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SUPPLY CHAIN IN HUNGARY

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1 General review

2 Assessment and outlook: the structure and competitiveness of the milk and dairy supply chain

2.1 Introduction to the dairy sector

The dairy sector has a share of between 7 and 8% of total agricultural output, although its share of livestock output fell from 25% to 21% in 2005. As in other countries, the dairy sector provides regular farm incomes and, as a labour-intensive sector, contributes greatly to agricultural employment. These factors were important when agriculture was less specialised and many farms ran dairy herds. However, a strong trend towards specialisation has been under way since EU-Accession, with the number of milk-producing farms declining and specialised dairy farms on the increase. Roughly one third of milk producing farms are specialist dairy farms, but among livestock farms without dairy cows, only 5 per cent are specialist. The gains from increasing average herd sizes and milk yields have been outweighed by the significant drop in the number of dairy cows leading to a fall in milk production of over 11% between 2000 and 2004. Up until 2003 milk production was above quota (1,947,280 tonnes), but it fell 2.7% below it in 2004. Since then this trend has continued, and the shortfall is estimated to be 7-8% in 2006.

There were 107 firms involved in processing and manufacturing in Hungary at Accession, and significant changes have since taken place (see later). The sector is highly concentrated: the largest 11 companies (7 joint stock and 4 limited liability companies) have more than a 60% market share. Of the rest, there were 32 partnerships and co-operatives (with a combined market share of just 0.5%), 56 limited liability companies (12%) and 8 joint stock companies (27%).

During privatisation, about two thirds of the food industry was bought by foreign investors, mainly international companies. However, this share has diminished to around half as domestic investors have since bought a number of plants and companies. In the dairy sector, more than 80% of listed capital once belonged to foreign investors; this share diminished to 53% before Accession. After Accession the Italian corporation Sole, in Szeged, was bought by a significant Hungarian investor in the agriculture and food industry, who bought most of the minority shares from many small partners. At the same time the investor merged his other dairy company in Pécs thus achieving the largest dairy company Sole-Mizo ZRT in Hungary with a 32 per cent market share. This merger has pushed Dutch Friesland Hungária, which was the market leader for several years into second place with 25% of the market. Vertical integration followed through the purchase of elements of the bankrupt Hungarian Parmalat by 150 agricultural corporate and individual farms in November 2005. The government provided a bank guarantee for 15 years to support the credit needed for these purchases. The current market share is 18 to 20% but production capacity is almost double this quantity.

The consumption of milk and dairy products is relatively low in Hungary, fluctuating between 135 and 155 kg of milk and milk-equivalents per capita in recent years. Less than 80 kg of liquid milk, around 1 kg of butter and between 6 and 8 kg of cheese are consumed per capita. Human consumption of condensed and powdered milk is negligible.

Since Accession dairy imports (including liquid milk) have increased: the previous 7-8% market share doubled to 13-15% in 2005. Retail chains are now importing the majority of their dairy

products directly. Raw milk, which is exported to neighbouring Member States, constitutes about 10 per cent of dairy exports. In 2005, exports doubled, and look certain to be doubled again in 2006.

2.2 A dual sector

The dual structure in Hungarian dairy production arises more from the existence of corporation farms and individual farms, and less from the distinction between commercial and semi-subsistence farms. Corporation farms are all commercial, individual holdings are usually smaller but mainly commercial. The share of own produced consumption is diminishing, and accounts for less than 6% of production (2004). Accession has accelerated this trend, and in many villages all the milking cows have been slaughtered with many agricultural households starting to keep goats instead.

The most notable change to the dairy sector over the past few years has been the rapid decline in dairy farm numbers from 35190 in 2000 to 16249 in 2005 and in the national herd from 360770 to 285320 (a fall of 21%) in the same period. As can be seen from table 1 below, the fall in numbers has been particularly spectacular among the smaller herd size groups. Nearly 60% of the farms with only 1 or 2 cows in 2000 had either amalgamated or gone out of the industry by 2005 and half of the farms with 3 to 9 cows in 2000 similarly disappeared. Farms with less than 10 cows, which had constituted 93% of the dairy farms and had 22% of the national herd in 2000, accounted for 89% of the farms and only 16% of the cows in 2005.

Table 1 Dairy Farm Structure 2000 to 2005

Herd Size (a)	2000		2003		2005	
	Number of Herds	Number of Cows	Number of Herds	Number of Cows	Number of Herds	Number of Cows
1-2	21850	31220	13052	21223	9147	15132
3-9	11040	47920	6840	34951	5389	29284
10-19	1130	14320	982	13962	746	11503
20-29	270	6040	284	7457	237	7064
30-49	170	6020	188	8032	119	5202
50-99	140	9270	172	12815	165	11379
100-199 *			119	18939	95	14262
200-299 *	610	245980	94	23061	91	23585
over 300 *			282	168721	260	167909
Total	35190	360770	22013	309161	16249	285320

* Data for 2000 did not breakdown the herds of 100 plus.

Source: Central Statistical Office:

Agricultural census (2000); Agricultural Structural Survey (2003 and 2005)

The average herd size of corporation farms increased from 304 in 2000 to 358 in 2003 but has started to fall slightly to 350 in 2005 (only dairy cows) [CSO Farm Structure Survey for 2003 and 2005]. Since Accession the average size of cow herds (beef cows included) has diminished: 271 (2004) to 260 (as estimated by the CSO in 2006). In 2004 corporations had 830 herds which were increased to 864. The majority of the new corporations were formed by prosperous individual farms (which are smaller yet in size); this is the reason for the slight decrease in

average herd size. Herd sizes of individual farms are much smaller but have increased steadily from 4 in 2000 to 6 in 2006. Corporation farms increased their share of the national herd from two thirds to three quarters between 2000 and 2006, while the share of individual holdings fell from a third to a quarter.

Both forms of farming have a relatively high proportion of 'specialist dairying': 41% in corporations and 31% in individual milk-producing farms. Furthermore, among specialist types of corporations, dairy farms are the largest (followed by pig farms). Specialist individual dairy farms are the second largest type after horticulture.

In processing and manufacturing there are also signs of a dichotomy: half of the companies together have a market share of less than half of 1%, while the largest 11 have more than 60%.

2.3 Prospects for dairy product consumption

The consumption of milk and dairy products fell during the years of transition from 230 to 250 litres per head in the 1980s to 160 to 170 litres per head in the mid 1990s, mainly due to the fall in real household incomes. Since then, this level has fluctuated but remained roughly constant. The same picture is seen in the consumption of liquid milk, down by a third since the 1980s, and butter, down by half. Cheese consumption, however, has increased by around 50%, partly compensating for the significant fall in meat and meat products. After Accession, cheese consumption increased by 25% in a year. At the same time yoghurts and dairy desserts also increased by 20 per cent and curd and sour creams by 10 per cent.

Liquid milk has traditionally had a 2.8% fat content, which can be temporarily maintained under derogation until 2008. It now constitutes half of the total milk consumption; fresh milk has about 65-70%, and the share of UHT is 25%.

The quality of dairy products has improved since Accession but at the cost of the closure of many small processors and manufacturers. However a series of inspections in 2005 found irregularities in 80% of inspected samples. A general problem has been labelling: unreadable expiry dates, lack of Hungarian text, and false data in labels (for instance, the higher fat content of imported milks and lower fat content of domestic products).

12 to 14% of household expenditure was on milk and other dairy products in 2002. In the lowest 10 per cent of households 47 euros were spent, and in the highest 10 per cent, 118 euros, with an average of 81 euros per capita of which 39 euros were spent on liquid milk.

Analysing annual data from 1970 to 2000, we have found that milk consumption in Hungary is strongly correlated [$R^2=0.947$] with real income per capita and the price of milk (deflated by the CPI). Income elasticity of demand is estimated at 1.46, and own price elasticity of demand -0.49 (own calculations on time series from 1973 to 2002 of Household Statistics of the CSO yearbooks from 1980 to 2005).

The consumption of milk and dairy products was clearly affected by the fall in real incomes during the early 1990s. When real incomes grew again, a number of analysts expected that demand would expand. Indeed in several years consumption increased but overall the downward trend continued until 2004. Although consumption of some dairy products rose in 2004 and again in 2005, there are several developments which temper optimism. First, real incomes in Hungary are expected to fall due to the ongoing restrictions (The government has announced that

previous communications before and during the election campaign on the prosperous state of the Hungarian economy was wrong and restrictions should be implemented in the following couple of years. The restrictive measures are to be introduced gradually but no details have yet been given. Second, an intensive inspection campaign has discouraged cheap dairy imports and its effects are expected to last. Third, there is a critical situation in the milk sector in several European countries: retail chains are attempting to squeeze prices which forces out many producers from markets in Germany, Austria, the UK and Hungary, for example. The income of the remaining producers is not sufficiently secure at current prices to invest to replace the capacity. This may lead to increased consumer prices which would deter a return to the 1980s level of consumption in the short and medium term.

2.4 Expert views on the challenges at the level of the milk production

The main success of the last five years in this sub-sector has been that structural changes have started to accelerate and in doing so have stabilised milk production in long run. Another success has been the high quality of milk production. In 2002, only 85% of the milk was classified as top quality and since 2004, it has been 98%.

The number of dairy farms, especially those with low herd sizes and poor quality has fallen rapidly. In 2005 only 16061 individual farms remained in the milk sector - half the number in 2000. Some 15 000 dairy farms disappeared while the number of corporate dairy farms fell by 28% in the same period. 572 corporate dairy farms now have 70 % of all dairy cows. Farm amalgamations have led to a higher average herd size on individually owned farms which has risen from 3.6 dairy cows in 2000 to 5.4 in 2005. However, growth in herd size has not counterbalanced the decline in dairy cow numbers of around 20 % as low yielding cows have been slaughtered.

Small farms have faced difficulties with marketing their milk as processors prefer to sign contracts with farms having a minimum level of daily milk production (usually some 500 litres or so). Farms have also struggled to cope with providing the necessary conditions for hygiene and sometimes animal health care. Most small farms have no refrigeration system and are forced to sell their milk to local milk collectors at a lower price than they could get if they had on-farm cooling and storage facilities. The production cost of many small farms is lower than the producer price or at the same level. Before Accession, producer prices had tended to increase slightly, but since 2003 the trend has been downward. Producers usually have contracts for 3-5 years, based on an algorithm for calculating the price; however the price can be changed every year. Contracts fix the duration, quantity, and terms for collection.

Milk production in general has been reduced, especially on small and unprofitable farms; other dairy farmers do try to buy more cows in order to increase efficiency by taking advantage of economies of scale. Only profitable farms can afford to buy cows financed from own funds or with bank loans. Additionally there is still a need to improve technology and the quality of feed and management. Larger farms have higher levels of productivity but investment is still needed to develop technology and increase competitiveness. Such investment started in previous years using agricultural and rural development funds from ARDOP and the SAPARD programme and focused on buying more cows and improving technology. To increase the efficiency of production further investments are still needed although under the CAP fewer external resources will be available.

Regarding future prospects, no increase in cow numbers seems likely in the short term although higher yields can be expected due to farm amalgamations, technological development and

improving management skills. In the long term, the most important factors influencing development will be the modernisation of production, improvements in productivity, and the reduction of production and transaction costs. It can be expected that the decrease in the number of herds will slow down and stabilise. Additional efforts in management development and feeding technology may help to increase yields. A further decline in the number of small farms is expected alongside a shift towards focusing their marketing on local markets and stable buyers.

2.5 Expert views on the challenges at the stage of milk collection from farms

There are daily milk collections direct from the larger farms as these farms have their own storage and refrigeration facilities, giving rise to very few hygiene or milk quality problems. Truck capacities are fully utilised, giving a low transportation cost per unit. Prices depend on a farm's milk quality and quality control is straightforward. However, milk from small producers is collected by local collection centres. In 1996 there were 1600 such centres, but by 2006 only 250. Regions were affected differently due to the uneven distribution of herds of 1-4 dairy cows.

The collection centres procure their milk from different producers often with varying quality. It is difficult to establish a direct link between farms' milk quality and the price they receive. As a result milk from collection centres has been less and less appreciated by processors, especially by larger ones. Small and medium processors, however, will accept this milk but at a lower price. Hygiene is an issue for small farms as they lack necessary facilities. Small individual farms are widespread geographically which also makes direct buying from them more costly for processors. Small and medium processors produce dairy products mostly for local markets. They need raw milk to meet market demand but are unable to buy the milk from large farms due to higher prices or shortages of supply. More and more local collection centres have closed forcing small farmers either to seek quota by 2006 for direct sale instead of delivery to the collection centre, or to cease production and sell their cows to other farms or for slaughter. It is difficult for them to increase production by buying new cows as most cannot afford it due to a lack of finance. Other farms having between 5 and 15 cows would like to buy more cows and obtain a larger milk quota to have a better marketing position. However, this is a slow process as buying cows requires a substantial investment. Closing local collection centres has had different effects in different regions. Where multinational food chains are present competition is fierce and local collection centres cannot compete. In other regions (e.g. the eastern part of the country) a significant number of such centres are still in business. In these regions there are also more small dairy farms that can survive for a longer period.

2.6 Expert views on the challenges at the milk processing stage

Increasing concentration of production in the dairy industry has been taking place over the last five years. One of the biggest problems companies face is the low and still falling level of capacity utilisation, currently around 50-55%, that has resulted in an increase in unit production costs and made processing companies less competitive. As well as increasing concentration more and more small and medium size processors have ceased production and left the market. A few exceptions have been observed where a processor has a clear market niche or stable customers. Despite the existence of underutilised domestic processing capacity, strong competition from abroad has led to a significant proportion of raw milk being exported to neighbouring countries. In contrast, there is strong pressure from imports where more and more processed goods are coming into local markets from other EU countries, threatening the market position of local processing businesses. However, usually retail chains are the most important exporters and importers as well.

In order to increase competitiveness by reducing production costs and consumer prices processors have started to specialise. Some companies focus on liquid milk, others on producing dessert products (e.g. DANON fruit yoghurts or TOLNA cheese). Business-to-business production has also increased. The share of foreign capital in food processing is rather high at between 70-80 % depending on how certain large businesses are classified in ownership terms. Due to strong competition specialisation will continue in the years to come.

In recent years new investment has been supported by the Agricultural and Rural Development Operative Programme (ARDOP, part of the Hungarian National Development Programme) and SAPARD programmes which have helped processors catch up. However, such resources will be limited under the CAP and companies will increasingly have to invest more from retained profits.

2.7 Conclusion

All stages of the dairy food chain face very strong challenges and it is very difficult for small producers to remain viable.

At the farm stage, the small scale of operation makes it hard to respond to falling producer prices. Even if this is possible there is still an external threat that collection centres might be closed. Just before and after Accession, herds had to be slaughtered in many areas, most of all in Transdanubia, because collection centres went out of business. Some farms have transformed to specialise in goats, but this needs capital as refrigeration facilities have to be installed.

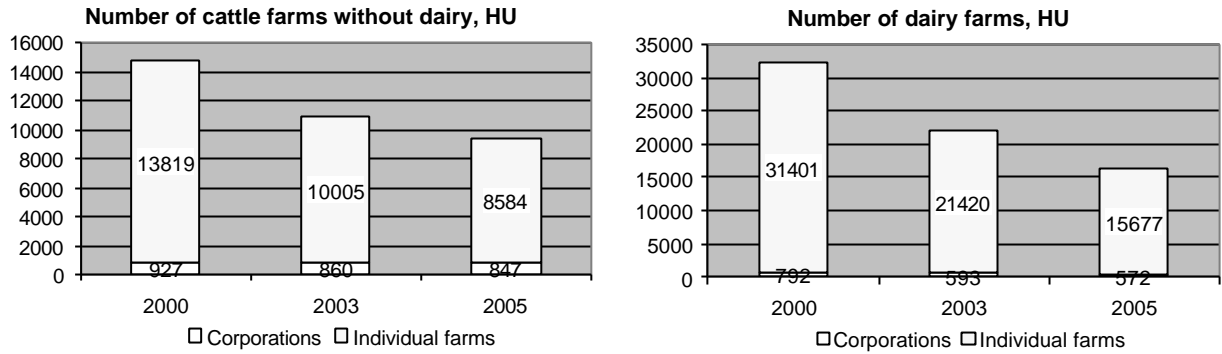
At the processing level, the main problem is the collection of milk from smaller farms that is both more expensive yet of a poorer quality. There is a threat that milk from any one of the smaller producers could contaminate the whole delivery.

The scale of operations in processing also presents a significant challenge. Small and medium processors are mainly contracted to smaller producers leading to higher costs and at the same time lack capital due to slow payment by producers. A lack of capital makes technical development slower and market adjustment difficult.

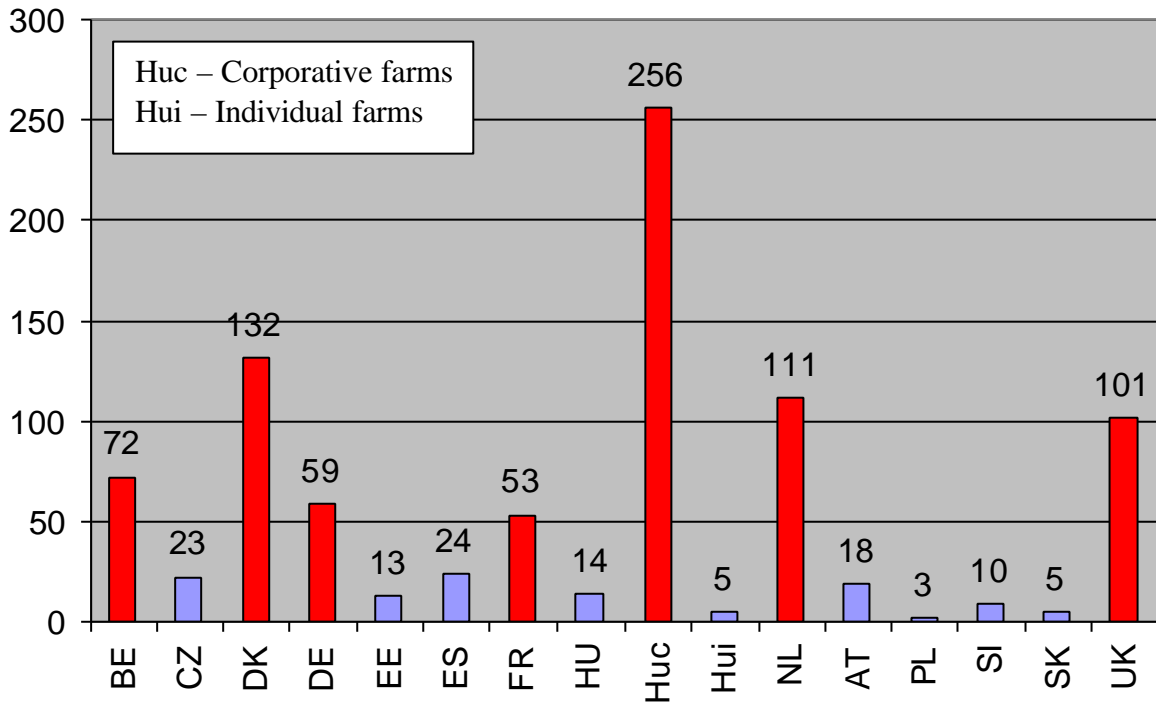
Since Accession the number of processing and manufacturing companies has fallen from 107 to only 60 by 2006 due to closures and mergers. The concentration is high and steadily increasing as is shown from various National Competition Office communications. The last annual report of the Office explicitly states that concentration trend has strengthened in the dairy sector since Accession. The challenge for the entire chain relates to price. In practice dairy prices are determined at the retail level as retailers want to keep them as low as possible. The increase in VAT in 2006 from 15 to 20% (one of the first restriction measures) might lead to further pressure on producer prices.

Accession has exposed the industry to strong competition and a large number of firms are having difficulties maintaining their market positions.

Annex 1: Information on the primary production



41. SPECIALIST DAIRYING, ESU - 2003



Annex 2: Information on the processing and manufacturing sector

Processing and manufacturing, HU, 2004

