

CONTRACTING RELATIONSHIPS AND COUNTERVAILING POWER OF MILK PRODUCERS IN HUNGARY: NEED FOR PRODUCER-OWNED ORGANISATIONS

DR. GÁBOR G. SZABÓ

Senior Research Fellow
(Correspondent author)

Institute of Economics, Hungarian Academy of Sciences
Budapest, Hungary
H-1112 Budapest, Budaörsi út. 45. Hungary (Mailing address)
Tel: + 36-30-2463914
Fax: +36-1-3193136
Email: szabogg@econ.core.hu

DR. KRISZTINA BÁRDOS

Logistics manager

Public Foundation for the Progress of the Industry
Budapest, Hungary
H-1382, Budapest, Pf.17 Hungary (Mailing address)
Tel: + 36-20-3142227
Fax: +36-1-3320787
Email: bardos@imfa.hu

Abstract

In some cases spot markets failure to govern the whole or a part of the marketing channel effectively and contractual relations are gaining more importance. It is especially true in case of the dairy market, since this market became more differentiated and producers are vulnerable in most of the cases. Problems of farmers and co-ordination of the (dairy) chain cannot be solved simply by EU and/or government support, but it seems to be vital in the case of emerging producers' groups. Theoretically, and according to Western European (Dutch, Danish etc.) and US experiences, one of the main important private institutions which can strength producers and help to co-ordinate the "milk chain" is the dairy co-operative.

Our research's aims were to present a theoretically structured framework of milk producers' contracting arrangements based on Transaction Cost Economics' predictions and to carry out an empirical analysis of the key determinants of governance structure between dairy farmers and processors in Hungary from economic, legal and cultural points of view. In the second quarter of 2005 we carried out a postal survey among milk producers. By the help of empirical research the following main research questions have been asked: how contracts are arranged, what kinds of diversifications exist in contracting practice and what the driving forces behind the chosen governance structures are. We also tried to find what kinds of coordination means can be used to harmonise producer-processor relationships. In this paper – beyond the theoretical approach to coordination by contracts – we present empirical results regarding dairy producers' bargaining power against processors in Hungary. As a conclusion, we underline the importance of Western-European experiences and the need for more producer-owned organisations, like co-operatives and producers' group in Hungary.

1. INTRODUCTION: BACKGROUND AND MAIN AIMS OF THE RESEARCH

In some cases spot markets failure to govern the whole or a part of the marketing channel effectively and contractual relations are gaining more importance. It is especially true in case of the dairy market, since this market became more differentiated and producers are vulnerable in most of the cases. Problems of farmers and co-ordination of the (dairy) chain cannot be solved simply by EU and/or government support, but it seems to be vital in the case of emerging producers' groups.

Crises in Hungarian dairy sector can be traced back to co-ordinational insufficiencies:

- 1) *failure of public coordination means*: owing to permanent problems, state is forced to intervene by constituting additional legal rules (e.g. decree on loss reducing, etc.), whereas market coordination should prevent failures and
- 2) *unsatisfactory level of market coordination processes*:
 - lack or partial presence of co-operatives, producers' groups and other interest enforcing and bargaining organizations,
 - problem of market structure: failures of competition due to dominant and growing bargaining power of retail chains,
 - due to the lacking, non-suitable effect of high consumer prices on producers' prices, the production is ineffective, the income from dairy production is uncertain, therefore there is a lack of the necessary level of investments. These factors contribute to a further increase of costs which raises consumer prices, causing a lower level of consumption and so on.

Examination of crises appearing in Hungarian dairy sector *caused by failure of public coordination means and unsatisfactory level of market coordination processes* is an actual issue, so that one could understand how contractual systems work in this situation.

The *application of Transaction Cost Economics* is becoming *more and more popular* in the empirical studies dealing with vertical coordination in agriculture (Frank-Henderson, 1992; Hobbs, 1997; Boger, 2001a,b; Fertő-Szabó, 2002; Szabó, 2002; Fertő et al., 2005; Bárdos, 2004; Montaigne et al. 2005 etc.).

We have carried out an *empirical research on examining contractual relations in the dairy sector in Hungary in 2005* (Szabó and Bárdos, 2005, 2006). Aims of the research were to present a theoretically structured framework of contracting arrangements of milk producers based on Transaction Cost Economics' predictions and to carry out an empirical analysis of the key determinants of governance structure between dairy farmers and processors in Hungary from economic, legal and cultural points of view. With the help of *Hungarian Dairy Product Council*, we carried out a postal survey among milk producers in the second quarter of 2005. With the help of empirical research the *following main research questions* have been asked: how contracts are arranged, what kinds of diversifications exist in contracting practice and what the driving forces behind the chosen governance structures are. We also tried to find what kinds of coordination means can be used to be able to harmonise producer-processor relationships.

In this paper – beyond the theoretical approach to coordination by contracts – we present empirical results regarding dairy producers' bargaining power against processors in Hungary. Furthermore, we would like to show the roles and possibilities of producer-owned co-ordination models, the need for more producer-owned organisations, like co-operatives and producers' group in Hungary and also underline the importance of Western-European experiences.

The structure of the paper is organized as follows: after *introduction*, the *second section* briefly reviews the relevant current literature. Dairy sector and its special features from the point of EU-accession and market development are in the focus of *third section*, concentrating on transactions between milk producers and processors. Analytical framework is set up in *section four* for empirical analysis, illustrating survey methods, questionnaire design, sampling. This section also comprises main empirical findings using multivariate analyses with their methodological characteristics, as well as containing descriptive statistical evaluation of variables applied. *Section five* presents very briefly the roles and possibilities of producer-owned co-ordination models and some recent legal background of Hungarian co-operatives. *Finally* we draw conclusions with their implications for practical applicability and outline necessity of establishing bargaining power (co-operatives) on behalves of milk producers in Hungary.

2. COORDINATION BY CONTRACTS IN THE AGRI-FOOD ECONOMY

2.1. *Two fundamental types of coordination and the four main ways to govern the exchange of products*

There are two fundamental types of coordination in the agri-food economy:

- 1) carried out by the state (bureaucratic type) or
- 2) done by private institutions (market coordination).

Although they are very important, in this paper we do not deal with the different types of state regulations and interventions to the market with the sole exception of describing the Hungarian legal background in section 5.2. However we are going to explore the different types of private mechanisms to coordinate the marketing channel vertically (or horizontally) depending on what levels of the chain the participants are.

Four methods of organizing transactions exist in (US) agriculture: spot (or cash) markets, production contracts, marketing contracts and vertical integration. Main elements of *marketing contracts* are: delivered quantities, product specification and compensations and quality control. It has a so called basic price formula as well. *Production contracts* contain assignment of responsibilities and products, compensation, contract length and delivered quantities. (MacDonald et al, 2004)

Vertical co-ordination (between actors on different levels of the marketing channel) has been an important topic in the agricultural marketing literature since the beginning of the industrialization of agriculture and can be interpreted in different ways (e.g. Barkema - Drabenstott, 1995; Fertő, 1996; Peterson and Wysocki, 1997; Szabó 2001).

Recent literature has distinguished two extreme co-ordination mechanisms: spot markets (external co-ordination) and vertical integration (internal co-ordination). Instead of discrete governance structures Peterson and Wysocki (1997) define the term of a vertical co-ordination continuum that moves from external mechanisms to internal mechanisms with three transitional stages (contracts, strategic alliances, formal co-operation) between two extreme polar forms.

Since agricultural markets become more differentiated, open market transactions do not always prove to be the most appropriate form for the exchange of goods. Contractual relations are gaining more importance.

2.2. *Definition, roles and types of contracts in agriculture*

According to MacDonald et al (2004: 3): "Agricultural contract refers ... to contracts used to arrange for the transfer of agricultural products from farms to downstream users such as processors, elevators, integrators, retailers, or other farms".

They argued that “Contracts may be seen as a device to limit price and income risks (*risk-sharing approach*), or they may be regarded as a means to reduce the cost of using spot markets to arrange transactions (*transaction-cost approach*).” (MacDonald et al., 2004) In our study we use the latter one *focusing mainly transaction cost characteristics* of vertical co-ordination and contracts.

Lehota (2000), analysing the organisations of market institutions, groups contracts as a tool of vertical co-ordination between producers and processors.

Based on the contractual features mentioned above (Williamson, 1985) *classical, neoclassical and relational contracts* can be distinguished depending on the possibility to renegotiate the whole or at least parts of the contracts. Marketing contracts show the features of classical contracts, but – depending on contract period – neoclassical characteristics can also appear. Table 1 shows the main characteristics of different contractual relations.

Table 1
Main characteristics of different contractual relations

	Term	Formal length of contract	Contract type	Personal interaction
Classical contract	Short term	Discrete transaction, single, limited	Ex ante, accurate definition of the subject and requirements of the transaction	Restricted, autonomy of partners in the transaction
Neoclassical contract	Long term	Multiple transaction, limited	Ex ante and ex post, not all requirements are defined, some adjustments available (guarantees)	Frequent, continued ex post co-operation of partners in the transaction
Relational contract	Long term	Disolving the discrete character of the transaction	Ex ante, beyond regulation of discretionary transactions, definition of complex system of relations	Uni- and bilateral decision-making processes

Source: Bárdos (2004: 47)

The *structure of contractual agreements may vary* with the objectives of the contracting parties, underlying production relations, and the nature and size of informational and strategic impediments to contract formation and enforcement. As a consequence, *theory provides no unifying structure* for the specification and testing of contract design hypotheses (Masten and Saussier, 2000).

Contracts can be categorized as *informal* (oral or handshaking) or *formal* (written) agreements. In case of strong social capital and cultural heritage, as well as stable legal environment, oral negotiations work fine. However, because of distrust and special circumstances in the sector, in case of Hungary most of the negotiations take place in written form of contract between the producer and processor.

One can *distinguish contracts according to its term*. Basically *short, medium and long term* contracts can be found in the agriculture. The *length of the contract period* depends on the volume of milk delivered, bargaining power of the producer and also the regulation by the state. In case of longer the contract period and tighter collaboration relational contracts are

taking place. Joskow's study provided evidence that *contract duration varies with the benefits of contracting* (Joskow, 1987).

3. BRIEF INTRODUCTION OF THE DAIRY SECTOR

Dairy production is the foremost agricultural activity of EU, accounting for around 18% of the total value of the Community agricultural output. Since Hungary is full member of the EU, *milk and dairy products are part of the common market organisation*. Regulation, which comes into force in 1968, is unified and compulsory for each member state. *EU dairy sector can be characterised by close vertical coordination*, 66% of sales occur in the frame of some kind of contracts. Sales via co-operatives exceed 70%, but this differs in the member states. Support system presumes a well-operating marketing channel without malfunctions, which should be primary established by effective coordination among market actors, partly by the cooperation of those with same interest (e.g. co-operatives), partly by appropriate market operation. Instead of perfect competition, this *market shows oligopolistic characteristics*.

Among papers dealing with *vertical co-ordination issues of Hungarian dairy supply chain*, Szabó and Tóth (1998) examine *market development and government policy* in milk/dairy sector, giving an insight analysis into the organization of the whole supply chain, including a detailed (marketing) *channel mapping*. Szabó (1999) analyzes *vertical coordination* of the dairy farms in Hungary, and he states that it is basically attained via price mechanism *with the help of marketing contracts*. Recently, Fertő et al. (2005) deal with the *new governing structure* of milk/dairy sector and its *policy issues* consequences regarding small and medium entrepreneurs. Popovics and Tóth (2005) analyse characteristics of the Hungarian dairy sector and its *structural changes* and examine *price transmission mechanism* of the Hungarian milk chain. Fáró és Szabó (1999) study the economic substance and roles of dairy co-operatives in Europe and Hungary. Szakály (2001) deals with marketing channels from the point of dairy economics. More information and detailed analyses on the Hungarian dairy sector and its market development can also be found in Szakály (2003), Mészáros and Popovics, 2004; etc.

Most of the milk delivered to processing companies is belong to *extra quality*, but more and more small producers, failing to meet the high quality requirements sell their milk on the black or grey market. These questions raise the question of social problems since many of small and medium size milk producers will probably go bankruptcy. The next table demonstrates the development of raw milk price in Hungary.

Table 2
Main data on sale of extra raw milk in Hungary

	2000	2001	2002	2003	2004
Extra quality raw milk producer price - (HUF/kg)	63.72	68.83	70.72	70.20	62.46
Quantity of extra quality raw milk purchased by processors (1000 litres)	1 415 789	1 478 045	1 469 281	1 517 654	1 517 513

Source: <http://www.tejtermek.hu/php/tartalom.php?pid=110>

Import milk (for example from Poland and Slovakia) and some *more value added products* (like cheese and desserts from Denmark, France etc.) have *increasing market shares*.

Hungary's *EU accession* has *fundamentally affected the national quota handling* and its institutional background. Domestic *reference quantity* is 1.947.300 t. Nationwide; 90% of the total milk produced in the frame of milk quota is sold under some kinds of contractual arrangements, directly to the processor.

Hungarian *milk farms* can be classified *into three main groups* from the point of concentration, technology, number of employments and heads/stock. Basic elements of market organization of milk and milk products are: intervention prices, quota system, supplementary state supports, quantitative regulation, producers' loss reducing support, etc. From the aspect from this paper it is important, that *only the quota*, as main element of the regulation *affects directly the producers*, intervention and buying up affect them only indirectly, through the processors.

Based on conditions fixed in a certain contract, we *distinguish in Hungarian practice*:

- *marketing contracts* (price, quantity, quality, term of delivery are fixed),
- *productions contracts* (up to a certain degree they regulate the production process as well),
- pre-financing or *input-supplying contracts* (buyer provides seeds, etc) and
- general or so-termed *framework contracts* (containing only general data, so it can rather considered as a declaration of intent).

Because of the circumstances (lack of trust and bargaining power on behalf of the producers etc.) in Hungary, *most of the agreements are written contracts*. Despite that fact, processors often arbitrary change terms of contracts using their power and cause hold-up problems for the producers, who have relation-specific investments. *Producers' organizations* (producers' groups, co-operatives etc.) can be solutions and able to *increase bargaining power* in a number of cases, at least as marketing tools.

4. EMPIRICAL RESEARCH IN THE HUNGARIAN DAIRY SECTOR

4.1. Hypotheses

In this part we illustrate by crosstabs the relationship between the change in bargaining power and allowances above the price. Furthermore, we investigated the relationship between bargaining power and price premium. On basis of theoretical assumption we divided our hypotheses into three groups. As a first, we *examined the governance structure and contractual features*, then as a second group of hypotheses, we *tested the bargaining power* to be able to focus on the role of producer's group, and then we tried to find *relationship between bargaining power and the change of contractual features*. In this paper we shed light on the change of bargaining power and the potential role of co-operatives and producers' group, so we present this part of the research. We tried to reveal the features of contracts by several questions. In our first hypothesis we examined how could be the number of variables reduced without information loss (**H1**). We assumed, that there is a contractual feature, which can have influence on the change of bargaining power, i.e. our second hypothesis (**H2**) says: the variation of contractual features can explain the change of bargaining power. Our third hypothesis (**H3**) aims the investigation of producers' group, i.e. we examined the influence of sold milk on bargaining power. We applied linear regression to test this statement.

4.2. The survey and the sample

To investigate producers-processors contracting characteristics and to test our hypotheses above, a questionnaire was designed and data were collected from Hungarian milk producers from each county. The aim was to obtain a database so that proxy variables could have been constructed. Survey data contain nominal, ordinal, interval scales matching the corresponding

theoretical indicators best. 1900 members of the Hungarian Dairy Product Council (HDPC) served as a data base for postal survey. We cut the upper and lower 10% of the sample considering the quantity of the quota. On basis of milk quota, HDPC's members own 75% of the total quota quantity. This is distributed among the 1900 members. All the members have some kind of contractual relationship(s) with the processors. Distribution of members in HDPC: joint companies (528), producers delivering directly to processors (1368). We posted questionnaires to 300 of these members in the second quarter of 2005. After sending out a total of 300 standardized questionnaires, the size of sample to be evaluated was 68. The *questions in questionnaires were classified into six groups* with special respect to basic data on the firm examined, characteristics of contract(s) applied, bargaining power (of the producers), (changes of) relationships with trading partners, (specific) investments, as well as access to information. The preparation of the survey was supported by the Hungarian Dairy Product Council (HDPC). A total of 84 variables were applied. The key measures were statistically evaluated. In order that we could study more than one phenomenon together we primary focused by the means of cross tabulation in descriptive statistics on marketing channels, bargaining power, determination and length/period of the contract.

4.3. Descriptive analysis

In the descriptive statistical analysis we primarily focused on *the transactional relation between producers of milk and dairy processors*. Uniformity is typical of the geographical distribution of the respondents. Equal distribution is typical in case of the addresses of producers.

Average stock of cows held by farmers participating in the survey was approximately 57; however particular values move between wide margins, the biggest farm has 643 cows. Similar standard deviation can be found in the case of quantity of milk sold, which average value in the sample was approximately 57,000 kg. The maximum volume of milk sold was 2,128,170 kg.

Most of the farmers examined are full time employees; the average number of workers is 11.4. The sex of the respondents is in most of the cases male; their average age is 38.5 year. They have got intermediate qualification. None of the respondents have lower qualification than as a skilled worker.

In the sample the *contracts do not contain any incentives* (refrigerator van, crop, financial allowance, etc). However, 27% of the producers become price premium. Table 3 presents the connection between bargaining power and price premium. Producers becoming price premium (27.7%) in the majority (72.2%) have no influence on selling price. Producers without price premium have the same bargainig power. In their opinion in 71.7% they have no influence on selling price.

It is remarkable, that producers' bargaining power is unsatisfactory in 70.8%, their 18.5% classified their bargaining power as sometimes satisfactory, while 9.2% of the sample said that the selling price is an issue of a bargain, and only 1.5% have excellent bargaining power.

Table 3
Relationship between bargaining power and price premium

		Bargaining power (v22) (1: unsatisfactory 5: excellent)				Total	
		1	2	3	4		
price premium, v28	1	answers	13	2	2	1	18
		% in v22	72.2%	11.1%	11.1%	5.6%	100%
		% in v28	28.3%	16.7%	33.3%	100%	27.7%
	2	% total	20.0%	3.1%	3.1%	1.5%	27.7%
		answers	33	10	4		47
		% in v22	70.2%	21.3%	8.5%		100%
Total	% in v28	71.7%	83.3%	66.7%		72.3%	
	% total	50.8%	15.4%	6.2%		72.3%	
	answers	46	12	6	1	65	
Total	% in v22	70.8%	18.5%	9.2%	1.5%	100%	
	% in v28	100%	100%	100%	100%	100%	
	% total	70.8%	18.5%	9.2%	1.5%	100%	

Beyond the selling price we investigated, whether the producers can reach any additional allowances, such as credit, raw material purchase, or rather are they able to define the place and/or the date of delivery. Figure 1 illustrates that in 70 % producers can not reach any allowance, but they could have an influence on the place of delivery (39.1%: together with processor, 7.8%: on competence the decision on place and date of delivery). It is typical, that any additional allowance is defined rarely together (18.8%)

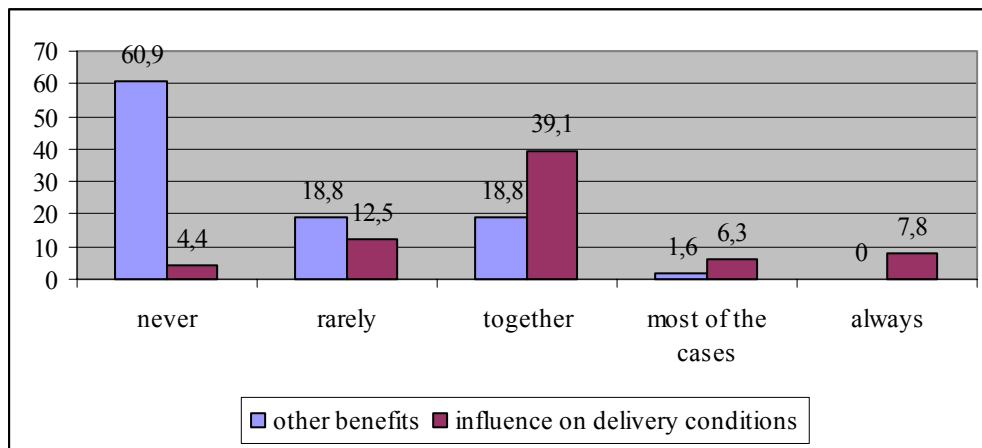


Figure 1
Influence on other benefits beyond the price and on delivery conditions

4.4. Results

As previously demonstrated, we applied 84 variables to measure governance structure characteristics and contract features. Since these variables measure the same two or three theoretical concepts, therefore there is an opportunity to reduce their number without giving up the results they compress. By multidimensional scaling which has an explorative nature, we gained information about the differences between the respondents on basis of applied contract. The degree of correspondence between the distances among points implied by MDS

is measured (inversely) by a *stress* function¹. Our aim is to create an objective scale in a reduced-dimension space, i.e. the representation of the cases in a lower dimension space than the original, six-dimension space. In case of two or three dimensions the goodness of fit is good:

$$S_{3 \text{ dimensions}} = 0.033$$

$$S_{2 \text{ dimensions}} = 0.001$$

The following key variables form the original, six-dimension space and they are involved in MDS:

DEF_TIM	Is the contract time defined?
CONTR_TIM	How long is the contract period?
CONTR_VAL	Since when is the contract valid?
CONCR_PR	Is the selling price specified in the contract?
CONCR_QU	Is the quantity to be sold specified?
CONCR_DEL	Are they days of delivery specified?

There are two things to look for in interpreting an MDS picture: clusters and dimensions. Clusters are groups of items that are closer to each other than to other items. Dimensions are item attributes that seem to order the items in the map along a continuum. The axes are, in themselves, meaningless and the orientation of the picture is arbitrary. Figure 1 depicts the groups clearly can be isolated in the new, three-dimensional space, so *we accept our 1st hypothesis (H1)* which says that *space composed by the whole set of variables of contracting features can be reduced to two or three dimensions and respondents can be separated on basis of the reduced dimensions*. (It is rather difficult to demonstrate in three-dimensional space the natural structures, so we illustrated it in two dimensions, see Figure 2)

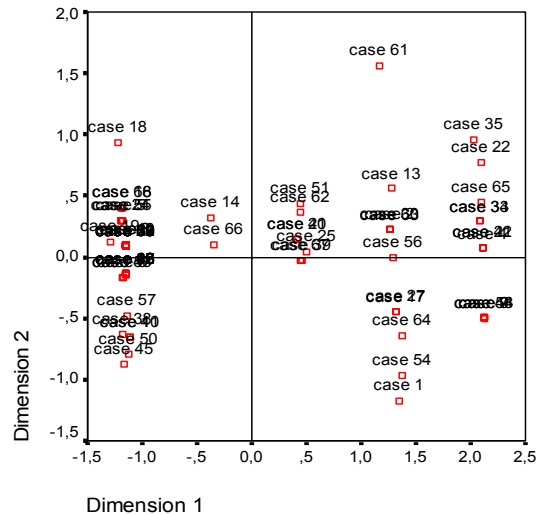


Figure 2
Result of MDS employing Euclidean distance calculation

We applied linear regression to test our next hypothesis (H2), which captures the correlation between contract features and bargaining power and says *change in bargaining power can be explained by the variations of contract features*. Table 4 summarizes the results.

¹ $S = \sum_{r < s} (d_{rs} - d_{rs}^2)^2 / \sum_{r < s} d_{rs}^2$. $S < 0.05$, goodness of fit is good, while $S > 0.20$ goodness of fit is satisfactory.

Table 4
Parameter estimation by linear regression for the correlation
between contractual relationships and bargaining power

Variable	Standardized coefficient β	t-value	Significance
Constant		0.991	0.326
DEF_TIM	0.131	1.029	0.308
CONTR_TIM	-0.161	-1.175	0.244
CONTR_VAL	-0.146	-1.184	0.241
CONCR_PR	0.137	1.014	0.314
CONCR_QU	0.160	1.215	0.229
CONCR_DEL	0.046	0.376	0.708

Note. Depending variable: bargaining power

Since t-values and significance levels show that none of the variables can be taken into consideration when we trying to explain the variations in bargaining power, *we reject H2*.

Applying linear regression again we tried to find relation between bargaining power and sold milk, so we set up our third hypothesis (H3), which says that the quantity of *sold milk has a positive influence on bargaining power*.

Table 5
Relationship between the volume of sold milk and bargaining power

Variable	Standardized coefficient, β	t-value	Significance
Constant		12.548	0.000
QUANT	0.285	2.398	0.019

Note: Depending variable: bargaining power

Based on parameter estimation of linear regression can be seen, that quantity of sold milk has a positive influence on bargaining power, i.e. the higher is the quantity of sold milk, the better is the bargaining power.

We have to point out the role of co-operatives and producer groups in integrating small, individually week agricultural units (Ihrig, 1937; Ollila, 1994; Cook, 1995; van Bekkum and van Dijk, 1997; Bijman, 1998; Hendrikse and Veerman, 2001; van Bekkum, 2001, Sykuta and Cook, 2001). In the next part of our paper we present very briefly the roles and possibilities of producer-owned co-ordination models in Europe and some recent legal background of Hungarian co-operatives.

5. CO-OPERATIVES IN EUROPE AND HUNGARY

5.1. Roles and possibilities of producer-owned coordination models in the dairy sector

In theory and according to Western European (Dutch, Danish etc.) and US practical experiences, one of the main important private institutions which can strength producers and help to co-ordinate (agricultural) chains is the co-operative form. Agricultural co-operatives used to be considered as the *classical form of co-ordination of different and independent farmers*. Co-ops were founded in order to protect members against the large commercial

and/or industrial companies which are often in a monopolistic or oligopolistic position. The dairy co-operatives in Western Europe are specialised to process and sell the milk and milk products of their members. The most important types are the milk collecting-, bargaining- and marketing-co-operatives.

The development of countervailing power – even regionally - through the disposal of the milk collected by co-operatives and other producer-owned organisations can result in strengthening market competition (e.g. ‘radiation effect’ on prices). This might raise the members’ income.

In Western Europe, for example in Holland and Denmark co-operatives have emerged through a *voluntary base* (Meulenberg, 2000). They have a so-called “*double character*”: toward the market: they are market oriented, but the surplus - made by the co-operative - goes to the farmer-members, in proportion of their product delivered/bought to/from the co-operative, after deducting the costs of the co-operative's operation and funds for reserves.

Generally speaking the main economic aim of the (agricultural) co-operative in a market economy is to *increase the income of its members*. Mentioning other type of advantages, co-ops can *reduce production costs and also decrease and internalize transaction (information) costs*, with a better flow of information on consumer demand. Co-operatives can also *lower both economic and technological uncertainties* and therefore *decrease transaction costs* (Hendrikse and Verman, 2001; Royer, 1999; Szabó, 2002; Szabó and Fertő, 2004a, b).

However, contrary to other types of vertical integration manners, the co-operative is a *partial/hybrid form of vertical integration*, which means that farmers retain a relatively high degree of independence of economic action: “Thus, it is possible to reduce transaction costs and uncertainty through the cooperative and maintain the entrepreneurial incentives through the market at the same time.” (Ollila, 1994: 88)

In case of (more developed) marketing co-operatives, in order to be able to fulfil the basic co-operative aim, new marketing strategies have to be used. To be able to compete in a more market oriented environment (e.g. more liberal agricultural policies, opening European and world market, etc.), some fundamental financial and organisational changes are taking place nowadays in Western European agricultural co-ops. We can conclude that to realise the *new marketing strategies* (dairy) co-ops have to *collect more risk bearing capital* (Bijman, 1998). To carry out this task and also to *keep the basic co-operative character*, it is necessary to make some internal and external *organisational changes*, which in a number of cases will create so called New Generation or Entrepreneurial Co-operative structures.

Conversation process taking place nowadays is a *major challenge for co-operatives and probably more practical types of the new model(s) will emerge*. However, recent empirical evidence is sparse in this regard, and various studies reported controversial experiments on the viability of the co-operatives in modern agriculture. The bottom line is that *until the product/service line is the more important to the capital line* in a co-operative and principles can secure this relation, than *an organisation does act as a co-operative* despite the fact of its actual legal form.

5.2. Recent legislation and regulation regarding Hungarian co-ops

The *definition* of the co-operative, incorporated into the valid co-operative law (CXLI/2000) and it is included also into the new co-operative law (X/2006) which was accepted by the Hungarian Parliament on 19 December 2005. The definition is *very complex*; however it is *in accordance with the international theory and definition(s) of the co-operatives*. The co-operative is an *economic organisation* and a *legal entity*, with *open membership* and *variable capital*, aiming to meet the requirement of *promoting* (complementing) the *members’ business* (farming) and *in certain cases* to meet the demands of membership according to their *cultural, educational and social needs*. It is clear from the definition that the main aim is to

promote/help the farming of the members; however the law *does not exclude the possibility of the collective (agricultural) production* in the co-operatives.

It is very interesting that the law makes *possible for the co-operative to require personal contribution from the potential members applying for membership*. The only exemption is the so-termed *investor-member* in the new law (60§/X/2006), which is a rather strange and new phenomena in the legislation regarding co-operatives. The members get co-operative shares in exchange for their investments and they are eligible for earnings per share according to the results of the farming of the co-op. The liability of the members is limited; it is only up to their financial contribution. According to the new law, members can be foreign citizens (natural persons) and also (Hungarian) legal persons as well.

Altruism appears in more paragraphs in the law. According to those parts, the co-operation between the members and the co-operative is not businesslike. However, as part of the co-operative's activity the co-operative has also business activities carrying out for third persons or parties. The co-operative is operating *on business at cost principle*, it does not aim to gain profits from the economic relations with members.

The *institutions of the self-governance* (democratic decision making) *are still the same as in the past*. The *one member – one vote principle is still valid*, everybody in the General Assembly has got one vote (democratic control), however the *earnings per share is depends on the transactions with co-operative or on the personal contribution* in the period. The investor-shares of the above mentioned investor-members are also eligible for earnings from the taxed income of the co-operative. Their exact proportion is determined by the general assembly.

The law fixed the *common rules for the organisational changes*, like merger, transformation into (joint stock or limited liability) company, demerger etc. It is a very new rule that in a case of merger, the result has to be in accordance with the relevant regulation of the competition policy. This regulation is aiming to avoid the monopoly position by certain co-operatives on the domestic market.

6. SUMMARY

There are some (vertical) co-ordination and market regulation problems in the Hungarian dairy market at the threshold of the EU accession. It must be emphasized that the problems of farmers and co-ordination of the dairy chain cannot be solved simply by EU and/or government support, but it seems to be vital in the case of emerging producers' groups, like co-operatives, to be able to set up (Meulenbergh, 2000). However, it is necessary to state that the Hungarian agriculture and co-operatives are on a different stage of development (Fáró and Szabó, 1999), so one can not expect the most recent organisational forms to be established in Hungary, especially taking into account that the Hungarian dairy market have already dominated by multinational non-co-operative (investment oriented) firms.

There are only a few specialised dairy co-ops in Hungary, most of the producers are connected to the *multinational non-co-operative (investment oriented) firms* by contracts. While there is *no exact data available on the number of dairy co-operatives* in Hungary, their market share from milk intake is probably less than 3% and the picture is even worse regarding the share of equity or turnover in milk processing industry (Szabó 1999). Only *milk-collecting* and later may be *bargaining type co-ops* will possibly to develop in Hungary during the next few years, since the "cards have been already dealt on the table": the *Hungarian dairy market has already been dominated by multinational firms*.

We formulated our statements on the relationship between contractual features and bargaining power. We tried to find answer by the mean of multidimensional scaling, that the number of variables having a theoretical base can be reduced without information loss. So we accepted our first hypothesis, which is to say that *space composed by the whole set of variables of contracting features can be reduced to two or three dimensions and respondents can be separated on basis of the reduced dimensions.*

Then we revealed the relationship between bargaining power and contractual features. Our next hypothesis - which says that variation in contractual features explains the change in bargaining power – is refused since the insignificance of t-values of parameter estimation.

Our last hypothesis (H3) investigates the potential collaboration of producers, i.e. its theoretical results. We found significant and positive relationship between the quantity of sold milk and bargaining power.

According to our results, we have to point out the role of co-operatives and producer groups in integrating small, individually weak agricultural units.

There is space for the so-termed *Producers' Groups* regulated by 85/2002 (IX.18) Decree of Ministry of Agriculture and Rural Development according to the European Union legislation in the Hungarian milk sector. The number of such Producers' Groups was 6 provisionally acknowledged and 5 officially certified in the dairy sector in November 2005. From the 6 provisionally acknowledged ones there were 5 co-ops and 1 LTD., while from the 5 officially certified ones there were 2 co-ops and 3 LTDs. Above the fact that the numbers are very low in the milk sector in Hungary, it is interesting to notice that other legal form (e.g. LTD) is also popular in choosing the organisational form, contrary to the Danish and Holland experiences.

As a conclusion, we underline the importance of Western-European experiences and the need for more producer-owned organisations, like co-operatives and producers' group in Hungary since we found that higher volume of milk sold has got an effect of better countervailing power. So, further establishment of the milk-collecting and the bargaining type co-ops and the development of existing dairy producers' groups would be essential for the Hungarian milk producers, also from the point of developing and strengthening trust and social capital.

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