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Small-scale producers in modern agrifood markets

Innovative Practice

Hungary
Mórakert Cooperative: a successful case of linking small farmers to markets for horticultural produce in Hungary

Lajos Zoltán Bakucs, Imre Fertó and Gábor G. Szabó
Institute of Economics, Hungarian Academy of Sciences

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Regoverning Markets

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Table of Contents

1 Executive summary 1
2 Introduction 4
3 The supply chain of the Hungarian horticultural sector 5
3.1 The vegetable sector within Hungarian agriculture 5
3.2 The processing sector 9
3.3 The retail sector 10
3.4 Consumption 10
3.5 Price transmission analysis in the Hungarian vegetable sector 11
3.6 Price competitiveness of selected vegetable products and potatoes 12
3.7 Regulation of the fruit and vegetable sector in the EU and Hungary, especially regarding producers' organizations 13
4 The development of Mórakert Cooperative 15
4.1 The innovation 15
4.2 The market and its supply chain 18
4.3 Forms of inclusion 27
5 Empirical analysis of the questionnaire 33
5.1 Reasons for the choice of cooperative 34
5.2 The share of the cooperative 38
6 Conclusions 42
7 References 44

1 Executive summary

Agriculture in transition countries is characterized by considerable uncertainty. In these countries public institutions are ineffective in ensuring contract enforcement. The absence of an enforceable contract makes it difficult to set up any kind of vertical coordination. In addition, it creates severe barriers for price discovery, involving high transaction costs to coordinate market exchanges. In those subsectors where a production contract does exist, agricultural producers face hold-up problems (e.g. delayed payment for delivered products or ex post price reduction by retailers). These phenomena are reinforced by the emergence of a modern retailing sector leading to serious problems for subsectors dominated by fragmented and small-scale farms, as is the case of the horticultural sector.

In the study, we examine the Mórakert Purchasing and Service Cooperative, in Mórahalom in Csongrád county, located in the southeast of Hungary. The Mórakert cooperative is active in the fruit and vegetable sector and it was the first officially acknowledged Producers' Organisation (PO) in Hungary. It works as a successful cooperative in terms of increasing annual turnover and membership and thus makes a good example for solving various coordination issues in the Hungarian horticultural sector within an evolving supply chain.

The Hungarian horticultural supply chain can be characterised as follows. Firstly, there is a dual production structure. In 2003 the average area for all vegetable producers was 2.4 hectares, however agricultural enterprises use 79.4 hectares on average, whilst individual farms hold an average of only 1.2 hectares of land. Csongrád county shows a slightly different picture: agricultural enterprises use 112 hectares of land whilst individual farms have just 0.6 hectares.

Secondly, fruit and vegetable processing in Hungary is the third largest sector in the food industry, producing 10 per cent of the total industry output (excluding tobacco). However, its privatisation started late, and in the early nineties did not attract foreign capital. In 2000, the percentage of foreign capital in the industry reached 89 per cent of the total capital. Therefore the concentration process was delayed and recently the C5 indexes rank the fruit and vegetable processing industry somewhere in the middle of the food industry.

Thirdly, since the late 1990s, the Hungarian food retail sector has been dominated by large, mostly foreign owned supermarket chains. The small 'corner' shop network is still important with quite a high market penetration (69.9 per cent) and frequency of shopping (35.5 per cent), but rather low consumer spending per shopping visit (1,000 HUF). Despite the dominance of large supermarkets and discount stores, there are more than 33,000 non-specialised food stores operating in Hungary. Because of

strengthening competition and increasing concentration, the number of shops is slowly, but constantly decreasing.

We analyse the price transmission to get further information on market participants along the supply chains in selected product markets. The main results are the following: despite the dual farm structure, dominated by small individual farmers, the price information is flowing from producer to retail level for potatoes, parsley and carrots. This suggests that farmers are not simply price takers but can influence market prices. In contrast, tomato and green pepper prices have large transmission elasticity, and the causality runs from retail to producer level. Thus, tomato and green pepper producers are price takers, with industry prices determined by upper market levels (processors, wholesalers, retailers). These results are reinforced by the fact that a high proportion of produce from these vegetable producers is sold for procurement and processing and therefore more dependent on the upstream industries, meaning farmers cannot influence prices. The short-run price transmission is symmetric for all vegetables in this study; the long-run price transmission on the tomato market is however asymmetric. In consequence, the tomato market is neither competitive nor efficient. Therefore, processors, wholesalers and retailers might be able to influence their market power and instantly transmit producer price increases, whilst only slowly and incompletely transmitting producer price decreases.

The case of a newly established Mórakert cooperative in the Hungarian fruit and vegetable sector shows such organisations can be a solution for farmers to cope with problems arising from incomplete pricing mechanisms and to reduce transaction costs, at least at a regional level. It must be emphasized that farmers' problems cannot be solved by government support alone. However, such support seems to be vital to setting up emerging producers' organizations, like cooperatives. The cooperative analysed in this case study, is a good example of how an agricultural cooperative can achieve some potential advantages, solving many "traditional" TCE and agency problems and offering its members continuing growth.

Although there are similar cooperatives in the Hungarian horticultural sector, Mórakert cooperative is the most successful. Our analysis highlights three important factors that may explain the success of the Mórakert cooperative. Firstly, there is the screening process of potential members. Secondly, there are strict rules to enforce the high quality and appropriate quantity of products to sell via the cooperative. Thirdly, the leaders of the cooperative have been able to establish trust between management and members. These factors help to solve a number of problems common in other cooperatives, for example: members do not sell their produce to the cooperative if other potential partners offer a higher price; or producers are not able to provide the appropriate quality and quantity of produce. The latter issue is crucial from the cooperative's point of view, because the credibility of the

cooperative cannot be maintained if the cooperative is not able to fulfil the quality and quantity requirements of the contract. In other words, one of Mórakert's secrets is that they have developed a very efficient private contract enforcement mechanism. The success of Mórakert can also be explained by the fact that they were able to adjust the cooperative activity to the opportunities provided by the ever-changing retail sector.

To sum up, the Mórakert cooperative is a strong marketing tool for its members and also has a radiation effect on the regions in which it works. It has the capacity to fulfil the following basic objectives: to help farmers sell their horticultural products; to purchase input materials on their behalf at the most favourable prices; and to offer long term security. The increase of both membership and turnover of the cooperative demonstrate that it is operating efficiently. This is due to the friendly approach of the local authority, the various sources of capital derived from funds for development, and above all, the human capital and resources within the cooperative. This last factor is the true secret and key to the success of the cooperative analysed in this case study.

2 Introduction

Agriculture in transition countries is characterized by considerable uncertainty. In these countries public institutions are ineffective in ensuring contract enforcement. The absence of an enforceable contract makes it difficult to set up any kind of vertical coordination. In addition, it creates severe barriers for price discovery, involving high transaction costs to coordinate market exchanges. In those subsectors where a production contract does exist, agricultural producers face hold-up problems (e.g. delayed payment for delivered products or ex post price reduction by retailers). These phenomena are reinforced by the emergence of a modern retailing sector leading to serious problems for subsectors dominated by fragmented and small-scale farms, as is the case of the horticultural sector. In the study, we examine the Mórakert Purchasing and Service Cooperative, in Mórahalom in county Csongrád, located in the southeast of Hungary. The Mórakert cooperative is active in the fruit and vegetable sector and it was the first officially acknowledged Producers' Organisation (PO) in Hungary. It works as a successful cooperative in terms of increasing annual turnover and membership and thus makes a good example for solving various coordination issues in the Hungarian horticultural sector within an evolving supply chain.

The structure of paper is organised as follows. In section three we provide a brief overview of the Hungarian horticultural supply chain including recent EU and Hungarian legislation concerning either the fruit and vegetable sector or cooperatives/producers' organisations and their effects on the emergence of various agricultural organisations. Section four presents a detailed description of the development of the Mórakert Cooperative with special emphasis on the innovation and forms of inclusion of small-scale farms. Then, in section five we apply a small-scale survey among cooperative members to identify the costs and benefits of cooperative membership and their explanatory factors. The final section concludes and presents some policy implications.

3 The supply chain of the Hungarian horticultural sector

3.1 The vegetable sector within Hungarian agriculture

The share of agriculture in the Hungarian GDP (Figure 3.1) is falling slightly, accounting for 3.3 per cent in 2004. The share of agriculture in total exports and total employment is following the same trend, reaching 6.1 per cent and 5.0 per cent respectively in 2005. This fall in the share of agriculture in the total economy can be explained by several factors. Firstly, GDP started to grow dynamically after the mid nineties, whilst agricultural output increased only slowly or was rather stagnated. Employment in general fell by 20 per cent over this period, 70 per cent of which was in agriculture.

Figure 3.1 The importance of agriculture in the national economy

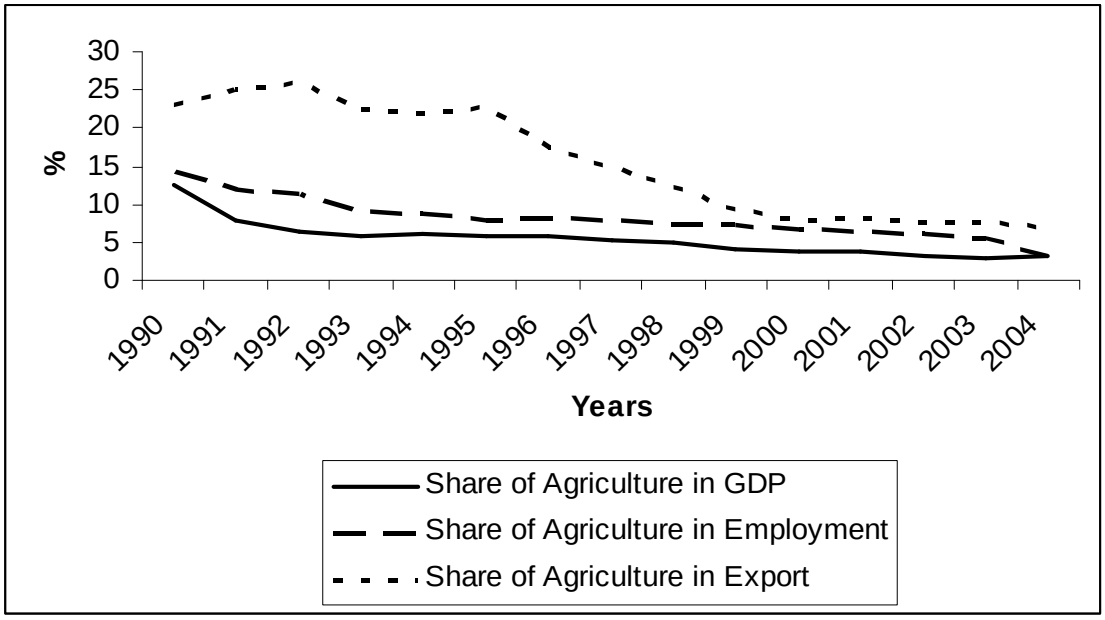
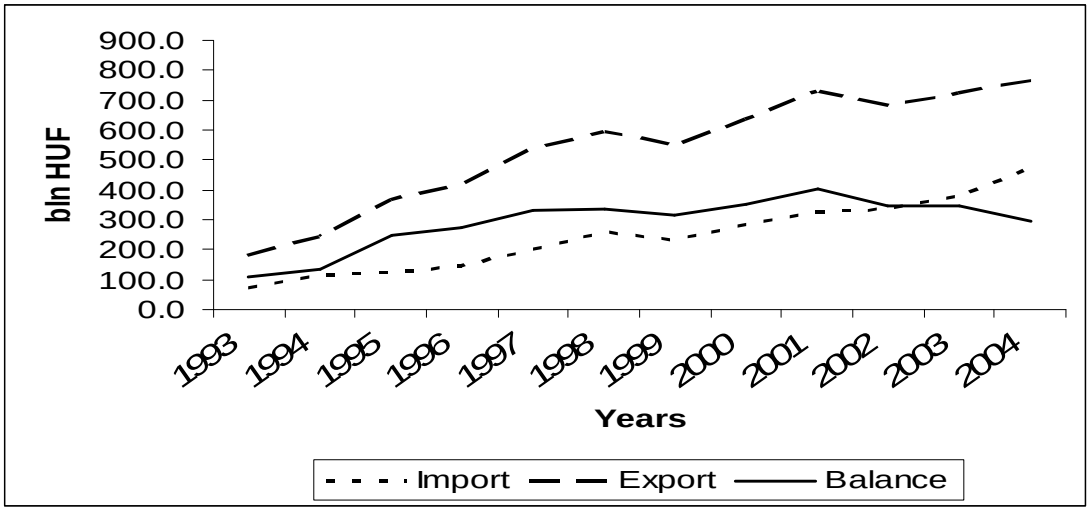


Figure 3.2 The evolution of agricultural foreign trade



Despite the decreasing share of exports, the agricultural trade is still closing with a net surplus (Figure 3.2). Until the year 2000, the increase in exports was larger than the increase in imports, and this led to a growing net trade balance. In 2001 however, the increase in exports slowed down, whilst the imports kept on rising. In summary, although the role of agriculture within the total economy is declining, Hungarian agriculture still remains an export-oriented sector.

In 2005, 2 per cent of total agricultural land in Hungary was used to produce vegetables. Together with potatoes, the vegetable sector uses around 3 per cent of available agricultural land. Table 3.1 presents the detailed use of agricultural land by sector. The share of total agricultural land used by the potato and vegetable sector is small - 0.6 and 2 per cent, respectively, in 2005, and it follows a slightly decreasing trend.

Table 3.1 Use of agricultural land by sectors (%)

Year/Crop	2003	2004	2005
Cereals	68.7	69.9	69.1
Industrial plants	16.2	15.8	17.5
Potatoes	0.8	0.7	0.6
Fibrous and succulent fodder	6.5	6.2	6.1
Vegetables	2.5	2.3	2.0
Other	5.3	5.1	4.7
Total	100	100	100

Source: Hungarian Central Statistics Office

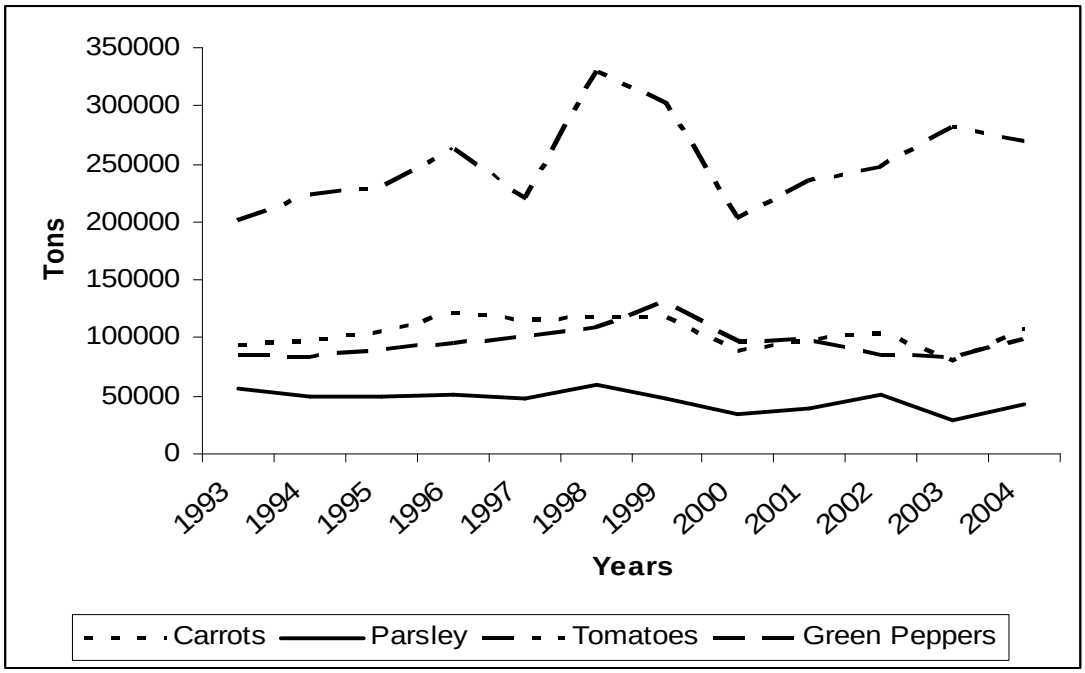
The quantity and value of the potatoes and vegetable production does not reflect the diminishing use of agricultural land (Figure 3.3). Considering the value of the agricultural output, the importance of the vegetable sector within the Hungarian agriculture is significantly larger. Table 3.2 presents the total agricultural output, the plant production output and the vegetable sector output in million US$. The share of potato production in the value of total agricultural output is decreasing (1.7 per cent in 2004), however the absolute value of production is fluctuating (99 million US$ in 2000 and 140 million US$ in 2004). The share of vegetable production in the total agricultural output is fairly stable at around 10 per cent.

Table 3.2 The importance of the vegetable sector in total agricultural production

	1998		2000		2002		2004	
	million US$	%	million US$	%	million US$	%	million US$	%
Total	5387	100	4533	100	5737	100	8156	100
Plant production	2570	48	2196	48	2650	46	4757	58
Potatoes	176	3.2	99	2.1	106	1.8	140	1.7
Vegetables	560	10.3	453	10	583	10.1	780	9.5

Source: Own calculations, data from Hungarian Central Statistics Office

Figure 3.3 Production of selected vegetables



Of all the vegetables studied here, the most export orientated are green peppers. Although the share of production sold abroad is falling from 46 per cent in 2002 to 28 per cent in 2004, export markets still play a key role (Table 3.3). Imports are generally low and carrots (15 per cent in 2003) and potatoes (13 per cent in 2003) have the largest percentage of imports compared to production.

Table 3.3 The ratio of production to foreign trade for selected vegetables (%)

	2002	2003	2004
Potatoes			
Imports / total production	4.3	13.6	7.2
Exports / total production	0.7	2.0	0.8
Carrots			
Imports / total production	6.4	14.9	8.2
Exports / total production	0.2	0.9	0.1
Tomatoes			
Imports / total production	3.0	3.0	4.8
Exports / total production	0.3	0.2	0.1
Green peppers			
Imports / total production	6.8	6.5	6.7
Exports / total production	46.3	38.3	27.9

Source: Own calculations based on Hungarian Central Statistics Office data

Major vegetable producing areas in Hungary are the Southern Great Plain and the Northern Great Plain. These areas are characterised by a sandy soil, high number of sunny days per year and the need for irrigation. In this study we focus on one of the most important vegetable and fruit producing counties, Csongrád.

Table 3.4 Csongrád county's share in total production of harvested vegetables (tons)

	2001	2002	2003	2004
Potatoes	11.6	11.3	11.8	17.6
Carrots	16.5	24.2	21.8	30.8
Parsley	35.0	46.2	29.6	46.6
Tomatoes	7.4	7.5	12.1	14.4
Green Peppers	26.2	24.1	27.4	33.6

Source: Own calculations based on Hungarian Central Statistics Office data

Located in southeast Hungary around the city of Szeged, Csongrád county represents 18 per cent (2005) of total sown area used to produce vegetables. Csongrád's share in national production of potatoes, carrots, parsley, tomatoes and green peppers shows a growth trend between 2001 and 2004. Csongrád county plays an especially important role in the production of carrots (31 per cent), green peppers (34 per cent) and parsley (47 per cent).

The sown area of agricultural enterprises, individual farms and the total sown area for some vegetable products in Csongrád county and the country as a whole are presented in Table 3.5. The picture of a dual farm structure emerges from the data in the table. Generally, in Hungary most vegetables are produced on individual farms (69.9 per cent in 2001 and 71.4 per cent in 2005). Csongrád county is no exception, if we consider total vegetable production. The case of individual vegetables is rather different. Tomatoes are produced exclusively on individual farms, and in 2005 only five hectares of green peppers and ten hectares of potatoes were produced by agricultural enterprises (versus 270 hectares and 3,982 hectares respectively on individual farms). One important indicator for the vegetable sector is the area covered by greenhouses and walk-in plastic tunnels.

Table 3.5 Sown area of vegetables by legal forms (hectares)

	2001		2005	
	Agricultural Enterprises*	Individual Farms	Agricultural Enterprises*	Individual Farms
Potatoes				
Csongrád county	2	4203	10	3982
Hungary	3815	32838	3440	22462
Tomatoes				
Csongrád county	1	397	0	235
Hungary	601	5394	817	2801
Green peppers				
Csongrád county	17	756	5	270
Hungary	248	4283	124	2601
Total vegetables				
Csongrád county	3619	8806	2314	8921
Hungary	27920	62649	24845	62114

* enterprises + cooperatives. *Source: Hungarian Central Statistical Office*

Table 3.6 presents the number of hectares of greenhouses owned by individual and corporate farmers in Hungary and Csongrád county. Of the nineteen counties in Hungary, Csongrád county has the largest area of greenhouses and plastic tunnels. Overall, 28.6 per cent of total greenhouse and plastic tunnel facilities are located in Csongrád county. It should be noted however, that more than half the total greenhouses and plastic tunnels owned by agricultural enterprises are in Csongrád county. In 2003, the average land area for vegetable producers was 2.4 hectares, but agricultural enterprises farmed 79.4 hectares of land on average, while individual farms held only 1.2 hectares on average. Csongrád county shows a slightly different picture: agricultural enterprises use 112 hectares of land whilst individual farms have 0.6 hectares of land. These figures reinforce the fact that Hungarian horticultural sectors tend to be characterised by a dual production system.

Table 3.6 Greenhouses and walk-in plastic tunnels (hectares) 2000

	Agricultural Enterprises*	Individual Farms	Total
Csongrád County	107.5	650.3	757.8
Hungary	189.2	2463.5	2652.7
Share of Csongrád county (%)	57.3%	26.4%	28.6%

* enterprises + cooperatives

Source: Own calculations based on Agricultural Census

3.2 The processing sector

In Hungary, fruit and vegetable processing is the third largest sector in the food industry, producing 10 per cent of the total industry output (excluding tobacco). However, its privatisation started late, and in the early nineties did not attract foreign capital. In 1994, the percentage of total capital corresponding to foreign capital in the industry reached 72 per cent, rising to 89 per cent in 2000. Therefore the concentration process was delayed, and the C5, the five largest firms' concentration index was only 27 per cent in 1994, rising to 53 per cent in 1999 then falling slightly to 49 per cent in 2003. Thus, the C5 indexes rank the fruit and vegetable processing industry somewhere in the middle, with a higher concentration ratio than wine production or the bakery industry (29 per cent), but a much lower concentration ratio than the sugar, starch and vegetable oil industries or breweries (99-100 per cent). The number of fruit and vegetables processing firms in Hungary was 170 in 2000 and 191 in 2004.

Table 3.7 The ratio of production sold for procurement and processors

	2002	2003	2004
Potatoes	6	8	7
Carrots	19	26	25.5
Parsley	8	10.5	11
Tomatoes	57	82	44.3
Green Peppers	25	40	40

Source: Own calculations based on Hungarian Central Statistics Office data

Table 3.7 shows the proportion of vegetable production sold for procurement and to processors. The importance of the processing industry varies across the different types of vegetables. The tomato producers are most reliant on processing, selling up to 82 per cent (in 2003) of production through this marketing channel. Green pepper and carrot producers follow with 40 per cent and 25 per cent respectively of their production being sold for procurement and processors (in 2004). The least affected are parsley and potato growers, with only 7 and 11 per cent sold for procurement or processing (in 2004).

3.3 The retail sector

Since the late 1990s, the Hungarian food retail sector has been dominated by large, mostly foreign owned supermarket chains. The small 'corner' shop network is still important with quite high market penetration (69.9 per cent) and frequency of shopping (35.5 per cent), but rather low consumer spending per shopping visit (1000 HUF) (Fertő et al., 2005).

Table 3.8 Number of food retail and specialised shops

	2002	2003	2004	2005
Non-specialised store with food dominance	36529	35963	34805	33838
Fruit and vegetable shop	3389	3489	3449	3324

Source: Hungarian Central Statistical Office

Despite the dominance of large supermarkets and discount stores, there are more than 33,000 non-specialised food stores operating in Hungary. Because of strengthening competition and increasing concentration, the number of shops is slowly but constantly falling. The number of specialised fruit and vegetable shops increased until 2004, and has been slightly decreasing since (Table 3.8).

3.4 Consumption

Table 3.9 shows a fairly stable consumption pattern for potatoes and a slowly decreasing trend for fruits and vegetables. In 2003, the per capita consumption of fruits and vegetables was 200.5kg. The share of vegetables was 57 per cent (113.7kg), 2 per cent more than in 2002. The share of fruits in 2003 was 43 per cent (86.8kg).

Table 3.9 Per capita potato, fruit and vegetable consumption

	2000	2001	2002	2003
Potatoes	64	68.2	65.3	64.5
Fruit and vegetables	217.7	209.9	203.2	200.5

Source: Hungarian Central Statistical Office

3.5 Price transmission analysis in the Hungarian vegetable sector

It is usually assumed that farmers have no influence on producer prices due to the market power of food processors and/or retailers, i.e. food processors and retailers exploit their market power against farmers. Thus, we can analyse the price transmission to get further information on market participants along the supply chains in selected product markets. Price transmission is the process whereby the price information flows through the marketing chain in a given direction and is transformed under the influence of the various economic actors in the market. It is quite common for various producer and consumer support groups to voice their beliefs that agricultural and food markets are characterised by asymmetrical price transmission. This perceived asymmetry is usually thought to be disadvantageous for both the consumers and producers. The idea is that food processors, wholesalers and retailers tend to pass producer price increases rapidly to consumers, whilst eventual price decreases are only transmitted slowly and sequentially.

Unit root tests on the deflated producer and retail prices of the selected vegetables suggest that all price series except for carrots are non-stationary. Therefore applied co integration and Vector Error Correction methods to analyse the producer-retail price transmission of potato, parsley, tomato and green pepper prices [1]. Carrot prices were analysed using OLS methods. The weakly exogenous prices (i.e. those that do not adjust to the long-run equilibrium should an exogenous shock occur) resulted from the co integration analysis. With weakly exogenous prices in a co integration analysis, the direction of Granger causality can be instantly determined.

Table 3.10 presents estimates of the elasticity of transmission, the direction of price causality (which are the dominant market levels that determine industry prices) and whether the long/short run price transmission is symmetric or not. Generally, competitive pricing assumes that the elasticity of transmission equals one, and the prices on two market levels are linked by a constant absolute margin only.

[1]Detailed estimation results are available from authors upon request.

Table 3.10 Elasticity, causality and price transmission results

	Potatoes	Carrots	Parsley	Tomatoes	Green peppers
Elasticity of transmission	0.85 (0.46 after June 2004)*	0.75	0.70	2.50	4.10
Price causality**	FP → RP	FP → RP	FP → RP	RP → FP	RP → FP
Long-run transmission	symmetric	-	symmetric	asymmetric	symmetric
Short-run transmission	symmetric	symmetric	symmetric	asymmetric	symmetric

* A structural break occurred in June 2004, reducing both prices, but increasing the margin.

** RP is Retail Price; FP is Producer (Farm) Price.

Despite the dual farm structure dominated by small individual farmers, price information is flowing from producer to retail level for potatoes, parsley and carrots. This suggests that farmers are not simply price takers but can influence market prices. Tomato and green pepper prices show marked seasonality, rather large transmission elasticity and the causality running from retail to producer level. Tomato and green pepper producers are price takers with industry prices determined by upper market levels (processors, wholesalers and retailers). These results are in line with data in Table 3.7, i.e. vegetable producers selling a high proportion of their produce for procurement and processing and therefore more dependent on the upstream industries, cannot influence prices. The short-run price transmission is symmetric for all vegetables in this study; the long-run price transmission on the tomato market is however asymmetric. The tomato market is neither competitive nor efficient; therefore processors, wholesalers and retailers might be able to wield their market power and instantly transmit producer price increases, whilst only slowly and incompletely transmitting producer price decreases.

3.6 Price competitiveness of selected vegetable products and potatoes

Gehlhar & Pick (2002) extend a unit values approach as a proxy for price, combining it with a trade balance approach for direction of trade to classify price competition and non-price competition in trade data. Their procedure results in four categories, namely: category 1 (home country runs trade surplus for product and difference between export and import unit value negative); category 2 (home country runs trade deficit for product and difference between export and import unit value positive); category 3 (home country runs trade surplus for product and difference between export and import unit value positive); and category 4 (home country runs trade deficit for product and difference between export and import unit value negative). The first two categories are considered to be in accordance with price

competition, i.e., the net trade flow can be explained by price differences, whereas the last two categories are deemed non-price competition. Analyses of net directions of trade by product tend to distinguish only between surplus and deficit in bilateral trade flows by a product. We additionally separate one-way trade from two-way matched trade. When the one-way trade occurs then the net direction of trade is either surplus, which consists only of exports, or deficit, which consists only of imports. In the case of one-way trade, we provide two possible categories, i.e. one-way export or one-way import.

Table 3.11 Price Competitiveness of selected vegetables and potato

	2001	2002	2003	2004	2005
Seed potatoes	owi	owi	owi	owi	owi
Fresh or chilled potatoes	2	4	4	4	2
Fresh or chilled tomatoes	2	4	2	2	2
Fresh or chilled carrots and turnips	2	owi	4	4	4
Potatoes, uncooked or cooked/frozen	owe	2	2	2	4
Sweet potatoes, fresh or chilled/pellets	owi	owi	owi	owi	owi

Note: owi is one-way import, owe is one-way export
Source: own calculations based on EUROSTAT database

For empirical analysis of trade types in the bilateral Hungarian and EU15 agrifood trade we used detailed trade data from EUROSTAT for the years 2001-2005 in HS6 code at ten digit level. In general, results show there are no product groups in category one or three (Table 3.11). This suggests that vegetable products and potatoes are not price and/or quality competitive. The one-way import predominates for seeds and sweet potatoes during the analysed period. Fresh and cooked potatoes are characterized by trade deficit with changing price competitiveness. Tomatoes are price competitive, but they are net importers. Carrots were neither price nor quality competitive over the last three years.

3.7 Regulation of the fruit and vegetable sector in the EU and Hungary, especially regarding producers' organizations

There are a considerable variety of different (marketing) organisations for agricultural producers active in the fruit and vegetable sector in the European Union's agrifood economy, for example, agricultural cooperatives and producers' organisations (PO). POs exist in other legal forms as well, such as joint stock companies or limited companies; they have only to fulfil certain requirements. One significant advantage of such organisations is that fruit and vegetable producers can then request the support of the EU solely through their POs.

The Hungarian regulation (25/1999 Decree of Ministry of Agriculture and Rural Development) takes over from the European Union's regulation [Regulation (EC) No.2200/96 on the common organisation of the market in fruit and vegetables]

concerning POs. According to the aforementioned decree, the POs (in the Hungarian regulation the abbreviation is: "*TÉSZ*") organise production, store, grade, process and market products and are set up by producers of a certain product or (sub)region.

The establishment process for POs is rather slow in Hungary so far. In 1999, the year the 25/1999 Decree of Ministry of Agriculture and Rural Development came into force, only one PO was provisionally acknowledged according to the decree, with a further three in 2000 (among them the Mórakert cooperative) and eight more in 2001 (Padisák, 2001/2002). By August 2003, there were 36 provisionally acknowledged organisations, and only one with official acknowledgement (certified): the Mórakert Cooperative, which will be our first case study in the next section of this paper (Mórakert, 2003). At the end of April 2004, there were 86 provisionally acknowledged and six officially acknowledged POs, covering 10 per cent of total Hungarian fruit and vegetable production. The POs marketed produce valued at 21 billion HUF for their members (Németh, 2004). In May 2006 there were seven officially acknowledged POs and 62 provisionally acknowledged POs in Hungary, indicating fluctuations in actual numbers.

POs provisionally acknowledged or acknowledged till 29 February 2004 are eligible for national support according to 25/2004 Decree of Ministry of Agriculture and Rural Development based on 25/1999 Decree of Ministry of Agriculture and Rural Development. The basis for their support is the (certified) net revenues coming from marketing of fruit and vegetables of members in 2003.

4 The development of Mórakert Cooperative

4.1 The innovation

The innovation that is the subject of this case study is collective action by small-scale producers and rural SMEs, initiated by the local authorities of Mórahalom. In this case study we shall examine a successful producers' organisation (PO): the Mórakert Producer Organization, Mórahalom, which is, in legal terms, a cooperative active in the fruit and vegetable sector. As the development and results outlined below will show, this cooperative was chosen because it demonstrated such a good example.

After the social and economic cataclysm caused by the changes in the social and economic system (1989-1990), there was a decline in public life, and Hungary was overshadowed by moral crisis and economic uncertainty. The so-called compensation procedures had more ethical and political justification than rational economic consideration. In theory, the compensation measures could have provided a good opportunity for farmers to obtain a share in processing companies. However, a lack of capital and information prevented agricultural producers from seizing the opportunity. The restructuring of agricultural ownership was governed by the laws of 1990-1992. The privatisation process passed state property into private hands. As a result of this process, agricultural producers' share in the market varies from sector to sector, but in the case of agribusiness is generally very small. Due to the special tenders and procedures involved in the course of privatisation, producers hold only a limited share in processing companies and almost nothing in the case of retail and wholesale chains.

Mórahalom is a small town between Szeged and Baja in southeast Hungary. This city is the centre of the Homokhát Region. This area is a typical agricultural area, which means agricultural production is more or less the only way for its inhabitants to earn their living. Approximately 75 per cent of the population of Mórahalom is involved in agriculture. The quality of the soil is very poor. The sowing structure was developed under extreme climatic conditions. Mórahalom is the most important production centre in the South-Danubian Region. In some parts of the arable lands smallholders produce crops (maize, wheat etc.), which serve mainly as animal feed for their own livestock. Climate and soil conditions favour vegetables and fruit cultivation, improving the flavour and taste of the various products. The most important plants are vegetables: tomatoes, green peppers, delicate and hot paprika and various types of cabbage, onions and potatoes. These constitute the basis of commodity production, as the greater portion is usually sold on different markets, as will be discussed later in the study. Plastic tunnels and greenhouses now cover a significant proportion of the cultivated land.

Before 1990 in Mórahalom there was a traditional production type cooperative which in the 1960s changed its form into that of a so-called specialized agricultural cooperative, bearing more of the characteristics of the western-type promotional cooperative. This type was more suitable for individual farming, particularly in labour-intensive branches of agriculture such as vegetables and fruit. This specialized cooperative ceased its activity in 1993 in accordance with the obligations incorporated into Laws I and II on Cooperatives which came into force in 1992; the cooperative became defunct without a legal successor.

There was a situation in the micro region of Mórahalom in which about 1,500-1,800 private (smallholder) economic units attempted to do business at their own risk. The average area cultivated by the smallholders varied between three and five hectares. The greater portion of production was usually sold on different markets. The situation was very similar to other rural regions of Hungary. The problem was connected with the market relation of producers: they were too small to purchase their inputs and sell their produce. The producers faced oligopolistic and monopolistic players on the market, so they could not influence the negotiation process (including the price offered to them) with their potential partners. At the same time producers did not have enough information about the market, such as prices and different actors and they had very limited negotiation power. There was a real need to build up countervailing power for the smallholder economic units. On the other hand some of producers had already made some asset specific investments, so the machinery facilities were generally sufficient to ensure good quality and profitable production. However this potential did not serve to resolve the substantial marketing issues.

The biased economic structure of the geographic area and the very low profitability of agricultural production led to a situation in which the local authority had to make a choice: to establish an organization to promote farming among the inhabitants or to give them social assistance.

In 1993 the Department of Agriculture of the local authority was established in order to help smallholders submit forms for various applications/tenders. The main incentive for establishing a cooperative was very similar to the Danish tradition: economic necessity arising from the economic and market situation at the beginning of the 1990s. Therefore, as is commonly the first step in cooperative development, an organisation was established to build up countervailing power, help the farmers with information and strengthen their negotiating power with the retailing and processing industries.

As a first step to strengthen agricultural producers, the Common Agricultural and Entrepreneurial Society, was established in Mórahalom in January 1994 with the aim of organizing smallholders within a loose network. It is a non-profit organization. It

is noteworthy that, due to the existence of the former cooperatives in Mórahalom, people were reluctant to use the term cooperative. Therefore they established an intermediate form, to coordinate certain parts of members' activities. The basic principle of setting up this society was to cooperate, to enable members to step forward, particularly in the input and output market. The society had 35 founding members.

The main activity, in addition to organizing joint projects, was the organizing of collective purchasing activities. This type of coordination was successful and in some cases savings of 18 or 20 per cent of the purchase cost were achieved. Countervailing power was thus established and due to the greater volumes involved and cash payment it was possible to buy seeds and chemical fertilizer much more cheaply than would have been possible for the smallholders individually. Thus some problems of getting information and negotiating were solved. However, despite the network, the need for additional capital emerged.

Because the society was financed by membership fees, the revolving fund proved insufficient to finance purchases. Consequently, in practice, the members put together amongst themselves the sums required for the quantities to be purchased. Members were informed of delivery dates, and they transported the input materials by means of their own vehicles and stored them on their sites. These joint purchasing activities were extremely successful, as they could reduce transaction costs, i.e. information, negotiation and transportation costs. However, the main problem was still the need to coordinate the marketing of the smallholders' produce. Therefore, the next step was to set up the Mórakert Purchasing and Service Cooperative, Mórahalom in April 1995. It is important to note that the society has changed its form in recent years, to become an economic consultancy society (Homokháti Gazdasági Tanácsadó Egyesület) that works alongside the cooperative.

All members possess their own land and assets for farming. The cooperative has no machinery or land capacity connected with agricultural production; however it does have a cold storage depot, trucks and other assets.

The main aim of the cooperative is to coordinate purchasing and selling activities of the members. The input side of the members' activities was organized first as this was a simpler task since there was already some experience in that field. Members were able to reduce their purchasing costs by about 18-20 per cent. Coordination of sales began later. Because of the higher turnover, marketing costs per producer and/or per unit of transaction have fallen. The cooperative can handle larger quantities and higher quality, thus increasing its strength. This process could lead to expanded marketing activity.

Table 4.1 shows the main data for the case study cooperative during 1998-2005. Mórakert cooperative activity is based mainly on agriculture and its share in total revenue was close to one hundred percent, but over the last two years this ratio started to decrease. All aspects of the cooperative show very attractive growth: agricultural and total net revenue increased by more than twenty times in nominal terms, whilst the number of business partners rose sevenfold and turnover tripled.

Table 4.1 Main data on the Mórakert cooperative concerning years 1998-2005

Year	Agricul-tural net revenue (in 1,000 HUF)	Total net revenue (in 1,000 HUF)	Share of agricultural and total net revenues %	Number of members	Equity share capital (in 1,000 HUF)	Number of business partners	Share of own and foreign equity	Turn-over (t)
1998	250837	251410	99.77	59	1300	400	74.37	
1999	566775	567810	99.81	131	1300	500	53.91	
2000	1248737	1250464	99.86	189	1300	600	45.53	12500
2001	1584329	1586604	99.86	288	11275	1000	52.69	14961
2002	2281186	2282966	99.92	289	11275	1500	69.86	22620
2003	3639094	3777771	96.33	476	11275	2000	78.62	30359
2004	4078642	4641618	93.94	630	80920	2500	53.05	38541
2005	5166380	5839921	88.47	699	118830	3000	42.11	37294

Source: Mórakert Cooperative, 2006

Another basic aim is for the cooperative to be a kind of non-profit organization, so it runs according to the 'business at cost' principle. After the subtraction of deposits and costs from the surplus made annually the cooperative reimburses members in proportion to their turnover with the cooperative.

4.2 The market and its supply chain

The main coordinators/channels used in the Hungarian fruit and vegetable sector are the following: local market, wholesale markets, production cooperatives, marketing cooperatives, producers' organisations, processing industry, wholesalers and retailers. However, it should be noted that spot markets and different types of contracts (including in some cases contract production) are the most common forms of coordination. Different retail chains are gaining a progressively larger share of the fresh fruit and vegetable market. It is therefore essential that farmers use marketing channels that give them the strength (countervailing power) of more concentrated organisations. It is indispensable for them to be familiar with the possibilities of the different forms of vertical coordination and integration in their sector. Marketing cooperatives and producers' organisations can also solve the marketing problems of a growing number of fruit and vegetable producers.

There are some alternative quality measurements in Hungary, so it is difficult to compare individual cases. Hungary nominally applies European Union standards, however in practice these are only monitored for the fruit and vegetable market in the case of export. However, the increasing influence of the retail chains has also raised standards, since consumers can see the origin, price and class of the product in the retail shops e.g. hypermarkets and supermarkets.

The Mórakert PO helps their member and non-member producers to be able to sell their products at the best possible price. After collecting the produce from members and non-members the cooperative carries out activities to increase the value added, such as selecting/sorting, packaging and storage. After these kinds of activity the PO sells vegetables and fruit directly to supermarket chains, wholesalers, or to the processing industry. Consumers can get the products directly from the actors. In the case of wholesaling, a retailer is also involved. The cooperative tries to avoid wholesale/spot markets and sell directly to supermarket chains.

Table 4.2 summarises the volume and value of the main products sold by the Mórakert cooperative over the last three years. Potatoes have the highest share for value (22.34 per cent in 2003, 20.04 per cent in 2004 and 08.81 per cent in 2005) and volume (33.31 per cent in 2003, 35.6 per cent in 2004 and 22.59 per cent in 2005) amongst the products sold by the Mórakert cooperative. The share in value and volumes vary since the potato is a heavy bulk product with a relatively cheap price therefore its value/tonnes ration is lower than other products sold by the Mórakert cooperative. However it can be seen that the potato's share fell significantly after 2004. One of reasons for this is that some potatoes are also sold by another cooperative, another producer-owned organisation in Mórahalom. Since the potato does not count as a vegetable (i.e. it is not a PO plant) a proportion of those produced must be sold by this other cooperative so that the Mórakert cooperative can continue to be acknowledged as a PO. The diversification of assortment in 2005 is worth noting, leading to a relatively high share of other products (41.7 per cent) in the total value and volume sold.

Table 4.2 Volume and value of the main products sold by the Mórakert cooperative (2003-2005)

Product	2003		2004		2005	
	Volume (t)	Value (HUF)	Volume (t)	Value (HUF)	Volume (t))	Value (HUF)
Tomatoes	3,151	399,629	4,120	809,871	4,210	1,031,226
Paprika	7,864	811,699	10,245	1,240,410	3,929	766,334
Lettuces	828	163,987	933	193,033	1,391	283,966
Carrots	2,772	167,229	3,972	235,751	3,299	305,225
Potatoes	10,114	813,089	13,722	817,222	8,424	455,398
Parsley	1,442	331,275	1,326	196,366	646	167,845
Others:	4,188	952,186	4,223	585,989	15,395	2,156,386
Total	30,359	3,639,094	38,541	4,078,642	37,288	5,166,380

Source: Mórakert Cooperative, 2006

The cooperative uses various marketing channels, from individual shopkeepers through wholesale markets to retail chain networks. The importance and share of the retail chain networks is increasing year by year. It is very difficult to gain a foothold in one of the chains, but such a step is a secure position if the cooperative is able to deliver the entire range of produce to the network, also guaranteeing top quality and a high degree of flexibility. About 90 per cent of the products distributed in domestic markets by the cooperative in this case study are sold to retail chains (Tesco Global, Auchan Hungary, Csemege-Match, Spar Hungary, Profi Hungary, Cora, CBA, etc.). In the first few years of the cooperative's existence, retail chains accounted for 5 to 10 per cent of total sales. The proportion of wholesale markets and chains has been increasing gradually and significantly since 1997-1999, up to the current 90 per cent (Rácz, 2006b). At present, wholesale markets are avoided where possible in order to shorten the marketing chain and hence reduce transaction costs.

As mentioned above, retail chains have significant shares in the Mórakert cooperative trade. Some products are sold on a contractual basis according to weekly prices. The cooperative is more or less satisfied with the contracts and connections already established, but it should be noted that it is extremely difficult to fulfil the exacting requirements with respect to quality, quantity and range as well as the other terms of trade and payment stipulated by the retail chains. However, these do provide a secure market and a degree of stability for the farming activity of the members. The question of monitoring is becoming crucial in this context.

Retail chains can be separated into three main groups in Hungary. The first group is the hypermarket chains (e.g. Tesco, Auchan and Cora). They have the largest retail space (stores) with a huge assortment of mostly pre-packaged products. Tesco has established a central logistic centre, so products have to be transport to the centre instead of delivering them to the individual stores. Tesco's requirements and every day practice are different to the cooperative's other clients (Rácz, 2006b).

The second group is the supermarket chains (e.g. Spar, Match) with slightly higher prices than hypermarkets. They have more shops situated in various parts of settlements, including in the centres, thus they are "closer" to the consumers. Both Spar and Match chains have central logistics organization.

The third group is the discount stores. Mórakert Cooperative supplies Plus, Penny Market and Profi stores. These shops have smaller retail space and often use discount prices, however their product variety is smaller than the other two groups.

Requirements regarding logistics are becoming increasingly important in the contracts with the retail chains. Contract appendices stipulate the general trading criteria (rebates, benefits, discounts, bonuses, etc.) as well as requirements concerning logistics (methods, deadlines, confirmation of placing orders, etc.). The contract contains information regarding the product (quality, period of keeping the same quality, traceability, etc.), transport (frequency, refrigeration, etc.), methods and units of packaging and the form of communication (fax, e-mail, EDI, etc.). The chains continuously measure supplier activity with the help of a complex indicator, a fact that underlines the significance of the logistics processes taking place between companies and not just within the individual enterprise (Huszta, 2005).

It is also a general requirement that the whole assortment has to be delivered into each of the chains and the continuity of each product has to be secured. For example, at certain times of year, Mórakert Co-op has to import Spanish paprika to supplement – after packaging - its own products.

Compared to the other groups, hypermarkets are more expensive, if supply and delivery costs are also taken into consideration. Hypermarkets use a wide variety of bonuses (e.g. allowances regarding the turnover), but suppliers must also contribute towards marketing and advertisement costs, quality control costs and the cost of listing the products.

The products' prices are more or less the same in the case of the different chains. However, individual advantages can be gained through negotiation based on the countervailing power of the suppliers. Therefore the basis of competition is the bargaining process. When some competitors are not able to meet the quality, assortment or traceability requirements of the chains, others use the competitive advantage and may at least temporarily increase their market share (Rácz, 2006b).

To achieve competitiveness, in certain cases the cooperative works on the basis of production contracts, which involve the cooperative detailing the requirements for the producer to ensure that the necessary quantity is produced. Elements of the contracts differ for different products, but they generally contain the name and code

of the producers, the quantity and value of input supplied by the cooperative, the species produced, the pacing of harvesting and the quantity. Quality requirements are also a very important part of the contracts. Members, who supplied between 90 per cent and 110 per cent of the contracted quantity in the contracting period, get a bonus of 2 per cent. There are also penalties regarding potential opportunistic activity of members. Members are allowed a 10 per cent variation either way from their stipulated contract quantity within a given year without any consequences.

On one hand, this information helps the farmer in his discipline of providing data and adjusting to EU requirements; on the other hand it provides useful information for an integrated controlling system. These contracts are the bases for the managing director in the yearly negotiation processes with the retail chain.

Efforts are always made to purchase input materials of the same type, to enable members to accomplish excellent, balanced quality in their production. The cooperative also deals with produce derived from non-members, in order to better exploit its full capacity. Receiving a contract is one very important advantage of being a member, since non-members are only called when members cannot supply the quantity and variety of products needed.

In summary, the cooperative is endeavouring to achieve competitiveness in highly changeable markets. The significance of wholesale markets is now declining. The cooperative is willing, in the interest of its members, to display and market their produce.

The cooperative places emphasis on the quality and homogeneity of their products. However they do try to ensure a versatile assortment in order to fulfil the requirement of the retail chains. They occasionally buy products on spot markets and sometimes from imports. However, first they sell members' products, then, if needed, they request produce from non-member suppliers or as a last resort buy import products to fulfil the requirements of the consumers (i.e. retail chains).

One of the main steps to improve the competitiveness in segmented markets is for the cooperative to differentiate its products from those of other producers. The cooperative sells potatoes, onions, tomatoes, etc. in different packaging bearing its name, making it easier for the consumer to remember and recognize its produce. The cooperative marks the onions, potatoes and peppers it sells with its own label, and is currently seeking to increase the range of products sold in packaging showing its name.

Bar codes are also used and a registration system has been developed to enable the cooperative to control its selling parameters on computer. The system allows those operating it to distinguish which member's vegetables are being sold to a specific

market, and therefore the farmer can be tracked down if problems arise. The normal business practice (in line with the legal regulations) is that traceability is provided by all the producers for every product sold by Mórakert Cooperative, (Rácz, 2006b). The cooperative distinguishes its member and non-member suppliers with the code SE and SE on the contract and also when purchasing the products. Enterprise Resource Planning System (ERP) is the next step to controlling all processes in a more integrated way.

The cooperative has recently (in 2006) been given the Agrifood Economy Quality Award granted by the Minister for Agriculture and Rural Development of Hungary.

In case of quality assurance there are both national and EU legal regulations and standards. The cooperative employs the HACCP quality assurance system through its HACCP team, and 127 producers also belong to the EUROPGAP system. HACCP is a legal obligation, whilst EUROPGAP is mainly used due to market pressure (it is often part of the delivery requirements set up by the chains. Tesco has its own (English) system called BRC, which is different from the German EUROPGAP system. They also use experts specializing in fruit and vegetable producing technology who are guiding suppliers in the use of pesticides and production technology (Rácz, 2006b). This kind of attitude is essentially an attempt to shorten vertical coordination by applying strict chain management.

In order to increase the value of members' products, the cooperative is seeking export opportunities. 80 per cent of the produce purchased from members is sold on the domestic market and 20 per cent abroad (Estonia, Latvia, Lithuania, the Czech Republic, Slovakia and Slovenia). The cooperative is attempting to increase the proportion of export sales, but it presently uses exporters to sell its produce abroad. Their main partners in exporting are: Rekord Bt., JM and JM, Binder. However, the ultimate aim is to export as part of cooperative activity.

The cooperative endeavours to integrate members' farming activities both horizontally and vertically, and also to develop activities with higher added value. The cooperative has a site equipped with a full infrastructure. A handling, sorting and packaging line for vegetables and fruit was put into operation in September 1999. In 2002 a so-called 'agrilogistics centrum' was set up by the cooperative, with 4,000m^2 of land including a cold storage depot covering one quarter of the total area. These investments play a crucial role in fulfilling the food safety, environmental and hygiene requirements of the European Union. The third phase of development was enlarging the 'agrilogistics centrum' with a 6,000m^2 storage facility. In June 2006 the cooperative was occupying 15,000m^2 and a further six hectares in Mórahalom, which is a significant increase from the initial area. The facilities are fitted with modern sorting and packaging lines, qualifying 20 per cent of the cooperative's products for export. Everything can be handled in one place, such as purchasing, handling,

sorting and packaging of products coming from members and other suppliers, as well as the storage and transportation activities. A computer supported information system helps the work in the new headquarters.

Consumer demand is increasingly concentrated in the retail chains. The supply side has responded to this by fewer suppliers delivering more products, and developing the process of networking. These processes attempt to restrict the severity of the competition whilst also trying to help producers to get into and obtain a permanent position as a supplier to a given chain. With the cooperation of POs, strategic alliances appear that work together in purchasing, marketing and logistics. Besides decreasing the transaction (i.e. transportation) costs, these types of concentrations help to establish and secure trust among partners, which in turn can lead to the creation of subsector networking and clusters (Huszta 2005).

The PO is a founding member of the national association, the Cooperation of Hungarian Acquisition, Merchandise and Service Associations/Cooperatives (Hangya). The ambitious plan is to establish a so-called secondary or regional type cooperative that can be a good institution to secure markets for the members, to increase produce prices and also to reduce transaction costs. The cooperative is a founding member of the South-Great Plain Cooperative Foundation which is a professional representative body aiming to help the work of the cooperatives in the region.

In order to strengthen collaboration and networking between producers, they established a secondary level organization as a founding member of a joint stock company DATÉSZ Dél-Alföld Rt.. The company is a good means to increase the competitiveness of the collaborating firms who are themselves leading enterprises of the South-Danubian region.

However, in order to establish such countervailing power and reduce transaction costs, the cooperative is becoming more and more dependent on non-member trade, which lead to 'free-rider' problems. Although the cooperative can resolve some such problems, if it is going to grow this is an issue that will have to be dealt with more fully. The most important tools in the hands of the cooperative manager and president are secure markets and relatively high prices for good quality products coming from members and non-members alike. However, in a following stage of cooperative development the cooperative could face the same problems that emerge in the case of traditional (countervailing power) cooperative models, which could influence and change the marketing, financial and possibly the organizational strategies of the cooperative.

The following table summarizes the flow of innovation in the case of Mórakert Cooperative in accordance with the restructuring of Hungarian agriculture since 1990.

Table 4.3 Chronology of dates and causes of innovation for Mórakert Cooperative

Date	Innovation event	Causes by changes in legal environment or in the supply chain
1960s	So-called specialized cooperative is established in Mórahalom bearing more of the characteristics of the western-type promotional cooperative.	Need and possibility for cooperatives more suitable for individual farming, particularly in labour-intensive branches of agriculture such as vegetables and fruit.
1989-1990	A decline in public life, and moral crisis and economic uncertainty emerged in Hungary.	Social and economic cataclysm caused by the changes in the social and economic system (1989-1990).
1990-1992	In the micro region of Mórahalom, some 1,500-1,800 private economic units (smallholdings of 3 to 5 hectares) attempted to do business at their own risk.	Restructuring of agricultural ownership in Hungary via the so-termed compensation procedure.
1993	The specialized cooperative ceased its activity in accordance with the obligations incorporated into Laws I and II on Cooperatives; the cooperative became defunct without a legal successor.	Laws I and II on Cooperatives came into force in 1992.
1993	Department of Agriculture of the local authority was established in order to help smallholders submit forms for various applications/tenders.	Biased economic structure of the geographic area and the very low profitability of agricultural production.
Jan 1994	The Common Agricultural and Entrepreneurial Society was established in Mórahalom with 35 founding members. Main activity: organizing collective purchasing activities saving 18-20%.	Producers had insufficient information about the market and very limited negotiating power (caused mainly by the privatisation process).
April 1995	Mórakert Purchasing and Service Cooperative, Mórahalom was set up with 52 founding members.	Joint purchasing activities were extremely successful, as they could decrease transaction costs, e.g. information, negotiation and transportation costs. However, the main problem was coordinating the marketing of smallholders' produce. Additional need for capital emerged.
1998	Membership in Hangya Cooperation of Hungarian Acquisition, Merchandise and Service Associations/Cooperatives (the first president was the chairman of Mórakert cooperative in 1998-2000).	The need for secondary organisation to represent interests of cooperatives/producer owned organisations.
March 1999	Possibility of establishing Producers' Organisation in Hungary. A significant advantage of the organisation was that the fruit and vegetable producers could	25/1999 Decree of Ministry of Agriculture and Rural Development takes over from the European Union decree [Regulation (EC) No 2200/96 on the common organisation of the

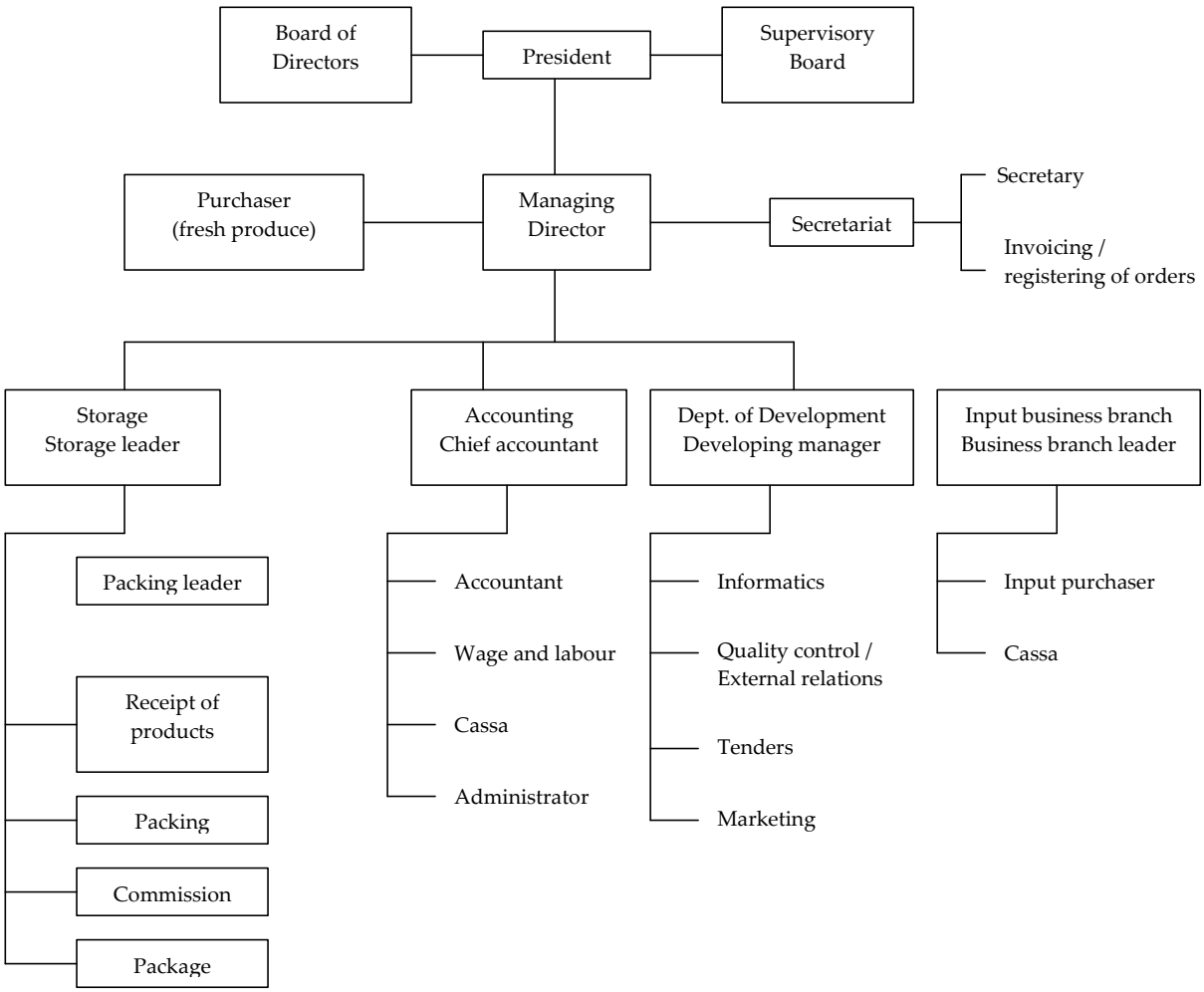
	achieve EU support solely through their POs.	market in fruit and vegetables] concerning POs.
1999	A handling, sorting and packaging line for vegetables and fruit was implemented. Developing own brand names in order to be able to carry out product differentiation.	The cooperative endeavoured to integrate the members' farming activities horizontally and vertically and develop activities with higher added value.
2000	Mórakert Co-op became a provisionally acknowledged PO.	Provisional acknowledgement according to 25/1999 Decree of Ministry of Agriculture and Rural Development.
2001	The cooperative employed an HACCP quality assurance system through its HACCP team.	Legal regulation came into force.
2002	Mórakert Co-op became the first officially acknowledged PO in Hungary.	Officially acknowledged according to 25/1999 Decree of Ministry of Agriculture and Rural Development.
2002	A so-called 'agrilogistics centre' was set up by the cooperative, which totalled 4,000m^2 including a cold storage depot covering 1/4 of the total area.	Increasing competition, need for products with more added value and wide assortment to be able to deliver to retail chains.
2004	Introduction of EUROPGAP.	Requirement of market development. (In 2006 127 producers belonged to the EUROPGAP system).
2004	Establishment and membership of a secondary organization (DATÉSZ Dél-Alföld Rt.) to increase the competitiveness of the collaborating firms who were themselves leading enterprises of the South-Danubian region.	Increasing competition in the sector.
2006	Agrifood Economy Quality Award.	Granted by the Minister for Agriculture and Rural Development of Hungary.
June 2006	The cooperative occupies 15,000 m^2 and a further six hectares in Mórahalom. Plan for 2006: to sell 20% on export and 80% on domestic (mainly retail chains) market compared with 5% and 95% respectively in 2004 and 15% and 85% respectively in 2005)	Increasing import competition, development of marketing of the cooperative and of the infrastructure of the agrilogistics centre of the cooperative. The facilities are fitted with modern sorting and packaging lines, qualifying 20% of the cooperative's products for export.
2006	A new organizational model resulting in a kind of holding form. The members and other suppliers still sell their products to the cooperative who is the owner of a limited company called Mórakert TÉSZ KFt. The owner of the limited company is the Mórakert cooperative (92%) and the local authority of Mórahalom (8%), so this is still a producer-owned organization.	This system ensures that the cooperative can get support from the EU budget, since it fulfils all the criteria regarding POs in the fruit and vegetable sector, especially connected to the share of non-members trade.

4.3 Forms of inclusion

With regard to the specific forms in which the small-scale holders are included in the restructured market, suppliers of the Mórakert cooperative are organized small-scale farmers of primary products, while at the same time the members of the organisation are owners of a segment of the supply chain. The by-law of the cooperative, in accordance with laws and other legal regulations concerning POs and cooperatives in the EU and Hungary, contains the rules, rights and obligations of the members. Therefore, the by-law regulates the product, capital and management/control line of the cooperative member connections.

The by-law, accepted on 21 April 1995, also lists all the democratic institutions of the cooperative. The main authority is the General Assembly, which makes decisions related to major moves and activities, such as acceptance and modification of the by-law, winding-up the cooperative, mergers, separation, the appointment of the managing director etc. The annual report, which is submitted by the chief accountant and presented by the Board of Directors, must be accepted by the General Assembly. This General Assembly is called by the Board of Directors once a year. The Board of Directors and Supervisory Board work with a rotation and a voluntary base. All members of these institutions are also members of the cooperative. So, the inclusion of members is partly achieved by involving them in managing/controlling the cooperative. Careful scrutiny of relations among the members reveals that trust in each other and in the Board is a matter of utmost importance. The Managing Director plays a central role in practical economic life since he deals with the day-to-day business of the cooperative and governs the employees. He also negotiates with business partners and builds up and secures markets. The other important branches and organizational structure of the Mórakert Cooperative are presented in Figure 4.1.

Figure 4.1 Organisational structure of the Mórakert Cooperative



Source: Szekeresné, 2005: p.7

The cooperative has to comply with the cooperative principles of the International Cooperative Alliance (ICA). For example the cooperative employs the one member – one vote principle. Members have to buy one cooperative share to become eligible for voting and they can exercise their power through the General Assembly. Naturally, members have the right to deliver their products to the cooperative, but compared to non-members they have other (economic) advantages as well, some of which have already been mentioned and others will be discussed later in the study. The PO also has to meet the requirements of the European Commission regulations, which stipulate separate requirements for inclusion of the members.

In order to fulfil the aforementioned aims and reduce transaction costs, the cooperative members and the cooperative had to make significant investments to increase the value added of the products sold. Some of the investments made by the members and the cooperative are very specific, thus strengthening closer

coordination. The value of the 'cooperative share', which represents ownership and must be purchased according to the by-laws of the cooperative, increased from HUF 25,000 (1995) to HUF 180,000 (2006). The aforementioned contribution is not sufficient to provide the necessary financial support for the development described above. The members have to pay an additional amount of HUF 330,000 as a single payment contribution for investment carried out on behalf of the cooperative in the interest of the members. The aforementioned requirements are detailed in the by-law. A further 4.1 per cent of the turnover has to be paid or is held back as a contribution to the operating costs of the PO.

The requirements one has to accept to become a member of the cooperative and thus part of the inclusion are:

- The applicant must accept the aims and rules of the cooperative including the rights and duties of members (stated in the by-laws),
- The applicant must be a producer of agricultural products handled by the cooperative,
- The applicant must provide the financial contributions listed in the previous paragraph.
- A member must fulfil the contract parameters negotiated between the cooperative and him/herself (stated in a separate contract from the by-laws).

Apart from the financial contribution from members, the cooperative organization itself receives some non-financial support from the local authority and, significantly, receives some state and European Union support depending on successful tenders. Notably, the cooperative was exempted from the local tax between 1996 and 2002, thus the Mórahalom local authorities have supported the cooperative in its initial phase of development. The cooperative currently pays a significant amount of local tax, helping the development of the town into a beautiful mid-sized town with full infrastructure, a change obvious to any visitor.

The cooperative can receive HUF 150 million support from the European Union budget, since it meets the requirements for POs in the fruit and vegetable sector. They also use bank credits and loans, including revolving charge accounts and causing a fall in the share of own equity of the cooperative to 42 per cent in 2005. However, the main point is that the cooperative reinvests a significant part of the surplus made annually.

There are numbers of ways in which the Mórakert cooperative can decrease transaction costs. In line with purchasing input materials and selling vegetable and fruit products produced by the members, the cooperative is still endeavouring to establish secure long term markets. This is extremely important, since producers have a high degree of market and technological uncertainty. The cooperative organizes the purchasing of input materials and the functioning of sales outlets in a

more coordinated way, therefore promoting farming for the smallholders through better market prices.

Providing information is also very important with respect to the success of cooperation between the cooperative enterprise and its members. Members can obtain information from a published circular, which provides practical details such as when and how input materials can be delivered.

In the past, transport from and to the main sites of the cooperative was usually achieved through the services of transportation firms. The cooperative has already bought transport vehicles as well, but members have to transport their own produce and/or input materials from and to the sites of the cooperative. However, this is cheaper and easier than to transport produce to the wholesale market, thus lowering the transaction costs for the individual members.

The cooperative carries out other services for the members, such as providing consultation (advice) within various fields (e.g. plant cultivation, the filling in of application forms for subsidies, storage etc.). Storage and especially cold storage is very useful since it can alleviate the seasonal effects of fruit and vegetable production. In the same way that the cooperative uses contracts when purchasing products from members, there is also a contract for storing the members' products. In connection with the important issue of quality assurance (HACCP, EUROGAP) mentioned above, when using the storage facilities members have to use consultation/advisory services in order to ensure the best quality.

The potential exclusion of members may occur if they will not or cannot fulfil the criteria listed above (e.g. if they do not pay the membership fee, violate the ethics/rules of the cooperative or do harm to the cooperative). If their production possibilities change in any way, members are always free to leave the cooperative.

Contracting is an equally important issue that could lead to exclusion of members. As mentioned earlier in the study, members (who supply between 90 and 110 per cent of the contracted quantity in the contracting period) receive a 2 per cent bonus. Members are allowed a 10 per cent variation either way from their stipulated contract quantity within a given year without any consequences. Contracting discipline is very weak generally in the sector, therefore the exclusion of any member due to underachievement is very rare. Demand in the fruit and vegetables sector is market driven most of the time, so contracts often cannot be enforced.

Generally members have to take significant steps in the "opposite direction" to the cooperative to be excluded from the "benefits" and advantages it offers. Non-member trade is very important for the cooperative because of the growing turnover, however these products are only accepted when members' fruit and

vegetables have already been purchased. Also, non-members will not get any reimbursements or price supplements and they have no voting rights; therefore the 'free rider' problem has not been a hot issue so far in the Mórakert cooperative.

The cooperative provides a pre-financing service by covering some of the productions costs for contracted members if they fulfil certain criteria. Over a year members must have delivered at least 80 per cent of the quantity stated in their contract. These measures have been implemented because the contracting discipline has proved to be so weak.

The marketing and promotion materials of the cooperative's products (and hence members' products) is also a very important service and a significant form of inclusion.

The cooperative tries to involve more segments of the chain and also extend its membership (730 owner - members in 2006) and circle of suppliers (2,000 in total in 2005 according to Huszta [2005]). Non-member trade is an important issue for any PO since the majority of trade must be undertaken by members. The proportion of PO products supplied from members was 60 per cent but was changed to 40 per cent this year (2005). In order to be able to fulfil the EU requirements for Pos, the cooperative is currently developing a new organizational model resulting in a kind of holding form. The members and other suppliers still sell their products to the cooperative, who is the owner of a limited company called Mórakert TÉSZ KFt. The limited company (through the managing director) is the one who is in contact with consumers. The business partners (consumers) are the same and the administration is almost the same as the Mórakert cooperative, since they use an integrated resource planning system. The owners of the limited company are the Mórakert cooperative (92 per cent) and the Mórahalom local authorities (8 per cent), so this is still a producer-owned organization. This system ensures that the cooperative can get support from the European Union, by fulfilling all the criteria regarding POs in the fruit and vegetable sector.

Apart from lowering transaction costs, the cooperative can provide almost all of the general advantages of cooperatives in vertical integration. It can build up countervailing power and secure markets, increase technological and market efficiencies and carry out activities with higher added value. The Mórakert cooperative can also reduce risk and information costs for members.

The Mórakert cooperative is a strong marketing tool for its members and also has a radiation effect on the regions in which it operates. It has the capacity to fulfil the basic objective: to help farmers sell their horticultural products, purchase input materials on their behalf at favourable prices and offer long term security. The increase of both membership and the turnover of the cooperative demonstrate that it

is operating efficiently. This is due to the friendly approach of the local authorities, the various sources of capital derived from funds for development, and above all, the human capital and resources within the cooperative. We have to emphasize the role the Chairman of the Board of Directors and the Managing Director (positions filled by the same persons from the outset) have played in ensuring stability and trustworthiness for members. The issue of trust is the true secret and key to the success of the cooperative analysed in this case study.

The crucial issue for the future of the cooperative is farmer loyalty, especially in view of the uncertainty dominating the Hungarian fruit and vegetable sector. There are a number of reasons why members are still loyal to their cooperative. The organized trust connected to relational connections in the cooperative is a crucial factor to avoid the first hold-up problem, i.e. prevent post harvest hold-ups (Hendrikse and Veerman 2001b), at least at the relatively low level of product differentiation. The cooperative is a good example of how an agricultural cooperative can reap some of the potential advantages, whilst solving many "traditional" transaction cost economics problems.

In order to solve potential problems on the horizon, the cooperative uses a newsletter to disseminate information. They also organize "professional evenings" for members and are currently developing a text message system providing short information for members, as well as a website. Probably, because of the organized trust and the excellent human factors in the Mórakert cooperative the agency problem is not really significant at this level of development.

5 Empirical analysis of the questionnaire

This study also investigates why cooperative members sell their products via Mórakert Cooperative. The questionnaire was prepared in consultation with the management of Mórakert Cooperative. There were forty-four observations in total. Empirical analysis was conducted in two stages. First, we focused on the importance of various factors in the choice of cooperative, employing multivariate statistical analysis. Secondly, we investigated the cooperative's share in the sale of various products, applying transaction costs economics framework.

Tables 5.1 and 5.2 present descriptive statistics that identify the average cooperative member's profile and the production structure respectively. In order to facilitate the comparison across the different variables, instead of standard deviation we calculated the coefficient of variation.

Table 5.1: Cooperative member profile

Indicators	Mean	Coefficient of variation	Min.	Max.
Total land (ha)	25.10	2.43	0.25	350
Land rented (ha)	27.78	1.71	0.5	150
Full time family labour (person)	2.55	0.50	0	7
Paid labour (person)	6.9	1.37	0	45
Age (years)	48.38	0.17	30	65
Education (1 lowest, 9 highest)	3.79	0.36	1	9

Source: Own calculations

The average cooperative member's farm size is 25 hectares of land, whilst 31% of them rent extra land too. The coefficient of variation (2.43) and the maximum and minimum values corresponding to the total land used emphasise the homogeneity of the producers. The second line of Table 5.1 shows that the group of producers renting extra land is slightly more homogeneous and they rent bigger plots, (27 hectares on average, with 1.71 coefficient of variation). 88 per cent of members use family labour, whilst 48 per cent employ paid labour (7 people on average) as well. In line with the farm size indicators discussed above, the coefficient of variation of paid labour is also rather high, (larger farms employing more paid labour, maximum 45 people). Turning to the average age, (48 on average, youngest member is 30, oldest 65) the group is more homogeneous with a low coefficient of variation.

Table 5.2: Production structure and the link with the cooperative

Indicators	Mean	Coefficient of variation	Min.	Max.
Vegetable varieties produced	3.24	0.68	1	10
Share of vegetable production sold through cooperative (%)	68.44	0.45	3	100
Fruit varieties produced	1.84	0.72	1	5
Share of fruit production sold through cooperative (%)	70.38	0.45	5	100
Share of potato production sold through cooperative (%)	73.05	0.44	0	100
Cooperative membership (years)	4.17	0.68	1	16

Source: Own calculations

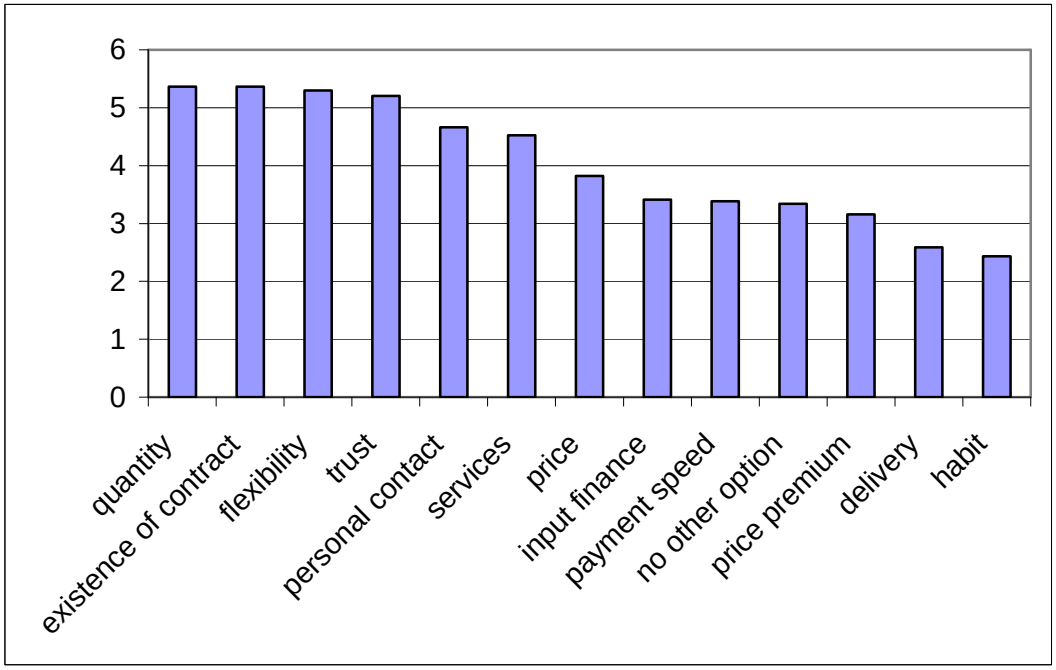
The lower coefficient of variation indicators in Table 5.2 suggests that the production structure and the importance of the cooperative for the members are more homogenous than the average member's profile. 84 per cent of those interviewed produce vegetables (three varieties on average), whilst 28 per cent produce fruits (two varieties on average). The largest portion of production is sold through the cooperative (73 per cent of potatoes, 70 per cent of fruits and 68 per cent of vegetables), with a low variation across members. Finally, the newest cooperative members joined a year ago, whilst some were present from the outset. On average, members joined the cooperative four years ago.

5.1 Reasons for the choice of cooperative

The respondents sold 59 per cent of vegetables, 21 per cent of fruits and 33 per cent of potatoes via Mórakert cooperative. 34 per cent of farmers sold all their output to the cooperative, 50 per cent sold to between two and six buyers and the remainder sold to more than ten buyers. The majority of respondents were individual farms or family farms (91 per cent), while the rest were partnerships and cooperatives. 34 per cent of farmers sell only one product and 39 per cent sell at least five products. 33 per cent of individual and family farms sell only one product.

The section on the potential benefits of cooperative membership employed a thirteen-item scale that measured the importance of these features in a cooperative choice context (1 = not at all important, 7 = very important). Figure 5.1 shows the importance (in descending order) given by producers to various marketing factors for sales through the cooperative. The most important factors are for selling via cooperative quantity, existence of contract, flexibility and trust. Interestingly, habit and cooperative deals with delivery price premium and bargaining power are rated as unimportant factors. Likewise, respondents did not rate the services provided by the cooperative (input finance, extensions services) as such an important factor.

Figure 5.1: Importance of various factors in choice of cooperative (1 = no importance; 7 = very important)



The factors were further analysed to explore underlying dimension of the producers' perception of benefits from cooperative membership. The original variables consisted of a thirteen-item seven-point scale exploring the importance of different factors for the choice of cooperative. However, commonalities for the attributes concerned with "Cooperative deals with delivery" and "Price premium" and "No other option" were judged to be too low (< 0.50) indicating that the set of derived factors explained a low proportion of the variance of those attributes. Consequently these three attributes were excluded from the subsequent analysis. The final solution was derived on the basis of varimax rotation and the extraction criterion was to derive factors with eigenvalues greater than unity, which generated a solution in two factors. The Kaiser-Meyer-Olkim measure of sampling adequacy is 0.735, indicating that the data matrix has sufficient correlation to justify the application of factor analysis. Bartlett's test of sphericity accounts for the significance of the correlation matrix. In our case it is large and statistically significant at the 1 per cent level, so the hypothesis that the analysed matrix is the identity matrix can be rejected. Consequently, the factor analysis is meaningful.

Table 5.3: Rotated factor matrix solution: reasons for selling via cooperative

	Factor1	Factor2	Commonality
Habit	-0.021	**0.663**	0.540
Trust	**0.751**	0.204	0.605
Quantity	**0.577**	0.170	0.662
Payment speed	**0.670**	-0.080	0.555
Price	**0.775**	0.018	0.600
Input finance	0.171	**0.706**	0.527
Services	0.208	**0.718**	0.559
Personal contact	0.473	**0.531**	0.709
Existence of contract	**0.595**	0.493	0.596
Flexibility	**0.583**	0.376	0.681
Variance (%)	0.466	0.353	
Cumulative variance (%)	0.466	0.818	
Eigenvalue	4.082	1.450	

The two-factor solution explains 81.8 per cent of the total variance in the data set, which is satisfactory. The cut-off for interpretation purposes is factor loadings greater or equal to 0.5 on at least one factor. The first factor is most strongly correlated with the variables ”trust”, ”quantity”, ”payment speed”, ”price”, ”existence of contract” and ”flexibility” (Table 5.3). The second factor is associated with „”habit”, ”input finance”, ”services” and ”personal contact”.

Cluster analysis was applied as a two-stage process. In the first stage, a hierarchical analysis was employed to provide an indication of the appropriate number of clusters. Hair et al. (1998, p. 479) suggests a procedure based upon inspection of the distance information from the agglomeration schedule. Following this procedure the appropriate number of clusters is suggested at the stage where there is a ”large”’ increase in the distance measure, indicating that a further merger would result in a fall in homogeneity. However Hair et al. point out that ”the selection of the final cluster solution requires substantial researcher judgement and is considered by many to be too subjective”’. This procedure suggested either a five-cluster solution or a three-cluster solution. Consideration of relative cluster size and the desire for parsimony led to the choice of a three-cluster solution. Subsequently, in the second stage, the K-Means optimisation method was employed to derive a solution with the specified number of clusters. Consequently the producer respondents are grouped into three clusters, respectively comprising approximately 36 per cent (cluster 1) 34 per cent (cluster 2) and 30 per cent (cluster 3) of the producers sample.

Table 5.4: Cluster analysis: reasons for selling via cooperative

	Cluster 1	Cluster 2	Cluster 3	Mean
Habit	3.44	1.60	2.15	2.43
Trust	5.56	4.87	5.15	5.20
Quantity	5.13	4.93	6.15	5.36
Payment speed	3.81	2.47	3.92	3.39
Price	4.25	3.47	3.69	3.82
Input finance	4.69	2.60	2.77	3.41
Services	5.06	3.67	4.85	4.52
Personal contact	5.38	3.93	4.62	4.66
Existence of contract	6.00	4.67	5.38	5.36
Flexibility	5.81	4.60	5.46	5.30
N	16	15	13	

The main characteristics of the three clusters can be identified as follows (Table 5.4). Cluster 1 place more importance on trust, personal contact, the existence of contract, and the direct benefits from cooperative membership including price, input finance and extension services. On the other hand, cluster 2 places less emphasis on the direct or indirect benefits from the cooperative, group means are below average for all reasons for selling through cooperative. Cluster 3 places more importance on quantity selling via the cooperative and speed of payments. Otherwise, cluster 1 and 3 both place above average emphasis on services, the contract and flexibility.

Table 5.5: Classification of farms by clusters and the cooperative's share in sale of products

	Cluster 1	Cluster 2	Cluster 3	Total
Vegetable	75.0	57.9	40.8	59.0
Fruit	16.9	24.0	21.5	20.7
Potato	28.1	39.0	32.3	33.1

Cluster 1 incorporates farms that sell 75 per cent of their vegetables and below average share of fruit and potato through the cooperative (Table 5.5). Cluster 2 consists of producers that sell their fruit and potato above average level. Cluster 3 encompasses farms that sell their fruit and potato at the average level.

Table 5.6: Classification of farms by clusters and characteristics of farms

	Cluster1	Cluster 2	Cluster 3	Total
Hired labour	2.0	6.0	1.7	3.2
Area	28.3	9.2	40.9	25.5
Membership	3.2	4.1	4.6	3.9
Age	47.3	46.8	46.8	47
Partners	4.3	10.7	2.1	5.8

Cluster 1 comprises farms that employ two hired workers and use twenty eight hectares with three years cooperative membership and sell their product to four partners on average (Table 5.6). Cluster 2 contains farms with above average hired

labour, but below average area and more than ten buying partners. Cluster 3 encompasses farms that have less hired labour but use more than forty hectares of land and sell product to only two partners.

5.2 The share of the cooperative

In this section we test the propositions of transaction cost economics in relating to the share of the cooperative in selling members' produce. Transaction costs economics (TCE) claims that a firm's vertical boundaries decisions are determined by characteristics associated with the efficiency of the chosen form of organisation. It is assumed that efficiency is inversely related to the extent of the costs of organising the exchange. These include the costs of negotiating and written contracts and the costs of monitoring and enforcing contractual performance (Williamson, 1985). The theory focuses on identifying the characteristics of transactions that are best suited to market and firm organisation. TCE asserts that all contracts are incomplete and subject to renegotiation and the possibility of opportunistic behaviour due to the presence of bounded rationality of agents, the asymmetric information and inability to completely specify behaviour in the existence of multiply contingencies. Thus, the problem of opportunistic behaviour is more severe when an exchange requires one or both parties to make considerable transaction specific investments, since such investments create quasi-rent that may be subject to hold up. One of the main advantages of a cooperative is to decrease the transaction costs of farmers seeking and establishing long term partners.

In this paper we focus on the following specific hypotheses.
H1: Asset specificity. The share of cooperative in selling product increases with the value of relationship-specific investments.
H2: Complexity. Product complexity and product diversification make searching and establishing new partners lengthy, leaky and expensive. Thus, the share of cooperative will increase with number of partners.
H3: Reputation. We expect reputation to have a positive effect on the share of cooperative in selling of product.
H4: Size. The larger farms have more bargaining power, thus the size of firms will be negatively associated with the share of cooperative.
Therefore, the theoretical model we test is:
Prob(Share of cooperative)=f(Asset specificity, Complexity, Reputation, Size).
The expected signs of the variables are as follows:
$f1>0$, $f2>0$, $f3>0$, and $f4<0$.
Dependent variable. The dependent variable in our model is SHARE, ranging between 0 and 100 per cent.
Explanatory variables.

Physical asset specificity. Horticultural production's physical asset specificity is captured by two variables: 1) area of plastic tunnel (PLASTIC); 2) irrigated area (IRRIGATED).
Human asset specificity measure as: 1) age of farmers (AGE), and 2) farmers' final level of education (EDUC).
Complexity and diversification. Production diversity is measured by the number of products in horticultural production (DIVER).
The size of firm. The size of the operation is measured by two variables: the number of hired labour (LAB) and total area in hectares (AREA).
Reputation. It is difficult to quantify reputation in a postal questionnaire; we used two proxies for measuring reputation. We asked about the reasons for selling product via cooperative. The respondents evaluated the importance of specific factors, including trust (TRUST) and personal contact (PCONT) on a seven points-scale. We estimated our model for each product group separately. We reported only the best results in terms of our a priori expectations and statistical significance.

The estimated coefficients of tobit model for vegetables are presented in Table 5.7. The estimations indicate that asset specificity variables have unexpected signs, and are significant. The reputation variable (PCONT) is significant with expected signs. It indicates that the growing reputation leads to a larger share of the cooperative in selling of products. The complexity variable (DIV) has expected signs with significance. This suggests that farmers producing more products sell more via the cooperative. Finally, the coefficient of AREA is significant with expected signs implying that larger farms sell less of their products through the cooperative.

Table 5.7: Tobit results for the share of cooperative in total vegetable sales

	Share of cooperative
PLASTIC	-0.388**
EDUC	-10.671***
DIVER	4.455**
PCONT	9.806***
AREA	-0.836***
constant	66.738**
Pseudo R^2	0.1460
N	42

legend: * p<.1; ** p<.05; *** p<.01

Table 5.8: Tobit results for the share of the cooperative in total fruit sales

	Share of cooperative
IRRIG	0.358
EDUC	42.208*
DIVER	36.058**
TRUST	-29.613
AREA	0.494
constant	-260.191*
Pseudo R^2	0.1524
N	42

legend: * p<.1; ** p<.05; *** p<.01

The fruit yields model shows less promising results (Table 5.8). Estimates indicate that asset specificity variables have the expected signs, but the human specificity variable is only significant. This means that farmers investing more in physical asset specificity try to protect their investment by selling through the cooperative. TRUST variable has unexpected sign without significance. The complexity variable (DIV) is significant with expected sign and AREA is not significant with unexpected sign. This suggests again that farmers with wider product assortments sell more via the cooperative.

Table 5.9: Tobit results for the share of the cooperative in total potato sales

	Share of cooperative
PLASTIC	-2.538**
EDUC	-3.947
DIVER	1.380
TRUST	5.854*
LAB	-17.365*
constant	139.687
Pseudo R^2	0.1202
N	42

legend: * p<.1; ** p<.05; *** p<.01

Estimations for potato sales are presented in Table 5.9. The asset specificity variables have unexpected signs and is significant for only physical asset specificity. We find that complexity is positively related to the share of cooperative, but it is not significant. The reputation (TRUST) and size (LAB) variable are significant with expected signs. It indicates that the trust yields a larger share of cooperative in selling of products. Furthermore, largest farms have less incentive to sell their potatoes to the cooperative.

In summary, tobit estimation produced mixed results. The hypothesis on the positive relationship between asset specificity and the share of cooperative was not confirmed. Our results provided more support to the positive link between diversification and the share of the cooperative. Similarly, estimates show the

positive role of reputation in selling produce via the cooperative. Finally, farm size is negatively related to the share of cooperative.

6 Conclusions

In transition countries the problem of agrifood chains still suffering from underdeveloped market institutions is common. This creates many difficulties for efficient exchange and the creation of reliable coordination mechanisms. Empirical evidence suggests that multinational firms and other large-scale companies in the food industry can solve some inefficiencies, including hold-up problems (Fertő 1999). However, their activities can cover only a small proportion of the Hungarian agrifood sector. The majority of farmers face significant market uncertainties without reasonable risk-sharing techniques, especially in sub-sectors dominated by fragmented small-scale farmers, like the fruit and vegetable sector. Consequently, even eleven years into the transformation, the situation of many farmers has not yet stabilized and hence their output fluctuates considerably.

This case study of a newly established Mórakert cooperative in the Hungarian fruit and vegetable sector shows that such organizations can be a solution for farmers to cope with the problems arising from incomplete pricing mechanisms. Such initiatives also help to reduce transaction costs, at least at regional level. It must be emphasized that the problems of farmers cannot be solved by government support alone. It must be emphasized that farmers' problems cannot be solved by government support alone. However, such support seems to be vital to setting up emerging producers' organizations, like cooperatives (Meulenberg 2000). The cooperative analysed in this case study, is a good example of how an agricultural cooperative can achieve some potential advantages, solving many "traditional" TCE and agency problems and offering its members continuing growth.

Although there are similar cooperatives in the Hungarian horticultural sector, Mórakert cooperative is the most successful. Our analysis highlights three important factors that may explain the success of the Mórakert cooperative. Firstly, there is the screening process of potential members. Secondly, there are strict rules to enforce the high quality and appropriate quantity of products to sell via the cooperative. Thirdly, the leaders of the cooperative have been able to establish trust between management and members. These factors help to solve a number of problems common in other cooperatives, for example: members do not sell their produce to the cooperative if other potential partners offer a higher price; or producers are not able to provide the appropriate quality and quantity of produce. The latter issue is crucial from the cooperative's point of view, because the credibility of the cooperative cannot be maintained if the cooperative is not able to fulfil the quality and quantity requirements of the contract. In other words, one of Mórakert's secrets is that they have developed a very efficient private contract enforcement mechanism. The success of Mórakert can also be explained by the fact that they were able to

adjust the cooperative activity to the opportunities provided by the ever-changing retail sector.

To sum up, the Mórakert cooperative is a strong marketing tool for its members and also has a radiation effect on the regions in which it works. It has the capacity to fulfil the following basic objectives: to help farmers sell their horticultural products; to purchase input materials on their behalf at the most favourable prices; and to offer long term security. The increase of both membership and turnover of the cooperative demonstrate that it is operating efficiently. This is due to the friendly approach of the local authority, the various sources of capital derived from funds for development, and above all, the human capital and resources within the cooperative. This last factor is the true secret and key to the success of the cooperative analysed in this case study.

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Regoverning Markets

Regoverning Markets is a multi-partner collaborative research programme analysing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle- and low-income countries. The aim of the programme is to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of the dynamic changes in local and regional markets. The programme is funded by the UK Department for International Development (DFID), the International Development Research Centre (IDRC), ICCO, Cordaid, the Canadian International Development Agency (CIDA), and the US Agency for International Development (USAID).

Innovative Practice

Innovative Practice is a series of case studies from the Regoverning Markets programme providing examples of specific innovation in connecting small-scale producers with dynamic markets at local or regional level. Based on significant fieldwork activities, the studies focus on four drivers of innovation: public policy principles, private business models, collective action strategies by small-scale farmers, and intervention strategies and methods of development agencies. The studies highlight policy lessons and suggest working methods to guide public and private actors.

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