

Regoverning Markets

Small-scale producers in modern agrifood markets

Innovative Practice

Hungary

**AVIUM agricultural cooperative and AVIUM
2000 poultry processing cooperative:
Successful cooperatives in the Hungarian
poultry sector**

Anikó Juhász and Györthy Kürthy

Agricultural Research Institute, Hungary

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Rural Development**

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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.

Innovative Practice series

Innovative Practice is a series of country 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 working methods to guide public and private actors.

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Country studies

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1. Summary

The Regoverning Markets programme seeks to help in securing the place of SME farmers in the dynamically changing agrifood markets of developing and transition economies. In this case study prepared for the programme, examining AVIUM agricultural cooperative and AVIUM 2000 food processing cooperative, we aimed to find examples of how certain conditions and possibilities allow SME farmers to join the modern food supply system, which has suffered drastic and ongoing changes over the last fifteen years.

Production in the Hungarian poultry industry started to recover in the mid-1990s after the serious depression caused by the multiple effects of political transition. A rising demand in western Europe and renewed sales to the post-Soviet states (especially Russia) helped production return to previous levels. The 1998 financial crises in Russia had a strong braking effect upon this upward tendency and were a dramatic setback for the performance of the sector. After the turn of the millennium, production started to increase again, mainly due to broadening domestic consumption. Domestic consumption not only increased but its structure also changed so that the share of chicken rearing in the poultry sector increased considerably. However, the ratio of chicken in overall production fell continuously; the apparent contradiction can be explained by the composition of exports in the sector, dominated by water poultry for western markets' specific requirements.

Looking at the poultry sector, the two most important input areas – baby chickens and feed – are well organized, with only occasional problems. The quality of input materials provided is generally sufficient for profitable production and the concentration level allows healthy competition. At the same time, if we examine the producer and processor levels in international comparison we find a less concentrated sector that is not price competitive and stands in a fairly difficult market position. On the other hand the retailing connecting production to consumers is an ever-concentrating, well-organized sector, where two specific types, the discounters and the hypermarkets, are rapidly gaining importance.

Throughout the whole vertical chain, income percentages confirm the aforementioned situation: the farmers, despite their high costs, even in the most favourable years only kept about 3 per cent of the profits, while in most of the analysed years they are in the red. In the meantime, retailers kept more than 50 per cent of the profits and processors also made acceptable profits although in 2005-2006 the demand shrinking and price decreasing effect of Avian Influenza (AI) cut this margin completely.

As a method for our study, we analysed literature and the secondary data and completed structured interviews and surveys. The composition of the surveys, interviews and analyses followed the general framework described for the whole programme (Berdegué et al 2005). To reach our results we used only the simplest mathematical tools and although participation in the survey was high the cooperatives have only a low number of members. The main results of the case study are: a description of the innovation and success factors of the cooperatives, the forms and costs/benefits of SME farmer inclusion in the cooperatives and the possibilities of production sustainability and up-scaling.

The poultry farmers around Besnyő founded AVIUM agricultural cooperative in 1993 after the new cooperative law was accepted by the parliament. AVIUM aimed to concentrate the supply of live chickens and to organize joint procurement of inputs. Two large processors were already operating in the region where AVIUM was set up, but small/medium sized ones were not present (in contrast to the eastern part of the country). To fill this market niche and to acquire the market security and profit surplus provided by the processing stage of the vertical chain, a few members of the agricultural cooperative later founded AVIUM 2000 poultry processing cooperative.

Of the four defined innovation types (public policy, business model, collective action of SME producers and strategies and methods of development agencies), AVIUM agricultural cooperative belongs to the third category, i.e. the collective action of SME producers. Originally, the vertically linked operation of AVIUM 2000 poultry processing cooperative also belonged to this type, but due to the ownership separation in recent years it is now more likely to be classed as a business model.

In the governance of both cooperatives strategic and operational decision-making is separated. Final decisions on strategy are made in both cooperatives by the General Assembly (GA) - with the participation of every member – who usually convene once a year, or more frequently in the case of extraordinary situations. All members can propose changes but strategic plans are mainly initiated by the management of the processing cooperative since they usually experience the direct impacts of the market or public policy. Operational decision-making is completely delegated to the management.

AVIUM 2000 buys the fattened chickens exclusively from the AVIUM members and AVIUM members only sell their live poultry to AVIUM 2000. The formal relationship between the two cooperatives is based on the yearly contract also negotiated in the General Assembly. The contract describes the quality parameters and the planned quantity and transport dates for each farmer, and outlines the payment system. This is complemented by a weekly operational relationship

coordinating the farmers and communicating the processors' needs to the farmers and back.

Once in a while, or if there is any kind of problem with the stock (e.g. health problems), an expert from the agricultural cooperative pays a visit to members, giving advice on rearing and medicating issues. This coordination is perceived more as professional help than as a negative control. On receipt of the fattened chickens, quality control dominates; control parameters are based on waste ratios and the production diary that accompany the stock throughout its entire life. Every farmer has his/her own identifier code, which is the basis of the traceability system jointly operated by the cooperatives.

The retail partners of AVIUM 2000 poultry processing cooperative belong to more than one category in the evolution of supply chain described by Berdegue et al (2005). The most important buyer is a specialized chain store (meat store) using distribution centres, the second main buyer is a domestic mini chain food store belonging to a buyer group and maintaining a regional preferred supplier relationship with AVIUM 2000. Apart from these two important partners all the other purchasers are independent food or specialist stores where the cooperative provides traditional wholesale services, supplying self-produced chickens and all the other poultry products.

The most important conditions for inclusion in the AVIUM agricultural cooperative were geographical location and the personality and professional background of the farmer. In the case of the investment-intensive AVIUM 2000 processing cooperative, the financial contribution proved to be the most relevant aspect. After revealing the condition of inclusion we also searched for the most important requirement for stable cooperation: this proved to be reliability, which was the first priority not only for the cooperatives but also for the trading partners.

In the case of the AVIUM agricultural cooperative, there have been only three incidents of exclusion: two were members who terminated their membership because they were ceasing poultry rearing; and the third was a non-member supplier (not exclusively producing for AVIUM) whose yearly contract was not renewed by the cooperative due to problems with the reliability of the farmer. More inclusions are highly improbable in the near future because current depressed market conditions do not allow for further expansion of the processing cooperative, thus no excess capacities have appeared for possible new members.

Since the precondition for membership of the agricultural cooperative was a mutual professional background (i.e. members knew each other), no significant changes were necessary in the cooperative at the start. However, the continuous development of AVIUM 2000 processing cooperative created a number of new

requirements, mainly in terms of the introduction of traceability and quality management systems. Nonetheless, today, almost all processors operate one or more of these systems so the farmers would probably have had to adapt and link themselves to such systems anyway, regardless of which market channel they chose.

The farmers form two groups according to their future expectations: the optimists have objectively worse economical and personal conditions, while the pessimists are those who seem to be more competitive. The key to this paradox must be the generally low profitability of the sector. The main problem of the larger professionally operated farms (pessimists) is that they modernised their farms in prior more favourable years, while in the current difficult market situation (import pressure, AI) with depressed price levels (even taking into account the extra cooperative price) the return on investments seems uncertain.

The benefits deriving from cooperative membership are: higher producer prices than the general sector average, lower baby chicken input prices, a stable market for the fattened chickens and a short payment period. In normal market conditions some of these benefits are provided by other – not cooperative - processors as well. Thus, the real advantages of the cooperatives are more pronounced in the present exceptional market conditions. These advantages are market and financial security on the farmers' side and stable, quality raw material supplies on the processor's side.

The basic elements of uniqueness and sustainability of the two cooperatives are: optimal size, horizontal and vertical coordination and the personality of the chairman. In the case of the processing cooperative, which seems to be the more successful at the moment, we can also mention: the marketing strategy using diversification in the number as well as in the type of the partners, avoiding the multinationals and exploiting the market niches; the integration of wholesale services; and the maximal utilization of development tenders and subsidies.

Three areas of potential improvement are evident: to incorporate the other major input (feed) in the joint procurement system; to coordinate the farmers in finding development funds not individually but as a cooperative; and finally, to apply for acknowledgement as a producer organization which would bring gradually decreasing subsidies (5 to 2 per cent of net sales) over the first five years.

In the case of up-scaling, we have to admit that in spite of its success the example is only restrictively recommendable for two reasons. Firstly, in the face of ever-increasing international competition, a sector cannot be based solely on small/middle sized processors. Secondly, the founding of new processors seems economically irrational until existing outdated capacity surpluses in the Hungarian poultry sector have been reduced. The potential for up-scaling would be more viable in quality improvements of existing vertical and horizontal coordination, while the case study

has demonstrated that cooperation based on mutual trust and interests can be beneficial to both farmers (stable market and cost reductions) and processors (stable quantity and quality of raw material supply).

2. Background

The objective of the Regoverning Markets programme is to provide opportunities for small and medium scale agricultural producers in developing and transition countries. Over the last ten to fifteen years, enormous and rapid changes have taken place in agribusiness and these have been even more drastic in the retail sector of developing and transition countries. In developed countries the same process took around fifty years, so there should still be more time for adaptation.

The aim of the programme is to be achieved through three components:

- High quality research gathering typical examples with results adaptable on national, international, private and public level.
- The case studies should involve viable small and medium scale farmers successfully connecting to the dynamic food chain.
- Initiate or actively get involved in the private-public dialogue and focus attention on the special needs and problems of the SME farmers.

In the present case study, AVIUM agricultural cooperative and AVIUM 2000 poultry processing cooperative demonstrate examples of conditions and opportunities for small and medium scale farmers to achieve a more favourable position in the Hungarian poultry sector. Three areas of innovation in the case study seem to be especially instructive:

- The reasons for the farmers to found a cooperative so soon after the change of political system (horizontal coordination).
- Founding a poultry processing cooperative and making it successful.
- The cooperation, coordination and management mechanisms working between the two cooperatives (vertical coordination).

In the case of the Hungarian poultry sector, the real and media-generated AI panic created an extremely difficult market situation with falling demand and prices. This extreme market condition is probably the main reason for the more pessimistic replies than expected to the questions about the future and cooperation.

AVIUM agricultural cooperative and AVIUM 2000 poultry processing cooperative are located in Hungary, in the village of Besnyő, Adony micro region, Fejér county. AVIUM agricultural cooperative is a “new type” purchase and marketing cooperative founded in 1993 to reduce costs and offer agricultural related services, thus increasing competitiveness. Five members of the agricultural cooperative established AVIUM 2000 poultry processing cooperative in 1999 and due to ongoing development it is now capable of producing EU standard chicken products.

The agricultural and processing cooperatives coordinate fifteen poultry fattening farmers in the micro-region and county. The main element of the coordination

mechanism is the joint procurement of one of the inputs, the baby chickens. The agricultural cooperative defines the composition of chicken feed to be used and gives professional advice on animal health and environmental issues.

The referential company chosen is a similar size poultry slaughtering and cutting company called BÁT-Grill Kft. It started operation on 30 May 1995 with the majority ownership of Palotabozsok Agricultural Cooperative, although the company shareholders also include private entities and business associations owned by private entities. The company's main activity is chicken slaughtering and cutting. In 1995, there was a production volume of 3,000 chickens per day, carried out by ten employees and the turnover was HUF 228 million. Today, the daily slaughter rate is about 11,500 birds, they have ninety employees and the net sales turnover in 2005 was HUF 1.24 billion. They sell their products in both the domestic and foreign markets and the main export product is breast fillet, which is marketed in Italy, Germany and Great Britain. The domestic partners mainly include wholesalers, public institutions and smaller chains.

In the case study we give an overview of the macro and meso environment of the cooperatives in the domestic and international literature review. Then we describe the methods used during the research, and finally we summarize the results of the case study and give recommendations for development and up-scaling.

3. Literature Review

The spectacular rise in Hungarian poultry production began in the 1970s and in the 1980s the self-sufficiency rate stabilized at around 180 per cent (Guba and Ráki, 1999). The first fall in production came at the start of the 1990s due to the loss of the ex-Soviet markets, and this situation was further aggravated by inner structural problems. In the second half of the 1990s, production in the poultry sector started to recover, thanks to booming western European demand and the increasing importance of the post-Soviet states as export partners. This upward trend was shattered with the 1998 financial crises in Russia. Around the turn of the millennium, production started to rise again, mainly due to broadening domestic consumption. The domestic consumption not only increased but the structure of it also changed; the share of chicken grew considerably, reaching 70 per cent in 2005, while the share of turkey production fell slightly (by 17 per cent). This tendency contradicts international trends and one possible reason for this is the price difference between products (Orbánné, 2006). While the ratio of chicken in production is falling continuously, it still holds the highest share of poultry production (55 per cent), although exports are dominated by water poultry due to the specific requirements of western markets.

Contrary to projections, the export performance of the poultry sector did not falter in the year of the EU accession. In 2004, export income surpassed the previous year by 14 per cent. If we look at the last five years this development seems to be even stronger. Between 2000 and 2004, poultry meat exports increased by 54 per cent and 53 per cent, respectively (Orbánné, 2005). This trend ceased with the panic following outbreaks of AI in Europe; according to data from the Poultry Produce Council, sales fell by 20 percent in ten days.

The performance and profitability of the sector was influenced by the institutional-regulatory environment. To counterbalance diminishing profitability in the sector in the 1990s, the government implemented first development then cost-decreasing (animal health) subsidies. The quality-linked subsidy had the most important effect on the sector's income situation, which in practice meant the producer prices were harmonized to a given price level. After the EU accession such direct production subsidies were not accessible any more which had an immediate shrinking effect on producer prices. Presently only certain animal health and welfare related cost-lowering subsidies are in operation. Moreover, the export-subsidy system of the EU offers fewer opportunities than its former Hungarian counterpart. The Agricultural and Rural Development Operational Programme (AVOP) theoretically offers the possibility to apply for development subsidies but high net sales are one application requirement, thus making it inaccessible to the average poultry farmer (Jankuné Kürthy, 2006).

With regard to Hungarian input markets, we analysed the two most important ones: baby chickens and feed production. Up until the year 2000 there were only two grandparent bird producers: the first (He-ROSS Kft.) was producing around 10,000 pairs yearly and was able to supply the whole country's needs of 1.7 million parent pairs; the second (Bábolna Rt.) was producing between 35,000 and 70,000 pairs yearly and was able to export to central eastern Europe. These two companies created the present market structure with imported base materials, which on the downside causes import dependency but on the other hand means quick introduction of the latest hybrids into the production (Remsei, 2004).

In Hungary, according to Kállay (2004), four large companies - Bábolna Takarmányipari Kft., Agrokompex Central Soya (Provimi), Agribrands and Trouw Nutrition Hungary – provide some 85 percent of the feed market, whilst the remaining 15 per cent is shared by 750 small/medium scale producers. The feed production companies mainly market their products themselves. They sell to the large consumers directly and otherwise use feed shops. There is strong competition between the large producers.

In the case of industrial feed mixes, the proportion supplied by own production is gradually falling; most of the animal fattening farmers buy in feed. The reasons are: most of the animal fattening farmers do not have land to produce cereals or cannot store them properly so are not able to mix their feed themselves. Feed premixes are usually produced by specialized mixing plants, while concentrates are produced by the larger feed producers. The smaller scale feed mixers and farmers buy the premixes and concentrates either from the retailers (feed shops) or directly from the producers (Popp et al., 2005).

Remsei (2004), using the Broiler Associations data, says that only around 20 per cent of Hungarian chicken farmers fatten considerable numbers of chickens (yearly minimum 500,000) and more than half of their members only keep chickens to complement their income.

There are still many “forced entrepreneurs” in the sector who keep chickens even when it becomes unprofitable. Tömpe (2000) gives two reasons for this phenomenon. After the change of political system, the threat of unemployment forced large numbers of people to become entrepreneurs. They tried to operate mainly in the two segments of the economy - agriculture and services - requiring the lowest capital and expertise investment. Becoming entrepreneurs seemed to be a good way of avoiding unemployment and was a revealing experience after the long years of prohibition. Although quite a few of these small enterprises proved to be successful, in the course of time many of them were forced to close. Due to the consolidation of the economy the labour market reached a more sophisticated level, so that finding a replacement

job without appropriate qualifications became difficult. But to step out of small businesses also proved more and more complicated: the cost of invested human and material resources grew to such an extent that leaving the business became extremely difficult. This was especially true in areas of agriculture such as chicken fattening since it requires specific buildings and technology that cannot be adapted to breed another type of animal.

According to Tömpe (2000), this “forced entrepreneur” status is the main reason for the existence of the black market, since a proportion of these forced businesses could never be profitable legally and so have no other ways of remaining viable than to defraud either the consumer (lower quality) or the state (tax avoidance).

In the Hungarian poultry processing industry we see the second, third and in some cases fourth (e.g. Merian Rt. and Kiskunhalasi Rt.) ownership changes that spell the disintegration of some large enterprises and the forming of new integrations. The last wave of changes were initiated by the liquidation of the Wallis-owned Hajdú-Bét Rt. and the state-owned Bábolna Rt., which together had a 10 billion HUF deficit. In the course of the ownership changes, not all of the companies’ capacities were bought up by the new owners but nor was this necessary because the sector still has considerable capacity excess (Orbán, 2006).

The latest news is that partly because of the demand decreasing effect of AI, the formerly largest poultry processing business (Carnex) closed down its factory in Békéscsaba and the situation of the other factory in Zalaegerszeg also became critical. In spite of the serial bankruptcy of the large companies and the still existing capacity surpluses there are no visible signs of reductions in the small factories producing domestically. On the contrary, the total number of companies in the poultry processing sector has even increased over the last ten years. To summarize, in the international context the Hungarian poultry processing industry is a less concentrated sector without cost-advantages and in a difficult competitive position (Orbán, 2006).

The development of the Hungarian retail trade is not only characterized by increasing concentration but also by the appearance of new types of store and business formats. Thus, the main reasons for the fall in store numbers are the growing sales and success of the large, low-price stores, namely hypermarkets and discount stores. In spite of these trends the Hungarian food retail trade can still be characterized as “two-poled” due to the remaining large number of small stores. There are three main reasons for this:

- The presence of the so-called “forced entrepreneurs”.
- The almost franchise-like operating domestic buyer-associations coordinating mainly small/medium sized stores and mini chains.

- The low mobility of a large portion of Hungarian society that obstructs access to large-surface stores designed for car owners. (Juhász-Stauder, 2004)

Between 1994 and 1998 the main features of the cost-profit share in the vertical chain were that: broiler fattening was not profitable after 1994 for either the larger enterprises or SMEs. In the second half of the 1990s only breeding and baby chicken production proved profitable in the whole production phase. The main reasons for this unfavourable situation were the rising price levels of the feed and the real term decreasing producer prices. While domestic prices were quite close to international prices and market projections were not optimistic, government intervention became inevitable (Guba, Ráki 1999).

Béládi and Kertész (2005) analysed the cost, income and price data of chicken production between 2001 and 2004, a period when profitable years appeared again. According to their research, the cost division between the different levels of the vertical chain of chicken production proved to be standard. Between 63 per cent and 68 per cent of total costs were realized by chicken fattening farmers, between 20 per cent and 27 per cent during processing, and around 10 per cent at the marketing of the end product (retailers). On the other hand the share of income differed considerably from this distribution. Even in the two best years, 2001-2002, broiler fattening farmers received only 3 per cent of total profits despite bearing the highest percentage of costs, while in the other years they were even more unprofitable. The retailers, on the other hand, received around 50 per cent of total income and except in 2002 even the processors had acceptable profit levels, although these had at that stage already been diminished by the effects of AI.

Vertical connections and coordination mechanisms have a strong effect on the position of the members of the vertical chain. After the change in political system the vertical relationship between the levels of the supply chain disintegrated. This situation was equally unfavourable for the producers, processors and retailers and yet it was maintained for a prolonged period because of personal benefits, general distrust and unstable markets. Chaotic conditions prevailed for years and these affected the SMEs worst of all. In the survey executed by Varga-Szűjártó (1994) in 1994, 74 per cent of the SMEs did not sign any kind of contracts and even those having contracts complained of frequent violations. The situation has improved considerably over the last ten years. According to the survey carried out by Kapronczai et al (2005), 61 per cent of agricultural producers held written contracts but a higher 74 per cent of business enterprises had contracts.

In the opinion of Tömpe (2000), the poultry vertical chain is traditionally better coordinated than the average agribusiness even though a few problems hinder successful cooperation:

- The different power of the vertical levels;
- The low and unsteady income position of the sector;
- The cumulative disadvantages of the farmers;
- The lack of calculable, balance-improving government regulations.

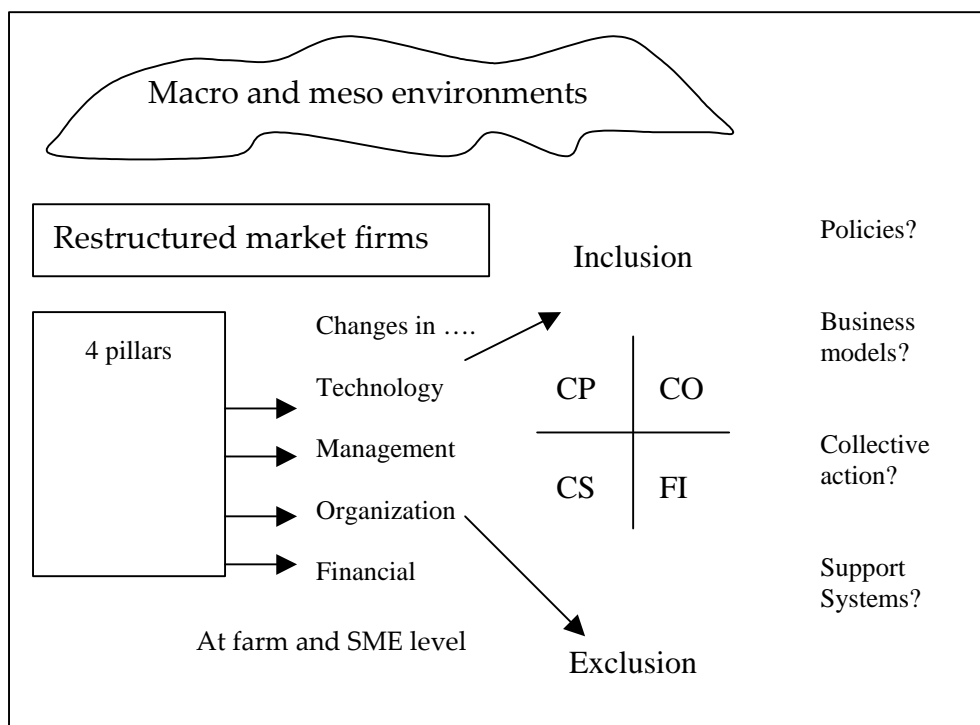
Horizontal coordination was not previously a characteristic of Hungarian poultry farmers but, driven by the subsidy system, producer groups were set up in this sector. In 2004, 252 producer groups were operating, none of which were producer organizations (POs). Most of them were plant-cultivating farmers (60 per cent), but poultry farmers made up 11.9 per cent (i.e. 30 poultry farmer groups) of the total. They had 610 members, both private parties and legal entities, and their net return amounted to over HUF 20 billion, with a group average of HUF 670 million (Dorgai, 2005).

The number of producer groups and the amount of return is not negligible, although it is not yet obvious how many of them have been formed because of the subsidies and how many are really in operation. Kapronczai et al (2005) stress this issue, while also mentioning that the original aim of aiding the structural deficiencies and strengthening the market power of the farmers has only been partially achieved. The proposal was not to further increase the number of the groups, but to enlarge member numbers of each group, thus enhancing the countervailing power.

4. Methods

The general aim of the case study was to discover the factors for successful inclusion of Hungarian poultry farmers in the rapidly changing food supply chain. To reach our goal we used the framework defined by the paper (Berdegué et al 2005), summarizing the results of the methodological workshop in the second phase of the Regoverning Markets programme.

Figure 4.1 Methodological Framework of the second phase of the Regoverning Markets project



Source: Berdegué et al 2005

In the case study we tried to define the SME poultry farmers' conditions of inclusion and exclusion in the Hungarian supply chain through the example of an agricultural and a processing cooperative. The key stages of the work were: reviewing the domestic and international literature; analysing the secondary data; organizing and carrying out the structured interviews; constructing the farmer survey; organizing and carrying out the farmer surveys; analysing the interviews and surveys; writing the case study; and finally, transforming the case study into an article.

In the literature review, using mainly domestic materials, we tried to describe the meso and macro environment of the cooperatives and the situation of the vertical and horizontal coordination in the Hungarian poultry sector. At the secondary data collecting phase we used datasets on the issues of the poultry sector (foreign trade, consumption, subsidies, costs-incomes and prices) from team members and other colleagues as well as data from the Central Statistics Office.

The questions in the structured interviews were drawn up based on the literature and the analyses of the secondary data in accordance with the analytical framework (Figure 4.1). We used different thematics for the interviewees regarding their general knowledge of the sector, with another set of questions for those giving specific information about the cooperatives involved in the case study. The referential company (Bát-Grill Kft.) was selected because the methodological framework stressed the importance of comparison and this company was nearly the same size as AVIUM 2000 poultry processing cooperative. We could not make any direct comparison with uncoordinated farmers because, as mentioned above, the poultry sector is quite closely coordinated and thus most of the farmers are linked to specific processors. The ten interviews were conducted face-to-face (each requiring between one and two hours). The distribution of the interviews were as follows: four cooperative leaders (one chairman and three directors), one director at the referential company, three experts from the Poultry Product Council and the Broiler Association, one director of the business consultancy company helping to apply for tenders (development funds) and one expert from the quality assurance company.

When finalizing and analysing the interviews we covered quite a few questions raised by the literature review: the power relations in the vertical chain; the possible efficiency development areas in the sector and in the cooperatives; the chance of horizontal cooperation between the poultry fattening farmers; and the role of the black economy. The lessons learnt from the interviews helped create the survey, which also had two variations, one for farmers and a significantly shorter one for the trade partners of the AVIUM 2000 processing cooperative.

We hoped that all fifteen AVIUM agricultural cooperative members as well as two producers (also owners) of the referential Bát-Grill Kft would complete the farmers' survey. In the case of the trade partner survey, we aimed at the five most important partners as well as a few of the smaller ones. In the end, two of the AVIUM members could not complete the survey, one due to family reasons and the other because of the stressful final stage of a development project. All the other planned surveys were successfully conducted. The surveys - as a result of discussion with the cooperative chairman and previous own experience - were carried out in face-to-face interviews (approximately one to two hours) rather than by post or phone or in group meetings. These interviews were preceded by a phone call and recommendation from the cooperative chairman. We could not use sophisticated statistical or mathematical tools or programmes to process the surveys on account of the limited element numbers. The survey were analysed by grouping the questions thematically and calculating averages, frequency and dispersion. We also made crosstables and regressions to draw up the typical farmer groups.

5. Results and discussion

5.1 Innovation: history and operation of the AVIUM and AVIUM 2000 cooperatives

AVIUM agricultural and AVIUM 2000 poultry processing cooperatives belong to two of the four innovation types described in the method paper by Berdegué et al (2005):

- Public policies
- Business models
- Collective action of SMEs
- Strategies of development agencies

AVIUM agricultural cooperative can be categorized in the third group; it is a collective action of small and medium agricultural producers. The vertically connected AVIUM 2000 poultry processing cooperative also started as a collective action but has evolved into a business model.

In Besnyő at the end of 1980s, a traditional production type cooperative with joint ownership land was operating (Sallai Imre Agricultural Production Cooperative). After the change of political system most of the members decided to take out the cooperative share and although the cooperative continued to operate it was restricted to the outskirts of Besnyő village. Most of the members tried to continue farming on their own but were confronted with the unstable market, economic and moral situation of the time. It soon became evident that some kind of help was needed. After nearly fifty years of socialism, mistrust in the old institutions was almost natural so to join the old cooperative again was not an option. Instead of reconnecting to the old cooperative, fifteen of the former members and five other farmers founded AVIUM agricultural cooperative in 1993 after the new cooperative law (Laws I and II on Cooperatives in 1992) came into force. Before this law, “new” promotional type cooperatives (i.e. without land in joint ownership) could not be founded. The president, who worked for the former cooperative between 1972 and 1992 as the director of the animal husbandry branch, played a major role in forming the cooperative. He had comprehensive professional experience as well as personal and business relations in the region. AVIUM cooperative’s major objective was to decrease transaction costs in two ways:

- By concentrating the supply (joint marketing), thus increasing market security, countervailing power and the obtainable price for the chicken fattening farmers.
- By collective purchasing of the input materials, thus lowering the costs of production.

The cooperative shares were quite moderate, equal to four to six months' average wage. Of the founding twenty, thirteen are still active members of AVIUM. Five farmers left the cooperative after founding AVIUM 2000 and two left poultry fattening altogether. After five years of operation, the members of AVIUM started to think about the next strategic step. There were two important aspects of further development:

- To enhance the cost-efficiency of the farmers. The best way seemed to be the integration of another (more profitable) vertical level into the cooperative.
- In Fejér county and indeed in the whole Central-Transdanubian region, only two large poultry processors were operating (SÁGA – Sárvár and Bábolna – Győr). In this area the small/medium sized poultry slaughterhouses serving the regional markets did not constitute a significant market niche to fulfil.

The strategic idea of building a plant capable of slaughtering and cutting 1-1.5 million broiler chickens/year and fulfilling the highest food security, hygienic and environmental requirements.

Substantial capital was needed for the development, but the cooperative share was nowhere near enough for these investments and only some members were willing or able to contribute additional payments. With asymmetric financing the one member-one vote principal could not have been maintained so the members decided to found an individual cooperative for the development. Therefore, in 1999, five members of AVIUM set up AVIUM 2000 as a "new type" poultry processing cooperative. The cooperative shares of the five members added up to 100 million HUF. They used this capital to buy and convert one of the buildings (cereal storage) of the Sallai Cooperative on the outskirts of Besnyő and started to slaughter the chickens fattened by AVIUM members in 2000.

At the outset, the plant could only produce for the domestic market since they used comparatively outdated and non cost-efficient technology that did not fulfil the standards required for EU exports. In spite of difficulties at the start of operations, in the years of 2000 and 2001 the market situation was one of the most favourable in the last fifteen years. The reasons for this prosperous period were multiple: export markets had just started to recover from the effects of the 1998 Russian financial crises, EU demand was increasing and the domestic market was also quite stable due to the quality subsidy system and still growing consumption. The first demand-driven years enabled AVIUM 2000 to secure its market position and to develop the plant.

Investments and development projects were continuous between 2000 and 2005, thus each year they were able to tackle another problem area in the production, marketing, logistics, etc. From 2001 onwards, all of the development projects were

co-financed from either Hungarian or European funds; AVIUM 2000 was extremely active and successful in tendering.

The developments of the processor did not necessitate investments from other AVIUM members. From the outset, farmers were able to provide the slaughtering plant with the required quality and quantity chicken. From 1995, the Ministry of Agriculture started to support the renovation and reconstruction of animal breeding plants. Within this programme, which was based on an application system, a two million square metre poultry roost was renovated. At the end of the 1990s, the construction of buildings for “new type” cooperatives had preference within the investment programmes. Also, this period became known as the years of increasing subsidisation of technological investments (machinery, food-industrial technology, buildings, etc.). Usually these subsidies consisted of two parts: a grant and interest subsidy for the loan needed for the investment.

The members of AVIUM 2000 did not employ outsiders in the key management positions but divided the posts amongst themselves. The amount and complexity of work grew significantly with the development of the cooperative, which led the members of AVIUM 2000 to quit poultry fattening and take on full-time employment in the processing cooperative.

From the start, AVIUM agricultural cooperative worked almost wholly as a non-profit organization. This did not cause a problem while the cooperative had no joint development projects. The lack of development funds and pressure for profitability incited the cooperative to recompense members with premium prices (+4-5 HUF/kg) compared to those of a given processor accepted as reference. On the other hand, until the 2005 AI outbreak, the poultry processing cooperative was constantly profitable and profits were mostly reinvested in the ongoing development projects.

The agricultural cooperative coordinates the chicken fattening farmers, including procurement of baby chickens and in some cases feed. The most important element in the coordination is the collective and pre-financed purchase of baby chickens by AVIUM. In certain cases, to achieve domestic type (label *rouge* type) poultry the cooperative decides on the method and composition of feed. AVIUM also has a consultation service in animal health, welfare and environmental issues for members. At the end of the fattening cycle AVIUM organizes the quality control and transport of the chickens, coordinating between the farmers and AVIUM 2000. The producer price of the chicken is then paid by AVIUM 2000 to AVIUM and finally transmitted to the farmers less the price of the baby chicken and 1 HUF/kg for operational costs. This amount is quite favourable compared to other cooperatives; according to research by Dorgai et al (2005) on producer groups, the average contribution among the plant producers is 1-2 per cent of net sales, while poultry farmers contribute 5 HUF/kg. This low-cost operation seems to be rational and

maintainable, at least until AVIUM wishes to embark upon joint developments or production increases, requiring greater coordination work.

The average live weight of a chicken is 2.1 kg/chicken. The producer price paid in AVIUM has always surpassed the country average (in 2004 the country average was 183 HUF/kg in live weight, while cooperative members received 189 HUF/kg). Before EU accession, plants with an EU number (i.e. entitled to export to the EU) received trade subsidy that was reimbursed between the farmers. This type of subsidy could not be maintained after the EU accession and was not replaced with any EU-conform type.

Table 5.1 Size of farms involved¹ in the empirical analyses compared to Hungarian data

Broilers/turn categories	Farmers				Broilers/turn ²			
	Hungary		AVIUM		Hungary		AVIUM	
	Number	Share (%)	Number	Share (%)	1,000	Share (%)	1,000	Share (%)
1-99	268	36	0	0	8	0,1	0	0
100-499	49	7	0	0	15	0,1	0	0
500-999	20	3	0	0	14	0,1	0	0
1 000-2 999	48	6	0	0	96	1	0	0
3 000-4 999	62	8	0	0	243	2	0	0
5 000-9 999	89	12	0	0	573	4	0	0
10 000-49 999	159	21	12	92	3 519	26	338	79
50 000-99 999	33	4	1	8	2 343	18	90	21
100 000-	25	3	0	0	6 485	49	0	0
Total	750	100	13	100	13 295	100	428	100

Source: Own calculation from the survey and KSH (2003)

Six of the AVIUM members work family farms and seven of them are businesses. We did not find any connection between the size and the legal form of the farms. There is only one really large chicken fattening farmer (over fifty thousand poultry/turn). Most of the farms are medium sized, belonging to the 10,000 to 50,000 chickens per year category, although compared to the national data even these farms could be considered large. In Hungary, the 10,000 to 50,000 broiler/turn category is the second most important one both in terms of the number of farmers (21 per cent) and broilers (26 per cent). The first places though are not identical: the majority (36 per cent) of broiler fattening farmers keep under 100 animals, while most of the production (49 per cent) belongs to the largest sized farm (over 100,000 broilers/turn) category. The poultry productions of the AVIUM farmers in live weight were, in 2005: smallest producer - 126 tons/year; largest producer - 540 tons/year.

¹ We managed to interview thirteen of the fifteen farmer members, who provide a representative 87 per cent of the cooperative's return.

² AVIUM data means broilers/turn numbers. Hungarian data refers to a static animal stock number surveyed on 1 December 2003

The smaller producers are only part-time poultry farmers, with an average income composition as follows: 60 per cent from chicken fattening and other business activity, 20 per cent from wages and 20 per cent from other sources. Only two of the members are full-time poultry farmers with 100 per cent of their income coming from chicken fattening. Only three of the farmers do other farming activity: they produce grain and two of them keep other animals (sheep) as well. There is a high share of part-time farmers because poultry rearing is one of the few farming activities which up, to the 100,000 to 150,000 bird/year category, can be carried out by one or two persons, even as a part-time job and the profit level achievable at this level also requires other income sources. The size structure of the cooperative farmers fits the size of the processing cooperative because one turn of even the smallest farmers serves one day of processing capacity, thus production can be organized economically.

Table 5.2 Labour situation of AVIUM and AVIUM 2000

	Gender of the workers		Qualification of the workers		
	Male	Female	Elementary	Intermediate	Higher
ÁVIUM	4	3	3	2	2
ÁVIUM 2000	47	26	67	2	4
Total	51	29	70	4	6

Source: AVIUM and AVIUM 2000

There are five full-time personnel involved in management and administration of AVIUM 2000 and the plant employs 73 full-time workers. AVIUM members secure the raw material for the plant. As with other processing plants, the share of women in employment is quite high (64 per cent). The motivation is the high ratio of trained workers in employment (92 per cent). The large number of women is explained by two social and psychological reasons:

- In the area where the processor is located (Besnyő), women are mostly unqualified and unemployed (early marriage and childbirth),
- According to research, women have considerably higher monotony endurance and the work in a poultry slaughtering and cutting plant is fairly monotonous.

The number of employees in AVIUM agricultural cooperative is considerably lower than in the processing cooperative - 1 person for administrative work, four to coordinate the farmers and input purchasing and two undertaking management tasks. All of them are part-time workers and work full-time in the AVIUM 2000 processing cooperative. With this joint employment AVIUM saves considerably on labour costs.

At present, the assets valuation of AVIUM 2000 poultry processing cooperative is more than 500 million HUF, which is the result of the continuous development.

The slaughtering and cutting plant is on the outskirts of Besnyő, surrounded by agricultural land and the nearest buildings are more than 2km off, so operation of the plant does not disturb the community and complies with environmental requirements. The plant possesses all the required social places and the buildings are in good order since they were renovated in 2000.

The processor has temporary cooling (20 tons) and deep-freeze (50 tons) storage. The nominal capacity of the plant is 1,500 chickens/hour (9,000 chickens/day). The slaughtering and cutting plant at present operates a single six-hour shift, with one hour of preparation and cleaning period. The cutting is done by hand and the cut product ratio is around 70 per cent of production. AVIUM started to process value-added products in 2003 with an accepted capacity of 1.5-2 tons/day. The utilization of the capacity is quite low at present and any increase would require further technological development.

Over the last few years, the chicken processing (slaughtering, cutting) of AVIUM 2000 was 2,900-3,200 tons (in live weight). The main products of the poultry processing cooperative are: cooled and deep frozen *braftering* chicken, chicken breast with bones, chicken breast without bones, offals (liver-heart), and cut products. From 2003, the following processed products were added: *breastham*, *legham*, sausage and liver paste. The products are sold in plastic boxes (*ledig*), and in vacuumed consumer packs. The export products are vacuum-packed in 5kg lots, in 15kg boxes.

The logistic of live poultry and final product is up-to-date. AVIUM 2000 has three live poultry transport vehicles, which are quite new (one to three years' old) and their total capacity is around 11,800 chickens. The product transport requires considerable logistical background because of the large number of trade partners. The cooperative has seven cool storage vehicles, two of them with 1.5-ton capacity, two with 3-ton capacity and another three with 5 to 6-ton capacity. The average lifespan of the vehicles is between three and four years. The cleaning of the live animal and cool storage vehicles is resolved separately.

AVIUM 2000, with just over one billion HUF yearly net sales, is the only poultry slaughtering and cutting plant in the Central Transdanubian region that complies with EU food security and hygienic standards and has an EU number (HU 319). The processing cooperative introduced and operates the HACCP food security system. AVIUM 2000's production of chicken meat accounts for 1 per cent of the Hungarian total production of around 230,000 tons (live weight), making the company the eighteenth largest domestic producer. It is important to emphasize that in the region (where the density of multinational retailer outlets is quite low compared to the national and particularly the capital's average) AVIUM 2000 is highly competitive. The major competitors are Taravis Kft., Pannon Baromfi Kft., and Her-Csi-Hús Kft.,

all operating within a 150km radius of AVIUM 2000. All three processors are larger than AVIUM 2000 but only one (Pannon Baromfi) is in the top ten of the Hungarian poultry processors (seventh place; 5 per cent of the domestic production).

The advantages of AVIUM 2000 compared to its direct competitors are:

- The stable high quality supply of chicken from the direct link to AVIUM agricultural cooperative.
- Specialization in one product (broiler chicken) keeps the cost of production low and the capacity use high.
- The considerably small size allows optimal flexibility for serving local and regional markets.

AVIUM 2000 has less competition pressure from the considerably larger processors because of its special sale channel structure omitting the multinational retailers. The size of AVIUM 2000 is around the upper limit of those processors who can economically (due to transaction costs) serve only small/medium buyers. It would theoretically have been an option to have diversified their sale channel portfolio with small/medium and multinational buyers, but in practice (according to our interviews with the sector and retailer experts) this is less significant than expected. The experts stated that if a domestic Hungarian processor (as opposed to a well-prepared and financed multinational) started to sell its product to a multinational retailer, the company would literally be swept into a tread wheel that would change it so much - positively and negatively - that to quit the multinational or maintain the local market would become quite difficult.

5.2 The innovation timeline

Time	Innovation	The supply chain motive	Type
1993	Founding a “new type” (i.e. not production) purchase and marketing agricultural cooperative (AVIUM) to concentrate the supply of the fattened chicken in the area.	After the disintegration of the cooperative (production) system at the change of political system, unstable market conditions formed.	MD
Jan 1997	Joint procurement of one of the major inputs: the baby chickens.	The increasing input prices threatened profitability.	PI
1999	Founding ÁVIUM 2000 poultry processing cooperative, buying and converting a building on the outskirts of Besnyő and starting slaughtering and cutting fattened chickens of AVIUM members.	Marketing problems due to 1998 Russian financial crises. Realizing the difference between the production and retail phase in the power and profitability level.	MD
Sep-Dec 2000	Implementing the quality management system.	Development and consolidation of the retail market reaches the point where the HACCP becomes a minimum requirement.	RC-RR-SP

Oct-Dec 2000	Accomplishing the conditions required for obtaining the EU number.	Due to the 2000 EU-Hungarian agricultural trade liberalization agreement the EU markets become more accessible and, after foreign interest, the management decides to start exporting.	MP-SP
Sep-Dec 2001	Development in the areas of: product differentiation (the slaughtering area), food hygiene (technological level), decreasing the marketing dependency (deep-freezing) and logistics (live animal and product transport).	Development decided by cost-efficiency calculations of first two operational years and some market deficiency. Logistical development was unavoidable because of ever-increasing sales. Serious opportunity to win on subsidy tenders.	PI-MD-SP
Jun 2001 – Jun 2002	The founding members of the processing cooperative (five members) quit poultry farming.	Members keep all management posts in processing cooperative and with growing sales and intensive investment projects, labour intensity increases to such an extent they have to resolve the situation.	PR
Sep-Dec 2002	Value-added increasing: technological development creating a further processed production line.	Price of poultry meat products not so favourable in 2002 as a year earlier and demand for the remaining parts (offals: heart, liver) of poultry decreased considerably. New opportunity to apply for development funds.	MD-SP
Dec 2002	Environmental development: creating dangerous waste disposal system. Capacity makes it possible to offer this service to agricultural cooperative members in the case of large numbers of animal deaths, which can save considerable costs.	Approaching the EU accession, the environmental requirements on certain areas become stricter which means more regulations and control.	RC-SP
Mar-Sep 2003	Logistical development: constructing solid surface road to the factory, which is also a community investment since this road also provides access to other farmers' fields.	The bad quality road leading to the factory caused problems for live animal transport (higher mortality). The opportunity for this serious investment could only occur through the pre-accession fund (SAPARD).	SP
Mar-Jun 2004	Introduction of the new traceability system and regulation of the quality management system (ISO 9001).	New export market potential opens through a Swiss buyer but the special most up-to-date traceability system is a minimum requirement. Again the access to subsidy has considerable incentive.	RR-SP
Dec 2004	At the annual meeting of the agricultural cooperative a request for more joint procurement of inputs emerges. But the members cannot agree on the issue.	Growing input prices and decreasing producer profitability.	MD-PI
May-Nov 2005	Technological development: Modernization, efficiency improvement, automatization.	From 2004 the profitability of the processing started to drop and fell further in the second half of 2005. Again the access to subsidy has considerable incentive.	PI-SP

Oct 2005 - Jun 2006	Further enlargement of the number of sale partners and parallel strengthening of cooperation with its two most important partners.	The AI outbreak reduced demand resulting in lower prices and a generally unstable market.	MD
Future Plans	Increasing value-added production.	The reason is the same price/profitability decreasing trend first experienced in 2002.	MD-PI

Supply chain motive types: MD=Market Difficulty; MP=Market Potential; SP=Subsidy Potential; RC=Regulation Changes; RR=Retail partner Requirement Changes; PI=Profitability Improvement; PR=Personal Reason

5.3 Forms of inclusion in the vertical chain and the governance of the cooperatives

The cooperatives initial aim was to provide the opportunity for the farmers to be co-owners in other segments of the vertical chain. AVIUM agricultural cooperative vertically coordinates the member farmers with the concentration of supply and the collective purchase of input materials. AVIUM 2000 poultry processing cooperative mainly does primary processing (slaughtering-cutting) thus it is closely connected to the farmers of AVIUM. The vertical coordination through the organizational structure and contracts provide market and price security to cooperatives. The main strategic objective of the processing cooperative is to efficiently coordinate the production-processing phase of the vertical chain in order to maintain a consumer-oriented and quality-based production.

AVIUM agricultural cooperative and AVIUM 2000 poultry processing cooperative belong to two of the four inclusion types described in the methodological paper by Berdegué et al (2005):

- Chain partnership (participation in primary production and chain management).
- Chain co-ownership (participation in post-harvest activities and chain management).
- Chain segment (participation in primary production but not in chain management).
- Forward integration (participation in post-harvest activities but not in chain management).

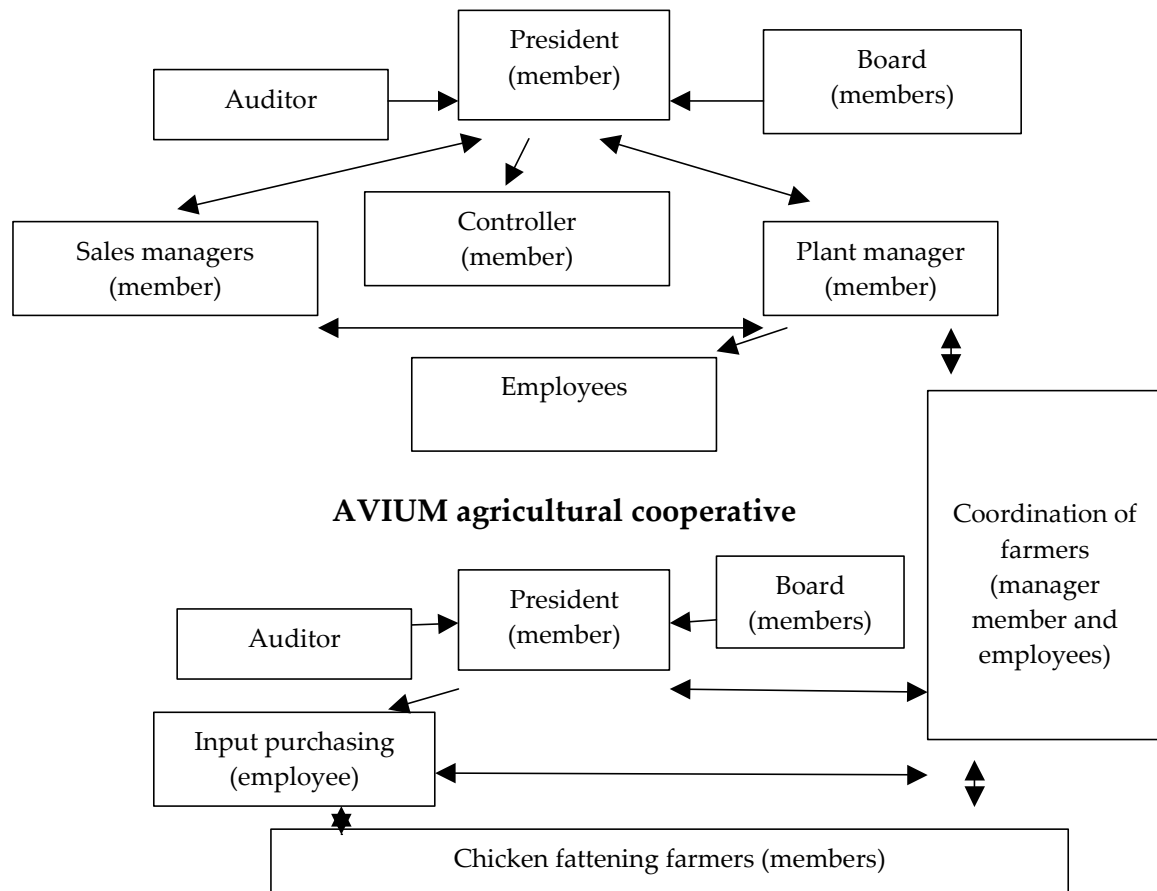
According to the operation objectives of the two cooperatives, AVIUM belongs to the first group, the chain partnership, which means members' main activity is farming but they also play a role in the management of other levels of the supply chain. At the start AVIUM 2000 belonged to the chain co-ownership category since they participated in post-farming activities and in chain management. After the separation of ownership between the two cooperatives, AVIUM 2000 shifted towards the chain segment category because its management activity in the chain decreased considerably. On the other hand, the processing cooperative started to provide wholesale services, integrating another level of the supply chain into its

activity, thus incorporating three areas (production-processing-wholesale), not in the same organization, but with close cooperation and coordination.

Both AVIUM and AVIUM 2000 operate according to the by-laws accepted at their founding and complying with the customary democratic institutes of cooperatives. Because of clear regulation and mutual trust between members and management (the company president), the cooperatives work without serious conflicts even in these AI panic stricken times.

In the governance of both cooperatives strategic and operational decision-making are separated. The strategic decision-making body is the General Assembly (with the participation of every member), convened jointly at least once a year. All members can propose changes but strategic plans are mainly initiated by the management of the processing cooperative since they usually experience the direct impacts of the market or public policy. The main areas of discussion and decisions are: acceptance and modification of the by-laws, election of the presidents and the boards, approval of the annual reports, renewal of the yearly production contracts and an informal problem resolution forum. The board of directors and the president are elected from the cooperative members and work on a voluntary basis. Thus, members are involved in the managing of the cooperatives. The cooperatives work on a one member-one vote basis.

**Figure 5.1 The operational and managing structure of AVIUM and AVIUM 2000
AVIUM 2000 poultry processing cooperative**



Source: Interviews with the managers of the cooperatives

The operational (day-to-day) decision-making is delegated to the managers (sales, plant, controller and farmer coordination) and the president, who are all members of AVIUM 2000, so there is really close coordination between the two cooperatives. The formal relationship between the two cooperatives is based on the yearly contract. The contract describes the quality parameters, the planned quantity and transport dates for each farmer and the outlines of the payment system. It is complemented with a weekly operational relationship coordinating the farmers and communicating the processors' needs to the farmers and back. AVIUM 2000 buys the fattened chickens exclusively from the AVIUM members and AVIUM members only sell their live poultry to AVIUM 2000.

To illustrate the border between operational and strategic questions we gathered some examples mentioned during the interviews:

- In the case of development (mainly of AVIUM 2000 to date): the management and the president define the development targets in view of the market and financial situation of the cooperatives, then they prepare the development plans, timeline and the approximate budget. Both GA discuss the plan but

only the members of the cooperative connected to the development have the right to vote to accept or refuse the plan. After the decision the actual development is coordinated by the management. So, for example, the members decide whether they want to renew contracts and in what price category and when to purchase transport assets but they do not choose the brand of the vehicle or the insurance company.

- With regard to input procurement, the GA decides whether they shall integrate other inputs into the collective procurement or whether they are satisfied with the present suppliers, but it is the management who source the input suppliers and negotiate the conditions and the price.

In the case of marketing the end product, at the outset of processing the president initiated the idea of avoiding large multinational chains and concentrating on local and regional markets, but since 2002 both GA discuss the next year's marketing plan containing the proposed ratios of the different marketing channels. So, for example, both GA accepted to start export sales in 2004 but the president and the management found and chose the actual export partner candidates.

5.4 Vertical and horizontal connections of AVIUM and AVIUM 2000

In order to analyse the mechanisms of coordination in the supply chain we used Kaplinsky and Morris (2001) who differentiate three aspects of chain governance:

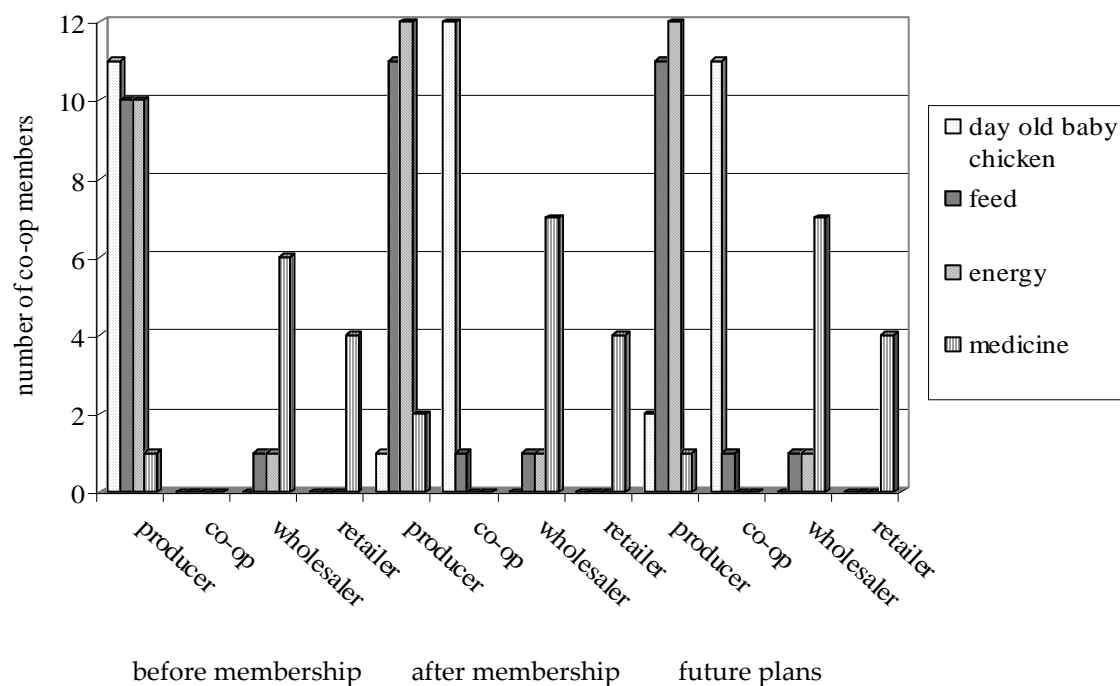
- Legislative governance: setting product standards and transaction conditions.
- Judicial governance: monitoring the performance of suppliers in meeting these product and transaction conditions.
- Executive governance: implementing support systems assisting suppliers to meet product and transaction conditions, and setting incentives and sanctions to reward or punish performance.

With regard to the most important inputs of broiler fattening, prior to their PO membership AVIUM producers usually purchased baby chickens from the poultry incubator, feed from feed mixers and energy from service companies. This is a general tendency in the broiler fattening sector - among similarly sized producers there are very few with different input purchasing strategies. Only in the case of medicine costs were there some differences amongst producers: although most of them had connections with wholesalers, some purchased medicines from retailers and others purchased directly from the producer firm.

Cooperative membership caused minimal restructuring in the input purchasing - the feed, energy and medicines were purchased from the same sources as before. The only significant changes to input sources were for baby chickens: all but one producer purchased the baby chickens through the cooperative. (That one producer

is trader of one incubator, so he maintained his earlier input source.) Nor is there any significant change in the plans for the future: most of the producers calculate with the present input sources, though it remains to be asked how much this is due to private intention and how much to the possibilities available. (Some producers said that stronger cooperation would be useful in this field.) (Figure 5.2).

Figure 5.2 Input sources of the broiler fatteners in AVIUM agricultural cooperative



Source: Own data collection

The basis of the informal connection are the annual (or in the case of certain market situations more frequent) GA meetings, when members of the processing organisation and the agricultural cooperative meet. In these meetings the problems that occurred over the year are debated, questions are discussed and the formal connection (the contract) is renewed.

On transportation of the reared chickens, the quality of the product is dominant in the control: the inspection parameters are the rate of losses and the production diary. The normal rate of losses is around 1-2 per cent; if it is higher the employee of the agricultural cooperative examines the animal breeding conditions of the producer and the quality of the baby chickens. The production diary (the so-called roost diary) registers every moment of the breeding process (for example, the date and method of any medical treatment) and is also inspected by the official veterinary officer. A copy of this diary accompanies each chicken to the processor. Additionally, each

producer has his/her own code number, which also accompanies the transported chickens and can be clearly connected to the end product. With this traceability system, in the case of any consumer complaints, it is easy to identify which producer fattened the animals and the production diary can be inspected. This could be important in the case of chemical residues, which can occur if medical treatment is too late (although there has been no such problem to date).

The quality and effectiveness of control is increased by the fact that both organisations place emphasis on meeting EU and Hungarian food safety and hygiene regulations. To this end, the processing cooperative introduced the HACCP system in 2000, inspected by the Consact Quality Development Office in March 2001 and found to comply with regulations No.1-2-18/1993 of the Codex Alimentarius Hungaricus and other national requirements. The number of the poultry processing firm's stamp that entitles the company to export to EU countries is HU-139. This export hygiene status is valid for slaughtering, cutting and processing.

In order to increase food safety, the agricultural and processing organisation introduced the traceability system, which can be applied to all the production phases from the production of the raw material and the input products (feed, baby chickens) right up to the end product. The implementation of the system and the preparation of the two organisations were carried out by NEOCET Consulting Ltd (Budapest). After implementation of the traceability system, certification was carried out by TÜV-NORD GmbH (Germany). This certificate is suitable not only for EU countries but also other western European export countries, such as Switzerland.

In the case of export transportation (especially in the case of the German purchasers), the IFS food safety system is also required alongside the HACCP system, to ensure food safety. The implementation of this system was also carried out by NEOCET Consulting Ltd. In order to ensure the effective working of the quality system the organisations are continuously developing the working environment, the technological conditions and education of the workers. The MSZ EN ISO 9001:2001 system was implemented to monitor overall regulation of the quality systems. This system was also implemented by NEOCET Consulting Ltd. and audited by TÜV-NORD GmbH.

Partners in the sales channel system of AVIUM processing cooperative can be included in more categories of the evolution scale of the sales chain determined by Berdegúe (2005) et al. The author created five categories:

- Traditional wholesalers supply the independent retailers.
- Specialised wholesaler connection.
- Preferred suppliers.
- Distribution centres.
- Private standards and quality assurance.

None of the sale partners of the cooperative is in the final, most developed category (connections coordinated by private standards) as this form is mainly found in the case of multinational retailers and the cooperative carefully avoids these kind of partners. In 2004, the cooperative exported to Switzerland, where the purchaser required a special traceability system, so this partner could perhaps be categorised in this group, but AVIUM does not currently carry out any export activity.

There is one partner who falls into the next category (distribution centres). It is a specialised butchers' chain that increased its purchase volumes in 2005 and currently holds the highest proportion of AVIUM 2000 sales (28 per cent). Its purchase volume increased following completion of the new distribution centre, which enabled AVIUM 2000 to centralise purchasing orders, thus leading to a high supply rate for poultry meat. AVIUM 2000's second most important partner (representing 14 per cent of their sales) is a preferred supply connection. This is a Hungarian chain of small retailers (thirteen shops) belonging to a buyer group that does not centralise the purchasing of fresh products, so they only buy poultry meat from AVIUM 2000 as preferred suppliers. A significant proportion of the products go to independent food shops and specialised shops. In our opinion, in these cases the cooperative carries out traditional wholesale activity with transportation to the shops and ensuring the required product range (the cooperative also purchases other types of poultry meat if required). In most cases the connection is a close one, upheld for many years and in the case of some smaller partners it is exclusive.

The most important factors for strengthening the connection between the cooperatives and the retail partners are reliability, correctness, punctuality, calculable time of transport, favourable prices and good quality. The fact that half the cooperative's sales partners have purchased from them since the cooperative was set up is proof of a stable connection.

The sale of slaughtered, fresh cut and frozen poultry meat is in accordance with the maximal use of the advantages of regional market positions. There are ninety companies on the purchaser list. The most important sales centres are Fejér, Veszprém and Komárom-Esztergom counties. Some wholesalers and processors among the purchasers of the cooperative are also located outside of the region.

Table 5.3 Structure of sales directions and sales prices of AVIUM 2000

Rate	Name of the product	Current situation (2004)		Future changes	
		Direction (1-7)	Price (HUF/kg)	Direction change (yes/no)	Price change (%)
80-90%	Cooled Braftering chicken	3,4,2	320	No	-3-5 %
	Cooled chicken breast (with bones)	3,4,2	640	No	-2-3 %
	Cooled chicken breast (without bones)	3,4,7	840	Yes (export not always)	~
	Cooled chicken leg	3,4,2	350	No	-5-10 %
	Cooled internal parts (liver, heart etc.)	3,4,1	400	No	-5 %
10-20%	Frozen chicken breast (without bones)	3,4,7	810	Yes (export not always)	~
	Frozen chicken leg	3,4,2	320	No	-10 %
	Frozen internal parts (liver, hearth etc.)	3,4,1	380	No	-5 %
1%	Processed products	3,2	-	Yes (increasing)	+0-5 %

Source: Data collected from personal interviews with leaders of AVIUM 2000

1: domestic processor, 2: domestic wholesaler, 3: domestic retailer, 4: consumer market, 5: HoReCa, 6: direct sale, 7: direct export

The order of the sale direction shows the importance of the partner

In the domestic market, producer prices are in accordance with the sales prices of the large processors and the demand of the regional market. The average producer prices can also vary according to packaging. Consumer packaging can increase the price by 15 HUF/kg. In the case of bulk sales (majority of the volume) the prices vary according to the following conditions:

- Partners ordering continuously from the beginning (two to five specialized poultry shops) get a 10 per cent price reduction.
- There is a yearly sales volume rebate of 10 per cent for the two most important partners.
- Since 2006, one partner has only required delivery to the distribution centre, rather than to their stores, which has also led to a price reduction³.

The two most important sales partners represent 28 per cent and 14 per cent of all the sales of the cooperative; and six other partners represent more than 5 per cent of total sales. The cooperative works according to two important sales strategy principles:

- Diversification: this principle is represented both in the large number and different types of sales partners.

³ Neither the retailer nor the processor would give any exact percentage or amount, declaring this to be business data not in the public domain.

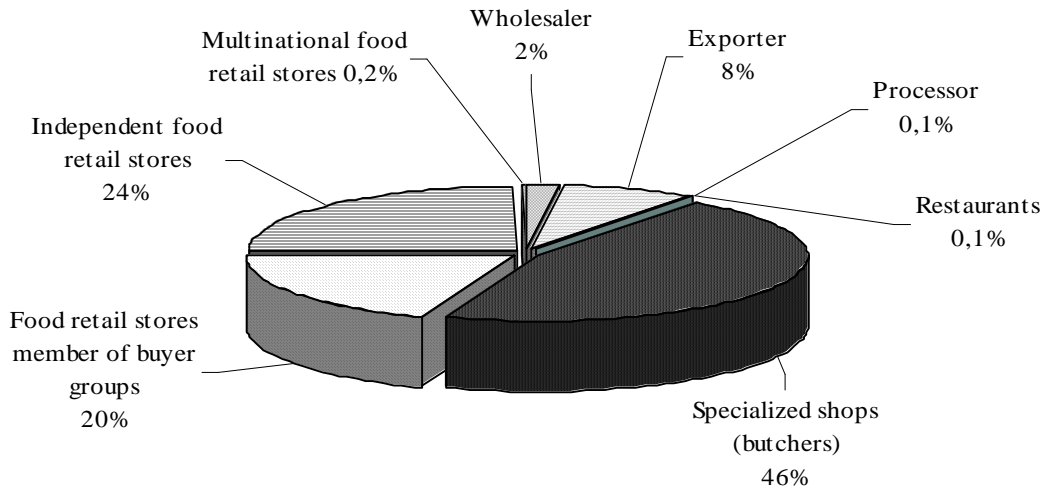
- Until the market situation leaves no other option, the cooperative do not wish to sell to hypermarkets and discount shops of multinational companies.

The evolution and maintenance of this retail partner system has more factors to consider. At the start of the processing activity, purchasers were found by the following simple method: the president visited the food shops, butchers and consumer markets of neighbouring cities and personally tried to persuade the owners to buy the poultry meat from them. The processor cooperative gained their initial market in this way and these small but numerous partners have been maintained because they enjoy many advantages: they buy the products at favourable prices and they pay immediately, sometimes even in cash, so they remained important partners of the cooperative. The other important reason why the cooperative insists on such a large number of partners is that they believe that, in the case of a fresh product like poultry meat to be a supplier of one purchaser would make them vulnerable. They feel a high number and wide variety of partners ensures flexibility to protect themselves from the effects of a market crisis. Of course, the present market crisis, the AI outbreak, affected all stakeholders in the poultry sector. However, with its multi-partner system the cooperative has been able to sort their products in such a way among purchasers that it has had to freeze less surplus poultry meats than its competitors.

AVIUM 2000 do not avoid the multinational retailer chains because they feel unable to meet the requirements, since AVIUM 2000 would be able to fulfil the quality and quantity requirements of these companies. Most of the middle sized domestic companies feel it is not worth supplying that multinational retailers while they continue to claim incalculable amounts of refunds (marketing contribution, compulsory discount prices, shelf fees, etc.) and payment deadlines are a multiple of the circulation of the product (generally resulting in a 60 to 90-day payment period). Companies can only afford this strategy if they have other marketing channels and do not want to significantly increase their market share.

Over time, the requirements of AVIUM's commercial partners changed in the sense that they wanted to purchase all kinds of poultry products from the same supplier. Thus, the cooperative now also carries out wholesale activity, buying in other types of poultry besides chicken products.

Figure 5.3 Structure of the different type of sale channels of AVIUM 2000



Source: Own calculation based on information from AVIUM 2000

Of course, this diversification strategy can only be maintained if other sales channels beyond the multinational retailers maintain a market share large enough to avoid market losses for the suppliers. In the case of AVIUM 2000 (Figure 5.3), butchers (46 per cent), independent food shops (24 per cent) and small/medium size food shops belonging to buyer groups together account for a significant portion of sales. In the Hungarian FMCG market between 2000 and 2005, the significance of butchers' shops dropped from 28 per cent to 16 per cent, but small/medium size food shops belonging to buyer groups increased from 7 per cent to 15-16 per cent, so the shared turnover of these three market channels together is still over 30 per cent. Nevertheless it must be mentioned that hypermarkets alone are starting to represent the same market share, increasing at the expense of the independent food shops. This tendency is an important sign, although the spread of the multinational retailer chains is varied from region to region and is lower in AVIUM 2000's region than the national average.

Introducing restaurants, caterers and suppliers of these into the sales channels could be an important move for the cooperative since, like the hypermarkets, this segment is increasing dynamically; its turnover grew by 50 per cent over the last five years and the number of the units also increased by 10 per cent.

The processing cooperative, based on integrated quality meat production, carries out export activity with changing intensity. Exports increased from 140 to 201.5 tonnes between 2002 and 2004. Returns from exports reached HUF 164 million in 2004; all the exported products were cooled, cut chicken breasts. The most important export partner is a German wholesaler, purchasing 90 per cent of their exported products. In 2005 the cooperative expected a further increase in exports. They also started to

export to Switzerland, but because of the AI panic export prices fell and this caused a reduction in their export activity. At present, the management of the cooperative feels that demand and prices are not favourable in the export market, so they will not fulfil the 2006 planned export levels.

Like most Hungarian food processors, AVIUM 2000 usually signs yearly contracts with its commercial partners. The contracts specify quality requirements, transportation deadlines, forms of conflict resolution, control methods and certification systems to be used, but quantity and price are only outlined in a provisional way, thus reserving the right to make changes. Produce is collected two to three times a week and the next required amount is ordered at the time of the previous delivery. They usually distribute directly to the shops. There are some exceptions, such as some regional chains, which receive the goods in their central storehouse.

Bát-Grill Ltd., the organisation selected for comparison, also excluded multinational retailers from its sales channel. They feel it is too risky to sell exclusively to retailers, especially to a small number of retailers, due to the seasonal fluctuations and discount prices. Like AVIUM 2000, their main trade policy is to avoid supplying multinational retailers since they do not want to be made bankrupt by the unpredictable costs (discount prices, compulsory marketing fees, etc.). Apart from this strategy to avoid multinationals, their trade policy is significantly different from AVIUM 2000's:

- They have fewer partners (forty to fifty).
- They do not prefer to sell to independent butchers.
- They have their own butcher shop.

They try to create a balanced sales channel structure to avoid dependence on any one segment: they sell 30-40 per cent of their products to wholesalers, 38-40 per cent to retailers, 18-20 per cent is direct export and 2 per cent is sold in their own shop.

5.5 General characteristics of the cooperative members: inclusion conditions and motives

At the beginning, AVIUM was set up and formed by the poultry fattening farmers around Besnyő village and the main driving force behind the cooperation was the president who tried to bring together nearby farmers that he knew and respected from his career in the former socialist cooperative. To reveal the pre-conditions of inclusion we asked the president, the management and the members themselves about AVIUM's main entry requirements. The answers showed simultaneously that the most frequent factor was geographical location (64 per cent), whilst personality and professional skills were mentioned in second and third place with equal frequency (57 per cent). Financial contribution and economical stability of the future

member was not valued as an important factor. In contrast, during the interview with the management of the processing cooperative, the financial contribution was the most important condition - an obvious result since founding a processing cooperative requires far more capital than a agricultural cooperative (HUF 100 million – HUF 3 million).

In the case of the AVIUM agricultural cooperative, there have been only three incidents of exclusion: two were members who terminated their membership because they were ceasing poultry rearing; and the third was a non-member supplier (not exclusively producing for AVIUM) whose yearly contract was not renewed by the cooperative due to problems with the reliability of the farmer. At the end of 2003, following the two aforementioned exclusions and because of the increasing raw material needs of the processing cooperative, AVIUM members could decide (through a strategic decision of the General Assembly) whether they wished to increase their individual production levels or invite new members into the cooperative. They finally decided on both measures - two new members joined and two of existing members also expanded their capacity.

More inclusions are highly improbable in the near future because the present depressed market conditions do not allow further expansion of the processing cooperative thus no excess capacities appear for possible new members.

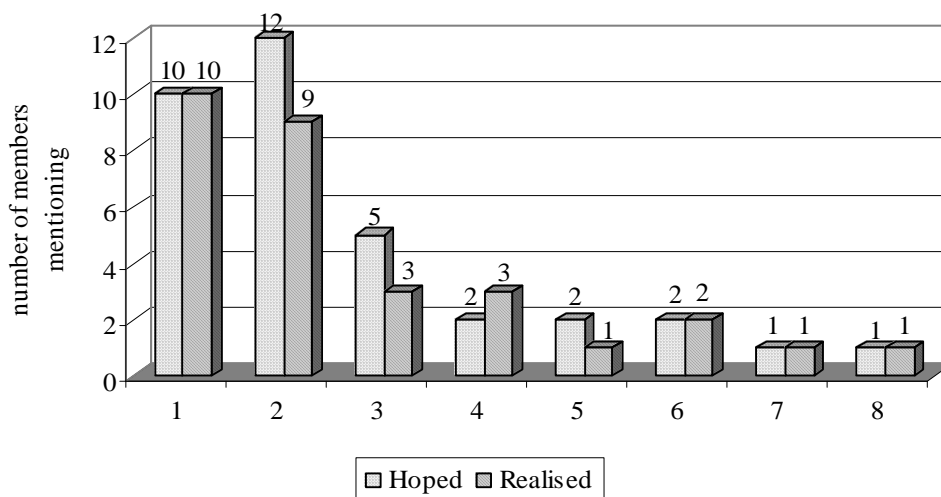
Apart from the entry conditions, the most important factors for durable cooperation and possible reasons for exclusion from the cooperative were also researched. Reliability was stated almost unanimously to be the most important requirement of an effective cooperative (chosen by eleven members), with adaptability in second place, and open mindedness in third place (eight and six members, respectively). Respondents referred to these two factors together as flexibility. The most important reason for exclusion from the cooperative (both horizontally at an agricultural level and vertically at processing level) was unreliability, selected by thirteen respondents. Nevertheless, the term was understood in different ways: while the agricultural producers considered unreliability to be a human characteristic, to the processing cooperative it meant unjust quality control and payment conditions (price, deadlines, etc.).

Kapronczai et al. carried out a representative research surveying the opinion of producers about the hoped and realised advantages of cooperatives. The respondents stated that sales security was the most important advantage (78 per cent), while the favourable input purchasing was valued in second place (68 per cent), followed by information given by the organisation in third place (65 per cent).

Figure 5.4 shows the responses to similar questions given by members of the agricultural cooperative. AVIUM members also valued factors connected to sales

security as the most important ones; they mentioned more favourable producer prices and sales security in the first two places. Some producers also selected short payment deadlines and more favourable input purchasing, but other factors were named by only one or two respondents. Improvements to infrastructure conditions and counselling were not mentioned by anybody. This result is in contrast with the findings of the survey published in Kapronczai et al (2005), where the producers valued information given by the cooperative more highly. It is also interesting that input purchasing was mentioned so rarely, as this is one of the most important services given by AVIUM.

Figure 5.4 Expected and concrete advantages of the cooperative according to AVIUM members



Source: own calculation based on questionnaires

1: Sales security, 2: Producer prices, 3: Payment deadline, 4: Favourable input purchasing, 5: Reducing production costs, 6: Easier adaptation to high requirements of the market, 7: Reduced responsibility, 8: Pre-finance

Examining the above figure, it is obvious that expectations about sales security were fulfilled, but in the case of higher producer prices and short payment deadlines there were also dissatisfied producers. Although favourable input purchasing was only chosen by three members, only two mentioned this as an expectation prior to membership, meaning one producer was positively surprised. Kapronczai et al (2005) found similar but more characteristic results: only 52 per cent of their respondents had expected more favourable input purchasing, but 68 per cent recognised this as an advantage once their cooperative was underway, meaning 16 per cent felt the cooperative had given them an advantage they had not expected.

5.6 Specific characteristics of the farmers: two clusters of future anticipation

During the interviews, the future prospects of the broiler fatteners were also examined. Producers had different ideas about the future success of the cooperative; two very different groups were distinguishable based on their answers: optimistic producers and pessimistic producers. The optimistic producers represented 40 per cent within the members of the cooperative. This is a good result considering the weak general situation of the poultry sector, showing the positive prospects and stable condition of the organisation. Another positive factor is that even the pessimistic producers gave more positive answers regarding the future prospects of the cooperative.

Usually, the optimistic producers fattened less livestock (the number of broiler chickens was between 10,000 and 30,000, with an average of 20,400), while the pessimistic producers had more livestock (most of them had 50,000 broilers, but with an average of 47,500). The quantity of livestock can be an important factor, because as revealed in the interviews, the small-middle-sized producers can make most use of the favours offered by the cooperative. Producers with large numbers of livestock can achieve the same or almost the same price levels as the cooperative in the case of inputs, and with regard to sales they are not so dependent on the cooperative because their size would also permit them to become individual suppliers of large scale processing companies.

Table 5.4 Characteristics of the optimistic producers

	Average	Spread
Number of farms	7	
Legal form	1 limited company 6 private farmers	
Year of foundation	1993	5
Prospect of the processing cooperative (1=very good; 4=bad)	2	0
Own future (1=very good; 4=bad)	2	0
Land (ha)	90	194
Number of broiler chickens (1000/turn)	20.4	7.7
Value of investments (HUF million)	6.2	6.8
Contribution of broiler fattening to household income (%)	27	15
Gender of manager	1 woman; 6 men	
Age of manager (1=<30; 2=30-45; 3=45-60; 4=60+)	3	0
Education of manager (1=basic; 2=secondary; 3=secondary, in agriculture; 4=higher degree; 5=higher degree in agriculture)	3	1
Trust in the cooperative (1=no; 5=total)	5	0
Important characteristic for cooperative: reliability (1=important; 5=not important)	1	0

Source: Own calculation based on producers' questionnaires

The other important characteristic of the producers who considered themselves successful is that they had made significantly fewer investments in recent years than the other group. The optimistic producers invested a total of HUF 5.5 million and the pessimistic producers HUF 37.2 million during their membership. This contradiction can be explained by the fact that in the present circumstances (low, depressed producer prices, strong competition forced by the retailers and import pressure) the market does not honour the higher quality produce resulting from the investments. The situation of the producers is worsened by the new subsidy system, applied after the EU-accession, which excludes low turnover producers (i.e. even the biggest broiler producers) from current development subsidies. Therefore, investments must be financed solely by the farmers' own resources.

Another interesting and fairly logical result was that producers with middle-level education degrees evaluated their futures in a more positive way, while producers with university degrees were more critical. This can probably be explained by the fact that more educated producers have a better understanding of the sector's situation and at the same time claim less integration - they prefer to make decisions individually - but it is also connected to fact that producers with university degrees usually ran larger scale operations and made higher investments.

There was no significant difference in the number of employees and proportion of income from broiler fattening in the household budget between the two groups. All interviewees had few (one to three) employees; in the case of some producers this meant family members. Nevertheless, the turnover from broiler fattening represented a very low proportion of household incomes, which can be explained by the poor profitability of the sector. This rate was a little higher for more satisfied producers: 33 per cent on average; in the case of pessimistic producers it was only 18 per cent. However, the situation is not so clear-cut: while broiler fattening gave 25-50 per cent of household income for SME producers, the spread was higher for larger producers. There were two respondents who claimed negative income levels (i.e. the broiler fattening made a deficit), while 90-95 per cent of the household income of two other producers came solely from broiler fattening. Here another important relationship can be detected: those producers whose household income was more diversified were more optimistic: their income did not depend so much on the situation of the broiler sector.

Table 5.5 Characteristics of pessimistic producers

	Average	Spread
Number of farms	6	
Legal form	1 private farm 5 limited companies	
Year of foundation	1994	3
Prospect of the processing cooperative (1=very good; 4=bad)	2	1
Own future (1=very good; 4=bad)	3	0
Land (ha)	0	2
Number of broiler chickens (1000/turn)	47.5	25.2
Value of investments (HUF million)	37.2	41.9
Contribution of broiler fattening to household income (%)	37	49
Gender of manager	3 women; 3 men	
Age of manager (1=<30; 2=30-45; 3=45-60; 4=60+)	3	1
Education of manager (1=basic; 2=secondary; 3=secondary, in agriculture; 4=higher degree; 5=higher degree in agriculture)	4	1
Trust in the cooperative (1=no; 5=total)	4	2
Important characteristic for cooperative: reliability (1=important; 5=not important)	1	1

Source: Own calculation based on producer questionnaires

While the satisfied producers did not experience any conflict with the management of the cooperative, the less optimistic members mentioned some debate over producer prices, quantities and individuality and also some minor disagreements over professional questions. Most of the respondents stated that the most important advantages of the membership were more favourable producer prices and sales security, while fewer producers mentioned cost reductions.

The main characteristics of the pessimistic producers can be summarised as follow:

- They have large numbers of livestock - between 30,000 and 90,000 animals, but mainly 50,000.
- In recent years they carried out several developments using investments based on their own profit/returns due to the lack of outside sources.
- A significant rate of their household income comes from broiler fattening (thought there were producers where this was not the case).
- They are educated professionals.

Analysis of future prospects of the producers resulted in a paradox: the producers classed within the optimistic group were in objectively worse economic and personal situations; based on their characteristics, the pessimistic ones seemed to be more competitive. The explanation of this paradox must be connected to the poor economic situation of the poultry sector. The main problem of the professional producers with larger numbers of livestock was the development and investment they carried out based on more favourable prospects in previous years, trusting in

the higher market requirements and the possibility of higher prices for higher quality. Probably this remains true in the long term, but in the current situation (import pressure and reduced demand due to AI) producer prices of the poultry sector are very low, in some cases not even covering the cost of investments in quality production.

Summarising the results of the interviews with the producer members of the two organisations, the most important failure is that some of the members – for the moment, at least – do not perceive the advantages of the cooperative. The main reason for this is that, although the cooperative was funded by the agricultural producers, those members who invested in the processing activity ceased agricultural production to make processing their main activity, thus shifting their perspective from that of a farmer and ultimately creating conflict.

One advantage of this separation, at least for AVIUM 2000, must also be mentioned: the processing activity can work more effectively and profitably (thus ensuring a secure market for the agriculture producers) if producer prices are objective, in accordance with the market situation. B at-Grill Ltd. is a good example of the conflict caused by the agricultural producer ownership: two of the eleven owners are in fact agricultural producers who exert producer price-pressures on B at-Grill, causing constant conflicts in the day-to-day operation.

It is possible that the income situations of the broiler fatteners would improve by recovering the investments made in the processing cooperative, and it is true that the poor current market situation contributes to the pessimistic mood of the members. Nevertheless, in the long term, producer dissatisfaction endangers the stability of cooperative and this must be viewed as a disadvantage. Although AVIUM 2000's management's reasons (i.e. using the profit for further investments and the temporary poor market situation) are acceptable, they were not effectively communicated to the members of the agricultural cooperative and/or these reasons were not enough for the agricultural producers because of their poor financial situation. During the interviews with the broiler fatteners, other important factors were uncovered that could put the cooperative at risk:

- One of the most important factors is that the investments carried out at producer level receive no funding from the processing cooperative; the processing organisation only gives advice and absorbs any capacity enlargements into its processing plans. As a result, those producers who carried out significant investments now have serious financial problems as their present incomes do not cover the costs of the investments. Members who have not invested in any significant developments currently enjoy better financial circumstances, but in long term, outdated technology and buildings will reduce their competitiveness.

- Another important failure factor is that the cooperative was only successful in organising common input purchasing for one input and this causes unfavourable cost structures for some producers. This is an important factor since the costs of the agricultural producers are spread over a significantly wide range, which is partly connected to the number of the livestock but is also influenced by other factors (e.g. information, personal connections and negotiation skills).
- The third most frequently voiced complaint was about the quality of the baby chickens. According to the experts interviewed, two specific quality complaints are common: unhealthy animals (anaemia was recently a common illness in the livestock) and chickens with low body weights. The reason for the latter problem is as follows: the parent birds lay eggs between their 26th and 62nd weeks. The eggs and the baby chickens reach the right size after 26 weeks, thus resulting in good genetic resources. The minimum sizes are 52g-55g for eggs and 34g-36g for baby chickens, but the most favourable size is 65g and 40g-45g, respectively. If the parent birds are too young, the eggs and the baby chickens will be too small. The cooperative handles any such complaints for the members, including any resulting compensation or even a change of input supplier.

Although we found that the larger pessimistic producers were considerably less satisfied with the two cooperatives than the smaller optimistic ones, when we asked them whether they would leave the cooperation they mentioned two reasons for not doing so:

- Until the middle of 2005 they were generally satisfied with the conditions and they hope that after the market stabilizes demand will boost production and prices once more.
- The conditions provided by the other processing companies “are mainly even worse” and at least in the case of AVIUM 2000 they have a personal relationship based on trust.

5.7 Cost and income factors of the cooperative membership

Good quality production and suitable raw materials for processing are guaranteed by members’ personalities, their professional experience and their high level technological skills. When the cooperative was set up, only producers who could meet these high requirements were invited into the organisation, so professional and technological skills were preconditions of the membership.

As the precondition for membership for the agricultural cooperative had been members’ mutual professional background (i.e. they knew each other), no significant changes were necessary in the cooperatives at the beginning. The processing investment did not require any direct contribution from the producers as they could

already fulfil the quality and quantity requirements thanks to previous investments carried out prior to membership or in the start of the cooperative. Nevertheless, producers invested in a number of developments during their membership; in total they spent HUF 200 million. Among the producers with larger numbers of livestock (250,000 animals/year) there were significant developments with total reconstruction of the farm and technology, while the producers with lower animal numbers undertook technology modernisation costing only HUF 1-2 million.

However, the ongoing development of AVIUM 2000 processing cooperative created some new requirements, mainly with regard to the introduction of traceability and quality management systems. But it should be noted that almost all processors now operate one or more such systems, so the farmers would probably have had to make such changes anyway, no matter which market channel they chose. It is no wonder that this was the only investment type carried out by all the agricultural producers. Among the investment types of the producers, quality assurance and animal welfare dominated. During the interviews these investments were viewed by the producers as independent from the processing, carried out for their own interest (improvement of product quality) or as obligatory improvements (animal welfare).

Most of the producer investments were made from farmers' personal financial resources; four producers used subsidies and two took out bank loans. The survey of Kapronczai et al (2005) also justified this unwillingness to apply for bank loans. According to their research into investment financing for the interviewed farms, the bank loan only covered 21 per cent; 46 per cent of the farms financed all the development from their own resources. The researchers stated two important factors as main reasons for avoiding bank loans, which seem totally adaptable to the members of AVIUM:

- The banks extend loans to agricultural producers with financial worse conditions because of the higher risks.
- The administrative requirements are too high compared to the low financial needs.

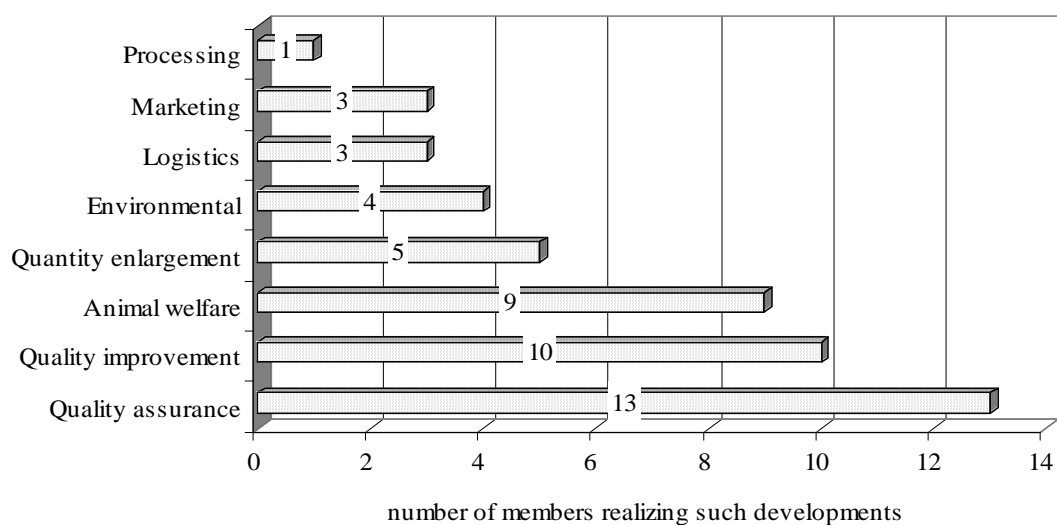
In the case of the members of the AVIUM cooperative, a third factor could threaten future investments. Most respondents mentioned during the interviews that their turnover was too low for the new type investment subsidies (for example AVOP-Agricultural and Rural Development Operative Programme). The members could only get investment subsidies prior to 2004; after that year they could only make developments with loans or their own resources.

The main reason for founding the processing cooperative was an investment opportunity to make the broiler fatteners independent from the professional processor companies. The investment was realised with significant subsidies. The management of the cooperative is very active in the field of tendering and this is

why a large part of the developments were funded by outside resources, while the rest were financed by any profits made.

The value of the investments made over the last five years is significant: HUF 590 million. A large part of this came from subsidies, initially from national sources, and more recently from EU and national sources (SAPARD, AVOP). The rate of subsidies ranged between 25-75 per cent within the investments. They did not take out a bank loan and this is not unusual in Hungary, where negotiating credit is very difficult, especially in agriculture.

Figure 5.5 Spread of the type of investments carried out by the agricultural producers during their membership



Source: Based on the producer questionnaires

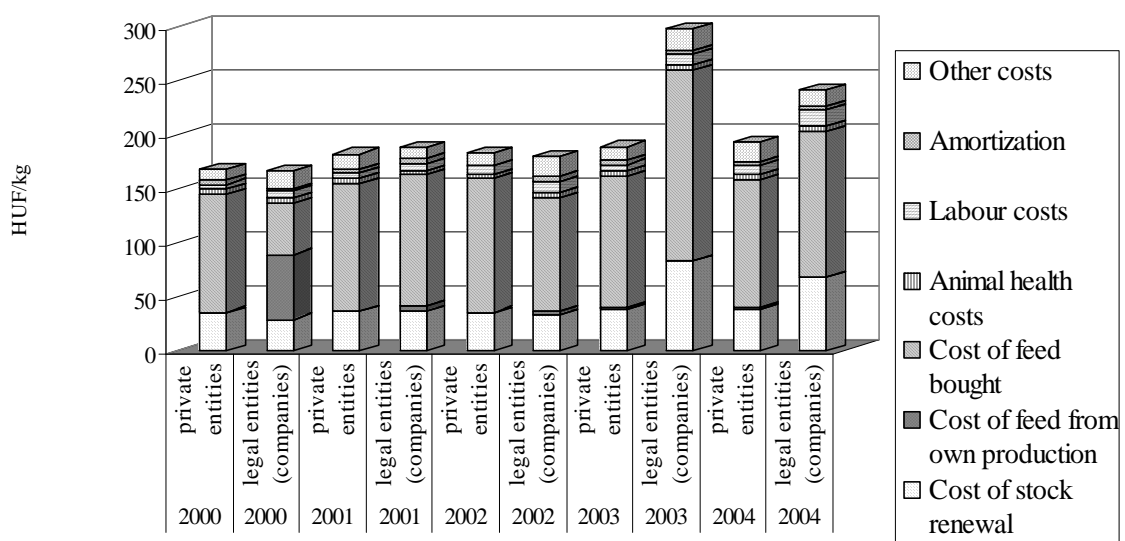
Data from the FADN system were used to analyse the cost-income situation of the broiler fattening sector. Results for the sector, both in the case of private farms and agricultural firms, revealed considerable instability between 2000 and 2004. Between 2000 and 2002 there were positive but very low profits. In 2003 the sector was showing a deficit, then in 2004 profits became positive again. The instability was more significant for agricultural firms, where the returns and costs were extremely volatile in the inspected period.

Among the costs the most significant item is feed, which represents 55-65 per cent of the total cost level; this is why the feed prices influence strongly the profitability of the sector. This is especially true with the strict EU regulations that allow very few broiler fatteners to mix their own feedstuff, so the feed cost refers to bought feed in most cases. Between 2000 and 2004, the level of feed costs increased by 9 per cent for private farms and 21 per cent for companies. The reason for this difference is that at the beginning of the period, the agricultural companies also mixed their own feed,

while towards the end of the period they changed to bought feeds. Since 2004, feed prices have continued to increase (especially due to the cereal intervention) causing serious financial complications for broiler fatteners.

The second most important cost item are baby chickens. Interestingly, there was again a significant difference between private farms and agricultural firms: while stock renewal costs only increased by 10 per cent for private farms, in the case of the agricultural firms the cost of this item almost doubled over the inspected period. In the case of energy and other variable costs, the opposite trend appeared. While private farms suffered increases of 100 per cent, the companies experienced only 10 per cent growth in costs. After the inspected period, prices continued to increase due to VAT changes. It should be mentioned at this point that energy costs varied widely amongst farms depending on the type of energy used. (The situation was similar in the case of water: those producers who used pipeline water had higher costs than farmers with their own wells).

Figure 5.6 Cost structure of broiler fattener private entities (farmers) and legal entities (agricultural firms) (2000-2004)



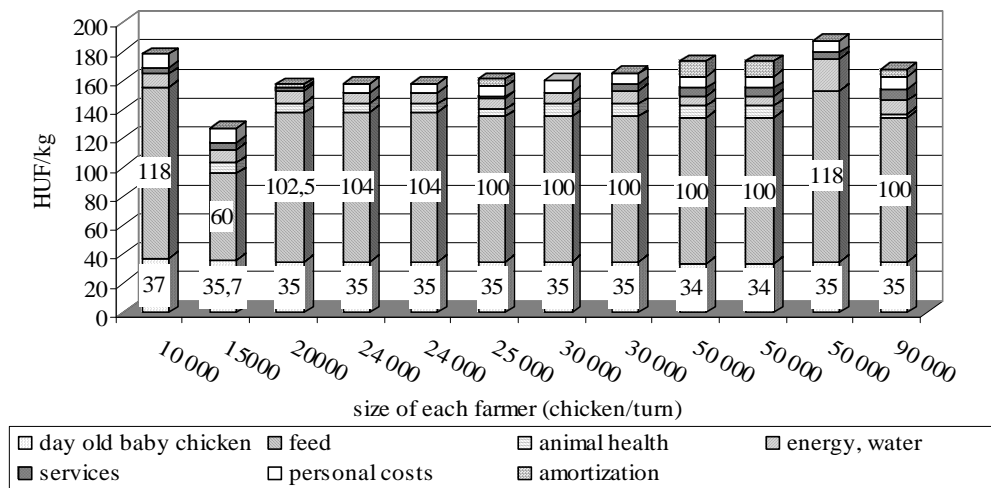
Source: FADN data, AKI, 2000-2004

The cost of human resources influenced all the producers: these costs increased 40-50 per cent between 2000 and 2004. Amortization was an insignificant item for both producer types. This shows the sector is characterized by low investment intention, which is very unfavourable long term, but unfortunately a necessity in the short term: income from the sector cannot cover the costs of investments.

The cost data of the interviewed cooperative members collected for the year 2005 can be compared to the FADN data, with some restrictions. Although AVIUM's cost structures are similar to the sector averages, they are a little lower. It is difficult to

judge what causes this difference: more effective input purchasing or incorrect survey data.

Figure 5.7 Costs of broiler fattening in AVIUM agricultural cooperative

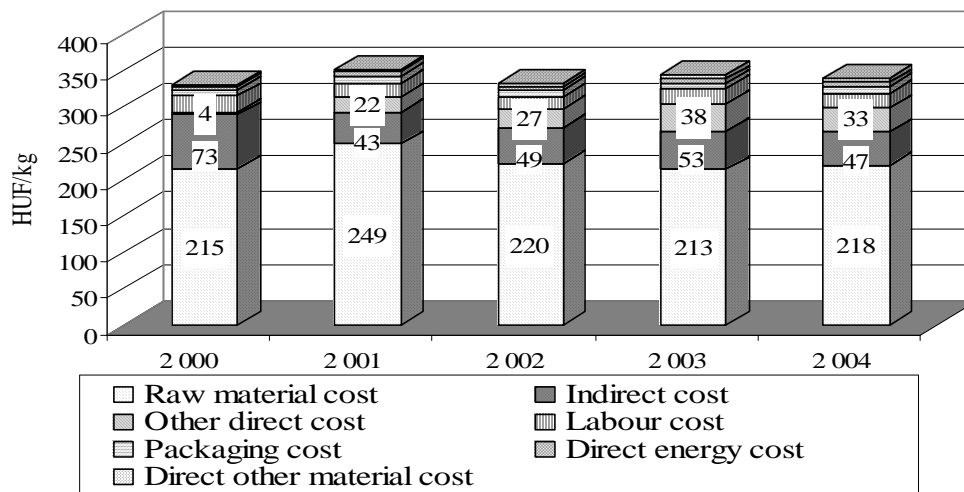


Source. Own data collection

Nevertheless the cost data of the cooperative members showed a wide range, connected to the number of livestock and other factors of influence (e.g. information, connections and negotiation ability) (Figure 5.7). Members could increase their income by reducing cost levels, which could be achieved by common input purchasing but, except in the case of baby chicken, this is still not happening.

The cost structure of slaughtering and cutting is analysed by the example of a chosen product, cooled *braftering* chicken. According to the calculations carried out in the Cost and Price Analysis Department of AKI, the total processing cost increased by 2 per cent between 2000 and 2004. The highest cost item is the raw material at around 65 per cent. The value of the raw material was the highest in 2001 and fell from that year on. This was confirmed by the interviews with producers: they viewed 2001 as the most favourable year in decades. The other important cost factors for *braftering* chicken were indirect costs (14 per cent) and other direct costs (10 per cent). In 2005, wages and human insurance charges came to HUF 21/kg, 10 per cent of the total direct cost.

Figure 5.8 Most important cost items for cooled *braftering* chicken, 2000-2004



Source: Based on Fekete-Kiss (2002-2005)

Both AVIUM 2000 and the reference organisation, Bat-Grill Ltd. agree that the most important factor in profitability is the suitable usage of capacities. If there is any marketing problem (for example AI), processing must not stop; instead the sales manager must work harder. As both organisations use detailed cost calculations, it was clear that three factors drastically influence results:

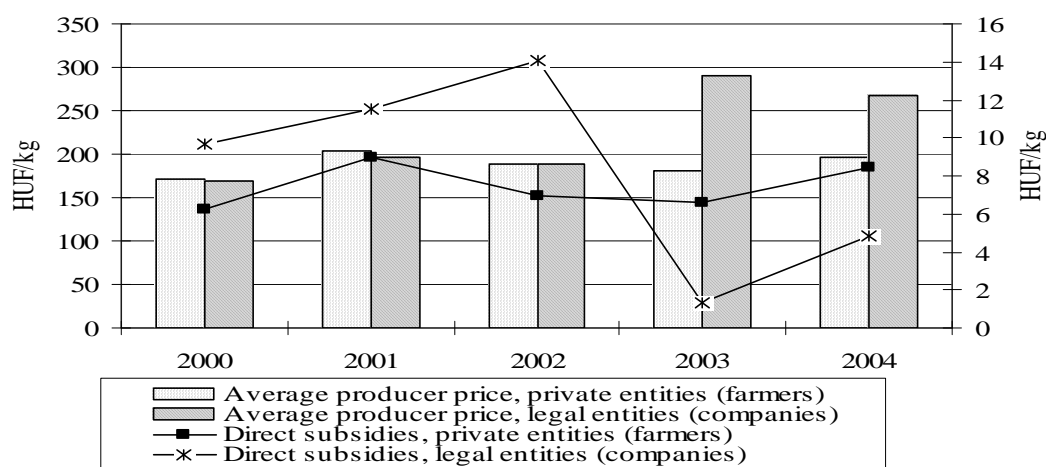
- Utilization of capacities
- Effective use of human resources
- Increasing the live-weight of the chicken (2.2kg - 2kg) without reducing quality

According to their calculations, at present (in May 2006) the unit cost of a chicken with head and legs is HUF 290. At processing they calculate with 20 per cent losses. Following the AI outbreak, the price of the end product fell by HUF 45-50, so their producer price became less than HUF 300. Therefore, they must sell the end product for a price almost equal to unit cost. The main problem is that although consumer demand was only affected by the AI panic for a few weeks, the retailers are still using the low prices applied at the time of deflated demand. According to calculations, this led to some HUF 100 million in losses over this last half year.

By comparing the cost structures of the two organisations (AVIUM 2000 and Bat-Grill Ltd) the special advantages of the cooperation between AVIUM 2000 and AVIUM agricultural cooperative become clear. The higher producer price (+HUF 4-5) paid by AVIUM 2000 is a real advantage considering that Bat-Grill cannot give premium to its suppliers since only two of them are owners. The reference organisation does not take part in input pre-financing, another disadvantage compared to AVIUM 2000.

In the case of AVIUM 2000, in contrast, the lower profit pressure is an advantage, since the agricultural producers get their extra income through price premiums and do not have full ownership rights. Although both GA discuss their respective development plans and comments are welcome, each is free to act independently. Thus, AVIUM 2000's use of profits does not need to be approved by the agricultural producers whose interests do not always coincide with the processors'. Therefore, the management could use profits for development and investments. The reference organisation also carried out investments and applied for subsidies but they could only use a smaller part of their profit for development and had to take out bank loans, which could seriously affect their financial situation in the future.

Figure 5.9 Income structure of private farms and agricultural companies, 2000-2004



Source: AKI, FADN data, 2000-2004

The income level of the broiler fatteners was also inspected, based on the FADN data. The tendencies of the returns were strongly based on the producer prices, both in the case of individual farms and agricultural firms. Direct subsidies given to the sector are low and other incomes do not have much influence upon returns. In the beginning of the inspected period (2000-2001), private farms got higher producer prices; in 2002 the prices were the same in both organisation types; while in 2003-2004 the companies could achieve higher prices. After 2004, producers experienced price stagnation, followed by falling prices due to the panic caused by AI and increasing import pressure. Current producer prices are around HUF 165/kg, which hardly covers the unit costs of the fattening.

The trend was different in the case of subsidies: between 2000 and 2003 the agricultural companies received more subsidies; after 2003 subsidies were reduced, so the support received by private farms (which show an even trend) became higher than for companies. In 2005, subsidies were cut back significantly, which damaged the financial situation of the sector. Although the subsidy system has become more favourable since 2006, delays in payments cause added liquidity problems for producers.

In summary, perceptible profit advantages of AVIUM to the agricultural producers include: higher producer prices than sector average; favourable input price of baby chickens; secure market; and short payment periods. As these advantages (except the higher producer price) can usually (in a normal market situation) be achieved in any integration or cooperative organised by processors, some of the broiler fatteners have not perceived the advantages of membership. Nevertheless, it is obvious that they do have better market possibilities, their income is predictable and thus their situation is more favourable than that of a producer integrated by processors. In the long term, if the market stabilizes, members' incomes will probably increase and this will also enable producers to invest in production.

6. Conclusions and recommendations

6.1 Sustainability and uniqueness

The aim of the case study was to examine an organisation working in a sector that is known as a very integrated production branch as the viable producers cannot work without cooperation. At first sight, the novelty of this organisation is not so significant, but it displays several elements that could be useful for other organisations working in the sector. The most important is that the degree of coordination makes it possible to share a percentage of the profits from the processor between the agricultural producers. In this way the agricultural producers gain higher returns than other actors of the sector.

During the preparation of the case study it also became obvious that the optimal size is a key element among the success factors. These small or middle sized organisations can integrate well into the Hungarian poultry sector in the short term, and with favourable market conditions are equally viable in the longer term. AVIUM 2000 and the reference organisation, BÁT-Grill Ltd. are good examples to demonstrate how this type of organisation can use their size as an advantage: they are big enough to use their cost-effectiveness and to carry out investments but small enough to be flexible, a very important characteristic in the poultry market, especially in the current crisis.

These organisations can cooperate harmoniously with the SME, the so-called “optimistic” broiler fatteners (with 15,000-25,000 livestock/turn), representing a significant proportion of the Hungarian poultry producers. These broiler fatteners are very sensitive to management style - they prefer a centralised, personality-driven management, but with flexibility and responsive to problems. The bigger producers are not so satisfied, but this pessimism has not so far become serious enough to endanger the stability of the cooperative.

The personal aspect of the management is very important. Both cooperatives are directed by the same person - he is the “central motor” of the two organisations. The integrity of the president (authenticity, reliability) and his personal and professional connections play a substantial role in the coordination of the whole vertical chain. The management of the processing cooperative is also an important factor in the success of the organisation. The restricted circle of management controls everything directly, which secures the flexibility and quick adaptation of the system. On the other hand, this management style has a serious size-restriction: in the case of higher production volume centralised management would not be effective, but if the organisation has no aspirations to grow, then the management type must be valued as one of the success factors.

Another strength and uniqueness of the chosen organisation is that, after recognising the advantages derived from vertical coordination, the members of the agricultural cooperative founded a processing cooperative, established the necessary processing capacities and so became independent from the food industry. By processing their produce themselves they can also share profits from the processing level amongst the agricultural producers. The profit allocation is carried out by means of the producer prices (usually the broiler fatteners get HUF 4-5/kg higher than the country average). The rest of the profits made at processing level have been invested in further developments to date. There is also coordination in input purchasing. At present, baby chickens are purchased centrally, resulting in more favourable input prices for the producers.

The activities of AVIUM 2000 also cover wholesale because of the requirements of their retail partners. In order to offer a full assortment of poultry products they purchase other types of poultry meat (goose, duck and turkey) on the market and transport these to the retailers who require it. All the commercial partners interviewed used this service and they valued it as an important selection factor that other processors did not provide.

The processing cooperative has chosen to actively avoid supplying multinational retail companies, because this would mean lower prices, insecure market opportunities and market power deficiency. At the moment, 60 per cent of their sales go to small individual butchers' shops. Of course this sales structure has serious conditions and restrictions. Beyond a certain volume of production it would require so much organisation and transport that the cost increase would make it unprofitable. As the cooperative does not plan to increase production this size barrier does not affect them. It is an important factor that sales to individual shops require continuous high quality produce, flexibility and good personal connections, all qualities that are fulfilled by the cooperative.

Continuous investment, alongside successful tendering to reduce their own financial input, is also a very important success factor. (They received subsidies for 25-75 per cent of the investment value.)

The reliable, good quality raw material is guaranteed by the integrity of the cooperative members. At the founding of the agricultural cooperative, producers who became members all knew each other through professionally and enjoyed good personal relationships, especially with the president of the organisation. Their professional abilities guarantee the high quality of the raw material, while the good personal relationships facilitate organisation of the production. Rotations (turns) are organized according to the mutual interest of the two cooperatives; in this way there are no conflicts and losses are minimal both in the fattening and processing phase. The geographical location was an important factor in selecting the members because

it reduces transport costs and losses. The third selection factor was the size of the livestock as appropriately sized producers, adaptable to the size of the processor, ensured good cooperation.

6.2 SWOT analysis and the possibilities of developments, upscaling and replication

Summarising the present economic situation of AVIUM 2000 based on the framework of the SWOT analysis, the management valued the following as strengths: productivity, technology, product quality, food safety, hygiene and traceability. Partner relationships can also be included here as both in the field of input purchasing and sales these connections are stable. The decreasing profitability of processing is a weakness.

The management sees a potential threat in the fact that despite diversification of sales channels they are defenceless against market fluctuations. Another factor that makes them vulnerable is the specialised processing structure: they only slaughter broiler chickens, no other types of poultry. (It must be mentioned here that on the other hand this increases their production effectivity.)

The main opportunity ('escape way') for the cooperatives is increasing the value added product processing: they plan to produce sausages from the unmarketable parts of the chickens. In terms of the product structure, they do not plan to increase the slaughtering volume (2.5 million chickens/year), but they do want to increase the production of more value added goods to a level that would cover the constant costs.

Within the development plans of AVIUM 2000, increasing technology effectiveness and introducing further/secondary processing are the most important aims. Depending on the results of a market research and cost covering calculation they also plan to establish their own trademark and develop the packaging. The reference organisation, B at-Grill Ltd. uses another strategy for selling the barely marketable parts. They think that further processing is not a good solution as the equipment is too expensive, they cannot invent special products and the market of general products is already divided amongst the bigger processors. Therefore, they started to produce pet food from the unmarketable parts of the chickens.

AVIUM 2000 does not plan to increase its production volume, so the agricultural cooperative does not want to take on new members:

- The present size is sufficient for the centralised management style, for the "one case at a time" control policy.
- Neither of the cooperatives intend to take out bank loans; they want to use only their own financial resources and subsidies for the investments.

- Their main commercial partners are individual retailers, whose number is reaching the effective economic margin of the transaction and logistic costs.
- The market situation is very unstable, mainly because of the effects of the AI panic. Under these circumstances it will be a success if they can maintain production without losses and pay producers in the usual short payment period.

In the case of AVIUM agricultural cooperative, three development areas can be determined:

- Other inputs (especially feed) should be included in the collective input purchasing.
- Most producers mentioned during the interviews that despite their large numbers of livestock, their turnover does not fulfil the requirements of the new type development tenders (for example AVOP). Therefore, after 2004 they could not get investment subsidies. In this field the advantages of the cooperative should be used: the cooperative should apply for investment support.
- The cooperative should be registered as a producer organisation. If the registration were accepted, according to current regulations they could get subsidies (2-5 per cent of turnover) for the first five years. Of the necessary conditions, they fulfil the minimum number of members (fifteen) and the rate of the sales given by natural persons (10 per cent). The only problem is the returns. The minimum yearly return is HUF 500 million in the case of poultry producers, which is slightly higher than the returns of the cooperative. As they do not plan to increase production volume and producer prices do not seem to increase this barrier is a serious constraint for them.

After the development recommendations, surveying the possibilities of replication, it must be acknowledged that despite the success of the inspected organization, its example can only be adapted with restrictions. The Hungarian poultry sector cannot be based exclusively on small and middle-sized processors, though these companies do play a significant role in the sector. Unfortunately there is no opportunity to build up new processing capacities as there is still significant capacity surplus in the sector, so starting processing activity cannot be viewed as a general solution for broiler fattener farms. The main possibilities for replication are quality development of the present integrations on one hand, and enforcing horizontal cooperation on the other. It became obvious during the preparation of the case study that a cooperative based on mutual trust and interest is favourable not only for agricultural producers but also for processors: they can get better quality, controllable and traceable raw material with lower losses. The degree of horizontal cooperation is very low at the moment in the sector. This type of coordination is especially important in the case of unsuitable

vertical coordination, but it even plays a role in good cooperation, for example in the case of input purchasing.

7. References

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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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