to define quality norms for their supply (Hanf and Schweickert, 2007). Although such thoughts are fairly new in Europe, the concept of “new generation cooperative” has been discussed for quite some time in the US. The “new generation cooperative” is described as cooperative organizations in which asset appreciation mechanism, base equity plans, and increased share liquidity by delivery rights clearing houses have been developed (Cook, 1995; Chaddad and Cook, 2004). The creation of such “modern” governance and business concepts enables these co-ops to deal with the traditional problems and thus, they can play a vital role in the supply chain. In fact, they can even be a focal company. However, in respect to all cooperatives, such “modern” co-ops are the exception rather than the rule.

In their efforts to change their business concepts, cooperatives often try to stay in a dual (in between) position, i.e. on one hand they try to keep the traditional

business concept and on the other hand they try to implement elements of “modern” co-ops. By offering strictly supervised contracts to their members, they try to separate members that are willing to produce higher quality from those that are unwilling. Afterward, they can market the resulting products via different channels (Beuck, 2002).

Hanf and Schweickert (2007) studied wine cooperatives and showed that some successful co-ops have formed groups of members which have common business aims. The co-ops were able to impose a rather strictly coordinated quality management system for these groups. Because the co-ops only offered limited contracts, they were also able to restrict membership, which helped to increase the quality. Thus, by grouping the members, such co-ops try to save the benefits they receive from larger numbers (e.g. economies of scale) while simultaneously trying to increase the quality of a portion of their goods. We assume that such a strategy improves the chances of these co-ops staying in business because quality requirements will increase. However, this will only be the case if the co-op can group its members and subsequently market the different products so that it plays an important role in the supply chain.

Summing-up, even though the agri-food business is evolving, cooperatives will continue to play a role. As a result, they will integrate (small) farmers into the newly emerging supply chain networks. However, whether co-operatives will play a leading role in supply chain networks will be determined by their ability and willingness to modernize their governance structures and business models in this new environment.

The case of Hungarian Mórakert Cooperative

Having primarily discussed co-ops in general, we now give an example of a Hungarian cooperative that is successfully dealing with the changing market environment. The Mórakert cooperative was established in 1995 by 52 farmers. Its aims are to increase the income of its members by purchasing inputs at low costs, to access and secure markets, and to gain relatively high prices for its products. Quality was emphasized from the beginning so that the Mórakert was able to be the first officially acknowledged producer organization in Hungary in 2002. They actively worked on gaining access to retail outlets in order to secure and access markets. Today, the cooperative's sales to retailers account for roughly 90% of its domestic sales with increasing tendency. Hence, the Mórakert cooperative is complying with changing market and retailer sector requirements.

There are four core elements of the Mórakert's success. One is the filter rules that are applied to potential members. Another is a strict coordination of the

required quality and quantity of products. The third originates from the ability of cooperative leaders to build trust between members and management. Finally, an efficient private contract enforcement mechanism has been employed (Bakucs et al., 2007). Vertical integration becomes more and more important to develop activities in cooperatives with higher added value. Therefore, in the Mórakert cooperative, all the activities (purchasing, handling, sorting and packaging of products, transportation, and storage) are carried out in one place. All these activities are supported by a common IT system (Fertő and Szabó, 2002). Furthermore, this cooperative has successfully launched its own brand.

The success of the Mórakert cooperative shows that some of the general problems that have been mentioned can be reduced. For instance, the agency problem is not so significant because of the well-organized trust promotion mechanisms and appropriate consideration of human factors. In the future, a secondary or regional type cooperative is planned. In this case, however, the chance of free riding problems will grow because the cooperative will depend more on non-member trade (Fertő and Szabó, 2002).

Summary

The establishment of strictly vertically coordinated chain organizations is a worldwide phenomenon that does not stop at transition countries. By contrast, well known scientists such as Johan Swinnen and Tom Reardon assume that retailers and foreign direct investments can be regarded as more powerful sources of structural changes in transition countries than WTO and trade policy. The supermarket sector went from a tiny niche of around 5% of food retail in the mid 1990s to a 40% to 50% share by the middle of the next decade. Examples of such growth can be found in Hungary, Poland, and Czech Republic. The following six major changes have been identified (Dries et al. 2004): (1) shift from local store-by-store procurement to (nationally centralized) large and modern distribution centers, (2) shift to regionalization of procurement over procurement by countries, (3) shift from traditional brokers to new specialized wholesalers, (4) increasing use of global logistic firms, (5) shift to preferred supplier systems, and (6) shift to high private standards of quality and safety.

Today there are no significant differences between Eastern and Western Europe in regard to procurement systems and quality demands and thereby vertical coordination. However, the agricultural sector in CEEC is a mixture of small scale – even household – production and large scale farming. And often the majority of goods are still produced by small scale farmers. Thus, the questions arise as to

whether and how small farmers can be integrated into the modern marketing channels of retailers.

In order to answer these questions we discussed the role cooperatives – as a traditional form of horizontal collaboration – can play in this process. However, because of their governance structures, cooperatives face severe problems in delivering high quality products. Because retailers – even as a basic quality – demand high quality products, we conclude that cooperatives must modernize their governance structures and business models. Differentiating between traditional and modern co-ops, we discussed for each of them their future roles in a verticalized agri-food business. We indicated necessary changes cooperatives must conduct to remain in the market – or better to say to be integrated into modern supply organizations. In that case, co-ops can integrate small farmers into such supply chain networks. Presenting the example of the Mórakert cooperative, we show that in Hungary cooperatives are changing and becoming modern marketing-oriented “user-owned and user-controlled businesses” that successfully link their members to modern supply chain organizations.

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