A Study of the Milk Sector in Poland, Hungary, the Czech Republic and Estonia

JORDBRUKS VERKET

Rapport 2001:9

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Swedish Board of Agriculture
Market Regulations Division
2001-05-02

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1 Introduction

1.1 Executive summary

Ten countries in Central and Eastern Europe (the candidate countries or CEEC-10), plus Malta and Cyprus, have applied for EU membership. Agriculture is one of the areas where these countries still need to develop in order to fulfil the acquis and to compete successfully on EU markets. In many candidate countries the dairy sector is one of the least developed agricultural sectors, measured by EU standards. In this study the dairy markets in Poland, Hungary, the Czech Republic and Estonia are described and compared to the EU-15 dairy market.

The sanitary status of establishments, both in the primary sector and in the processing industry need to improve in order to fulfil EU standards. The quality of raw milk does not fully comply with EU requirements.

Concerning trade in the dairy sector bulk products, such as skim milk powder, butter and to a certain degree cheese, dominate exports while soured products and cheese figure more frequently on imports.

Price levels on dairy products are generally low compared to the EU. There are several scenarios for how the lower prices in the candidate countries and the higher prices in EU-15 will develop after integration of the candidate countries into the EU. One scenario is that the lower price levels in the candidate countries put a downward pressure on EU-15 prices. That could cause various intervention schemes within the CAP (Common Agricultural Policy) to be activated very soon after EU membership. Another scenario is that prices in the candidate countries start to rise very fast after EU membership, which would imply a shock, primarily to the consumers in these countries. However, in Agenda 2000 it was decided to cut intervention prices by 15% in three steps, beginning in 2005, which probably will press EU market prices downwards. The development of exchange rates in EU-15 and in the candidate countries will also be of crucial importance since it has an impact on the result of prices quoted in euro.

Market regulations and institutions similar to those of the EU seem to be in place in many of the candidate countries, but it appears that they in general still need to be developed in order to correspond to EU requirements. For example, milk quotas are applied in the Czech Republic and in Hungary, export refunds for dairy products are paid in the Czech Republic and in Hungary and intervention for butter and skim milk powder is possible in Poland. Estonia does not apply any market regulations similar to the CAP.

1.2 Agenda 2000 and dairy reforms in EU-15

It is important to recognise that it is not only the candidate countries that will have to adapt and develop their agricultural markets. There is also a constant internal and external pressure on the EU to reform support measures connected to agriculture. The strongest external factor is the WTO and the aims to liberalise markets globally, while the most powerful internal factors are the budget and the political intentions of several member states. In Agenda 2000 important decisions were taken in order to adapt the CAP to both the external and internal factors. In the dairy sector, Agenda 2000 implies gradually increasing milk quotas in all member states, a 15% reduction of the intervention price for skim milk powder and butter, the introduction of a direct aid to milk producers and the allocation of so-called national envelopes. In 2003 a mid-term review will be conducted, that might have certain consequences for the decisions taken in Agenda 2000.

Agenda 2000 will in some ways affect the comparisons made in this study, as they are based on the current market situation in the EU and in the candidate countries. From 2005 to 2008, when the majority of the decisions taken in Agenda 2000 will be implemented, some of the candidate countries will most likely already be EU members. Some will have been members for some years while others will be recent members and perhaps a few will become members after 2008. Those candidate countries that become members before 2005 will enter the EU while, for example, intervention prices are still at their present level. This will have an impact on the scope of price adaptations as the EU's market prices may adjust after a reduction in the intervention price. Effects of Agenda 2000 in other sectors, for which the changes have already been implemented, are also important to the dairy sector. The intervention price for cereals has already been reduced, which implies cheaper feed for milk producers.

1.3 Purpose and outline

When Sweden became a member of the EU we were asked to present statistics, positions and demands for various sectors, and to adapt our farm and industry sectors wherever needed. The same procedure is now being applied to the candidate countries. As mentioned above, the dairy sector in those countries is in many ways far from being adapted to EU standards. The purpose of this study is to describe the trends during the transition period, i.e. during the 1990s when the candidate countries were transformed from planned to market economies, as well as the present status of the dairy farms and industries. Comparisons to the EU will also be made. The study is limited to Poland, Hungary, the Czech Republic and Estonia. These countries are part of the "first wave" of accession countries, which also includes Slovenia and Cyprus. Descriptions and comparisons include the primary sector, the processing industry, consumption trends, trade patterns, prices, national policies in the dairy sector and national demands in membership negotiations. By comparing these parameters to those of the EU it is possible to get an idea about how well the four candidate countries in question have developed during the last decade and where they stand in relation to the EU today.

In chapter 2 the general trends of the transition period in the four countries in question are presented. Graphs based on tables in the subsequent chapters give a general view of the development of production in the primary sector and in the processing industry, consumption, trade, market prices and institutional prices such as minimum prices. In chapters 3-9 the parameters mentioned above (see also table of contents) are analysed more in depth per country. In chapters 10 and 11 country summaries and general conclusions are presented.

1.4 Note on the data

The ambition has been to build up series of statistics from the beginning of the 1990s up until the present. However, it has not always been possible to find reliable figures for such a long period, as aggregated information of this kind is scarce. In addition, the data often vary depending on the source, which creates some uncertainty as to its reliability. It has moreover been difficult to consult only one single source in each table, which means that various types of literature sometimes are mixed into the same table. Qualitative aspects and types of package etc. might also distort price comparisons.

When recalculating exchange rates into euro, the Swedish Central Bank's yearly average exchange rates have been used. For 2000 the average is for January-July. Eastern European currencies have been converted to euro via the Swedish krona.

The abbreviation "n.a." in a table indicates that the figure is "not available".

2 General trends during the transition period and forecasts

In this chapter the general trends during the transition period in the dairy industries of Poland, Hungary, the Czech Republic and Estonia are described. The descriptions comprise primary production, the processing industry, consumption, trade, prices and market regulations. The purpose is to illustrate the development of the dairy industry during the first ten years of market economy, and thereby give some idea about how the industry might continue to develop in the future. In table 1 below some basic figures for agriculture and the dairy industry in the countries in question are given.

Table 1 Key figures for Poland, Hungary, the Czech Republic, Estonia and the EU, 1997-2000 (latest data available has been used)

	Poland	Hungary	Czech Republic	Estonia	EU
Population, million	38.6	10.2	10.3	1.5	372.7
Population in agriculture, %	26.9	8.0	6.3	13.1	5.1
Population working in dairy industry, % of food &beverages	n.a.	10.0	n.a.	16.5	n.a.
Self-sufficiency degree for milk, %	105	97	125	103	110
Agriculture as % of GDP	3.8	5.5	3.7	5.7	1.6
Dairy industry, % of value of total marketable agricultural output	17	12	n.a.	28	17.6

Source: Land Lantbruk no. 8/2000, Hungarian Ministry of Economic Affairs' web page, Expert assessment by O. Snille March 1998 (own calculations), Commission's web page, Maelkeritidende no. 5 2001, Dairy Facts and Figures 1999 edition

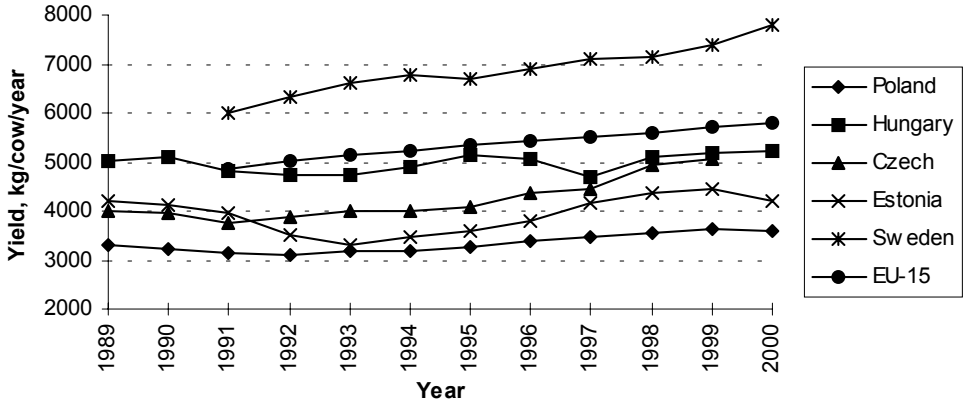
2.1 Primary production

Before World War II yields and livestock productivity in several candidate countries were comparable to those of Western Europe. During the period of central planning quantity became first priority while efficiency, technological advances and quality were more or less neglected. In many candidate countries large collective farms were formed. During the transition period, beginning in the late 1980s, many of the large farms were privatised and split up into smaller units. Even if the reforms had many positive effects on agriculture, the transformation of the economy came as a shock for many sectors. In the milk sector many farms became so small that efficient production was impossible. Knowledge about running a dairy farm was generally low. Livestock production became less intensive, and many farmers could not afford to modernise. Transformation from planned economy to market economy was hence not only a process of building new systems, but also disrupting inefficient but still functioning structures without having prepared for the challenge of a market economy with direct links to world markets. The prevalence of technical equipment in farming has however increased rapidly during the last part of the 1990s, even if occasional deteriorating financial conditions have moderated this development. The low level of education in commercial farming is still considered a problem.

The transformation of the economy led to a sharp decrease in milk production. In the four candidate countries in this study milk production fell from 20.64 million tons in 1990 to 17.06 million tons in 2000 (-17%). According to the Commission dairy cow numbers fell in CEEC-

10 from above 10 million in 1992 to 7.9 million in 1999, and is projected to continue to fall until 2006 at a rate of 0.3-0.4% per year, amounting to 7.7 million in 2006. However, the Commission believes that Poland and Hungary will be exceptions as dairy cow numbers in these two countries will remain stable or increase. Yields per cow have been unchanged or improved during the same period. In 1999 the average yield for EU-15 was about 5 700 kg/year, which can be compared to about 3 500 kg/year in Poland, 5 200 kg/year in Hungary, 5 100 kg/year in the Czech Republic and 4 500 kg/year in Estonia.

Graph 2-1. Development of milk yields in candidate countries, EU-15 and Sweden, 1989-2000



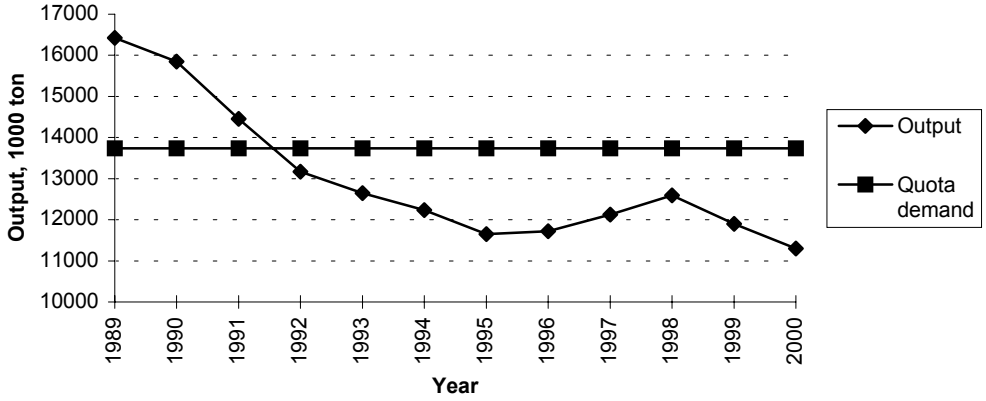
Source: Agricultural situation and prospects in Central and Eastern European countries, Dairy Statistics 2000 by Swedish Dairies' Association

In a future perspective it seems like there at least is an ambition to expand milk production to former levels, which is reflected in milk quota levels demanded by the candidate countries. Poland's request of 13.74 million tons in 2008 is 10% higher, Hungary's request of 2.8 million tons is 33% higher, the Czech Republic's request of 3.1 million tons is 10% higher and Estonia's request of 0.9 million tons is 28% higher than production in 1999. The graphs below show the output development during the 1990s compared to the quotas demanded. According to the Commission's estimates, milk production in CEEC-10 will increase by 9% from a level of 29 million tons in 1998 to 31.7 million tons in 2006. About 50% of the increase will take place in Poland and 15% in Hungary. Higher average yield per cow as an effect of improved breeding is believed to be the main contributing factor to production increases. The Commission's projections above are made under the assumption that milk prices remain unchanged in CEEC-10 and that none of the countries join the EU during the relevant period. In 2000 production increases were negatively affected by unfavourable weather conditions, pushing up feed prices in most candidate countries.

In the EU membership negotiations the candidate countries have requested that milk quotas should be based on a period before the drastic fall in production that occurred in the 1990s, as pre-transition levels represent the potential of milk production. The Commission's view is however that quotas should be based on a more recent period, 1995-1999 more precisely. There is a fear in EU-15 that the application of a base period before the transition period will add to the current overproduction of milk and dairy products, while possibilities to recourse to export refunds will become even more limited as a consequence of the WTO agreement. Other countries that have become EU members during the last couple of decades, Sweden for example, were allocated quotas based on milk production close in time before EU

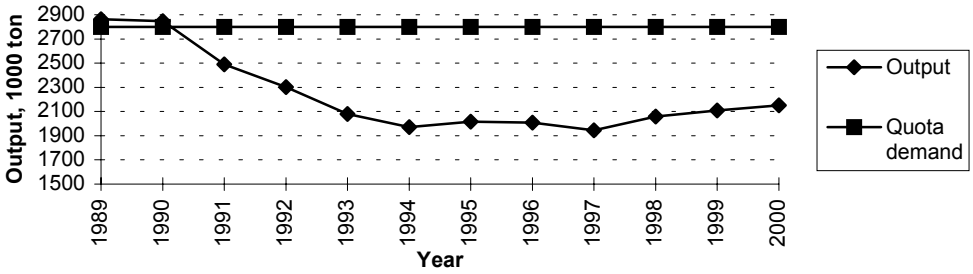
membership. On the other hand, it has not yet been formally decided when any of the candidate countries will become EU members.

Graph 2-2. Milk output development in Poland compared to quota demanded, 1989-2000



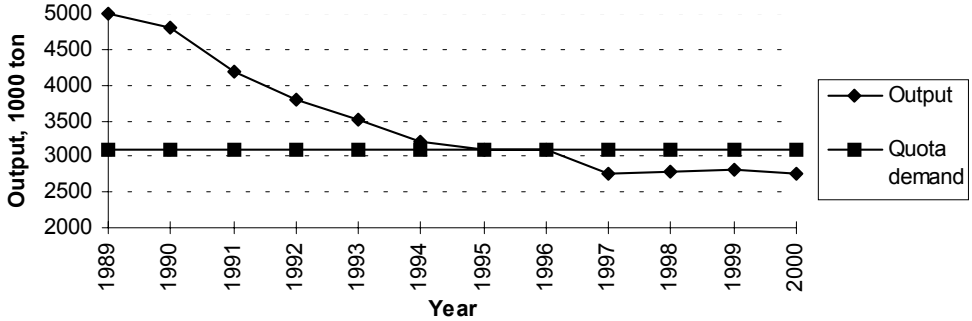
Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries

Graph 2-3. Milk output development in Hungary compared to quota demanded, 1989-2000



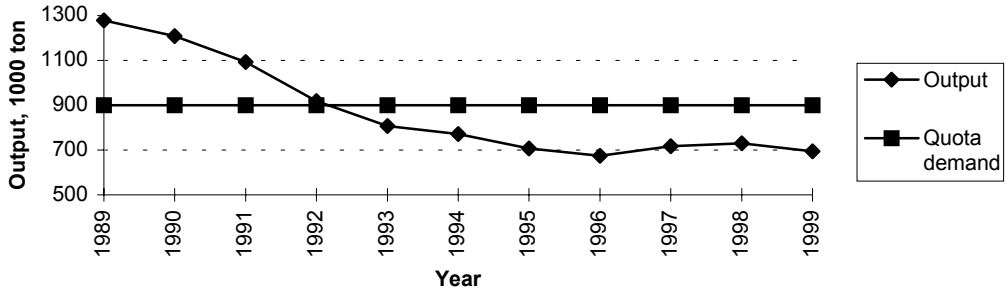
Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries

Graph 2-4. Milk output development in the Czech Republic compared to quota demanded, 1989-2000



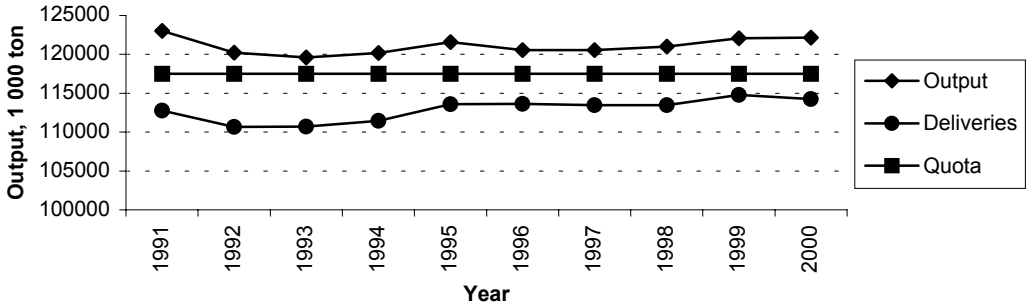
Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries

Graph 2-5. Milk output development in Estonia compared to quota demanded, 1989-2000



Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries

Graph 2-6. Milk output development in EU-15 compared to quota, 1991-2000



Source: Commission working documents

2.2 Processing industry

During the transition period many branches of the food industry in the candidate countries emerged as being on a high level concerning power of incentive and modernisation. In general, privately owned industries have been more profitable than industries in the public sector. The dairy sector could however not be considered as being part of the top layer in the process of change, at least not in the beginning of the transition period. The cooperative owner structure was successively replaced by private ownership. In the cooperative structure agricultural sectors were usually vertically organised, from production to sales. The vertical organisation has thereafter partly been replaced by an increasing number of intermediaries where lack of co-ordination has been frequent. One side effect has been over-capacity in the processing industry.

The inflow of foreign investment in the agricultural processing industry has accelerated during the late 1990s. Foreign companies are important catalysts in the modernisation of plants, development of production and marketing strategies etc. Many companies that cannot count on the willingness of such investors are encountering difficulties in finding financial means on their own. The meat and dairy sectors have in general not been prioritised by strong investors, which instead have turned to for example the confectionery, tobacco and brewery industries.

Table 2 Foreign investments in the agricultural sectors in Poland, Hungary, the Czech Republic and Estonia, 1999

	Poland	Hungary	Czech Republic	Estonia
Billion USD	38.9	24.5	10.2	2.7
Billion euro	36.5	23.0	9.6	2.5

Source: Polish Ministry of Agriculture and Rural Development - Agriculture and Food Economy in Poland - Warsaw September 2000

In 1999 the volume of milk delivered to dairies, as compared to total milk production, amounted to 56% in Poland, 80% in Hungary, 88% in the Czech Republic and 63% in Estonia. The average figure for EU-15 in 1999 was 94%. Production of most processed dairy products fell in Poland and Estonia from 1997 to 1999 due to among other things decreased deliveries, reduced domestic demand and crisis in the states of the former Soviet Union. In Hungary and the Czech Republic, on the contrary, production of processed dairy products increased during the period in question. The increased export volumes from Hungary and the Czech Republic between 1997 and 1999 could be a reason for the higher production of dairy products. In comparison to the EU, bulk products such as butter, skim milk powder and to a certain degree cheese, have traditionally been more important in the candidate countries. However, during the last couple of years these countries have caught up on the production of value-added products that may be marketed with a certain profile, such as ice cream, various cheeses and flavoured yoghurts.

The dairy industry is one of the sectors where important adaptations still are needed in order to fulfil the requirements of EU membership. Therefore it may be justified to mention the financial assistance for rural development that will be granted by the EU under the so-called SAPARD (Special Accession Programme for Agriculture and Rural Development). The candidate countries' own Ministries will manage SAPARD funds. The dairy sector will probably receive an important share of the yearly budget of 520 million euro (budget for all candidate countries, year 2000 prices). Up to 75% of costs for projects will be covered by SAPARD. No money has been paid out so far, as the paying agencies in the candidate countries have not yet been finally approved.

Table 3 Allocation of SAPARD funds in Poland, Hungary, the Czech Republic and Estonia, 2001-2006

1 000 euro	Poland	Hungary	Czech Republic	Estonia
Amount per year 2001-2006	168 683	38 054	22 063	12 137

Source: Agra Food East Europe December 2000

2.3 Consumption

During the centrally planned period, governments in the CEEC:s generally subsidised consumer prices, which had a positive impact on consumption as prices were kept on a low level. During the transition period these subsidies were successively removed and price increases were triggered. Inflation was high in most candidate countries, which also helped to push prices upwards. Consumption of dairy products started to fall.

Other factors that influenced consumption negatively were decreased supply of milk and dairy products, lowered purchasing power and shifting consumer preferences. In Hungary

substitutes such as soft drinks and margarine gained market shares at the expense of dairy products. Companies producing soft drinks and vegetable fats have generally attracted more foreign investment than the dairy industry, and there has been a comparably intensive marketing of these products. In the Czech Republic consumers have tended to shift to low-fat & long-life products. In 1998 these products represented 25.7% of the liquid milk market, which is a 53% increase compared to 1997. In 1999 long-life milk accounted for two thirds of total liquid milk sales. Vegetable fats have partly replaced butter. In Poland cheese consumption is dominated by quarg and fresh cheeses at about two thirds of total cheese consumption, while hard cheeses represent the remaining one third.

The Commission estimates that consumption of milk and dairy products in the candidate countries will increase by 15% between 2000 and 2007, mainly as a consequence of improved household incomes. Examples of products that in general are enjoying increasing popularity are yoghurt, cream desserts and various cheeses.

Table 4 Consumption of milk, cheese and butter, 1995-1999

	1995	1996	1997	1998	1999
Drinking milk (including yoghurt etc.), kg/capita/year					
EU-15	93.2	93.9	94.3	95.4	95.8
Sweden	153.0	150.9	150.8	149.2	147.9
Poland	88.9	89.6	79.0	87.0	n.a.
Hungary	n.a.	n.a.	64.9	67.4	69.5
Czech Republic	66.7	60.3	59.6	59.9	61.0
Estonia	57.6	52.9	56.2	55.8	58.0
Cheese, kg/capita/year					
EU-15	16.6	16.8	17.1	17.5	17.9
Sweden	16.5	16.4	16.3	16.8	17.2
Poland	9.2	9.5	9.8	9.0	n.a.
Hungary	n.a.	6.7	6.8	7.2	7.2
Czech Republic	6.5	8.4	8.6	8.8	9.3
Estonia	3.6	3.4	n.a.	4.1	n.a.
Butter, kg/capita/year					
EU-15	4.7	4.7	4.8	4.6	4.6
Sweden	2.1	1.8	1.7	1.6	3.5
Poland	3.0	3.1	3.4	3.5	3.6
Hungary	1.5	0.8	0.7	0.8	0.8
Czech Republic	4.5	4.2	4.1	4.0	4.0
Estonia	3.7	3.7	n.a.	1.7	n.a.

Source: Swedish Dairies Association's home-page, ZMP Agrarmärkte in Zahlen - Mittel- und Osteuropa 2000, Dairy Markets Weekly, Dairy Review 2000

2.4 Trade

The EU is an important trading partner for the candidate countries. Trade balances for dairy and agricultural products are shown in graphs 2-7 to 2-14 below. Trade in dairy products with the EU is characterised by highly processed dairy products being exported from the EU toward the candidate countries, while bulk products are exported from the candidate countries to the EU. Highly processed dairy products that are exported from the candidate countries are usually sold on other markets than the EU.

The political intention of the CEEC-10 and the EU has been to balance trade flows by promoting exports from the CEEC-10 to the EU, for example through the Europe Agreements. The desired result has not been achieved as the trade deficit for the CEEC-10 in relation to the EU in most cases seems to grow or remain unchanged. However, in the dairy sector the Czech Republic's and Estonia's exports to the EU exceed imports from the EU, for Hungary the relationship is rather even while for Poland imports exceed exports. In 1998 the EU represented 43% of Poland's, 44% of Hungary's, 31% of the Czech Republic's and 16% of Estonia's total agricultural exports. Corresponding figures for imports from the EU was 48%, 42%, 50% and 49%.

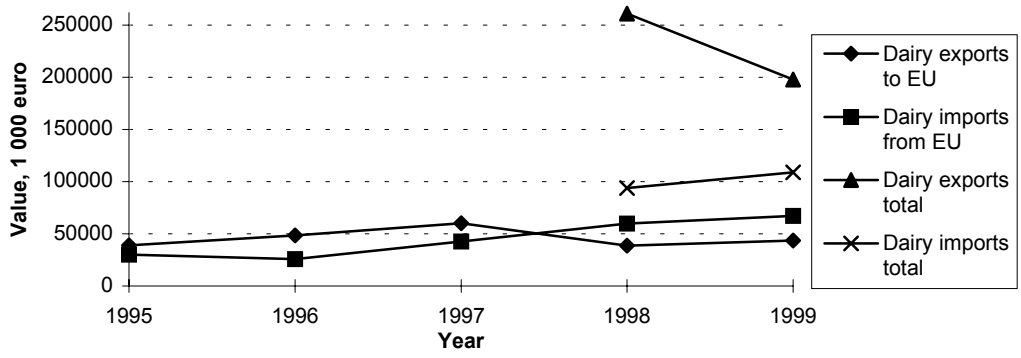
Trade between the EU and the candidate countries will probably boost in the near future as new concessions were agreed during 2000 within the Europe Agreements. A comparison of total trade between the EU and the candidate countries of interest in this study with skim milk powder, butter and cheese to trade within the Europe Agreements (98/99 and 99/00) shows that the main part of butter and cheese exported from Poland, Hungary, the Czech Republic and Estonia to the EU is exported within the Europe Agreements. For skim milk powder total exports are much larger than exports within the Europe Agreement quotas. This could imply that exports of skim milk powder are not dependent on preferential agreements, while that would be the case for butter and cheese.

The Central European Free Trade Agreement (CEFTA) was signed for the first time in 1992. Present members are Poland, the Czech Republic, Slovakia, Hungary, Slovenia, Romania and Bulgaria. The agreement implies more or less liberalised trade between the members, and an important part of trade with agricultural products takes place within the CEFTA. States of the former Soviet Union have also been important trading partners for several candidate countries. The economic crisis in Russia and in the Ukraine in the autumn of 1998 affected trade possibilities negatively, which is obvious in particular for the Baltic States.

In this context it should be mentioned that Poland, Hungary and the Czech Republic have to respect WTO commitments for the payment of export refunds. Estonia is not allowed to pay out export refunds. When the candidate countries become members of the EU, subsidised trade between the parties will probably be subtracted from the added WTO commitments. In the dairy sector refund payments seem to be on a very low level, which of course to some extent is related to lower prices than in the EU. Among the four candidate countries in this study it is only the Czech Republic that has applied export refunds on a regular basis. In 2001 the expected milk surplus in the Czech Republic is believed to reach 540-570 million litres and outlays for export refunds are estimated to 1 055 million CZK (almost 30 million euro). This figure can be compared to the WTO ceiling of about 70 million euro in 2001. The Hungarian Milk Council had been promised a budget by the Government in 2000 in order to finance export refunds for dairy products, but no money seem to have been received. A notification on whether refunds actually have been paid during 2000 has not yet been published.

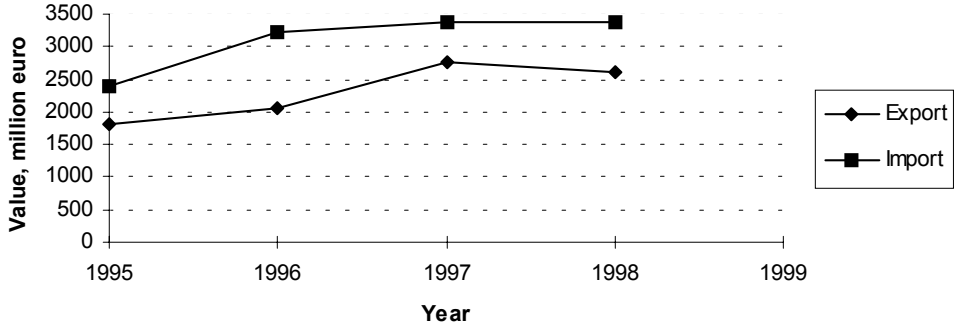
The WTO commitments do obviously not create any problems for the candidate countries in question, at least not in the dairy sector. The EU, on the other hand, has from time to time encountered difficulties to respect WTO ceilings for dairy products, especially for the group "other dairy products". It is hard to predict how an enlarged EU will be able to respect the WTO commitments without having to, for example, reduce refund levels or remove certain products from the export refund system. The situation will depend on the size of milk quotas and the development of consumption and prices. These factors have an effect on the volumes that will be available for exports in the enlarged EU. The general view is however that the enlarged EU will meet some problems in respecting the WTO commitments.

Graph 2-7. Development of Polish trade with dairy products, 1995-1999



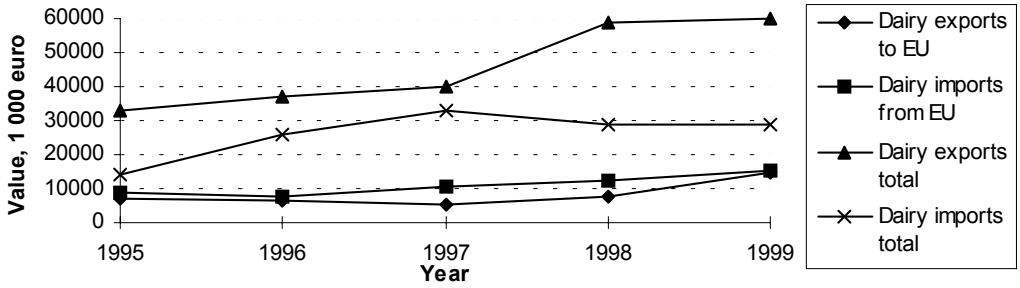
Source: Comext, ZMP Osteuropa no. 11/00

Graph 2-8. Development of Polish trade with agricultural products, 1995-1998



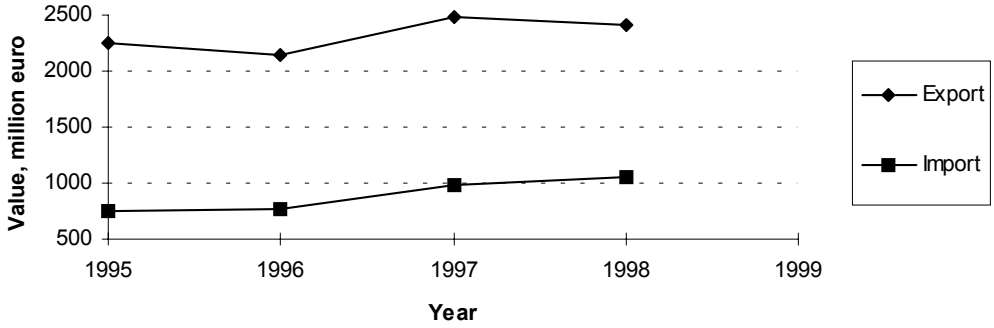
Source: ZMP Agrarmärkte in Zahlen Mittel- und Osteuropa

Graph 2-9. Development of Hungarian trade with dairy products, 1995-1999



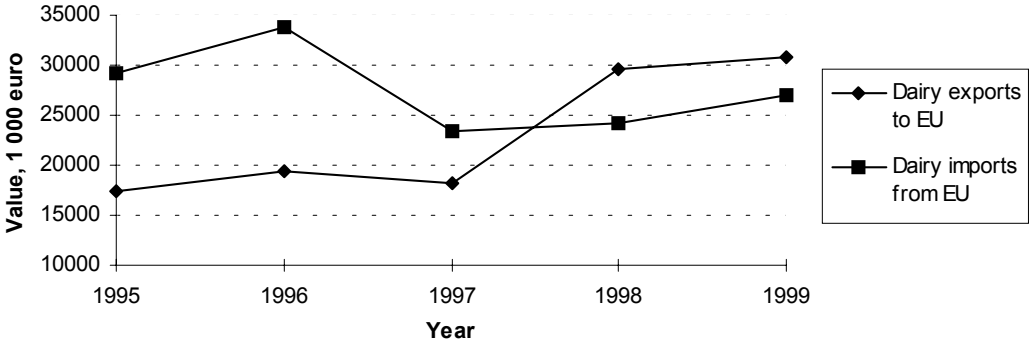
Source: Comext, Hungarian Ministry of Economic Affairs' web page

Graph 2-10 Development of Hungarian trade with agricultural products, 1995-1998



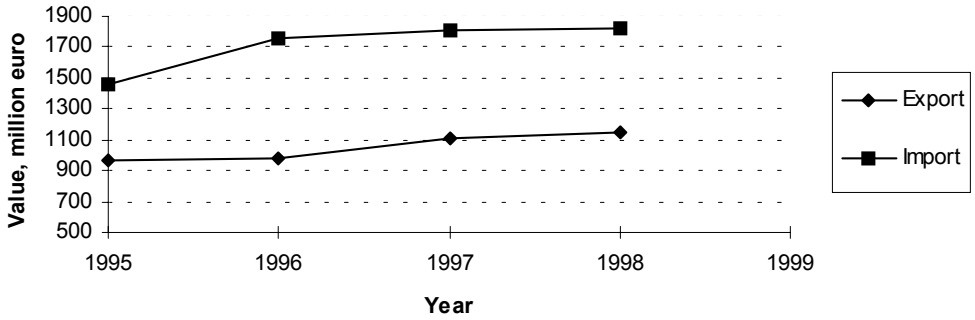
Source: ZMP Agrarmärkte in Zahlen Mittel- und Osteuropa

Graph 2-11. Development of Czech trade with dairy products, 1995-1999



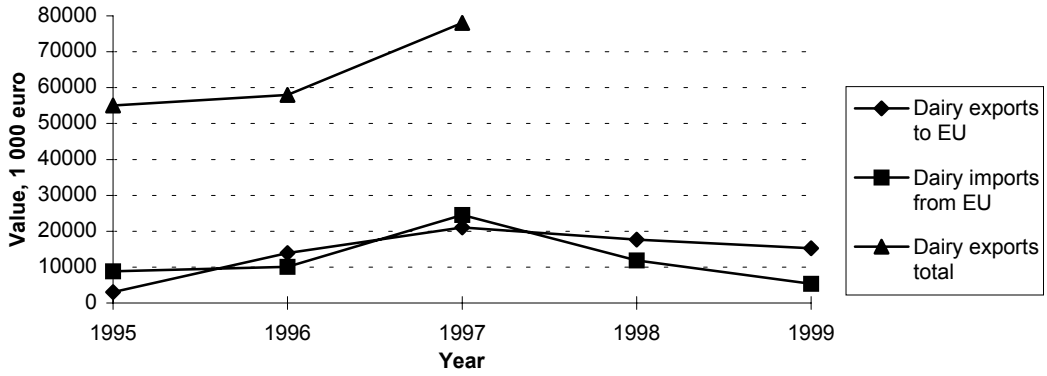
Source: Comext

Graph 2-12 Development of Czech trade with agricultural products, 1995-1998



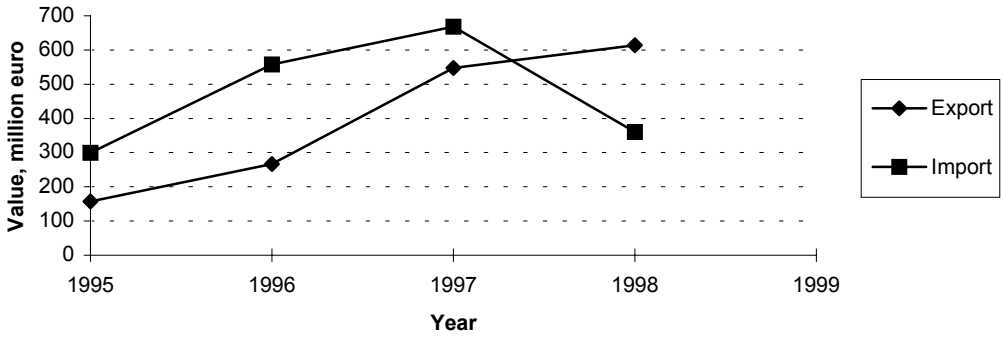
Source: ZMP Agrarmärkte in Zahlen Mittel- und Osteuropa

Graph 2-13. Development of Estonian trade with dairy products, 1995-1999



Source: Comext, Expert Assessment by O. Snille March 1999

Graph 2-14 Development of Estonian trade with agricultural products, 1995-1998



Source: ZMP Agrarmärkte in Zahlen Mittel- und Osteuropa

2.5 Prices

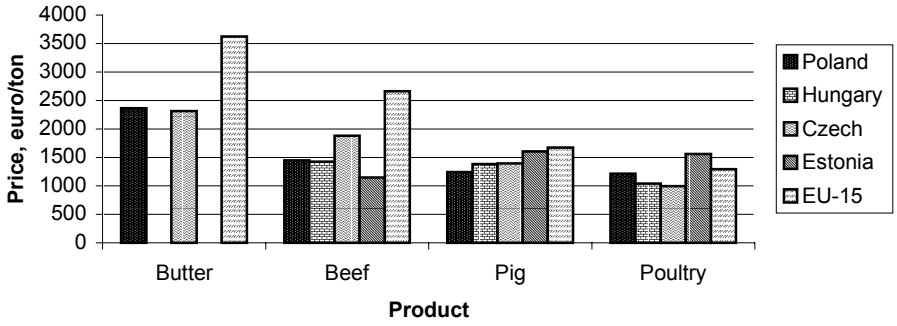
Even though price gaps for dairy products have narrowed during the last couple of years, important differences still remain. For dairy products in general, the producer price gaps seem to be most distinguished for Poland and Estonia in relation to the EU, while prices in Hungary and in the Czech Republic are more compatible with those of the EU. There are however some exceptions. For example, according to ZMP, in August 2000 the wholesale price of Polish Gouda cheese was higher measured in euro than German Gouda cheese. Comparisons that have been made are complicated by the fact that product quality, such as fat content and hygienic standards, differs both in between the candidate countries and in comparison to the EU. Type of package and exchange rates may also distort price comparisons.

Price comparisons in this study are made in euro, and therefore relations between the currencies in question have an effect on the result. The euro has depreciated against several major currencies during the last couple of years, in particular the US dollar. On the contrary, up until 2000 many eastern European currencies weakened against the euro. Since the last part of 2000 that development has come to a halt for some of the currencies of interest in this study, in particular the Polish zloty and the Czech corona, as they have appreciated against the euro. This means that prices measured in euro have increased for these countries. Moreover, a weak euro improves the purchasing power of the candidate countries whose currencies are stable or appreciating against the euro when products are bought from the EU, i.e. imported

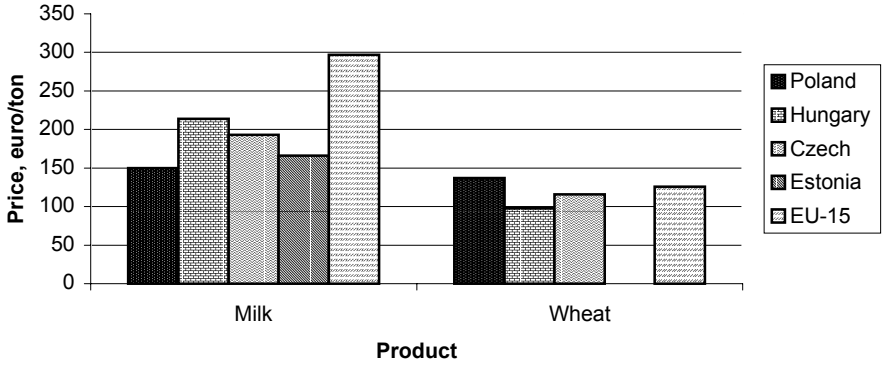
products can be bought cheaper. In case the euro continues to depreciate against the currencies in the candidate countries, that should help to reduce the price gap between those and the EU. This is what happened in Sweden before our EU membership, but in that case the development was the opposite. The Swedish currency fell strongly against the euro in 1992 and 1993, which helped to align our higher prices to the EU's price level.

In graphs 2-15 and 2-16 below the producer price of some key agricultural products in the candidate countries are compared to the EU's prices. The comparison shows that price gaps for beef, milk and butter are large in relation to the price gaps for pork, poultry and wheat.

Graph 2-15. Comparison of producer prices of four agricultural products, 1997

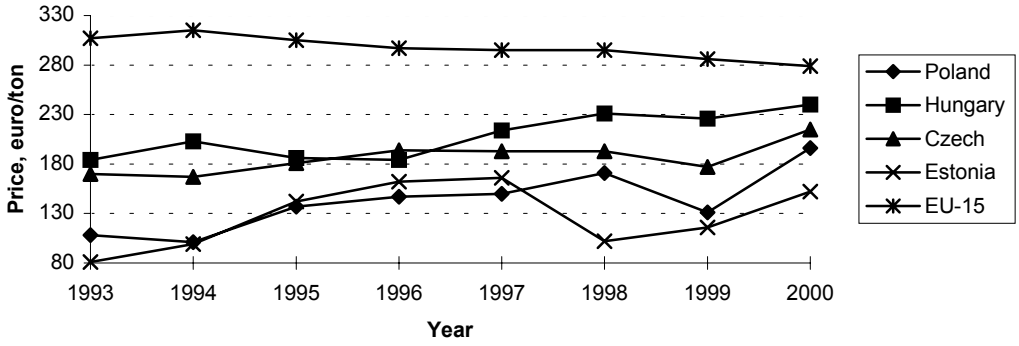


Graph 2-16. Comparison of producer prices of two agricultural products, 1997



Source (graphs 2-15 and 2-16): Agricultural situation and prospects in Central and Eastern European countries, Commission working documents

Graph 2-17. Development of the producer price for milk, 1993-2000



Source: Agrarmärkte in Zahlen - Europäische Union 2000, ZMP OstEuropa, Commission working documents

In general, domestic consumer prices in national currencies rose in the candidate countries during the transition period due to shortage in supply, inflation and the removal of consumer price subsidies. The relationship between input and output prices also played a role as input prices tended to rise more sharply than output prices, affecting profitability of farmers and the processing industry negatively and thereby pushing consumer prices upwards. In the Czech Republic, for example, input prices more than doubled from 1990 to 1997 while producer prices only rose by 50%. Consumer prices increased by 250% during the same period.

Even though price gaps have narrowed, it is hard to predict how the price picture will be formed by the time of accession. In the EU, the decisions in Agenda 2000 are of course known, i.e. a reduction of intervention prices etc. For the candidate countries the Commission's estimate is that the producer price for milk will remain stable or only rise slightly which, considering the effects of Agenda 2000, would imply a reduction of the price gap between the EU and the candidate countries.

2.6 National dairy policies

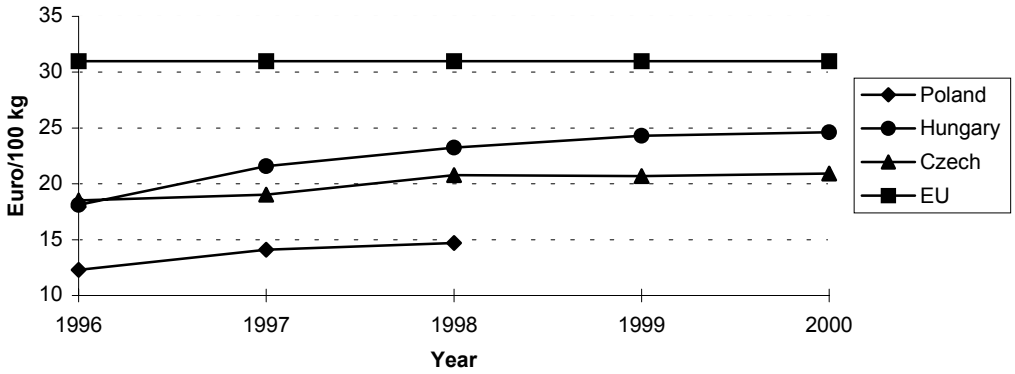
Poland, Hungary and the Czech Republic have applied various market regulatory measures for several years, while Estonia started to regulate the market in 1998. Several measures are rather similar to CAP instruments. For example, there is a system for export refunds in the Czech Republic and in Hungary. Poland applies an intervention system for butter and skim milk powder and Hungary applies an intervention system for raw milk (not used very often due to high market prices). Hungary (in 1996) and the Czech Republic (in 2001) have introduced milk quotas.

Several candidate countries apply minimum prices for high quality milk. The term used for these prices sometimes differs. In Hungary the milk support price is named the indicative price. Minimum and indicative prices in the candidate countries do not operate in the same way as the EU's target price, currently 30.98 euro/100 kg, as they usually correspond to the price dairies have to pay to producers in order to receive export refunds and to sell milk or dairy products to intervention. In the EU, the target price for milk does not have to be respected in order to benefit from support measures.

One basic idea behind the CEEC's introduction of market regulatory measures in the beginning of the 1990s was to protect farmers during the transition period when prices were liberalised. Support to the primary sector also moderated the consumer price increases that were quite common. Support levels were generally high during the centrally planned period. Even though the aim during the transition period was to successively liberalise markets, support levels remained relatively high during the early years of the 1990s and did not start to decline until the middle of the 1990s.

In the process of alignment to the EU there is a tendency towards re-regulation of markets in combination with increasing support levels. Still, support is considerably lower than in the EU. In graph 2-18 below the EU's target price for milk is compared to minimum prices in Poland and the Czech Republic and to the indicative price in Hungary.

Graph 2-18 Minimum and target prices for milk, 1996-2000



Source: Agricultural situation and prospects in Central and Eastern European countries, position papers CONF-CZ 90/00, CONF-EE 90/00 and CONF-H 63/00

3 Primary production

3.1 Poland

Poland is Europe's fifth largest milk producer. Data on the number of dairy farms vary greatly depending on the source, from 800 000 to more than one million farms. The big span is perhaps due to differences in the definition of a dairy farm. However, considering that the average number of dairy cows per farm was 2.6 in 1998 together with the fact that the number of dairy cows was 3.542 million in the same year, gives a total number of dairy farms at 1.36 million. According to Dairy Markets Weekly the number of raw milk suppliers has almost halved since 1998. The fast development makes it difficult to find a snapshot picture of the number of milk producers in Poland.

Milk production seems to be the main source of income for about 500 000 families. In 1998 milk production accounted for 14% of total agricultural production value, and almost 35% of total animal production value (in the primary production sector). In contrast to for example the Czech Republic, average farm size in Poland is small at seven hectares for individual holdings. State owned farms, accounting for about 8% of total agricultural land, have an average size of 1 550 hectares. The average farm size for the remaining types of ownership is several hundred hectares. Poland has natural qualities for pasture and crop production and agricultural land covers almost 60% of the country's total area.

Poland may be considered as being divided into two agricultural spheres. One sphere is dynamic and able to compete with products originating in the world market and sometimes entering Poland with subsidies. This sphere also delivers high quality milk for the production of dairy products that are exported to third countries with high quality requirements, for example the EU. The other sphere is still producing for own use or for a local market and technological input is usually low. Today only about 50% of Polish milk produced meets EU requirements and only 56% of milk produced is delivered to dairies. Since 1 January 2000 dairies no longer accept milk of class III (the lowest class). Enforced quality requirements promote concentration of the primary dairy industry, as small farms can no longer survive. In 2000 about 450 000 producers delivered milk to dairies. Out of these 160 000 producers delivered exclusively milk of highest quality, compared to only 90 000 producers in 1999.

Milk production fell during the 1990s, and was forecasted by the Commission to end up at about 11.3 million tons in 2000. Deliveries amounted to 3.12 million tons in the first six months of 2000, which is 3.3% less than the same period 1999. The main reason for the decreased deliveries in 2000 was feed shortage. Even though there is a potential for future production increases, requirements to improve the overall quality in milk production might hamper this development, at least in the short run. As for production, the number of milk cows has followed a downward trend and was estimated at 3.3 million animals in 2000, which is 3.5% less as compared to 1999. Between 1989 and 2000 the dairy cow number fell by 38%. However, the average milk yield per cow rose by 12% between 1989 and 2000.

In 1998 the average herd size was 2.6 animals, which can be compared to the EU average of 18.4. Although 5.4% of the dairy cowherd is held on farms with more than 100 dairy cows, it is clear that milk production in Poland on average is a small-scale business. However, there has been some change in the direction towards larger-scale production. In 1994 about 800 000 milk producers delivered 6.15 million tons of milk to dairies (excluding farms producing milk only for direct sales). In 1999 about 500 000 milk producers delivered 6.49 million tons of

milk to dairies. These figures indicate that the number of farms delivering milk fell by almost 40% during the period in question, while total deliveries rose slightly. The Polish Ministry of

Agriculture believes the number of milk producers will amount to 300 000 in 2010. The common belief is also that the polarisation of farms will continue, conserving the structure with two groups where only one will be able to fulfil the hygienic requirements of the EU.

Table 5 Dairy herd structures in Poland, 1998

Number of cows	1-2	3-4	5-9	10-19	20-49	50-100	100+
% of dairy cow herd	37.5	24.8	23.0	6.8	1.2	1.2	5.4

Source: Agricultural situation and prospects in Central and Eastern European countries

Table 6 Data in relation to milk production in Poland, 1989-2000, 2006

Year	Number of dairy cows, 1 000 head	Yield, kg/cow/year	Production, 1 000 ton	Deliveries to dairies, 1 000 ton
1989	4 990	3 291	16 420	n.a.
1990	4 919	3 222	15 848	n.a.
1991	4 577	3 159	14 457	n.a.
1992	4 257	3 093	13 166	n.a.
1993	3 983	3 176	12 651	n.a.
1994	3 863	3 167	12 234	6 269
1995	3 579	3 256	11 653	6 139
1996	3 461	3 387	11 722	6 396
1997	3 490	3 474	12 124	6 832
1998	3 542	3 555	12 592	7 080
1999	3 418	3 444	11 771	6 486
2000*	3 098	3 700	11 462	6 540
2006	3 417	4 091	13 979	n.a.

*Own calculation of production
Source: Agricultural situation and prospects in central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries, Agrarmärkte in Zahlen - Mittel- und Osteuropa, Dairy Markets Weekly January 25/2001

3.2 Hungary

Agricultural land covers about two thirds of the Hungarian land area. Before the transition period there were 120 state farms, 1 200 cooperative units and around 1.4 million family owned farms in Hungary (all types of agriculture). The privatisation process in the Hungarian agricultural primary sector is considered as being almost finished. But in the wake of this process there is still a dual structure. By the end of the 1990s there were about 1 000 dairy farms with more than 50 cows in the country. There were also about 30 000 smaller family owned farms producing milk. In between these two groups of farms the commercial, middle-sized farm has emerged. In 1998 the average herd size of the large dairy farms was about 540 dairy cows while the corresponding figure for family owned farms was about 5 cows.

Hungary lacks good pasture and production is characterised as being rather intensive. Cattle is often held in stables and fed on concentrated feedstuffs. About 82% of the milk produced currently corresponds to EU quality and about 80% of total milk production is delivered to dairies. Agriculture as a source of income is most important for the eastern and southern parts

of Hungary, where the sector as a whole represents about 12% of employment. The number of bovine animals per hectare is however the highest in the northwest part of the country.

The recession in agriculture was more severe than for the rest of the economy during the transition period. Milk production fell sharply in Hungary. The trend reached its lowest point in the middle of the 1990s when milk production amounted to a little less than 2 million tons per year, which was about 30% below former production volumes. Thereafter the recovery begun, and for 2000 the Commission has estimated that milk production will reach 2.15 million tons. Milk use on farms has represented about 5.5% of total milk production between 1986 and 1999, which would imply that almost 15% has been sold directly on the market bearing in mind that deliveries generally has amounted to about 80%.

Table 7 Data in relation to milk production in Hungary, 1989-2000, 2006

Year	Number of dairy cows, 1 000 head	Yield, kg/cow/year	Production, 1 000 ton	Deliveries, 1 000 ton	Direct sales, 1 000 ton
1989	568	5 039	2 862	2 402	294
1990	560	5 082	2 846	2 330	298
1991	518	4 807	2 490	1 967	362
1992	487	4 725	2 301	1 884	253
1993	438	4 749	2 080	1 656	319
1994	403	4 889	1 970	1 556	260
1995	392	5 144	2 016	1 603	260
1996	396	5 073	2 009	1 522	337
1997	414	4 696	1 944	1 549	321
1998	403	5 108	2 059	1 687	304
1999	407	5 183	2 110	1 678	300
2000	413	5 208	2 151	n.a.	n.a.
2006	450	5 258	2 366	n.a.	n.a.

Source: Agricultural situation and prospects in Central an Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries, Agrarmärkte in Zahlen - Mittel- und Osteuropa, Hungarian revised position paper (CONF-H 63/00)

3.3 Czech Republic

In 1997 there were at least three groups of farms conducting agricultural production, mainly on leased land; privately owned cooperatives (37.5% of farm land, average size around 1 500 hectares), large privately owned farms (34.5% of farm land, average size around 700 hectares) and individual farms registered by one individual owner (25.1% of farm land, mixed size but usually small). Large farms (more than 1 000 hectares) own some 75% of all arable land in the Czech Republic. It is thereby obvious that farms on average are large. Almost 50% of farmland is situated in less favoured areas where the topographic conditions are disadvantageous. Small and middle-sized farms have turned out to be more innovative and profitable in recent years compared to the large cooperatives.

Milk production in the Czech Republic fell from about 5 million tons in 1989 to an estimated level of 2.76 million tons in 2000. The number of dairy cows was more than halved during the same period. Animal production was more negatively influenced than crop production during the transition period. Input prices increased more sharply than producer prices, which affected profitability negatively. Despite falling production there has been a situation characterised by

surplus on the milk market, even though dairy exports dominate over imports. Low domestic demand could be a reason for that.

Table 8 Data in relation to milk production in the Czech Republic, 1989-2000

Year	Number of dairy cows, 1 000 head	Yield, kg/cow/year	Production, 1 000 tons	Deliveries, 1 000 tons
1989	1 242	4 018	4 991	n.a.
1990	1 216	3 944	4 794	n.a.
1991	1 116	3 749	4 182	n.a.
1992	984	3 860	3 798	n.a.
1993	881	3 986	3 512	n.a.
1994	799	3 999	3 196	n.a.
1995	759	4 072	3 092	2 563
1996	707	4 385	3 100	2 580
1997	619	4 454	2 757	2 458
1998	562	4 934	2 773	2 522
1999	552	5 080	2 804	2 457
2000	n.a.	n.a.	2 760	2 520

Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries, Agrarmärkte in Zahlen - Mittel- und Osteuropa, Czech position paper CONF-CZ 90/00

3.4 Estonia

Before the transition period the dominating farms were either cooperative or state owned. The average size of these farms were 4 000 hectares and/or 3 000 cows. In 1991 there were 2 339 smaller farms at the average size of 26.6 hectares. In 1998 the smaller farms had increased in number to 34 671 at an average size of 21.7 hectares. During the same period large-scale farms decreased in number, amounting to 803 in 1998. In 1990 there were 260 000 milk cows on cooperative farms while smaller family owned farms had in total only 40 000 milk cows. In 1998 both types of farms had about 75 000 milk cows each, which also shows that the restructuring process has been rapid. In 1997 large cooperative enterprises produced about 56%, so-called household plots produced about 26% and private farms (larger than household plots) produced about 18% of total milk output. Milk yields were higher on household plots and private farms than on cooperative farms.

Milk production in Estonia fell by about 40% between 1990 and 1999, from a yearly level of 1.2 million tons to 0.71 million tons. The collapse of the centrally planned system, falling demand on the internal market, falling demand in Russia due to economic crisis, lack of knowledge about privately run farming on a free market and financial problems on farms were important reasons for slumping production. At the end of the period, from 1998 to 1999, a sudden plunge of the producer price also influenced production volumes negatively.

A decreasing number of dairy cows in combination with higher yields is partly a consequence of a national program to slaughter low yielding dairy cows. The number of dairy cows more than halved from 1989 to 1999, as was also the case in the Czech Republic. Deliveries amounted to 63% of milk produced in 1999. In 1998 72% of the milk produced was approved by EU norms, but that figure rose to 82% in 2000.

Even though production is predicted to increase to 0.752 million tons in 2006, there are no signs of a significant recovery of milk production in the near future. Milk production is continuing to fall back, mainly due to the weak recovery of the number of dairy cows. In the first six months of 2000 production only amounted to about 308 500 tons, which is a decrease by 9.2% compared to the same period in 1999. Insufficient availability of feed has been one contributing factor. The fact that producer prices increased during the first seven months of 2000 might however stabilise and perhaps improve production figures. Moreover, possibilities to export to the EU have improved lately as additional dairies now meet EU standard and thereby are allowed to export dairy products to the EU. If dairy producers can take advantage of these new opportunities both prices and production figures will certainly increase.

Table 9 Data in relation to milk production in Estonia, 1985, 1990-1999

Year	Number of dairy cows, 1 000 head	Yield, kg/cow/year	Production, 1 000 ton	Deliveries, 1 000 ton	Direct sales, 1 000 ton
1985	303	4 220	1 279	n.a.	n.a.
1990	294	4 123	1 212	1 183	75.0
1991	281	3 975	1 117	939	75.1
1992	264	3 530	932	798	73.5
1993	253	3 322	840	647	72.6
1994	227	3 455	784	553	71.0
1995	211	3 588	757	472	65.0
1996	185	3 809	704	490	67.2
1997	172	4 180	719	518	74.4
1998	168	4 355	731	532	74.5
1999	159	4 453	708	395	84.6

Source: Agricultural situation and prospects in Central and Eastern European countries, Prospects for agricultural markets in Central and Eastern European countries, Estonian position paper CONF-EE 77/00.

4 Processing industry

4.1 Poland

In 1999 there were about 400 dairies and dairy processing plants in Poland, accounting for 17% of total value of processed agricultural products. 288 of these were cooperatives, controlling 70% of the market, and 90 were privately owned. In the last group, foreign investors were the main owners of 20 companies. Foreign investors have worked as catalysts in many aspects. They set standards for milk being delivered and they provide facilities such as cooling equipment. One problem in the domestic industry has been the subsidised credit system, introduced in 1994, allowing credits to dairies etc. that probably would not have survived otherwise. The structural development of the sector has thereby been hampered.

However, a certain concentration has started to appear. An example can be picked from the yoghurt industry, where a domestic company has started to produce and market yoghurt in cooperation with 14 dairies. Changes towards concentration and modernisation are also forced by new quality requirements, partly originating in the EU. In April 2000 only 19 of the 400 dairies and dairy processing plants met EU standards. The approved companies are all large-scale businesses, controlling together about 30% of the market. A recent inventory found that 180 of the 400 dairies and dairy processing plants have a chance of being approved before accession. If no exceptions are granted for those companies that will not meet EU standard, they will probably have to close down.

Table 10 Milk production, deliveries and production of processed dairy products, 1997-1999

1 000 ton	1997	1998	1999	1999/1997, %
Milk production	12 124	12 592	11 900	-2
Deliveries to dairies	6 832	7 080	6 486	-5
Production of dairy products				
Liquid milk	1 340	1 350	1 267	-5
Cream	200	195	192	-4
Cheese	445	458	412	-7
Butter	139	146	133	-3
Whole milk powder	40	39	32	-20
Skim milk powder	120	131	111	-7
Milk drinks, yoghurt	n.a.	n.a.	330	n.a.
Ice-cream	n.a.	n.a.	120	n.a.
Casein	n.a.	n.a.	6	n.a.

Source: Bulletin of the International Dairy Federation 355/2000, ZMP Osteuropa no. 14/2000

4.2 Hungary

In 1998 the dairy processing industry accounted for 12% of the total production value of food and beverages, and was ranked 2nd among the food and beverage sub-sectors after the meat and fish processing industries. In the same year, the number of employees in the dairy industry was 11 600, which was about 10% of employment in the food industry as a total. In 1992 the number of employees was 17 700, or 30% higher. Foreign investment is one factor behind the decreasing number of employees, as multinational companies bring in technology that requires less human labour. The uses of modern technology as well as R&D, product

development and training of staff have accelerated in parallel with foreign investment. Influences from foreign companies have also speeded up the process of vertical integration as large processing companies, sometimes owned by foreign companies, have been leading in the integration process. Supply contracts concluded with traders and retail food chains on the initiative of processing companies are also quite frequent. For the latter, this type of cooperation has proven to be an important way of promoting product brands.

In the beginning of the 1990s fifteen state-owned dairies accounted for 87% of the Hungarian dairy output. In 1992 the privatisation process started. To begin with, the fifteen state-owned dairies were split up into 36 companies. After some years dairy companies started to merge again, and today concentration of the milk processing industry is advanced as the six largest dairy companies purchase about 70% of milk delivered. Still, in 1998 there were a little more than 100 enterprises operating in the dairy processing industry. More than 50 of these had less than ten employees and produced a smaller range of products. In October 2000, 18 processing companies met EU standard.

Table 11 Milk production, deliveries and production of processed dairy products, 1997-1999

1 000 ton	1997	1998	1999	1999/1997 (%)
Milk production	1 944	2 059	2 110	+9
Deliveries to dairies	1 549	1 687	1 678	+8
Production of dairy products				
Liquid milk	559.0	582.0	596.3	+7
Butter	9.9	13.0	13.8	+53
Cheese	88.0	89.7	92.7	+5
Cream	78.0	69.0	68.7	-12
Whole milk powder	2.7	2.5	5.6	+107
Skim milk powder	3.6	6.7	4.1	+14
Milk drinks etc.	90.0	105.4	122.0	+36

Source: Bulletin of the National Dairy Federation 355/2000, Hungarian position paper CONF-H 63/00

Table 12 Hungarian and foreign ownership in the dairy processing industry, 1992-1998

%	1992	1993	1994	1995	1996	1997	1998
Hungarian ownership	72.7	61.4	53.5	43.7	39.8	40.8	38.3
Foreign ownership	27.3	38.6	46.5	56.3	60.2	59.2	61.7

Source: Hungarian Ministry of Economic Affairs' web page

Table 13 Value of production in the dairy processing industry, 1993-1998

	1993	1994	1995	1996	1997	1998
Value, million HUF						
Production value at current prices	60	70	83	97	125	152
Change in value, in % of previous year	+12	+16	+18	+17	+29	+22
Value, million euro						
Production value	n.a.	n.a.	538	542	599	637
Change in value, in % of previous year	n.a.	n.a.	n.a.	+0.7	+10.6	+6.4

Source: Hungarian Ministry of Economic Affairs' web page

4.3 Czech Republic

In the beginning of the transition period the Government focused on reform programs for the agricultural sector in order to create incentives for the industry as a whole to work on a free market, to privatise and to build well functioning institutions. As in the other candidate countries, the number of processing companies rose sharply during the privatisation process that started in the beginning of the 1990s. There are currently 73 dairy processing companies in the Czech Republic and in September 2000, 22 of these met EU standard.

Over-capacity is a problem in the Czech dairy processing industry. That might seem odd considering that the Czech dairy market has been characterised by a milk surplus situation. In 2001 the surplus is estimated to reach 540-570 million litres. Reasons behind the over-capacity situation may perhaps be found in difficulties to coordinate production and deliveries of raw milk with the production of processed products at dairies. The fact that the older establishments are dimensioned to process the volumes of milk that were produced before the transition period, may also lay behind the situation with over-capacity.

Table 14 Milk production, deliveries and production of processed dairy products, 1997-1999

1 000 ton	1997	1998	1999	1999/1997, %
Milk production	2 757	2 773	2 804	+2
Deliveries to dairies	2 458	2 522	2 457	0
Production of dairy products				
Liquid milk	503.1	503.1	488.0	-3
Cream	27.2	27.6	30.4	+12
Butter	61.9	65.4	65.4	+6
Cheese	75.9	83.0	84.5	+11
Cottage cheese	41.9	42.6	44.8	+7
Whole milk powder	22.5	25.9	21.9	-3
Skim milk powder	33.6	34.2	34.6	+3
Milk drinks etc.	102.2	102.1	121.2	+19

Source: Bulletin of the International Dairy Federation 355/2000, Agrarmärkte in Zahlen Mittel- und Osteuropa, Czech position paper CONF-CZ 90/00

4.4 Estonia

The food, beverage and tobacco industry represented about 32% of the production value of the total processing industry in 1997, while the dairy sector represented 27.5% of the production value of food, beverages and tobacco. The process of privatisation and transformation of agricultural enterprises followed the same pattern in Estonia as in other candidate countries during the 1990s. Data revealed from the Statistical Office of Estonia show that the number of state enterprises, in total for all sectors, fell from 873 to 680 (-22%) from 1996 to 2000.

In 1989 there were only nine dairies, two units producing liquid milk and about 35 associated production departments in Estonia. These were all state owned. Today there are 41 dairies. About 70% of these are limited liability companies while the remaining part is cooperatives. The cooperative form is however enjoying increasing popularity. About two thirds of the milk delivered is processed by cooperatives which indicates that these are larger on average. In July 2000 seven of the 41 processing companies in Estonia met EU standard. Foreign

investment has increased during the last couple of years, one example is the Finnish dairy company Valio. There are currently three dairy associations in Estonia. About 50% of the processing companies are members of a dairy association.

As for several other candidate countries a common problem in the Estonian dairy industry is over-capacity in production. The total capacity of the dairy industry in 1998 was approximately close to 1 million tons, which could be compared to total deliveries of 0.53 million tons. Lately, dairy companies have started to compete to buy raw milk from producers in order to secure supplies. Improved possibilities to export to the EU through the Europe Agreements, improved standards of Estonian dairies and rising world market prices on several dairy products are believed to be reasons behind this recent development.

Milk production, deliveries as well as production of the dairy products indicated below decreased during the period in question. More recent figures show that in the first six months of 2000 the production of whole milk products fell by 5.8%, drinking milk fell by 2.9%, butter increased by 5.1% and cheese fell by 4.9% as compared to the first six months of 1999. One reason for the decreased output of most products is related to the trade with the Russian market, where the economic crisis has hampered demand and consequently exports of dairy products from Estonia.

Table 15 Milk production, deliveries and production of processed dairy products, 1997-1999

1 000 ton	1997	1998	1999	1999/1997, %
Milk production	717	730	644	-10
Deliveries to dairies	518	532	395	-24
Production of dairy products				
Fresh milk products	329.6	329.5	187.4	-43
Butter	21.3	14.9	7.6	-64
Cheese	10.3	11.1	9.2	-11
Skim milk powder	16.1	16.7	10.7	-34

Source: Estonian position paper, CONF-EE 77/00

Table 16 Estonian dairy processing industry output, 1992-1998

	1992	1993	1994	1995	1996	1997	1998
Million EEK, current prices							
All dairy products	788	1 195	1 368	1 883	2 260	2 983	3 022
Change from previous year (%)	n.a.	+52	+14	+38	+20	+32	+1
Million euro, converted from EEK at annual average exchange rate							
All dairy products	n.a.	n.a.	n.a.	132	148	191	192
Change from previous year (%)	n.a.	n.a.	n.a.	n.a.	+12	+29	+0.5

Source: Statistical Office of Estonia

5 Trade

5.1 Poland

Poland is a net importer of food and agricultural products. In 1999 the total value of agricultural exports amounted to almost 2 700 million USD as compared to the value of imports of almost 3 400 million USD. Concerning dairy products Poland is a net exporter. About 5% of the Polish dairy production is exported, and in 1999 dairy exports represented 7.1% of the value of total agricultural exports. Corresponding figures for 1997 and 1998 were 13.0% and 8.5% respectively. Imports are obviously catching up with exports, as the former tend to increase while the latter decrease. Two reasons for the deteriorating trade balance for dairy products are the economic crisis in the markets of the states of the former Soviet Union, that begun in 1998, and decreased milk production. Today some of the most important export markets for dairy products are the EU (Germany, Italy, the Netherlands and France in particular), Russia, Algeria and the Czech Republic. About 50% of exports/imports of agricultural products originate in/is directed to the EU.

Poland has been reluctant to reduce trade barriers towards the EU during the last couple of years. As an example it can be mentioned that the import duty for butter was increased from 40% to 111% during the fall of 1999. One reason was that the government wanted to protect the Polish industry from EU products entering the market with high export refunds. Another reason was to get a better starting-point in the coming WTO negotiations, according to an article in Agra Europe, October 1999, citing deputy Agriculture Minister Jerzy Plewa. However, as from 1 January 2001 new concessions under the Europe Agreement are in force, implying a step toward liberalised trade with the EU with for example dairy products.

From tables 20-21 below it is clear that Poland's most important dairy export products to the EU are milk powder and casein while the EU exports mainly soured products and cheese to Poland. Certain years there have been fast changes in trade volumes and values for some products, but it is difficult to find any isolated explanation. Many combined reasons may instead lay behind variations in trade, for example availability of raw milk, changes in consumer habits and the political environment (refunds, duties, preferential agreements etc.).

Table 17 Structure of Poland's total trade with dairy products, 1998-1999

	Imports, % of total value		Exports, % of total value	
	1998	**1999**	**1998**	**1999**
Milk powder	8.6	6.7	49.8	49.9
Cheese	17.7	9.5	23.7	24.3
Casein	26.3	23.5	9.3	13.1
Ice-cream	3.2	2.1	8.6	3.3
Butter	2.0	7.9	3.2	2.4
Milk drinks	37.7	46.6	2.9	3.5
Other products	4.5	3.7	2.5	3.5
Total	**100**	**100**	**100**	**100**

Source: ZMP Osteuropa no. 11/00

Table 18 Volume and value of Poland's total trade with dairy products, 1998-2000

	1998	1999	2000*	Change 99/98 (%)
Milk equivalents, 1 000 ton				
Export	950	860	824	-9
Import	303	413	464	36
Balance	648	447	361	-31
Value, million euro				
Export	261	198	n.a.	-24
Import	94	109	n.a.	16
Balance	167	90	n.a.	-46

*Forecast
Source: ZMP Osteuropa no. 11/00

Table 19 Volume of Poland's total exports and imports of dairy products, 1999-2000 (January-June)

1 000 ton	1999 (Jan-June)	2000 (Jan-June)	Change, %
Exports, 1 000 ton			
Cheese (hard, fresh)	16.5	15.8	-4.2
SMP	38.0	12.6	-66.8
Yoghurt	4.8	6.3	31.3
Ice-cream	2.6	2.5	-3.8
Milk powder	7.1	6.5	-8.5
Butter	2.3	0.8	-65.2
Milk & cream	0.3	0.4	33.3
Total	71.6	44.9	-37.3
Million euro	*89.0*	*61.4*	*-31.0*
Imports, 1 000 ton			
Cheese (hard, fresh)	1.7	4.0	135.3
SMP	2.3	8.1	252.2
Yoghurt	31.9	23.0	-27.9
Ice-cream	0.7	0.6	-14.3
Milk powder	0.8	1.5	87.5
Butter	0.3	8.5	2 733.3
Milk & cream	0.7	1.4	100.0
Total	38.4	47.1	22.7
Million euro	*42.6*	*59.3*	*39.2*

Source: ZMP Osteuropa no. 24/2000

Table 20 Poland's trade in dairy products with the EU, 1995-1999 (volume)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Poland, ton								
1995	0	14 337	0	341	1 517	1 937	3 032	21 164
1996	1	18 513	0	317	1 869	3 238	4 343	28 280
1997	137	28 185	8	2 653	1 514	1 262	3 797	37 556
1998	6	20 663	3	1 370	874	80	2 844	25 840
1999	1	24 301	0	2 367	2 144	1 291	1 903	32 007
EU exports to Poland, ton								
1995	1 144	1 302	4 250	330	1 289	10 262	734	19 311
1996	1 040	215	4 812	569	519	8 718	1 103	16 976
1997	1 018	1 112	7 818	1 355	4 254	9 975	1 377	26 909
1998	1 235	1 197	40 649	1 817	1 019	8 278	1 291	55 486
1999	1 408	1 540	56 621	1 865	1 392	2 164	1 157	66 147

Source: Comext

Table 21 Poland's trade in dairy products with the EU, 1995-1999 (value)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Poland, 1 000 euro								
1995	0	21 407	2	112	2 814	3 919	10 569	38 823
1996	8	24 031	1	45	3 410	7 074	13 937	48 506
1997	35	41 153	30	472	3 305	3 028	12 213	60 236
1998	7	26 993	2	499	1 771	181	9 264	38 717
1999	1	28 071	2	942	6 527	2 856	5 265	43 664
EU exports to Poland, 1 000 euro								
1995	1 319	1 979	3 799	375	1 681	19 550	1 348	30 051
1996	1 515	256	4 699	648	771	16 160	1 747	25 796
1997	1 560	1 860	6 554	1 555	8 523	20 525	2 011	42 588
1998	1 828	2 042	33 720	1 871	1 924	16 569	1 767	59 721
1999	1 848	2 369	50 024	1 863	2 348	7 142	1 624	67 218

Source: Comext

Table 22 Polish WTO commitments for skim milk powder, whey powder, soured products and casein, 1995-2000*

	1995	1996	1997	1998	1999	2000
Skim milk powder, whey powder and soured products						
Million USD	8.2	7.7	7.2	6.6	6.1	5.6
Ton	45 200	43 600	42 000	40 400	38 800	37 000
Casein						
Million USD	12.2	11.4	10.6	9.7	9.1	8.3
Ton	18 700	18 000	17 300	16 600	15 900	15 300

*Poland's utilisation of export refunds has been zero during the period in question.
Source: WTO's web page

5.2 Hungary

Hungary is a net exporter in both agricultural products in general and in dairy products. In comparison to the agricultural industry on average, dairy products are less often sold on export markets. However, a growing share of production is now being exported. Between 1992 and 1999 both exports and imports of dairy products increased by about 10% measured in USD.

About 40% of Hungary's agricultural exports/imports are directed towards/originate in the EU today. Soured products and cheese dominate EU dairy exports while Hungary exports mainly milk powder, cheese and casein to the EU. As for Poland, there have been some quite fast changes in the trade pattern during the years indicated. According to the Hungarian Ministry of Agriculture, Hungarian exports of agricultural products to the EU will increase by 100 million euro per year as a consequence of new concessions agreed in the Europe Agreements. The net effect will however be partly offset by increasing imports from the EU. 72% of total Hungarian agricultural exports to the EU will be exempted from duty while 54% of total EU agricultural exports to Hungary will have the same preference.

Table 23 Relation between Hungary's exports and domestic sales of dairy products (value), 1992-1998

Distribution, %	1992	1993	1994	1995	1996	1997	1998
Total sales	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Domestic sales	93.1	93.4	94.3	93.3	92.4	94.4	91.4
Exports	6.9	6.6	5.7	6.7	7.6	5.6	8.6

Source: Hungarian Ministry of Economic Affairs' web page.

Table 24 Value of Hungary's total exports and imports of dairy products, 1992-1999

	1992	1993	1994	1995	1996	1997	1998	1999
Value, 1 000 USD								
Exports	59	47	35	43	46	46	66	64
Imports	28	34	32	18	33	37	32	31
Change in % of 1992								
Exports	n.a.	-21	-42	-28	-22	-23	+12	+8
Imports	n.a.	+22	+14	-35	+18	+33	+15	+10

Source: Hungarian Ministry of Economic Affairs' web page.

Table 25 Volume of Hungary's total exports and imports of dairy products, 1990-1999

	Production of milk	Import all dairy prod.	Export all dairy prod.	Export cheese	Export butter	Export milk powder
	1 000 ton milk equivalents			Ton product weight		
1990	2 840	26	501	n.a.	n.a.	n.a.
1991	2 485	n.a.	n.a.	n.a.	n.a.	n.a.
1992	2 297	159	311	12 102	3 831	7 864
1993	2 077	127	270	11 905	4 407	3 787
1994	1 931	161	194	10 429	1 198	4 451
1995	1 974	86	244	11 158	2 808	4 401
1996	1 972	106	223	12 684	1 032	767
1997	1 985	185	211	12 443	505	172
1998	2 102	163	431	13 334	3 643	5 002
1999	2 101	n.a.	n.a.	13 415	4 775	7 262

Source: Hungarian position paper, CONF-H 63/00

Table 26 Hungary's trade in dairy products with EU, 1995-1999 (volume)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Hungary, ton								
1995	74	198	0	297	557	603	1 132	2 861
1996	38	188	0	658	0	1 371	514	2 769
1997	0	84	0	115	36	379	792	1 406
1998	0	896	0	8	284	1 369	809	3 366
1999	0	4 747	0	404	802	2 432	681	9 066
EU exports to Hungary, ton								
1995	1 014	824	2 214	566	18	1 211	629	6 476
1996	5 860	514	1 534	584	2	769	655	9 918
1997	897	1 313	1 883	843	367	674	539	6 516
1998	741	1 395	4 161	747	304	1 278	392	9 018
1999	876	1 274	5 512	348	397	2 290	454	11 151

Source: Comext

Table 27 Hungary's trade in dairy products with the EU, 1995-1999 (value)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Hungary, 1 000 euro								
1995	19	280	0	110	841	1 443	4 103	6 796
1996	16	372	0	245	224	3 518	1 882	6 257
1997	0	167	0	50	58	1 209	2 925	5 034
1998	0	1 317	0	3	529	3 109	2 978	7 936
1999	0	5 774	0	30	1 226	5 459	2 427	14 916
EU exports to Hungary, 1 000 euro								
1995	1 158	1 181	1 874	388	23	2 883	1 125	8 632
1996	1 834	711	1 200	400	6	2 489	979	7 619
1997	1 294	2 260	1 521	644	638	3 493	981	10 831
1998	799	2 489	3 308	634	562	4 145	706	12 643
1999	1 191	1 931	4 458	315	732	5 500	917	15 044

Source: Comext

Table 28 Hungary's WTO commitments for exports of dairy products, 1997-2002

	Quantitative ceiling, ton	Financial ceiling, 1 000 euro*
1997	15 270	3 693
1998	14 673	3 423
1999	14 076	3 152
2000	13 479	2 882
2001	7 739	1 516
2002	0	0

*Originally Hungary's commitments are indicated in Hungarian forints.
Source: Hungarian position paper CONF-H 63/00

The ceilings in table 28 include the waiver[1] that has been granted to Hungary. In the WTO negotiations Hungary forgot to include a large part of traded volumes. Therefore Hungary had to demand a waiver. In Hungary's case the waiver expires on 31 December 2001, which explains the fact that commitments are zero for 2002.

The Hungarian milk council had been promised a budget by the government in 2000 in order to finance export refunds for dairy products. In November 2000 the money had however not yet been received due to budget shortages. Instead, milk producers have been forced to pay an extra fee in order to finance export refunds, a procedure that seems to redistribute money from milk producers to the dairy processing industry. Notification on whether refunds have been paid in 2000 has not been published.

[1] A waiver is a dispensation granted by WTO members to another member freeing it of the obligation to apply a particular provision to a defined aspect of its international trade.

5.3 Czech Republic

The Czech Republic is a net importer of food and agricultural products in value terms. In 1997, food and agriculture represented 5.5% of total exports and 7% of total imports but these figures seem to decline year by year. In the dairy sector exports clearly dominate over imports. Dairy products worth about 180 million euro were exported in 2000 as compared to about 143 million euro in 1999. During the same period imports of dairy products fell from about 63 to 53 million euro. One reason for the improved trade balance was high world market prices, which also allowed dairy products to be exported without refunds.

Expressed in value terms, around 40% of total agricultural exports are currently directed towards the CEFTA, mainly the Slovak Republic. The intensive trade with the Slovak Republic can be explained by the customs union that has been established between the two Republics. This customs union may have to be abolished if the Czech Republic becomes a member of the EU before the Slovak Republic. The second largest market within the CEFTA is Poland. Important markets outside the CEFTA are the EU and the states of the former Soviet Union, currently representing about 30% and 15% respectively of total agricultural exports. Imports of all agricultural products originate mainly in the EU with 50% of total value. CEFTA countries represent 22%, and the USA 4% of total imports. Dairy exports from the Czech Republic to the EU is dominated by milk powder, whey and butter while the EU's dairy exports mainly consist of soured products and cheese. Trade in dairy products with the EU shows a growing deficit.

As mentioned before, over-supply of milk has been common on the Czech market. According to the Czech Statistical office only 1.96 million tons out of a total production of 2.76 million tons in 1999 was consumed within the country, and in 2001 the surplus is estimated to 540-570 million litres. Import and export volumes have not been considered, so the fact that the Czech Republic is a net exporter of dairy products could reduce the oversupply figure. In fact, in 1999 about 700 million litres of milk equivalents were exported. No exact figure has been found for imports, but volumes are considerably lower. The self-sufficiency degree in 1999 was around 100% for drinking milk, cream and cheese, 90% for yoghurts, 160% for butter and 310% for dried and condensed milk.

Table 29 Total Czech exports of dairy products, 1995-1999

1 000 ton product weight	1995	1996	1997	1998	1999
Butter	26.60	26.84	22.15	24.68	25.56
Milk and cream, unconcentrated	17.40	19.80	29.25	12.85	8.41
Skim milk powder	53.93	43.50	28.65	27.43	32.41
Whole milk powder	17.69	18.63	16.45	19.71	17.90
Yoghurt and soured products	5.38	3.38	5.17	7.32	9.60
Whey	14.33	15.96	16.37	17.11	19.04
Cheese and curd	11.96	13.89	17.53	19.87	19.40
Total milk equivalents	833.00	775.00	647.00	677.30	706.80

Source: Czech position paper, CONF-CZ 90/00

Table 30 Total Czech imports of dairy products, 1994, 1998-1999

1 000 ton product weight	1994	1998	1999
Butter	0.1	1.0	0.7
Milk and cream, unconcentrated	2.9	3.2	11.6
Skim milk powder	0	0	0
Yoghurt and soured products	4.4	11.5	22.0
Cheese	10.6	11.2	15.4
Condensed milk and cream	0.7	1.3	1.7

Source: Agra Food East Europe July 2000

Table 31 The Czech Republic's trade in dairy products with the EU, 1995-1999 (volume)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from the Czech Republic, ton								
1995	20	5 104	24	13 308	3 162	674	412	22 704
1996	0	5 941	42	15 204	3 806	790	345	26 128
1997	10	6 726	25	14 569	1 548	923	379	24 180
1998	24	11 366	0	15 778	2 300	2 104	568	32 140
1999	24	12 046	14	16 724	2 513	2 351	944	34 616
EU exports to the Czech Republic, ton								
1995	1 018	128	3 855	494	158	9 258	734	15 645
1996	956	126	3 841	875	308	9 639	1 035	16 780
1997	1 150	86	3 954	563	925	4 877	554	12 109
1998	1 128	20	8 601	484	558	4 359	444	15 594
1999	771	487	13 469	685	639	3 960	531	20 542

Source: Comext

Table 32 The Czech Republic's trade in dairy products with the EU, 1995-1999 (value)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from the Czech Republic, 1 000 euro								
1995	5	7 832	27	1 508	5 335	1 327	1 439	17 473
1996	4	8 532	62	2 055	5 690	1 579	1 402	19 324
1997	26	10 163	36	1 780	2 769	1 993	1 346	18 113
1998	29	16 351	0	2 001	3 924	5 209	2 034	29 548
1999	21	14 209	11	2 569	5 295	5 287	3 397	30 789
EU exports to the Czech Republic, 1 000 euro								
1995	1 624	173	3 642	396	335	21 878	1 223	29 271
1996	1 766	54	3 560	655	669	25 590	1 524	33 818
1997	2 125	103	3 771	405	1 517	14 510	1 011	23 442
1998	2 073	76	6 822	285	1 255	12 870	767	24 148
1999	1 374	1 063	10 735	447	1 366	11 060	1 021	27 066

Source: Comext

Table 33 The Czech Republic's WTO commitments for subsidised exports, 1995-2000

	1995	1996	1997	1998	1999	2000
Milk powder						
Value, million euro	53.62	50.36	44.72	41.00	36.94	34.64
Volume, 1 000 ton	81.7	78.8	75.8	72.8	69.9	66.9
Other dairy products						
Value, million euro	55.08	51.74	45.92	42.10	37.94	35.58
Volume, 1 000 ton	76.7	74.0	71.2	68.4	65.6	62.8

Source: Czech position paper, CONF-CZ 90/00

Table 34 Subsidised exports from the Czech Republic, 1995-1999

1 000 ton	1995	1996	1997	1998	1999
Butter	24.76	25.47	21.62	24.30	19.16
Skim milk powder	32.49	n.a.	n.a.	n.a.	18.99
Whole milk powder	15.37	13.77	14.75	18.49	14.83
Cheese	7.65	10.88	13.53	13.70	8.88
Condensed milk	0.81	1.75	1.74	2.33	1.79

Source: Czech position paper, CONF-CZ 90/00

Export refund payments in 1998 were estimated to 33.24 million euro. Compared to the commitments in 1998 of 83.1 million euro, 40% has been utilised. Czech officials have estimated outlays for export refunds for dairy products in 2001 to 1 055 million CZK (about 29 million euro). This figure can be compared to the WTO ceiling of 70 million euro in 2001. There are in other words good margins for Czech export refund payments.

5.4 Estonia

Estonia exports an important part of its dairy produce, 40.6% in 1997. In 1998 exports of dairy products as compared to total agricultural exports amounted to 26.6%. In 1999 this figure had fallen to 24.6% and in the first six months of 2000 dairy products only represented 21.8% of total agricultural exports. The dairy sector is obviously shrinking in relation to other sectors. The figures in table 36 below show that the volume of dairy exports has fallen from 1999 to 2000. Whether exports in other sectors have expanded or not has not been verified. Estonia's main export market for dairy products has been Russia and the Ukraine. In 1997 about 95% of exports of sour milk products, cheese and curd was directed toward Russia. When the Russian and Ukrainian markets collapsed in 1998 Estonia lost an important buyer of its dairy produce, which can partly explain the downward trend mentioned above. Other important export markets are the EU, Japan and the other Baltic states.

In 1998 imports of dairy products represented about 9% of total agricultural imports. Even though Estonia produces more raw milk than the processing industry can absorb, imports expressed in milk equivalents amounted to about 70% of the quantity processed by Estonian dairies in 1998. Reasons for the large imported quantities are the lack of high quality raw milk and the fact that Estonia is open for world market competition.

In the first six months of 2000, 56% of imported dairy products originated in the EU. This is a reduction compared to the same period in 1999 when imports from the EU amounted to 64%. EU imports from Estonia have been insignificant for most products, except for milk powder and butter. Milk powder, soured products and cheese dominate EU exports to Estonia.

It should also be mentioned that Estonia is a transit country for exports to Russia. Other significant markets of origin are Latvia and Lithuania, especially for condensed milk, milk and cream. As part of an agreement with the EU, Estonia introduced tariffs on imported dairy products toward third countries with whom there is no trade agreement on 1 January 2000. Thereafter imports from for example Australia and New Zealand have fallen dramatically, according to Agra Europe, even though those nations are WTO members.

Table 35 Value and relative importance of Estonia's exports of dairy products, 1995-1997, 1998 (January-June)

	1995	1996	1997	1998 Jan-June
Value				
Million EEK	783	884	1 214	585
Million euro	55	58	78	37
Exports in % of total sales in the dairy sector				
	41.5	40.9	40.6	36.3

Source: Expert Assessment by O. Snille March 1999

Table 36 Estonia's exports and imports of dairy products, 1998-2000 (January-June)

	January-June		
	1998	1999	2000
Exports (ton)			
Skim milk powder	4 154	6 008	5 433
Cheese	5 158	2 675	1 312
Whole milk powder	360	1 096	924
Yoghurt	1 075	285	587
Butter	6 373	3 584	2 042
Imports (ton)			
Skim milk powder	444	811	2 436
Cheese	728	614	889
Whole milk powder	406	262	534
Yoghurt	519	437	371
Butter	9 611	1 057	533

Source: Agra Food East Europe October 2000

Table 37 Estonia's trade in dairy products with the EU, 1995-1999 (volume)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Estonia, ton								
1995	0	1 468	0	0	377	0	73	1 918
1996	0	8 855	0	0	0	0	112	8 967
1997	0	11 318	0	0	2 174	0	62	13 554
1998	0	10 707	0	0	1 609	18	0	12 334
1999	0	7 622	0	0	1 692	0	0	9 314
EU exports to Estonia, ton								
1995	203	124	2 629	0	2 717	833	14	6 520
1996	222	76	2 071	0	3 919	846	21	7 155
1997	233	1 207	1 643	27	12 219	1 003	33	16 365
1998	337	335	1 720	11	3 439	906	78	6 826
1999	363	919	1 191	64	221	630	87	3 475

Source: Comext

Table 38 Estonia's trade in dairy products with the EU, 1995-1999 (value)

CN code	0401 (milk, cream)	0402 (milk powder)	0403 (soured prod.)	0404 (whey)	0405 (butter)	0406 (cheese)	3501 (casein)	Total dairy
EU imports from Estonia, 1 000 euro								
1995	0	2 025	0	0	712	0	259	2 996
1996	0	12 045	0	0	1 560	0	325	13 930
1997	0	16 550	0	0	4 415	0	112	21 077
1998	0	14 409	0	0	3 196	53	0	17 658
1999	0	9 461	0	0	5 807	1	0	15 269
EU exports to Estonia, 1 000 euro								
1995	234	194	2 353	1	3 981	1 982	52	8 797
1996	313	150	1 831	1	5 019	2 738	52	10 104
1997	341	1 703	1 513	13	17 981	2 910	98	24 559
1998	453	352	1 679	9	6 214	2 949	240	11 896
1999	436	1 165	1 057	54	335	2 062	251	5 360

Source: Comext

6 The Europe Agreements

During the last decade the candidate countries and the EU have concluded agreements implying liberalisation of trade: the so-called Europe Agreements. Agriculture is a part of the Agreements. As from 1 July 2000 new concessions have been added (Poland and Lithuania as from 1 January 2001). Except for extended quotas, the parties have agreed on so called double-zero options for some products. These options imply that products, within fixed quota limits, are traded at zero duty in combination with no export refund. For dairy products cheese is subject for the double-zero option, and for Poland also butter. Coming negotiations may imply that additional products will be traded at zero duty in combination with zero export refund.

According to Agra Europe, after the new concessions have been added to the Europe Agreements 76% of all export of agricultural products from the Eastern European countries in question will be exempted from duty entering the EU, while the corresponding figure for trade in the opposite direction is 37%. This scenario is based on total utilisation of the quotas. Former percentage rates amounted to 36% and 20% respectively. The following tables will give an idea about how exports of dairy products from the candidate countries to the EU relates to the volumes that can be, and is, traded within the Europe Agreements. It should be pointed out that two different sources have been consulted: Comext on total trade and a Commission working document on trade within the Europe Agreements. It has also been assumed that butter traded within the quotas correspond to CN code 0405, milk powders to CN code 0402, skim milk powder to CN code 0402 10 and cheese to CN code 0406. Kashkaval is a Hungarian cheese that is classified under CN code 0406 90 29 00.

Table 39 Comparison of exports from Poland to the EU within and out of Europe Agreement, 98/99-99/00

	98/99	99/00
Milk powders, ton		
Europe Agreement available	5 750	6 000
Europe Agreement used	5 745	5 966
Total export Poland to EU	23 421	17 008
Butter, ton		
Europe Agreement available	1 610	1 680
Europe Agreement used	1 607	1 568
Total export Poland to EU	1 472	1 574
Cheese, ton		
Europe Agreement available	3 220	3 360
Europe Agreement used	1 267	3 015
Total export Poland to EU	884	825

Source: Comext, Commission working documents

Table 40 Comparison of exports from Hungary to the EU within and out of Europe Agreement, 98/99-99/00

	98/99	99/00
Skim milk powder, ton		
Europe Agreement available	345	361
Europe Agreement used	345	279
Total export Hungary to EU	1 998	2 412
Kashkaval, ton		
Europe Agreement available	200	200
Europe Agreement used	0	0
Total export Hungary to EU	0	0
Cheese, ton		
Europe Agreement available	2 300	2 400
Europe Agreement used	2 300	2 367
Total export Hungary to EU	2 417	2 504

Source: Comext, Commission working documents

Table 41 Comparison of exports from the Czech Republic to the EU within and out of Europe Agreement, 98/99-99/00

	98/99	99/00
Milk powder, ton		
Europe Agreement available	2 645	2 760
Europe Agreements used	2 643	2 760
Total export the C.R. to EU	12 671	13 927
Butter, ton		
Europe Agreement available	1 150	1 200
Europe Agreement used	1 149	750
Total export the C.R. to EU	2 706	2 193
Cheese, ton		
Europe Agreement available	1 840	1 942
Europe Agreement used	1 840	1 755
Total export the C.R. to EU	2 293	2 092

Source: Comext, Commission working documents

Table 42 Comparison of exports from Estonia to the EU within and out of Europe Agreement, 98/99-99/00

	98/99	99/00
Milk powder, ton		
Europe Agreement available	3 450	3 600
Europe Agreements used	3 447	3 523
Total export Estonia to EU	9 120	7 067
Butter, ton		
Europe Agreement available	1 725	1 800
Europe Agreement used	1 689	1 799
Total export Estonia to EU	1 751	1 828
Cheese, ton		
Europe Agreement available	920	1 400
Europe Agreement used	0	0
Total export Estonia to EU	18	4

Source: Comext, Commission working documents

A conclusion that can be drawn is that the export of skim milk powder from the candidate countries to the EU is not dependent on the preferential quotas negotiated under the Europe Agreement, as total traded volumes normally seem to far exceed volumes negotiated under the Europe Agreement. Skim milk powder traded within the Europe Agreement quotas enter the EU at zero duty. Except for the Europe Agreement quotas, there are no general quotas for the export of skim milk powder from the candidate countries in question to the EU. Therefore, the conclusion can be drawn that volumes exported above the Europe Agreement quotas enter the EU at full duty, currently about 1.30 euro/kg. According to the argumentation above, the import duties for skim milk powder from the candidate countries are not always prohibitive and do not seem to contribute to limit imports of skim milk powder to the EU. Instead, the main effect of the import duty for skim milk powder seems to be a higher profit for the EU. However, exports of butter and cheese appear to be more dependent on preferential quotas.

In case total export volumes correspond more or less exactly to the Europe Agreement quotas (for example butter from Estonia and cheese from Hungary), or in case total exports far exceed the Europe Agreement quotas (for example skim milk powder from all four countries in question), the conclusion can be drawn that the interest for exporting these products is large. In the first case above, exports seem to stay within the quotas, perhaps due to the fact that the EU's import duties are prohibitive. However, there is probably a market for exporting even higher volumes. That may be realised when the candidate countries become EU members, as trade will be totally liberalised. In the second case above, export volumes are much higher than the Europe Agreement quotas, and as mentioned above that might be due to the fact that the EU's import duties for skim milk powder are not prohibitive. Still, there is a possibility that exports of skim milk powder would grow even more when the candidate countries become EU members. In case the Europe Agreement quota is far from being filled (for example cheese from Estonia), the conclusion can be drawn that there is no market at all at present for that kind of trade.

No plausible explanation has been found to the fact that total exports of cheese from Poland to the EU are smaller than exports of the same product under the Europe Agreement. It may however be due to statistical and/or classification errors or the fact that two different sources have been consulted.

7 Prices

7.1 General

This chapter will describe price developments in the dairy sector in Poland, Hungary, the Czech Republic and Estonia in comparison to the EU. In the table below producer prices for milk in the candidate countries are compared to the EU-15 average. Price comparisons are not totally reliable as quality, fat content etc. may vary. Concerning raw milk, quotations apply for high quality milk. Other factors such as differences in VAT may also influence consumer prices.

Table 43 Comparison of producer prices for milk, 1998-2000

	1998 w. 46-48		1999 w. 28		2000 (January-July)	
	Euro/100 kg	% of EU price	Euro/100 kg	% of EU price	Euro/100 kg	% of EU price
Poland	17.10	58	14.48	51	19.60	70
Hungary	23.06	78	23.67	83	24.00	86
Czech Republic	22.00	75	18.14	63	21.52	77
Estonia	10.21	35	11.63	41	15.15	54
EU-15*	29.45		28.57		27.85	

*Average for whole calendar year.
Source: Agrarmärkte in Zahlen - Europäiche Union 2000, ZMP OstEuropa, Commission working documents

7.2 Poland

During the transition period prices were liberalised in parallel with suspension of the buying-in monopoly and privatisation of farmland and industry. As a consequence of price liberalisation in combination with the reduction of consumer subsidies, serious inflation occurred.

Prices of dairy products in general vary greatly within Poland depending on quality and the relationship between supply and demand. High quality milk is sold at prices almost equalling EU prices and the wholesale price of Polish Gouda cheese was 104% of the German wholesale price of Gouda cheese in July 2000. Consumer prices expressed in euro have decreased between 1996 and 1999, except for cream. However, expressed in Polish zloty consumer prices have increased during the same period due to the fact that the euro has appreciated against the Polish zloty.

Table 44 Comparison of wholesale prices in Poland (P) and Germany (D), 1998-2000

Euro/kg	1998 Aug. P	1998 Aug. D	*P/D (%)*	1999 Aug. P	1999 Aug. D	*P/D (%)*	2000 Aug. P	2000 Jul. D	*P/D (%)*
P butter "Extra" quality D "Markenbutter" Köln	2.03	3.52	*58*	1.90	3.04	*63*	2.78	3.34	*83*
P Gouda and Edam D Gouda	2.46	3.13	*79*	1.99	2.60	*77*	3.22	3.11	*104*
P skim milk powder D skim milk powder (spray)	1.31	1.97	*66*	1.19	1.94	*61*	2.01	2.56	*79*

Source: ZMP Milch-Butter-Käse, ZMP Dauermilch

Table 45 Polish consumer price excl. VAT, 1996-1999 (October each year)

Euro	1996	1997	1998	1999
Drinking milk 3.0-3.5% fat, litre	0.57	0.54	0.53	0.49
Cottage cheese 30% fat, kg	2.05	2.01	2.05	1.94
Cream* 30% fat, litre	1.45	1.48	1.54	1.50
Cheese, Gouda, kg	3.19	3.42	3.28	2.97

* Price/0.5 litre has been doubled to get price/litre.
Source: ZMP Agrarmärkte in Zahlen - Mittel- und Osteuropa 2000

7.3 Hungary

Price levels of both exported and imported dairy products dropped on average during the 1990s, up until 1997. The overall price reduction on imported dairy products was partly connected to a heavy drop of cheese prices, as cheeses dominated in volume terms on imports. After 1997 prices of imported products started to recover and this trend was mainly due to a switch to more expensive brands of cheese.

In 1997 the producer price for milk amounted to just above 70% of the EU's price level. In the first six months of 2000 the figure had improved to 82%. Milk producers have demanded a 15% price increase for 2001 but dairies only seem willing to accept a price increase corresponding to the rate of inflation, which is around 10%. The domestic consumer price level showed significant increases during the 1990s as a consequence of reduced supply of raw material, high rate of inflation and the removal of consumer price subsidies. For dairy products the real consumer price increase, in percentage points, was larger than the rate of inflation. The table below illustrates the consumer price development for five product groups. Consumer prices of three Swedish products have been compared to the Hungarian prices. Prices quoted in other volumes/weights than litre/kg has simply been multiplied/divided to get litre/kg. Price increases are considerably higher quoted in Hungarian forints, since that currency has depreciated against the euro during the period in question.

Table 46 Wholesale prices of selected dairy products, December 2000

Euro	Price in Hungary		Price in Germany	Hungarian price/ German price, %
Milk 2,8% fat, litre	0,37	Milk, 3,0% fat, litre	n.a.	n.a.
Butter 80%, kg*	3,16	Butter 82% Köln, kg	3,53	89
Cheese, Trappist, kg	3,57	Cheese, Gouda, kg	3,47	103

*Original price indicated per 100 g, multiplied by 10 to get price/kg.
Source: ZMP Osteuropa Agrarmärkte - aktuell, no. 2/01

Table 47 Consumer price developments, 1995-1999

Euro	Specification	1995	1996	1997	1998	1999	99/95, %	1999 Sweden*
Milk	2.8% fat, litre	0.359	0.356	0.384	0.382	0.392	**9**	0.714 (3 % fat)
Cheese	Trappist, kg	3.712	3.662	3.998	3.763	3.900	**5**	7.087 (Herrgård)
Sour cream	20% fat, litre	1.258	1.218	1.246	1.281	1.220	**-3**	
Butter	80% fat, kg	2.822	2.918	n.a.	3.486	3.600	**28**	4.851 (80% fat)
Cottage cheese	Semi-fat, kg	2.023	2.108	2.304	2.302	n.a.	**14**	

Source: Hungarian Ministry of Economic Affairs' web page, *Dairy statistics 2000 Swedish Dairies' Association

A comparison between Sweden and Hungary of current producer prices of milk shows that the Hungarian producer price of 24 euro/100 kg corresponds to more than 90% of the Swedish producer price. On the other hand, consumer prices of processed products seem to be much lower in comparison to Swedish prices. For butter in the table above, the Hungarian price represents 75% of the Swedish butter price. The price comparison is not totally reliable as there may be differences in VAT, quality and type of package.

7.4 Czech Republic

Producer prices tended to increase during the end of the 1990s and the gap between EU and Czech prices is narrowing. A comparison of producer prices in the Czech Republic and Germany is made in table 48 below. German prices from July each year have been used. Milk prices apply to milk holding 3.7% fat.

Table 48 Producer price comparisons, 1995-2000

	1995			1996			1997			2000		
Euro/ 100 kg	**CR**	**D**	***CR/D (%)***	**CR**	**D**	***CR/D (%)***	**CR**	**D**	***CR/D (%)***	**CR**	**D**	***CR/D (%)***
Milk	18.10	28.98	*62*	19.40	27.86	*70*	19.30	27.38	*70*	21,52	29.14	*74*
Smp	134.2	219.0	*61*	136.8	209.0	*65*	137.7	213.0	*65*	n.a.	261.3	n.a.
Butter	215.5	332.8	*65*	224.5	316.1	*71*	231.2	337.7	*68*	n.a.	330.5	n.a.

Source: Agricultural situation and prospects in Central and Eastern European countries, Commission working documents, ZMP

7.5 Estonia

Estonian milk and dairy product prices have traditionally been extremely low compared to the EU level. The gap is still significant even though prices have improved since the mid-1990s. The relatively big price difference between Estonia and the EU can partly be explained by the fact that Estonia has been open for world market competition, which has forced the price level downwards. However, differences in quality also play a role. According to an article on ATL's web page on January 2001, price increases in Estonia following EU accession will come as a shock to consumers in the country. The consumer price for butter is for example believed to double according to the calculations made. Producers, on the other hand will turn out to be the winners, at least in the short run, as they will enjoy both price increases and the possibility to lift money via the EU's market regulations.

Due to continuous quality improvements, producer prices seem to stabilise in the long run. However, the situation has recently been quite depressed as the lowest values yet were reached in November 1998 at 1.36 EEK/kg (0.086 euro/kg). The producer price remained that low until August 1999, forcing many milk producers to slaughter dairy cows. During 2000 the producer price has started to increase again. Improved possibilities to export various milk products to the EU through the Europe Agreements will probably support the positive price development of the first seven months of 2000. According to Agra Food East Europe at least one Estonian dairy has concluded contracts with milk producers up to the first quarter of 2001, guaranteeing a producer milk price of EEK 2.55-2.60, i.e. about 17 euro/100 kg or 61% of the EU's producer price for milk in 2000 (27.85 euro/100 kg).

8 National dairy policies

8.1 Poland

Price stabilisation is handled through intervention of processed products, i.e. butter and skim milk powder. There is also a minimum price for high quality milk holding 3.5% fat, and public intervention is only opened to those producers of butter and skim milk powder that pay the minimum milk price to farmers. Intervention purchases are possible when the prices of butter and skim milk powder have been below 90% of the intervention price during two consecutive weeks. Normally, that occurs from May to October when there is a surplus of these products on the market. Intervention stocks are sold from November to April, usually at prices below the intervention price, which means that the system in practice can be considered as an export refund system. Between 1993 and 1997, 7-15% of butter produced was sold to intervention, while the corresponding figure for skim milk powder was 18% on average. In 2000 the intervention agency has bought in 8 000 tons of butter at a price of 8.40 zloty/kg (206 euro/100 kg). The butter had to be produced of high quality milk that must have obtained a minimum price of 0.70 zloty/kg (17 euro/100 kg).

Table 49 Comparison of minimum/support prices in Poland and the EU, 1995/96-1997/98

	1995/96		1996/97		1997/98	
	Euro/100 kg	% of EU aid level	Euro/100 kg	% of EU aid level	Euro/100 kg	% of EU aid level
Milk 3.7% fat	12.3	42	14.1	49	14.7	52
Skim milk powder	122.7	59	138.4	67	144.0	70
Butter	159.5	53	162.4	54	176.0	60

Source: Agricultural situation and prospects in Central and Eastern European countries

8.2 Hungary

In 1996 the Hungarian Ministry of Agriculture introduced a quota for milk production at 1.9 million tons, which has remained unchanged until 2000. The quota volume has a guaranteed market and will be bought either by processors or directly by consumers. In 2000 contracts signed by milk processors account for 1.95 million tons. For 2001 the government has decided to increase the quota to 2.0 million tons. The increase could be regarded as a strategic measure to help the government to find acceptance for the demand in EU negotiations for a milk quota of 2.8 million tons.

The indicative price for milk that is applied in Hungary should be regarded as a request to dairies to support the producer price level, as dairies that pay the indicative price to producers may receive a small subsidy. There is an intervention system attached to the indicative price in Hungary, meaning that producers that do not find a buyer at the indicative price or the market price may sell milk to the state at an intervention price that is below the indicative price. The intervention system has not been applied very often since market prices usually have been high. Export refunds are only applied for cheese and milk powder when there is a surplus on the market. The Hungarian government has experienced a lack of funds in order to finance the costs attached to the Hungarian export refund system in 2000. Therefore, milk producers have had to pay an extra fee per litre of milk produced in order to co-finance exports. This fee was 3 HUF/litre in September 2000 (i.e. 1.164 euro/100 kg). As mentioned

in chapter 5.2 above, notification on the payment of export refunds in 2000 has not been published yet.

Table 50 Comparison of Hungarian (H) and EU indicative/target prices, 1995-2002

	1995	1996	1997	1998	1999	2000	2001*	2002*
H indicative price, euro/100 litre	18.26	18.10	21.57	23.24	24.32	24.62	26.02	26.72
EU target price, euro/100 kg	30.98	30.98	30.98	30.98	30.98	30.98	30.98	30.98
H indicative price/ EU target price, %	59	58	70	75	78	79	84	86

*Estimated for Hungary.
Source: Hungarian position paper CONF-H 63/00

8.3 Czech Republic

The base for government intervention in the Czech Republic was founded in the beginning of the 1990s. Efforts to align market support measures to the CAP have been fruitful. Public intervention, aid for private storage and export refunds have been in place for several years. However, intervention has not been applied since 1995 as producer prices have been high. There is a public fund for financing market measures in the Czech Republic: the State Fund for Market Regulation (SFMR). The SFRM provides for three types of services: intervention purchases and sales, private storage aid and export subsidies. The intervention system for dairy products has not been applied since 1995.

In order to improve the organisation of the agricultural markets in a way that is compatible with EU membership a new institution has been established: the State Agricultural Intervention Fund (SZIF). The new institution will, in addition to what the SFRM can offer, be able to supply several services that are part of the CAP. Price support is mainly allowed through export refunds that are paid to dairies paying the minimum price to producers. The minimum price applies for high quality milk holding 3.6% fat, and it is fixed on a yearly basis. From the second quarter of 1999 it applies for all dairies. Every quarter, volumes that can be exported with a refund are fixed, and the refund itself is established in a tendering procedure. In 2000 the government decided that 500 million litres of milk equivalents should be exported with a refund, by 21 approved dairies. The total cost for these exports amounted to 1 250 million CZK, or 34.75 million euro.

In order to enhance cattle breeding and to improve milk yields, a cow premium is granted for cows producing more than 4 500 litres/year. From 2000 the State also grants compensatory payments for dairy cows. The Czech Republic introduced milk quotas on 1 April 2001, amounting to a total volume of 3.1 million tons. 80% of the quota will be distributed to producers while 20% will be kept in the government's national reserve. The individual quota will in turn be divided into a delivery quota and a direct sales quota, where the former will be set at 105% of the volume delivered in 2000 in order to encourage production increases. The direct sales quota will be set exactly at the volume sold directly to the market in 2000. Penalties arising from exceeding the quota will be paid by the dairies in order to facilitate administration and control. However, the producer will on the other hand be penalised if he delivers less than 90% of his quota during the quota year, as the unused quota will be transferred into the national reserve. Quota trade between producers will not be allowed during the first year.

Milk producers and dairy companies have raged against the government's decision to introduce quotas as they claim it will violate freedom of trade and hinder structural development of the sector.

Table 51 Expenditure of SFMR total/dairy, 1994-1998

	1994	1995	1996	1997	1998 (estimated)
Million CZK					
SFRM total	3 782	3 740	3 047	2 078	5 115
Export subsidies total	1 238	1 064	1 126	1 274	1 311
- Of which in dairy sector	1 050	1 064	1 126	1 112	1 200
Intervention total	2 516	1 230	1 310	763	3 625
- Of which in dairy sector	96	0	0	0	0
1 000 euro					
Export subsidies dairy sector	n.a.	31 175	33 104	31 136	33 240

Source: RIAE

Table 52 Comparison of Czech and EU minimum/target prices for milk, 1996-2000

	1996	1997	1998	1999	2000
Minimum and target prices, euro/100 kg					
Czech milk minimum price	18.52	19.04	20.78	20.68	20.92
EU target price	30.98	30.98	30.98	30.98	30.98
Czech price in % of EU price	60	61	67	67	68

Source: RIAE

8.4 Estonia

Estonia is traditionally a liberalised market and agriculture has been almost free from regulations, refunds and quotas. However, during the last few years there have been some changes towards regulation of the market. Approaching EU membership is one reason for regulating the market. Since 1998 a yearly cow premium of about 45 euro/cow is paid to Estonian milk producers. In order to receive this premium the producer has to have at least five cows, figure in a special register and exceed certain regional yield levels. In the beginning of 1998 it was estimated that about 60% of the producers would be approved.

Above the cow premium an additional government aid is paid to milk producers, and in 2000 the total amount of aid will be about 7.2 million euro. Trade barriers have also been established toward countries with whom there is no trade agreement. Estonia has also started preparations to implement a milk quota system. In the beginning of 2001 legislative measures are being taken, and the government has estimated that the milk quotas might be introduced practically during 2002.

9 National demands in negotiations

9.1 General

In this chapter the negotiation demands of Poland, Hungary, the Czech Republic and Estonia will be described. The description will be limited to demands related to the market regulations in the dairy sector. Veterinary and sanitary aspects will not be mentioned. The Commission's response to the demands is described at the end of the chapter.

9.2 Poland

Milk quota
Poland demands a milk quota that increases in steps from 11.217 million tons in 2003 to 13.740 million tons in 2008, out of which 13.176 (96%) shall be a delivery quota. Poland also requests to apply a transitional system for not managing the quotas on the individual producer level during the first two years after accession. Poland's request of 13.74 million tons in 2008 is 10% above the production of 1999.

Direct support
Poland wants to take part of the direct support based on the milk quota that will be paid out as from calendar year 2005, in accordance with Council Regulation (EC) no. 1255/1999.

Fat content in drinking milk
Polish legislation does not today set any limits for fat-content in milk and therefore Poland wants to produce and market milk with fat contents differing from the EU standard on the Polish market during two years after accession.

Milk quality
Poland wants a transition period in order to phase in the EU's requirements on milk quality, since an important part of Polish milk does not fulfil EU standards. In practice the request is, during a not specified period, to sell nationally produced milk not fulfilling EU standards on the Polish market.

Private storage aid for cheese
Poland requests that two Polish cheeses, Ementalski and Parmezan, shall be eligible for private storage aid.

Present stocks of butter and skim milk powder
Poland has requested to transfer present stocks of butter and skim milk powder to the EU-regime at the limit of accession.

Trade with EU-15
Poland demands the right to, on justified grounds, to introduced so-called indispensable safeguard measures during five years from accession if trade with other EU countries leads to serious disturbances in the trade with Polish agricultural products.

9.3 Hungary

Milk quota
Hungary demands a milk quota of 2.8 million tons, out of which 2.6 million tons (93%) shall be a delivery quota. Hungary's request of 2.8 million tons is 33% above the production volume of 1999.

Direct support
Hungary requests national contributions of 7.3 million euro 2005, 14.6 million euro 2006 and 22 million euro 2007 and following years.

Fat content in drinking milk
Hungary requests a five-year transition period to produce and market milk with 2.8% fat-content (accounting for about 70% of the drinking milk market).

9.4 Czech Republic

Milk quota
The Czech Republic demands a milk quota of 3.1 million tons, out of which 2.945 million tons (95%) shall be a delivery quota. The Republic's request of 3.1 million tons is 10% above the production volume of 1999. The Republic has declared that the aim is to pay out compensation to farmers that reduce production in accordance with Council Regulation (EC) no. 3950/92.

Direct support
The Czech Republic's request is to pay out direct support based on the milk quota from 2005 and following years.

Price regulating measures
The Czech Republic has requested the right to introduce a transitional period or other measures in order to avoid the price shock that might occur in relation to the accession.

9.5 Estonia

Milk quota
Estonia demands a milk quota of 0.9 million tons for milk with 3.7% fat content, out of which 0.81 million tons (90%) shall be a delivery quota. Estonia's request of 0.9 million tons is 28% above the production volume of 1999.

Intervention systems
Estonia asks the EU to consider the Estonian production when establishing the maximum quantity skim milk powder that can be intervened at a fixed price.

Export refunds
Estonia requests that national cheeses shall be included in the group of cheeses that may receive export refunds.

Market support measures
Estonia demands that the school milk scheme and other market support measures shall be applied in Estonia.

9.6 Commission position

Milk quota

The Commission's general position is that the candidate countries have demanded milk quotas that exceed acceptable levels. Therefore, the Commission has asked the candidate countries to reconsider their demands, partly due to the concern of avoiding oversupply on the EU market. The Commission also wishes to respect WTO commitments without having to use internal support measures in order to manage excess volumes (private storage, intervention etc.) that will charge the EU budget. The Commission has also asked the candidate countries to provide more detailed information about production of milk, processed products, sanitary conditions, trade etc.

Direct support

The Commission has declared that a position will be taken at a later stage concerning payments of direct support.

Fat content in drinking milk

The Commission has asked for more detailed information on this matter, for example concerning control measures, and stresses that if transition periods are granted, milk that does not fulfil EU standards may not be sold to other member states. A parallel can be drawn to the Swedish exception to produce and sell milk holding 3% fat only on the Swedish market.

Market support measures

The Commission declares that requests about market support measures, such as intervention, private storage, school milk aid and export refunds, are automatically directly applicable in all member states and therefore requests concerning these questions are superfluous. Problems that might appear will be treated at a later stage, for example in the management committees.

10 Country summaries

10.1 Poland

Two characteristics of the Polish primary dairy sector is the small size of farms and the high degree of low quality milk produced. These two factors are believed to be important problems to overcome as the country is moving closer to EU accession. Milk production fell by 30% between 1989 and 2000. Today only about 50% of Polish milk produced meets EU requirements and 56% is delivered to dairies. Enforced quality requirements promote concentration of the primary dairy industry, as small farms can no longer survive. There are currently about 850 000 milk producing farms in Poland and in 1998 the average herd size was 2,6 milk cows. In 2000 about 450 000 farmers delivered milk to dairies and of these 160 000 producers delivered exclusively milk of highest quality (compared to only 90 000 producers in 1999).

About 400 dairy processing companies operate on the Polish market. In April 2000, only 19 of these were allowed to produce and export dairy products to the EU. They are all large-scale businesses controlling together about 30% of the market. The establishment of foreign companies has been a catalyst in many aspects as they set standards for milk being delivered and provide facilities such as cooling equipment. The number of producers delivering high quality milk has increased. Yields have also been positively affected as well as the producer price. The production of high value-added products, such as yoghurts, cheese and ice cream, is increasing.

Consumption of dairy products fell during the 1990s and has not recovered to pre-transition levels. The per capita consumption of dairy products, expressed as milk equivalents amounted to 198 kg per year in 1999 (excluding butter) and is projected by the Commission to fall to 192 litres in 2000. Consumption of many key products is, and has been, below the EU average while the butter figure corresponds to the EU level, in 1999 at 4,6 kg.

About 5% of the dairy production is currently exported, mainly as skim milk powder, cheese and casein. In 2000 exports of dairy products were larger than imports in both volume and value terms. The trade balance in agricultural products as a whole is however negative. About 50% of exports/imports of agricultural products is directed to/originate in the EU. Trade with the EU has entered a new phase as from 1 January 2001, as new concessions in the European Agreement imply increased quotas and completely liberalised trade with butter and cheese (within quotas). Poland's most important dairy export product to the EU in volume terms is clearly skim milk powder, while EU exports to Poland consist mainly of soured products.

The producer price of milk in Poland currently reach 70% of the EU level, but the gap has narrowed year by year. Prices of dairy products in general vary greatly within Poland depending on quality etc. High quality milk is sold at prices almost equalling EU prices and the wholesale price of Polish Gouda cheese was 104% of the German wholesale price of Gouda cheese in July 2000.

Intervention is possible for butter and skim milk powder. After storage the products are sold on the world market at a loss, which makes the system comparable to the EU's intervention system. Other important CAP instruments, such as export refunds, are not applied.

10.2 Hungary

In Hungary there are at present about 1 000 farms with more than 50 cows, and about 30 000 small producers. In between these two groups there is a range of middle-sized farms. Production is characterised as being rather intensive as Hungary lacks good pasture. Milk production fell by 25% from 1989 to 2000. About 82% of the milk produced currently corresponds to EU quality and about 80% of total milk production is delivered to dairies.

In 1998 there were about 100 dairy processing companies in Hungary. In October 2000, 18 of these met EU standards. The dairy processing industry in Hungary has moved closer toward vertical integration, as alliances are built between the parties on the market. Concentration of the milk processing industry is advanced as the six largest dairy companies purchase about 70% of milk delivered. Foreign investment has been quite frequent in the Hungarian milk processing industry during the last couple of years, which has implied an upswing of R&D, modernisation of plants etc.

Consumption of all major dairy products is below the EU average. The total yearly per capita consumption amounted to 161 kg milk equivalents in 1999. Per capita consumption of butter is not included, which amounts to about 1 kg per year.

Hungary has a positive trade balance in dairy products. Between 1992 and 1999, both exports and imports increased by about 10% measured in USD. Approximately 40% of total agricultural exports are directed toward the EU. According to the Hungarian Agriculture Ministry, agro-food exports from Hungary will increase by about 100 million euro as a consequence of the new concessions in the Europe Agreement with the EU. In parallel, imports will also rise. Milk powder, cheese and casein dominate exports from Hungary to the EU, while soured products and cheese dominate trade in the other direction.

The producer price for milk currently amounts to about 85% of the EU's average producer price. Hungarian consumer prices quoted in euro seem to be lower in relation to EU equivalents than the producer price for milk. However, during the 1990s consumer prices, quoted in national currency, increased enormously due to inflation.

There are several regulatory measures in force in Hungary. In 1996 individual milk quotas were introduced, a small subsidy is paid to dairies that pay the yearly fixed indicative milk price to producers, intervention of raw milk is possible (even though it has not been used for a long time) and export refunds are paid occasionally.

10.3 Czech republic

In the Czech Republic farms are large on average. The average size of some 75% of all farms is 1 000 hectares, while the average size of farms operating on more than three hectares is 100 hectares. About 50% of all farmland is situated in least favoured areas. In 1999, almost 90% of milk produced was delivered to dairies. The Czech dairy market has been characterised by a surplus situation during the last couple of years, and in 2001 the surplus is estimated to reach 540-570 million litres, which corresponds to about 20% of total production. Milk production fell by 45% between 1989 and 2000.

In September 2000, there were 73 dairy processing companies in the Czech Republic, and 22 of these met EU standards. Production of dairy products increased in volume terms between 1997 and 1999, especially milk drinks, cream and cheese.

During the transition period consumption of dairy products fell by about 20%. The downward trend was reversed in 1999, when the per capita consumption of dairy products amounted to 207 kg milk equivalents. The Czech government anticipates a yearly 4% increase in consumption of dairy products during the coming years. There has been a clear trend with Czech consumers to turn to low-fat and high-value added products, while for example butter has decreased in popularity.

The Czech Republic is a net importer of food and agricultural products, but a net exporter of dairy products. The Slovak Republic is an important trading partner. The EU buys about 30% of agricultural exports. About 50% of imports originate in the EU. Dairy exports from the Czech Republic to the EU consist mainly of milk powder, butter and cheese, while soured products and cheese dominate trade in the other direction.

The Czech producer price for milk currently represents around 75% of the EU producer price. During the last couple of years, the producer price has been above the minimum producer price set by the government. For many processed products, the producer price difference with the EU is larger than for raw milk.

The Czech Republic has been successful in introducing market policies similar to CAP schemes. Public intervention, aid for private storage and export refunds has been in place for several years. However, intervention has not been applied since 1995, as producer prices have been high. Export refunds are only paid to dairies that respect the minimum producer price. Direct support for the breeding of milk cows is also paid and milk quotas were introduced on 1 April 2001.

10.4 Estonia

In Estonia an increasing number of small farms are being established, while the number of large farms fall. Low yielding dairy cows have been slaughtered as part of a national breeding program, which has had a positive impact on milk yields. However, the number of dairy cows is predicted to grow slowly in the near future which will have negative consequences for production increases. A sudden plunge of the producer price in 1998 has also had a negative impact on production and on the number of dairy cows. Deliveries amounted to 63% of milk produced in 1999, and in 1998 72% of the milk produced met EU standards. Production of milk fell by 43% between 1990 and 1999.

Dairy products represent almost one third of the total food, beverage and tobacco industry in Estonia. The number of dairy companies owned by the state tends to fall. In 1989 nine dairy companies (plus regional production departments) operated on the Estonian market. Today there are 41 dairies. Seven out of these are authorised to produce and export dairy products to the EU. Over-capacity has been a common problem in Estonia. In 1998 the capacity of the dairy processing industry was about one million tons, which can be compared to the country's milk production of 0.53 million tons.

The per capita consumption of dairy products was about 281 kg/year in 1999, expressed as milk equivalents. Consumption of most processed dairy products is below the EU average.

Exports of dairy products shrunk in relation to total agricultural exports between 1998 and 2000. The weakening of the markets of the former Soviet Union in 1998 is one reason. Before 1998, the present Russia was the destination for almost 100% of some dairy products. The EU, Latvia and Lithuania are other important trading partners. All imported dairy products from the EU enter Estonia at zero duty. Estonian exports to the EU are clearly dominated by skim milk powder and butter, while imports from the EU have a mixed character.

The price gap for dairy products between Estonia and the EU is quite large. In the first six months of 2000 the producer price for milk amounted to 54% of the EU's average producer price. In 1998 and 1999 the average producer price was even lower at 35% and 41% respectively. The fact that Estonia has been open to world market competition has contributed to keep prices on a low level. Low quality of milk is another factor affecting the price level downwards.

Estonia has traditionally not applied market regulations such as refunds, intervention and quotas. However, since 1998 a yearly cow premium is paid to producers fulfilling certain requirements. Customs duties have also been established toward third countries with whom there is no trade agreement.

11 General conclusions

It is obvious that there are many differences between the dairy markets in the four candidate countries in this study on the one hand, and the EU on the other hand. Some differences may not have to be amended in order for the candidate countries in question to function well in an enlarged EU. A certain variation in the production pattern of processed dairy products already exists between the members of EU-15, where each country has its own specialty or specialties. The volume and number of dairy products that are traded may also vary substantially from one member state to another. Statistics on trade between the EU and the candidate countries show that the latter export large volumes of skim milk powder and cheese in relation to total exports, while the EU exports large volumes of soured products and cheese in relation to total exports. One problem that might arise in relation to trade is the introduction of trade barriers toward countries with which some of the candidate countries today has trade agreements. The customs union between the Czech and Slovak Republics is perhaps the best example. At present, it seems like the Czech Republic will become a member of the EU before the Slovak Republic.

If variations in trade and in the production of processed dairy products may perhaps not cause very large difficulties in an EU perspective, there is more to be concerned about considering the size and degree of modernisation of dairy farms, the hygienic status of dairy processing plants, the difference in prices and the harmonisation of market regulatory measures. Dairy farms in the candidate countries are generally less modernised than dairy farms in the EU, the quality of milk produced is to some degree below EU standards and milk production in general is less efficient than in the EU (with lower milk yields for example). In addition, many farms do not fulfil the EU's requirements for milking equipment. In the dairy processing industry, many companies cannot meet the EU's hygienic standards.

There is in general a difference in producer, wholesale and consumer prices between the candidate countries and the EU. In one scenario, the lower price levels in the candidate countries could put a downward pressure on EU prices. However, it is more likely that prices in the candidate countries will adapt to the EU price levels, and that may happen fast once these countries are integrated into the EU. Price adaptations should be most painful for the consumers, while the producers will be able to enjoy increasing profits as a consequence of climbing producer prices. On the other hand, it will be more costly for the producers to respect the stricter requirements on quality and animal health protection that will follow on EU membership. The price of input products may also increase and incur higher costs of production. Initially, producers in the candidate countries should benefit from a competitive advantage as products can be sold at lower prices than the existing prices in EU-15. It is important to recognise that in 2005, most of the decisions taken in Agenda 2000 will start to

be implemented. Among other things, institutional prices will be lowered by 15% in three steps, which should also bring down market prices. That would mean that the candidate countries that become members after 2005 will have to bridge a smaller gap in order to align to EU prices. The development of the currencies in EU-15 and in the candidate countries will also be crucial for the price development. Lately, the weakening of the euro toward some of the currencies in the candidate countries has implied that these countries can import EU products at a lower cost. In the longer run, a weak euro will also help to reduce the price gap between the EU-15 and the candidate countries (when prices are converted into euro).

The fact that the EU's intervention system will be applied in the candidate countries from day one of accession will benefit the processing industry, and also the producers indirectly as milk prices will be adjusted to match the intervention prices for butter and skim milk powder. Even if many of the market regulatory measures in the candidate countries are similar to the CAP instruments, there are still many measures that need to be implemented in order to become fully compatible with the CAP. For example, milk quotas are not in place in Poland and in Estonia, export refunds are not paid in Estonia, private storage aid is missing in Poland, Hungary and Estonia, public intervention is only in place in Poland (butter and skim milk powder) and in Hungary (raw milk), systems for subsidising butter from the market does not seem to be available in any of the four countries, and school milk subsidies are only paid in the Czech Republic. On the other hand, Sweden did not apply the EU's market regulations before accession as Sweden was in favour of a deregulated sector, and also depending on the result of the referendum about EU membership. But Sweden was well prepared and on day one as an EU member every system was introduced over night. That may very well work for the present candidate countries as well.

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Rapporten kan beställas från
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551 82 Jönköping
Tfn 036-15 50 00 (vx)
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ISSN 1102-3007
ISRN SJV-R-01/9-SE
SJV offset, Jönköping, 2001
RA01:9