

EU Milk Policy after Enlargement –

Competitiveness and
Politics in Four Candidate
Countries

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FOREWORD

Enlarging the European Union to some ten countries in Central and Eastern Europe is a political priority to the European Union. Two difficult areas in the ongoing enlargement negotiations are the common agricultural policy (CAP) and food quality.

The major difficulty is how to incorporate new member states in a common agricultural policy – new members with another economic situation, with other agricultural structures, with a much higher proportion of the work force engaged in agriculture, and with consumers spending a higher proportion of their disposable income on food. Most of the discussion is on how to integrate new members in the present policy and if the policy should cover them fully. Though the enlargement will change the features of the EU's agricultural sector fundamentally, there is almost no discussion on what this will imply to a future common policy for agriculture. What kind of agricultural policy would be appropriate in that European Union – an EU with 25 or so members?

But in a few years the EU will have changed. The Union's agriculture will be totally different from today. The political power will be spread over maybe ten more countries. The political priorities will have changed, on - for instance - agriculture.

What can we expect from the new enlarged European Union? How will new members act in future negotiations on CAP reform? What priorities will they have? Which agricultural policy will they prefer? These questions could not be answered today, but they can be analysed from some rational points of departure. One starting-point is the political situation and tradition in these countries as well as the traditional status of, and the view on, the agricultural sector. Another is their competitiveness in producing agricultural products.

This is the kind of analysis we have done in this study, for the milk sector in four candidate countries. To participate in the study the institute engaged Wanda Chmielewska-Gill, who is agricultural economist at the Ministry of Agriculture (the Policy Analysis Unit), Warsaw.

April 2002

Lena Johansson
Director-General

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1

Introduction

The European Union (EU) is currently negotiating the accession of new Member States, among them the four countries covered in this study. One of the most difficult negotiation issues so far has been agriculture, in particular the question to what extent the Common Agricultural Policy (CAP) should be applied to the new Member States and when.

One question that has not been discussed much is how the coming enlargement will influence the future development of the agriculture policy of the European Union. This report will dwell on this by analysing two factors - central for how new member state will position themselves in future negotiations on CAP reform, namely competitiveness of agricultural production and political priorities or traditions. The milk sector has been chosen for this analysis. One reason is that this is one of the most regulated sectors in the EU. Another important reason is that a reform of the milk regime is a highly controversial issue in the present union and can be expected to be even more so after accession of a number of countries with high priority to their milk sectors and with conditions and traditions differing significantly from the ones of the present members. The milk regime is scheduled to be dealt with in the upcoming mid term review of the Agenda 2000 decision on agriculture.

This study assesses the competitiveness of the dairy sectors of Poland, Hungary, the Czech Republic and Estonia. The importance of sector-specific factors is analysed, as well as political, economic or other factors in shaping countries' preferences regarding future dairy policy. Hence, from a methodological point of view, this study combines two types of approaches: an economic assessment and a political analysis. The analysis of the competitiveness concentrates specifically on the milk sector, while the political and economical analyses take a more general approach to the agricultural sector.

The dairy regime is one of the most far-reaching regulations in the CAP, particularly since the introduction of dairy quotas in 1984. Quotas are one of the most restricting elements within the agricultural policy. The

milk quota of a member state constitutes an effective ceiling to the production. The future milk production of a candidate country with a competitive milk sector, is thus decided through the outcome of the accession negotiations on milk quotas. Only if the quota regime is abolished a country can use a potential above the negotiated quota level. The competitiveness of and the political priority given to the milk sector in the candidate countries will, together with the outcome of the negotiations, have important consequences for the EU's dairy regime.

The forthcoming enlargement of the European Union thus raises two important questions. Firstly, what will be the consequences of enlargement for the EU dairy market and for the CAP's dairy regime, on the one hand, and for the candidate countries' dairy sectors, on the other? In particular, what can be said about the candidate countries' current and future competitiveness in the dairy sector? Secondly, how will the entry of these new Member States alter the balance of power in future negotiations on CAP reform? In the latest attempt to reform the CAP, the Agenda 2000 negotiations, the existing Member States were particularly divided over dairy reform. Thus, countries, such as Sweden, Denmark, the UK and Italy, favoured a more market-oriented dairy regime, with the phasing out of dairy quotas and the gradual reduction of support prices, while France, Belgium, Luxembourg and Portugal, were among the strongest opponents to any far-reaching changes of the dairy regime. In the final compromise on Agenda 2000, the Berlin Agreement, Member States agreed to a review of the dairy sector in 2003, with the aim to phasing out quotas after 2006.

Regardless of when they become members, positions of the Central and Eastern European Countries (CEECs) on dairy reform are likely to have an impact on future negotiations on dairy reform to take place in the Council of Ministers, the first of which is likely to occur in connection with the mid-term review of the dairy sector in 2003. Even if the countries studied here will not yet be members by then, their preferences are likely to affect the negotiating dynamics among the existing Member States.

Previous work has shown¹ that in spite of the fact that agricultural policy making in the EU is one of the most “Europeanised” issues, it is an area in which supranationalism has not been successful in moderating the intergovernmental nature of decision making. Thus, placing the dairy sector in its national context is crucial for understanding and predicting candidate countries’ positions in both the accession negotiations and in future negotiations on dairy reform in the EU.

The countries in this study have been selected with the aim of providing a general insight into the dairy sectors, and the probable positions on reform in the near future, for the candidate countries as a whole. As by far the largest dairy producer of the candidate countries, and the fifth largest producer in Europe, Poland is an obvious choice for any study of the dairy sector in the candidate countries. The other countries were added to reflect the variation within CEECs. Eastern European countries differ considerably in size, structure and competitiveness of their respective dairy sectors. In addition, differences in the general economic situation as well as policy orientation, in the organization and influence of farmers’ interests and the attitudes towards EU membership might significantly affect the future development of the dairy sector as well as countries’ attitude towards dairy and other CAP reform.

Before starting the analysis, chapter two in this report provides a brief overview over the dairy sector, trade and foreign direct investments in the studied countries. It also gives an overview of the current dairy policies and positions in the accession negotiations.

In chapter three different economic tools are used to examine the competitiveness of candidate countries’ dairy sector both in the present and with the prospect of EU accession. The competitiveness of milk production in the researched countries is assessed, using quantitative and qualitative methods mainly based on existing literature. The analysis includes accounting methods, domestic resource costs (DRC) and other indicators based on the PAM (policy analysis matrix) framework. In addition, Por-

¹ Schwaag Serger (2001)

ter's framework is applied to assess the competitive potential of the dairy industry.

Moving to the policy side, in chapter four the agriculture sector is analysed in a wider political and economic context. The aim of this chapter is to identify variables that shape candidate countries' preferences on agricultural policy. Placing the dairy sector into its economic and political context in each of the countries allows both to understand candidate countries' positions in the current negotiations for EU accession and to offer an analysis of their future preferences regarding reform of the CAP's dairy regime once they have become members of the EU.

Chapter five attempts to synthesize conclusions from the assessments of competitiveness and the political analysis.

2

Background and performance

2.1 Introduction

Although different in many ways, the CEECs share the fact that, for a little more than a decade, they have been undergoing a massive economic transition. The present farm structure varies considerably between the researched countries. It consists of farms of different sizes, milk production of different importance and quality and a processing industry having to adapt to new conditions. Productivity is still low and the consumption pattern is changing. Trade with agricultural and dairy products has traditionally been important to the CEECs. In order to maintain exports, adjustments of processing standards to those of the EU will be necessary.

In this chapter some basic conditions of the agricultural and milk sector are briefly described, similarities as well as differences.

The chapter serves as a brief introduction of some of the variables relevant when discussing future competitiveness of the milk sector in the researched countries. General aspects of the agricultural sector and the dairy production are dealt with, as well as trade, foreign direct investment and some selected variables concerning the dairy sector. Finally, dairy policies in researched countries are described and compared with the EU dairy regime. In this context the researched countries positions in the accession negotiations are accounted for, as the positions are related to the recent situation.

2.2 Economy, agriculture and the dairy sector

During the transition period, beginning in 1989, the post-Communist countries have undertaken, to varying degrees, reforms aimed at liberalizing, deregulating and privatizing their economies. The demise of central planning combined with far-reaching structural changes initially led to serious economic disruptions and disfunctionalities.

Consequently, in the first phase of the transition period, from 1989 to around 1995, the economies of the CEECs shrank considerably. Poland

constituted the exception by reversing its negative growth trend earlier than the rest. Generally, in the first transition phase, gross domestic product (GDP) fell along with consumers' purchasing power, while poverty increased. Since 1995, however, economic development in CEECs has begun to diverge significantly, with some countries experiencing rapid GDP growth and economic and financial stability, while others seem to stumble from one economic crisis into the next.²

The recent macroeconomic environment of the four CEECs studied here has been characterized by relatively quick changes. Although substantial progress has been achieved in stabilizing these economies, the levels of variables, such as inflation rate, unemployment rates or domestic price levels, suggest that substantial changes in the macroeconomic determinants of competitiveness are still ahead (see Table 1).

Table 1. Selected macroeconomic variables in the studied countries

Variable	Time period	Estonia	Czech Republic	Hungary	Poland
GDP per head as a % of EU average	1999	36	59	51	37
Average GDP growth rate in %	1996-1999	4,5	0,4	3,8	5,5
Unemployment rate in %	1998	12,3	8,7	7,0	15,3
Inflation rate in %	1993	89,8	20,8	22,5	35,3
	1999	4,6	2,0	10,0	7,2
Real interest rate	1997	7,6	6,2	2,8	8,9
Price level relative to EU average in %	1998	n.a.	39	42	46
Index of cumulative real appreciation in %	1993-1998	-58	-29	-8	-37
Current account balance in % of GDP	1999	-5,8	-2,0	-4,3	-7,5
FDI ³ stock in m Euro	1999	2454	16191	19111	36149
FDI stock per head in Euro	1999	1703	1575	1898	935

Source: EU Commission, OECD, ILO and own calculations.

The importance of the agriculture and dairy sector varies in the researched countries, where Poland differs with nearly 30 per cent of the

² See, for example, Trzeciak-Duval (1999), or *The Economist*, "Ten years since the wall fell", November 4, (1999)

³ Foreign Direct Investments

population within the agricultural sector. In Table 2 some key figures are presented.

Table 2. Key figures for agriculture and dairy production in the studied countries and in the EU, 1996-1999 (mixed years)

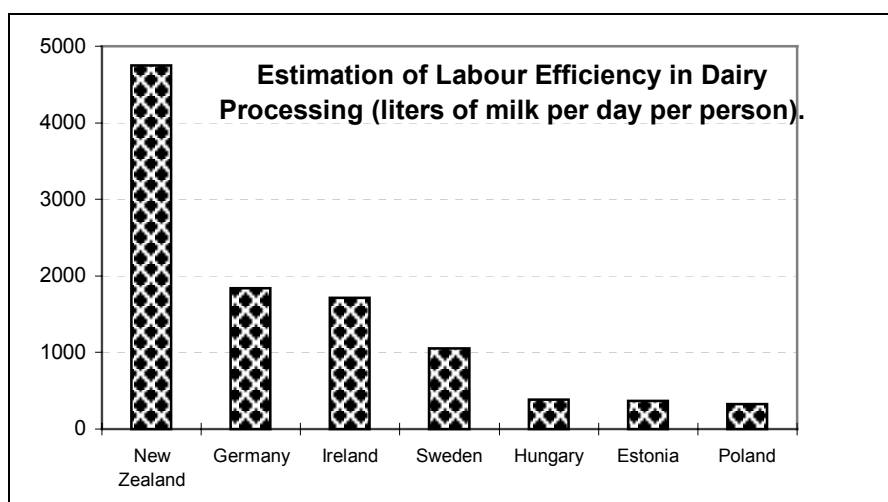
	Poland	Hungary	Czech Republic	Estonia	EU
Population, million	38.6	10.2	10.3	1.5	372.7
Population in agriculture, million (% of working population)	4.1 (26.7)	0.3 (8.2)	0.2 (4.1)	0.07 (9.2)	7.5 (5.1)
Population working in dairy industry, million (% of food & beverages)		10.0		16.5	
Agriculture as % of GDP	6.0	5.8	2.9	8.0	1.7
Milk production in % of value of total agricultural production	14				38 (in 1993)
Dairy industry in % of value of total marketable agricultural output	17	12		28	17.6
Self-sufficiency degree for milk, %	105	97	125	103	110

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

The farm structure that has emerged from the process of transformation varies considerably between the studied countries. Many dairy farmers fall into the category of small producers, but also large producers exist. Small farms usually use low levels of concentrate feed, with negative impact on yields. Further, a minimum size is necessary to allow for on-farm investment, and many farms are still below that level. On large farms, on the other hand, there is a lack of good quality pasture and poor quality forage is often used. In both cases, however, productivity is often impaired due to dated technologies of animal husbandry, feed management, breeding management and genetic quality of herds as well as lack of cooling facilities. Other constraints include the availability of drinking water.

Concerning the processing level, productivity is low in most candidate countries. This is being illustrated by the graph in Figure 1, in which productivity in dairy processing industries is being compared for some EU-countries, New Zealand and some CEECs.

Figure 1. Labour efficiency in dairy processing in selected countries



Source: FAMMU and own calculations

When comparing productivity of the CEECs with EU countries, differences are striking. For example, one Swedish employee in the dairy industry processes around 1,000 litres of milk per day, while in the researched countries the level does not exceed 400 litres. The reason for the low productivity is, to some extent, that most of the dairies are operating well below full capacity. Although the use of labour-intensive rather than capital-intensive technologies is rational in the CEECs, wage increases will reduce their advantage, and access to new technologies may be crucial in the near future. The current productivity gap suggests that the need for deployment of new technologies and better management practices is high.

The majority of dairy processing plants in the four countries does not have licences for exports to the EU, due to hygiene problems. In some cases they cannot afford investment in modernization, in others, they

have found markets outside of the EU and are not applying for licences. Table 3 below shows the number of dairies that are EU certified⁴.

Table 3. Number of dairies certified for export to the EU market

	Czech Rep.	Estonia	Hungary	Poland
Total plants	125	41	429	400
No. Certified Plants	27	7	16	19
% of total	22%	17%	4%	5%

Source: European Commission (2000).

In Hungary and Poland particularly, the plants which have EU certification are typically some of the larger processing plants with a high concentration of the national processing capacity. The Polish dairies with EU licences process 25 per cent of total raw milk procured.

One of the preconditions of being able to sell on the single market will be the adjustment of processing standards to those of the EU, especially quality standards and sanitary and hygiene standards according to the *Acquis Communautaire* (the *acquis*). Technological advances in the short and medium term are likely to be affected through the adoption of the *acquis* (including HACCP⁵), but also through adopting environmental and cost cutting technologies, relating particularly to energy use, water use and waste water management.

2.3 Trade

International trade performance is an obvious and direct indicator of the international competitiveness of an economic activity. To provide a good indication of the competitiveness of the dairy sector, dairy trade must be contrasted with the performance of the overall manufactured goods trade. It must also be contrasted with the performance of the entire agri-food sector, with which it competes for the same farm-specific production resources.

All four CEECs analysed in this report have a deficit in trade of manufactured goods. This feature is accompanied with positive capital ac-

⁴ Munch W., Berkowitz, P.: *The competitiveness of Meat and Milk Production in CEE - Challenges for the EU?* Paper presented on Braunschweig Conference, September 2000.

⁵ Hazard Analysis of Critical Control Points, a method to secure food safety.

counts (financing the deficits) and the long-term tendency of domestic currencies to appreciate in real terms (fuelled by FDI⁶ inflows and itself fostering imports and disadvantaging exports). To a large degree capital inflow and trade deficits are explained by the need to modernize. Thus, a high proportion of imports consists of goods that have no substitutes in domestic production.

In recent years, productivity (and quality) has gained due to FDI (see section 2.4). Other forms of borrowed capital, and further reforms, have allowed some countries to reduce their trade deficits. Declining trade deficits in Hungary and the Czech Republic (1996-1998 data in Table 4) may suggest a shift in this direction. Poland is on the threshold of such a shift.

Table 4. Merchandise Trade Balance 1996-1998 (m USD)

Country	1996	1997	1998
Poland	-12682	-16530	-12300
Czech Republic	-5753	-4442	-2468
Hungary	-3064	-2134	-1600
Estonia	-1147	-1507	-1545

Source: OECD (1999)

Agricultural and Food Trade

Export of agricultural and dairy products have traditionally been important to the CEECs. Still agriculture and food products continue to account for a significant share of the total exports from the researched countries, see Table 5.

Table 5. Share of agriculture and food exports in total exports (%)

Country	1995	1996	1997	1998
Poland	10,9	11,3	12,8	11,1
Czech Rep.	7,6	5,7	5,5	4,9
Hungary	22,5	20,9	15,0	n.a.
Estonia	16,4	15,8	16,5	15,9

Source: OECD (1999)

⁶ Foreign Direct Investment

The relative importance of the agriculture and food sector varies widely between the countries. In all of them, however, it is declining over time. The largest share, about 15 per cent is noted for Hungary and Estonia, while for Poland it has been around 10 per cent for the past five years, and for the Czech Republic it has dropped below 5 per cent.

The researched countries, with the notable exception of Hungary, have been net importers of food since the mid-1990s, see Table 6 below.

Table 6. The development of the agri-food trade balance (m Euro)

	1989	1993	1997	1998	1999
Czech Republic	-561,9	-503,4	-568,9	-520,9	-688
Estonia	n.a.	43,6	-219	-260,9	-217
Hungary	1329,7	906,5	1560,3	1400,8	1400,8*
Poland	382,6	-465,9	-414,5	-665,2	-689

Source: OECD (1998)

Food exports have increased for the researched countries (see Table 7). Of the two net exporting countries in 1989, Poland and Hungary, only Hungary maintained its position. Poland is still the largest exporter in value terms, reaching 2.8 bn euro in 1998, but became a net importer in 1999. Hungarian and Czech exports remain at a stable level, while Estonia enjoyed constant export growth until 1999 when exports plummeted from 457 m euro in 1998 to 165 m euro in 1999 (almost to the level of 1993⁷). This collapse is attributed to a dramatic halt in exports to NIS⁸, where 87 per cent of Estonian agri-food exports were directed.

⁷ Information from *Estonia, Overview 1999*, ed. by Ministry of Agriculture, Tallin (2000).

⁸ New Independent States, former republics of the Soviet Union

Table 7. Agriculture and food exports and imports (m Euro)

Country	1995	1996	1997	1998
Exports				
Poland	1942,8	2200,4	2919,2	2781,0
Czech Rep.	985,7	982,5	1102,3	1143,4
Hungary	2244,5	2191,6	2529,6	2468,5
Estonia	232,9	261,0	426,8	456,8
Imports				
Poland	2311,0	3183,6	3335,3	3442,7
Czech Rep.	1350,1	1622,5	1673,4	1664,3
Hungary	756,7	750,2	963,3	1067,7
Estonia	279,3	399,1	643,7	717,7

Source: OECD (1999)

Imports have steadily increased in all four countries throughout the 1990s. The largest importer of agri-food products is Poland with 3.4 bn euro in 1998, followed by the Czech Republic with 1.6 bn. The share of high value added products in total imports has continuously grown, reflecting, to some extent, changing consumer preferences. In recent years there has been a trend for imports to grow less rapidly or even decline. Imports fell to 3.2 bn euro in Poland and 345 m euro in Estonia in 1999 (48 per cent drop in 1999 alone). 82 per cent of the trade to Estonia originates from countries having free trade agreements with Estonia. The Czech Republic maintained imports on a stable level between 1996-1998, while Hungary noted constant increases in imports.

In the past decade, the EU has become the most important trading partner to many of the candidate countries regarding agri-food trade (see Table 8).

Thus, with the exception of Estonia, the EU has replaced the NIS as the most important trading partner. Estonia, with a large export dependence on the former Soviet Union countries, was seriously struck by the Russian crisis. Also for Poland and Hungary export markets were severely affected.

Table 8. Agricultural and food exports by destination and imports by origin, 1998 (%)

Country	EU	Other OECD	CEECs	NIS	Other
Exports					
Poland	43	6	14	32	5
Czech Rep.	31	4	38	17	10
Hungary	44	8	13	18	17
Estonia	16	4	19	61	0
Imports					
Poland	48	11	9	3	29
Czech Rep.	50	8	20	0	22
Hungary	42	7	8	1	42
Estonia	49	23	10	5	13

Source: OECD (1999)

Dairy Products Trade

Although milk is a typically internationally non- tradable product, dairy products such as skim milk powder, butter and, to some extent, cheese are widely traded. In contrast to both total country and agri-food trade, all four countries studied here run surpluses in their trade with dairy products.

Table 9. Total dairy products exports and imports, value or volume, 1998-1999

Country	1998	1999
Exports		
Poland, (m Euro)	261	198
Czech Rep. (1000 tonne product weight)	130	132
Hungary, (1000 USD)	66	64
Estonia, (1000 tonne product weight)	17	14
Imports		
Poland, (m Euro)	94	109
Czech Rep. (1000 tonne product weight)	28	51
Hungary, (1000 USD)	32	31
Estonia, (1000 tonne product weight)	12	3

Source: A study of the Milk Sector in Poland, Hungary, the Czech Republic and Estonia, Report 2001:9, Swedish Board of Agriculture

As mentioned earlier, all countries except Hungary run a deficit in trade with agricultural products with the EU. In dairy products, the situation

differs among the four countries and between years, see Table 10 below. Estonia, for example, has become a net exporter of dairy products to the EU, while the situation is the opposite for Poland.

Table 10. Trade in dairy products with the EU, m Euro

Country	1995	1996	1997	1998	1999
EU imports from...					
Poland	39	49	60	39	44
Czech Rep.	17	19	18	29	31
Hungary	7	6	5	8	15
Estonia	3	14	21	18	15
EU exports to....					
Poland	30	26	43	60	67
Czech Rep.	29	34	23	24	27
Hungary	9	8	11	13	15
Estonia	9	10	25	12	5

Source: *A study of the Milk Sector in Poland, Hungary, the Czech Republic and Estonia, Report 2001:9, Swedish Board of Agriculture*

Trade with the EU is characterised by highly processed dairy products being exported from the EU to the candidate countries (for example cheese and soured products), while candidate countries sell mainly bulk products to the EU. Highly processed dairy products that are exported from the candidate countries are usually sold on other markets than the EU.

Table 11. Main products in dairy trade, 1996-2000

	Main Export Products	Main Import Products
Poland	Milk powder, cheeses and cottage cheese, casein,	Milk drinks, casein, cheeses
Czech Rep.	Milk powder (skim & whole), butter, condensed milk	Yogurts, cheeses, milk/cream
Hungary	Cheese and cottage cheese	Cheeses, milk/cream
Estonia	Butter, SMP, cheeses	SMP, butter, cheeses

Source: *various trade data*

2.4 Foreign Direct Investment

Foreign direct investments (FDI) play an important role in many of the candidate countries as multinational companies bring in modern technology as well as Research and Development (R&D), product develop-

ment and training of staff. Influences from foreign companies have also speeded up the process of vertical integration. FDI could also be mentioned as one of the factors behind the increased unemployment, as new technology requires less human labour.

The importance of FDI in transition countries lays in the fact that it helps to lift barriers essential to further development, such as lack of capital and lack of know how.

FDI also has visible effects on primary production due to support to the farmers to increase the production of high quality milk. Many companies have schemes helping farmers to modernize their milk systems and to introduce new cooling systems on-farm. They also help to arrange bulk collection of milk.

Foreign investment has often been related to the establishing of an international brand on the market. For example, Danone is present in all four of the researched countries with well-established production bases in Poland and the Czech Republic as well as in Hungary. In Estonia, the Finnish dairy company Valio is established.

The amount of foreign investments has increased during the last couple of years. On a *per capita* basis, the Czech Republic, Hungary and Poland stand out as the recipient countries with the highest agri-food FDI of all transition countries.⁹ The vast majority of funds have been directed to agri-industries rather than to primary agriculture.

Table 12. Total FDI per capita in selected Central and Eastern European Countries in 1999 (USD)

Country	Hungary	Slovenia	Estonia	Czech R.	Poland	Slovak R.
	2.206	1.200	933	738	689	259

Source: Csaba (2000¹⁰)

⁹ Gow, H., Swinnen, F., M., Impact of Foreign Direct Investment on agriculture and Agro-Industry in Transition Economy, II World Bank EU Accession Workshop, 12 May 1999.

¹⁰ Csaba, J., *Foreign Direct Investment in the Hungarian Food Sector*, 66th EAAE Seminar/NJF Seminar No 301.

An analysis of FDI by Eiteljorge and Hartman shows, however, that the dairy sector receives on average less foreign capital than industries dealing more with secondary processing, such as confectionery industries. Below the inflow to the milk and dairy sector is compared to the total food processing industry in the researched countries. Hungary is an exception with nearly 20 per cent of the FDI directed to the dairy industry.

Table 13. Cumulative inflows of agri-food FDI in two sectors, 1990-1997 (m USD)

Country	Dairy (milk)	Total food processing	Dairy of total food processing, %
Poland	123.1	2915,8	4.2
Czech Republic	3	997	0.3
Hungary	167.3	841,3	19.9
Estonia	11	85	12.2
TOTAL	304.4		

Source: Eiteljorge, U., Hartman, M., *Central and Eastern European Food Chains Competitiveness in The European Agro-Food System and the Challenge of Global Competition*, ISMEA, June 1999, and own calculations.

A case study of Polish dairy sector, by Eiteljorge and Hartman, shows that FDI strategies were highly influenced by the expected integration into the EU market. Companies aimed at strengthening their market position and therefore often specialised in a category of non-conventional dairy products. In addition, there was a geographical concentration to densely populated areas of Poland.

In Hungary¹¹ foreign investment has stabilised and product quality has improved. This is associated with the change of management, from a production-led to a marketing-led, approach in the companies.

Until 1998, FDI did not play a significant role in the Czech Republic. This was due to the different methods of privatisation. After a law change, the capital started to flow into the country. In 1999, inflows doubled in relation to 1998. In 1999, FDI into the Czech Republic was considered the highest in Central and Eastern Europe.

¹¹ Pederson and Khitarishvili. *Challenges of Agricultural and Rural Finance in CCE, NIS and Baltic Countries* Center for International Food and Agricultural Policy, University of Minnesota (1997).

One element of the Estonian liberal reform is liberalisation of capital transactions, internal markets, and external trade policy. This has stimulated the inflow of foreign direct investment, which is high in comparison with other Baltic states. The relative importance of FDI in CEEC economies shown in the FDI/GDP ratio was highest in Estonia.

FDI has implied a higher demand for increased managerial skills, for introduction of new technologies, new products and the ability to increase procurement of milk. The companies affected in the researched countries has become more competitive, sometimes at the expense of other local dairy companies. The more competitive companies also tend to expand from their local or regional market to a wider national market.

2.5 Performance of selected variables in the dairy sector

Milk production

The adjustment to the market economy in the dairy sector in all the researched countries initially led to drastic reductions in both number of dairy cows and milk yields. Consequently the transformation of the economy led to a sharp decrease in milk production. The researched countries are traditional milk producers and net exporters of dairy products.

Poland is today the fifth largest milk producer in Europe. Milk production fell during the 1990s, from about 16 m tonnes to 12.5 m tonnes in 1999. There are currently about 850 000 milk producing farms in Poland, and only about 50 per cent of the milk produced corresponds to EU quality standards.

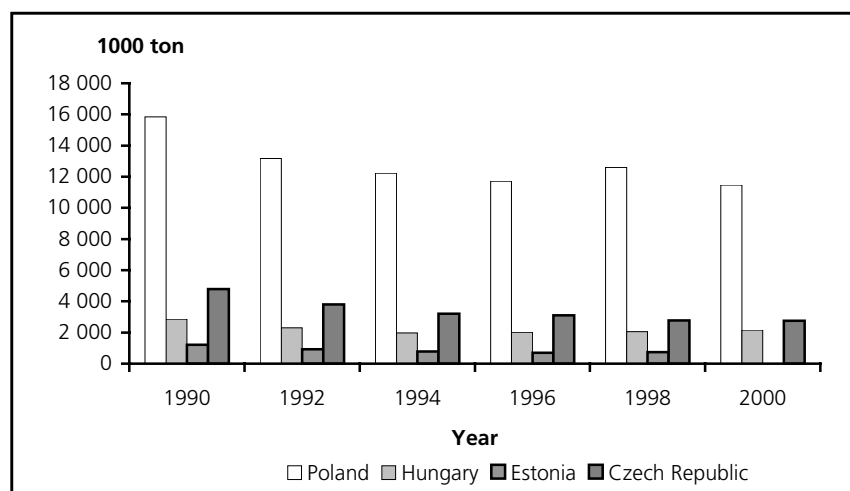
Also in Hungary milk production fell sharply during the transition period, and reached its lowest point in the middle of the 1990s, which was about 30 per cent below former production volumes. The Hungarian dairy sector consists of about 1 000 farms with more than 50 cows and about 30 000 smaller producers. Production is characterised as being rather intensive. About 82 per cent of the milk produced currently corresponds to EU quality standards and about 80 per cent of the total milk production is delivered to dairies.

In the Czech Republic milk production fell from about 5 m tonnes in 1989 to a level of 2.7 m tonnes today. Milk farms on average are large, and milk producing farms with more than 1000 hectares own some 75 per cent of all arable land. In 1999 almost 90 per cent of the milk produced was delivered to dairies.

In Estonia milk production fell about 40 per cent between 1990 and 1999, from a yearly level of 1.2 m tonnes to 0.71 m tonnes. An increasing number of small farms have been established while the number of large farms has fallen. In 1998 72 per cent of the milk produced was approved by EU standards.

In the year 2000 milk production dropped to 70 per cent of the 1989 levels in Hungary and Poland, and to 55 per cent in the Czech Republic and Estonia. This situation has created problems with capacity utilisation of the processing industry. In Poland and Estonia the problem is exacerbated by the fact that the shares of produced milk which is delivered to industry are very low - in Poland 50-60 per cent and in Estonia 70 per cent. Figure 2 below shows the changes in milk production in the studied countries.

Figure 2. Milk production 1990-2000



Source: *A study of the Milk Sector in Poland, Hungary, the Czech Republic and Estonia, Report 2001:9, Swedish Board of Agriculture*

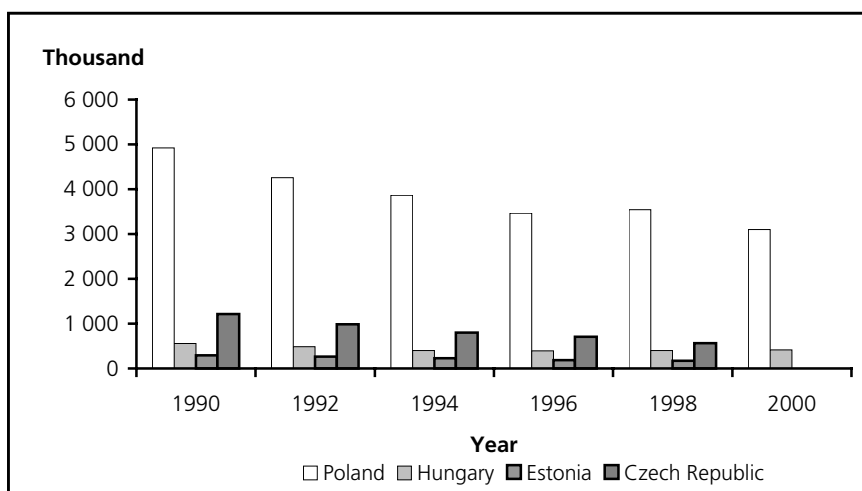
Herd size

In Poland the average herd size is 2.6 cows. During the transition period the national herd decreased from almost 5 m cows in 1989 to 3.3 m cows in 2000 (36 per cent drop) and the downward trend has not stabilised yet. Higher quality standards on milk in recent years¹² has resulted in a withdrawal of cows from production, and it takes time to replace them.

Similarly, in the Czech Republic, a constant fall in number of cows is observed, from 1.2 m in 1998 to 0.55 m in 1999. Hungary, which in 1998 had 0.57 m cows, did not experience as sharp a decline as Poland and Czech Republic, and started recovering already in 1995 to reach 0.413 m cows in year 2000. In Estonia, formerly a specialized milk producer in the Soviet Union, the number of dairy cows dropped by over 50 per cent between 1990 and 2000, to 0.160 m. The changes in number of dairy cows are shown in Figure 3 below.

¹² Since January 2000 class 3, (the lowest) of milk has been banned from procurement. Gradually also class 2, which is still below the EU standards, will be excluded.

Figure 3. Number of dairy cows 1990-2000



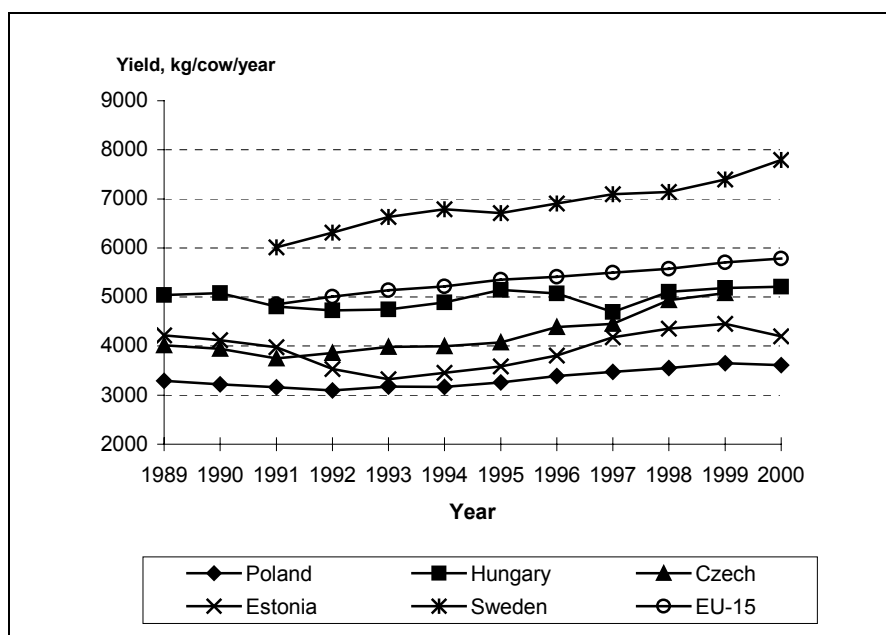
Source: A study of the Milk Sector in Poland, Hungary, the Czech Republic and Estonia, Report 2001:9, Swedish Board of Agriculture

Yields

In the 1990s - during the process of transformation - dairy herds were reduced in the researched countries. Also good herds were slaughtered which has contributed to the situation of today, with generally low level of yields. Since 1992, yields are unchanged or have only slightly improved. By comparison, since 1992 the average yield in the EU has increased by around 12 per cent. In Poland there is a big difference in yield between small individual farms (1500 kg) and large farms. In Estonia, in contrast to Poland, family farms show better yields than large farms.

In 1999, the average yield for EU-15 was about 5 700 kg/cow and year, which can be compared to about 3 700 kg in Poland, 5 200 kg in Hungary, 5 100 kg in the Czech Republic and 4 500 kg in Estonia. For a further comparison see graph in Figure 4 below.

Figure 4. Development of milk yields in the studied 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.

As shown in Figure 4, all researched countries have experienced temporary drops in yields, but by the year of 2000 all had reached higher levels than before transition.¹³ Hungary and the Czech Republic attain yields comparable to EU countries.

Consumption

In the era of central planning, governments in eastern Europe generally subsidised consumer prices, which had a positive influence on consumption. During the transition period, however, subsidies were successively removed, triggering price increases. High inflation in most candidate countries also contributed to pushing prices upwards. As a result, consumption of dairy products in the CEECs fell.

¹³ Total milk production in 2000 is still lower than before transition due to lower number of dairy cows, even though the yield per cow is higher than in 1990.

Table 14. 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 (including quarg etc.), 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	5.9	6.7	6.8	7.3	7.3
Czech Republic	6.5	8.4	8.6	8.8	9.3
Estonia**	3.2	2.8	3.1	3.5	3.6
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	n.a.	3.7	4.0	4.1	4.6
Hungary	n.a.	0.8	0.7	0.8	n.a.
Czech Republic	4.5	4.2	4.1	4.0	4.0
Estonia	3.0	2.3	2.1	1.8	2.1

** excluding quarg etc.

Source: Swedish Dairies Association's home-page, ZMP Agrarmärkte in Zahlen - Mittel- und Osteuropa 2000, Dairy Markets Weekly, candidate countries' position papers CONF-CZ 90/00, CONF-H 63/99 and CONF-EE 77/00

Other factors that influenced consumption of dairy products negatively were falling purchasing power and shifting consumer preferences. In Hungary, as an example, substitutes such as soft drinks and margarine gained market shares at the expense of dairy products. In general, internal consumer prices in national currencies rose in the candidate countries during the transition period. In the Czech Republic, for example, consumer prices increased by 250 per cent during the period 1990 to 1997.

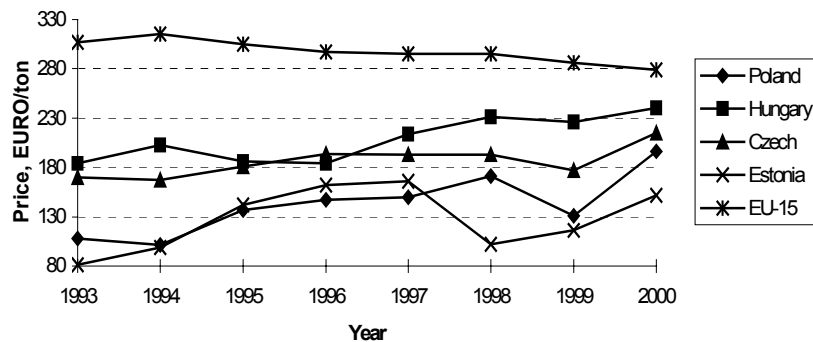
Prices

There are still large price differences in raw milk and dairy products between accession countries and the EU. In the CEECs studied in this report, however, prices are increasing with improved quality and pro-

gressing restructuring and modernization of the dairy sector. The recent appreciation of domestic currencies against the euro has contributed to the narrowing of the price gap between the EU and the candidate countries.

However, even though price gaps of dairy products have narrowed in recent years, important differences still remain. Figure 5 shows the development of producer prices. Concerning producer prices, the gap to EU is most pronounced for Poland and Estonia, while prices in Hungary and the Czech Republic are more compatible with EU-prices.

Figure 5. Changes in producer price in the studied countries in relation to the EU price



Source: *Agrarmarket in Zahlen – Europäische Union 2000*, ZMP OstEuropa, Commission Working Documents, 2000

The prices of Hungary are closest to the EU prices, with a difference of 18 per cent in the first half of 2000. For the Czech Republic and Poland the difference is 23 per cent and 30 per cent in the same period, respectively. The situation differs in Estonia, where milk prices are at the same level as in 1997, at about 50 per cent of EU average prices, because of poor conditions of the industry, as well as still low quality of milk.

Comparing the prices of processed dairy products is more difficult than comparing prices for raw milk, since products are not uniform. This is true particularly for countries outside the EU. The differences include

quality, fat contents, packaging, technologies of production etc. The general trend, however, is similar to that observed for raw milk price development, namely of diminishing price differences between CEECs and the EU.

2.6 Dairy policies and accession negotiations

EU: s dairy regime

The dairy sector is one of the most heavily supported agricultural sectors within the EU, both when it comes to level of support and to measures used to regulate the market. The same principles apply to dairy products as to other agricultural products, though. Prices are supported through tariffs, exports subsidies and intervention. In addition to these normally applied measures, the EU also applies a milk quota system, which puts a ceiling to the amount of milk every farmer is allowed to produce without penalty. The system was introduced nearly 20 years ago and was initially meant to be temporary, but has been continuously prolonged. In recent years direct support per cow has been introduced (headage payment) adding to the above traditional market regulating measures. There is no direct regulation of the price of unprocessed milk delivered by the farmer, though there is a target price for unprocessed milk and processed products. Prices paid to farmers are indirectly supported, through the market regulating measures mentioned above.

Dairy policies of candidate countries

Most of the CEECs' agriculture was heavily supported in the pre-transition era. After the initial liberalisation, and in response to difficult market conditions, measures were introduced to stabilize the agricultural sector through use of such tools as import tariffs, export subsidies, intervention purchases and direct payments. Estonia is an exception in this respect.

One basic idea behind the introduction of market regulatory measures in the beginning of the nineties was to protect farmers during the transition period when prices were liberalised. Moreover support to the primary sector was also intended to moderate consumer price increases. Even though the aim during the transition period was to successively liberalise markets, support levels remained relatively high for several years,

only starting to decline in the mid-nineties. Estonia, however, has pursued a very liberal trade policy. Border protection measures were abolished for nearly 10 years but in recent years some tariffs have been introduced.

Several of the measures used in the four countries resemble CAP instruments, such as intervention buying and direct support measures as well as export subsidies and import restrictions. Still, support levels are considerably lower in the candidate countries than in the EU, generally reaching 50-70 per cent of EU levels. In the process of preparing for EU accession there is a tendency of re-regulating markets in combination with increasing support levels.

In the EU, the PSE¹⁴ for the dairy market is higher than the total PSE for agriculture. The CEECs follow this pattern, although at a lower level. Poland is the exception, as its support level for dairy is much lower than the total for agricultural products (1998). Table 15 below shows a comparison of PSE per cow between three of the studied countries and the EU.

Table 15. PSE per cow in 1997-1998

Country	Year	PSE in local currency (m)	PSE in m USD	Number of cows (m)	PSE in USD/cow	PSE in Euro/cow
Czech Republic	1997	6183	195,05	0,55	353	313
	1998	9819	304,09	0,55	551	491
Hungary	1997	39210	209,91	0,41	516	457
	1998	65519	305,59	0,41	751	669
Poland	1997	575	175,26	3,42	51	45
	1998	1664	476,29	3,42	139	124
European Union	1997	18238	16154,12	21,79	741,2	656
	1998	20843	18560,11	21,47	864,4	770

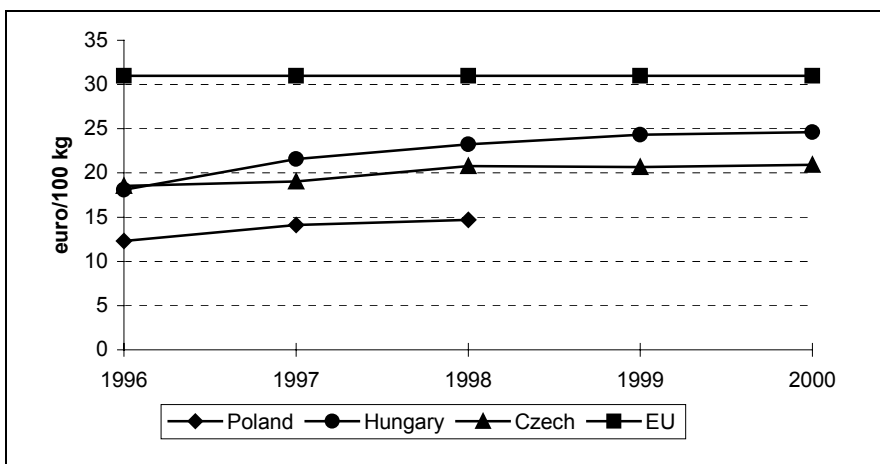
Source: OECD and own calculations

Most countries apply minimum prices for milk. This minimum price can be compared to the EU's target price for milk, but there is an important difference. In the candidate countries dairies have to pay the minimum prices to farmers to qualify for support measures, which is not the case

¹⁴ Producer Subsidy Estimate, an indicator calculated by OECD, expressing the support to agricultural producers, resulting from agricultural policies.

in the EU. The target price for milk in EU does not have to be respected in order to benefit from support measures. In Figure 6, the EU's target price for milk is compared to minimum prices in Poland, Hungary and the Czech Republic.

Figure 6. Minimum and target prices for milk, 1995-1998



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*

In Table 16, minimum prices are presented in figures and related to the EU price. The researched countries all apply minimum prices for milk, at a lower level than the EU target price.

Table 16. Minimum prices for milk in 2000

Country	Price (Euro/100 kg)	per cent of EU price
Poland	17.2	55.5
Czech Republic	20.90	68
Hungary*	21	68
Estonia**	17.57	56.7
EU	30.98	100

Source: own calculations, *data for 1998 **target price for 1999.

Below the recent dairy policy for each of the four researched countries are briefly described.

The **Polish** support level in the dairy products is rather low compared to the other countries and considerably lower than in the EU. Currently, the main Polish policy goals are the restructuring and modernisation of the sector and the improvement of raw milk quality. Free market pressures, rather than state policy, stimulate these changes. Higher market price premiums for good quality milk, supplied in larger quantities, encourage specialisation in production and quality improvements.

Price stabilisation on the Polish dairy market is sought through intervention buying of skimmed milk powder and butter. The ARR¹⁵ buys butter and powder at the intervention price from dairies that pay at least a fixed minimum price to farmers for first class milk. Intervention purchases and sales are conducted on tender basis. Minimum prices and intervention prices are fixed annually.

In 1993-1997, the share of butter intervention purchases of total Polish production varied from 7 to 17 per cent. For milk powder the figure was about 18 per cent. In 2000, 6 per cent of butter production was bought through intervention, and 33 per cent of the production of SMP¹⁶, was granted export subsidies (instead of intervention purchase). In 2000, tariffs amounted to 70 per cent for SMP, 102 per cent for butter, and 35 per cent for cheese.

In the **Czech Republic** support to the dairy sector has been relatively high. Prices are supported through tariffs, export subsidies, intervention, and minimum prices to farmers. In 1999 the tariff for SMP was 37 per cent. In addition, a milk quota system has been introduced recently. The maximum subsidised export volumes for butter and other dairy products are determined quarterly based on expected surpluses. Dairies can tender for subsidies. To be eligible for export subsidies dairies must pay at least the minimum price for milk procured. The minimum price is set annually¹⁷. In recent years farm gate milk prices have exceeded minimum prices due to competition for raw material among the dairies.

¹⁵ State Agricultural Marketing Agency.

¹⁶ Skimmilk powder

¹⁷ By a public fund: State Fund for Market Regulations (SFMR).

Since 1998, however, the Czech Republic has reduced government support to traditional agriculture considerably.

The Czech milk quota system, introduced in 2001, allows a total production of 3.1 m tonnes. The estimated production for year 2000 is 2.8 m tonnes.

Of the four countries, **Hungary** has the highest level of support to its dairy production. Support is granted through different administrative prices and through direct support. At farm gate level two prices are set, indicative and guaranteed prices. If dairy companies pay the indicative price to producers, they qualify for a subsidy. If producers do not find a buyer, they may in theory sell their quality milk to the state, at the guaranteed price, which is lower than the indicative price. For processed products, tariffs are applied. In 1999, tariffs were 51 per cent for SMP, 52-67 per cent for cheese and 130 per cent for butter¹⁸. There is an intervention system, activated if the market price decreases below a trigger price. In recent years intervention has not been activated, as market prices have been higher than the trigger price.

Estonia has a limited range of support measures for the milk market. The support level for milk production is fairly high, though, compared to other products. Most of the supporting measures have been introduced during the last couple of years, after nearly a decade of an almost free-market-regime. In 1998 a headage payment was introduced. To participate in the scheme a farmer must have at least 5 dairy cows and exceed certain regional reference yields as well as participate in a milk recording scheme. This direct support increases revenue per cow by ca. 7 per cent. The total value of the support in 1998 amounted to 4.4 m euro, ca. 52 euro per cow. In 1999 the support had increased to 55,7 euro per cow.

Since 1999, Estonia has been applying border tariffs towards countries with which no free trade agreements have been signed¹⁹.

¹⁸ 1997 data for butter.

¹⁹ In 1999 Free Trade Agreement was signed with Poland and Hungary. There are no tariffs for EU agricultural exports.

Positions in accession negotiations

The CAP is one of the most complicated negotiating issues prior to enlargement, and it is one of the remaining chapters to be negotiated. Direct support to new member states is one of the most controversial items, concerning levels of supports and bases for payments (acreage and headage). Another, as controversial, issue is quota allocation, especially for milk production. Market regulations – such as tariffs and export subsidies – will automatically be applied in new member states, once border measures are abolished, while production quotas have to be agreed upon, as well as any derogation from the EU rules (the *acquis*).

The general position of the EU is

- that quotas shall be based on past performance and that present production level should not be exceeded;
- that new member states shall not automatically be eligible for direct supports, since those are directed towards compensating EU farmers for earlier price drops due to changed conditions;
- compliance with sanitary and phytosanitary regulations.

For the milk sector, the list of demands presented by the researched CEECs is rather extensive. Some of them are however relatively minor issues, for instance the fat contents of milk products and the applicants demand to have their national cheeses included among products eligible for various support schemes.

The key demands, though, relate to the level of quota and milk quality issues. All four countries demand quotas that exceed their 1999 production level. Hungary has demanded a quota that exceeds its 1999 production by 33 per cent, which is more than any of the other countries examined and a level which Hungary has not reached during the entire 1990s. Also Estonia has demanded a milk quota which is significantly above the current production volume (28 per cent above the production volume of 1999). Estonia's dairy sector is perceived as relatively competitive when compared both with other CEECs and with existing EU Member States and Estonia appreciates a strong potential to increase production.

The Czech Republic has demanded a milk quota which exceeds its 1999 production volume by 10 per cent. The Czech demands regarding the dairy sector must be considered relatively moderate, considering that the country has experienced a much sharper decline in its dairy production than several other candidate countries, for example Hungary.

Poland is demanding quotas which exceed its current production by 10 per cent. Poland also wants exceptions from milk quality requirements since an important part of Polish milk does not fulfil EU standards. Moreover, Poland requests a transitional period of two years after accession, for managing the quota system.

The European Commission in January 2002 presented a proposal how to gradually integrate new member states into the CAP. The Commission proposes a ten year transition period for direct support, starting at a support level for new members of 25 % of the level of present members, in 2004, and closing the gap between members in 2013. By the candidate countries, this is perceived as a discrimination and an unfair treatment. The researched countries, in their accession positions, all expect direct payments directly and to the same extent as in the existing member states.

Regarding milk quotas, the Commission has proposed an allocation based on production levels of the years 1997-1999. Where appropriate, it could be considered to take account of exceptional conditions such as natural disasters or significant market disturbances. When using the suggested base period all the applicant countries are offered less milk quota than they have asked for, see Table 17 below.

Table 17. Milk quota – requests and Commission proposal

Country	Requested quota, m kg	Commission, m kg	Offer / request, %
Poland, step-wise increase	11 217 (2003) 13 740 (2008)	8 875	79
Hungary	2 800	1 946	70
Czech Republic	3 100	2 506	81
Estonia	900	563	63

Source: European Commission, 2002, Enlargement and Agriculture: Successfully Integrating the New Member States into the CAP, Issues Paper.

3

Measures of competitiveness

3.1 Introduction: Definition and measurement of competitiveness

An important factor that will influence the attitude of the researched CEECs to future reforms of the milk regime is their competitiveness vis-à-vis the incumbent members of the EU and on an unprotected market. This chapter aims at providing an assessment of this issue. Since competitiveness is a complex matter, a short clarifying introduction is also provided.

Competitiveness is a complex economic phenomenon and a controversial issue. The concept lacks a universally accepted definition as well as a broad consensus on appropriate empirical measures. Concepts of competitiveness can be applied at different levels of aggregation. At the national level competitiveness generally refers to the ability of a country to produce goods and services that meet the test of foreign competition while simultaneously maintaining and expanding domestic real income.²⁰ However, some authors question the relevance of the concept at that level.

At the sector or sub-sector level, which is relevant to this study, competitiveness is often defined as the "ability to profitably gain and maintain market share in domestic and/or export market".²¹ A somewhat more elaborated definition perceives competitiveness as an ability to supply goods and services in the location and form and at the time they are sought by buyers, at prices that are as good as or better than those of other potential suppliers, while earning at least the opportunity cost of returns on resources employed.

Factors underlying competitiveness fall into two parts²². One reflects relative cost and price differentials, the other relates to qualitative factors such as the ability to innovate. If products are innovative, consumer spe-

²⁰ OECD (1999)

²¹ Definition adopted by Agriculture Canada. Westgren (1994).

²² OECD (1999)

cific or of high quality, then a country can export goods even if they are not cheaper than rival goods.

Economic theory offers two approaches to explain differences in countries' trade and specialisation patterns²³. The first one focuses on the notion of comparative advantage, that is, relative cost advantages over trading partners. Comparative advantages can originate from various sources such as differences in factor endowments or production technologies. This approach is linked to cost competitiveness and is able to explain why countries trade in different products, that is, inter-industry trade. The second approach focuses on trade in similar products (or different varieties of the same product), that is, intra-industry trade. Such trade is explained by economies of scale (specialisation advantages) and preference diversity, which creates a potential for product differentiation.

The choice of methodology for competitiveness analysis is quite problematic because the notion of competitiveness has no single definition and no clearly established link to the economic theory. An important attempt to improve theoretical consistency is the use of some measure of comparative advantage. Indeed, recent studies conclude that comparative advantage is probably the major force driving competitiveness in the agri-food sector.²⁴ This applies in particular to the dairy sector due to a high reliance of this activity on the availability of certain domestic resources, such as land suitable for dairy production (pastures), and farm labour. Moreover, since agriculture and milk production in particular are highly regulated, i.e. distorted activity, it is important to distinguish between observed and potential competitiveness. By focussing on measures of comparative advantage, such as Domestic Resource Cost (DRC), compare below, it is possible to take this distinction into account.

The concept of competitiveness can, as pointed out above, be applied at different levels of product aggregation. In addition, past performance or the potential of competitiveness can be analysed.²⁵ Indicators based on

²³ OECD (1999)

²⁴ See, for example, Berkum and van Meijl (1998).

²⁵ Frohberg and Hartmann (1997).

various comparisons of market shares (relative export advantage index, relative penetration index) belong, *inter alia*, to the first category. Since this report raises the issue of the attitude of the CEECs to the future reforms of the milk regime, the focus is on measures of potential competitiveness rather than on past performance i.e on: accounting methods, DRC and other indicators based on the PAM (policy analysis matrix) framework. This type of approach is suitable for analysing cost-competitiveness and helpful for studying primary agriculture where the output is a standardised product and the technology relatively well known. The competitiveness of primary agriculture cannot, however, be separated from the performance of the processing industry. Hence, in addition, Porter's²⁶ framework is applied to assess the competitive potential of the dairy industry. This framework is useful for analysing competition in differentiated products where innovations and quality play an important role.

3.2 Production cost comparisons

This section presents various comparisons of production costs and gross margins in milk production at farm level based on existing studies.

Production costs and/or gross margins are often compared across farms to determine which enterprise has a competitive advantage. Gross margins are obtained by subtracting costs of variable inputs from gross revenue. Ahern et al claim that cost of production estimates cannot be directly used to measure a country's competitive position.²⁷ Instead they consider cost estimates to be "extremely useful and perhaps a country's leading indicator of competitiveness"²⁸. However, a critical assessment of the estimation methodology is needed to establish whether comparative costs are real or a result of the estimation system.

Such an assessment of methodology is not easy. As pointed out by Isemeyer, international comparisons of production costs/margins have several weak points.²⁹ As a rule, the available data basis does not allow a really representative random sample to be drawn. Methodological prin-

²⁶ Porter, M. E. (1990). *The Competitive Advantage of Nations*. Free Press, New York.

²⁷ Ahern et.al. (1990)

²⁸ Ahern et.al. (1990), page 1291

²⁹ Isemeyer (2000).

ciples applied in various studies differ with respect to, for instance, classification of products into outputs or inputs, or the handling of joint products. The correct assessment of opportunity costs for production factors that are owned by the enterprise is difficult. This is especially the case for labour. Moreover, international comparisons should also include distribution and marketing costs, which are often difficult to measure. Omission of such costs, especially for bulk products, is a serious shortcoming.³⁰

Given the above-mentioned difficulties associated with cost comparisons across different studies, the analysis in this chapter focuses on relative cost differences within the same study rather than on absolute cost level.

Table 18 below shows production costs for milk in Estonia, Poland, Hungary and Germany. For the sake of comparison the table includes also production costs of other major agricultural commodities.

Table 18. Production costs for selected agricultural products in 1996, Euro per tonne

Product	Estonia	Poland	Hungary	Germany
Milk	136	150	180	330
Beef	1390	750	920	1980
Pork	1330	790	740	1170
Wheat	76	130	60	100
Barley	73	150	50	110
Rape seed	132	230	130	210

Source: adapted from Frohberg³¹ table 4.

The lowest production cost of milk can be found in Estonia followed by Poland. In both countries production cost was less than half the German level. Poland seems competitive in livestock products whereas production costs of crop products exceed the German level. This could be explained by the small size of farms in Poland that constitutes a bigger disadvantage in crop production than in livestock production. In Hungary the opposite is the case. Production costs seem relatively high in live-

³⁰ Frohberg and Hartmann (1997).

³¹ Frohberg (1999)

stock products whereas the costs for crops were very low in 1996. The cost pattern is less clear in Estonia.

The German Institute of Farm Management and Rural Studies (FAL) has been involved in analysing dairy systems in Europe and overseas since 1990. Its research is based on costs provided by an extensive survey group of "European Dairy Farmers"³² who provide voluntary data to the project. In many of the accession countries farm surveys are still in an infant stage of development with few reference years available so far. However, cost data from a limited sample base of farms in Poland and Hungary are included. While the sample base is not representative in each respective country where data was collected, it is judged to give indicative figures for typical country farming systems.

FAL determines the competitiveness of various national systems by the comparison of long-term averages of total production costs for fat corrected milk (FCM). The results of the 1997 study show that costs in countries in continental Europe range between 35 to 40 Euro per 100 kg of FCM produced, except for Ireland and Britain where average costs were approximately 30 Euro per 100 kg FCM. Within the EU, only Ireland possessed significant cost advantages. The main causes for the Irish cost advantage were low wages, low fodder costs and low costs for machines and buildings. Hungarian and Polish farms produced milk at cost below 20 Euro per FCM, which is of a similar order of magnitude as in the Table 18. The study suggests that production cost advantages in Hungary and Poland are derived from low wages and land rents, resulting in low labour and feed costs. However, productivity is also relatively low.

The International Farm Comparison Network, also coordinated by FAL, provides a broader international comparison of production costs of internationally harmonized results on milk prices and cost of milk production for selected typical farms.³³ The results are shown in Table 19.

³² This sample is indicative rather than representative, however as the Institute states ('Inter Regional competitiveness - a cross country comparison of dairy farming' BAL (also known as "FAL") 2000) these do "show typical, country specific farming or management systems, based on specific geographical, social and political environments".

³³ While calculating the costs it is assumed that non-milk returns (by-products such as cull cows, calves, and surplus heifers and beef sales) equal costs of producing those returns.

Table 19. Cost of production of milk in 1997 in some CEECs, the EU and other major producing regions

Country	Range of cost levels Euro/tonne
Austria	79
Italy	56
Germany	45-62
France	45-56
Netherlands	45-56
UK	34-40
USA	26-34
Hungary	28
Poland	30
Bulgaria	19
Czech republic	37
Argentina	25
Uruguay	30
Australia	21
New Zealand	19

Source: adapted from Deblitz et al (1998).

As can be seen from Table 19, in some locations in the Southern Hemisphere production costs for milk are only half as high as in the EU or even less. The most important reason for this is climatic advantages that allow year round grazing. Apart from unfavourable weather conditions, which require cows to be housed in wintertime, comparative disadvantages of milk production in the EU arise from high wage rates that lead to high labour costs, small herd sizes, traditional land use patterns, and high level of domestic regulations. In addition, the milk quota system has a negative impact on the international competitiveness.³⁴

The cost level in the CEECs is low compared to EU farms but higher than for the most efficient producers worldwide. The cost advantage vis-à-vis the EU is explained mainly by low labour costs and low depreciation due to the use of old equipment and reduced investment activity. The latter cost advantage could disappear in the future when old equipment is replaced by new investments. In a global perspective milk farming in the CEECs shares some of the comparative disadvantages encountered in the EU (climate, size, and land use pattern).

³⁴ Deblitz et.al, (1998).

Gross margins comparison between Poland, Hungary and Estonia

Ferenczi and Wilkin have compared production cost structure for several agricultural products in Poland and Hungary based on detailed surveys of the main agricultural products that exist in both countries.³⁵ The analysis is based on accounting principles specific to the investigations in question. In some areas, production costs do not accurately match international accounting principles and are therefore not directly comparable with the cost figures shown above. Rather than showing total costs, including opportunity costs of own resources, the figures show cash flow per cow. The series however, does indicate trends in production costs in each country.

Milk production generates higher margins on large farms in Hungary, which may be attributed to both higher yields per cow and a higher milk procurement price in Euro. At the same time, however, Hungarian dairy producers show higher costs of production. Polish small farms seem to perform better than Hungarian ones (see Table 20).

The very high input of labour in small dairy farms, shown in the table below, indicates, especially, in the case of Hungary, technical inefficiency. (Labour input per cow in Sweden is, as comparison, 50 hours per year). It is likely that labour use on those farms could be reduced without decreasing milk output. Labour is, however, abundant and the wage level for agricultural labour is very low, especially in Poland, and only slightly higher in Hungary. A similar level of wages could be found in Estonia where farm labour was paid 1.5 Euro.³⁶ On average farm labour fetches much higher wages in the EU, namely, 8 Euro. The differences between EU Member States are, however, considerable, ranging from 2 Euro in Greece to 13 Euro in Denmark. Moreover, farm wages have been growing much faster in the CEECs than in the EU.³⁷

³⁵ Ferenczi and Wilkin (2000).

³⁶ Brandt (1998).

³⁷ Ferenczi and Wilkin (2000).

Table 20. Gross margin per cow in Poland and Hungary, in Euro

Year	1993	1994	1995	1996	1997	1998
POLAND						
No. of cows per farm	3,2	3,15	3,07	3,17	3,31	4,92
Average yield, lit/cow	3390	3400	3470	3450	3600	3900
Average price, Euro/lit	0,12	0,11	0,15	0,16	0,17	0,18
Non-paid work, hrs, per cow	357	368	348	337	334	273
Paid work, hrs	3	3	4	5	5	11
Wage, Euro/hour	0,67	0,78	0,80	0,95	1,05	1,09
Value of prod.	424	389	540	585	645	725
Total direct cost	113	102	123	148	171	217
GROSS MARGIN per cow	312	287	418	438	475	508
HUNGARY – enterprises						
No. of cows per farm	422	451	479	502	541	537
Average yield, lit/cow	5390	5590	5760	5540	5830	6130
Average price, Euro/lit	0,19	0,21	0,17	0,19	0,22	0,24
Paid work, per cow, hrs	116	105	89	96	90	90
Wage Ft/hours	1,32	1,54	1,28	1,34	1,47	1,53
Value of production per cow	1033	1195	1002	1069	1283	1501
Total direct cost	729	798	689	765	923	913
GROSS MARGIN per cow	304	396	312	304	360	587
HUNGARY – individual farms						
No. of cows per farm	3,1	3,3	3,5	4,2	4,8	5,1
Average yield, lit/cow	3440	4100	4390	4300	4650	4310
Average price, Euro/lit	0,17	0,19	0,16	0,18	0,20	0,22
Non-paid work, per cow, hrs	750	696	654	616	720	676
Value of production per cow	606	790	703	784	951	962
Total direct cost	517	575	467	622	694	682
GROSS MARGIN per cow	90	215	236	162	257	281

Source: adapted from Ferenczi and Wilkin (2000).

Brandt has estimated production costs of milk in Estonia (in old buildings) to between 0.20 and 0.24 Euro. Brandt considers Estonian milk production to be internationally competitive due to low wages, and low capital and land costs. Land use cost will remain low because of the limited natural competitive potential of market crops. The labour and capital cost advantages are expected to dwindle in the next ten years. However, with potential productivity of over 7000 kg per cow and scope for increasing efficiency in processing, Estonian milk production will be in-

ternationally competitive in the long term if a favourable farm structure can be achieved³⁸.

Summary

The CEECs appear to have a cost advantage vis-à-vis EU in milk production at farm level. The reason is mainly low cost of land and labour and low depreciation due to the use of old equipment and reduced investment activity. Among the researched countries, Poland and Estonia show a distinctive potential for being competitive dairy producing countries.

Cost level in the CEECs is low compared to the EU farms but higher than for the most efficient producers worldwide. In a global perspective milk farming in the CEECs shares some of the comparative disadvantages encountered in the EU (climate, size, and land use pattern).

Some of the cost advantages are likely to disappear in the future. This is particularly the case for capital as most of the cost assessments reported above are based on the assumption that old equipment is used. Eventually, the old equipment will have to be replaced resulting in rising capital costs. On the other hand, improvements in the functioning of the market for rural credit may make it cheaper for farmers to acquire new capital.

Milk production is a labour-intensive activity. Hence, the development of labour costs is crucial for future competitiveness. The figures in table 20 indicates that wages of farm labour have been increasing fast in Poland and Hungary. The same is the case for Estonia. Large farms could be disadvantaged by this development. However, small family farms rely only to a limited extent on hired labour. The main cost item is the own labour of farmers. The cost of this input depends on what farmers could earn working in other activities. Taking into account the size of the labour force in agriculture and the fact that Poland exhibits persistently high unemployment figures, in spite of almost a decade of high economic growth, prospects of finding alternative employment outside farming seem bleak for many Polish farmers in a foreseeable future.

³⁸ Brandt (1998).

Hence, the advantage of low labour cost may be expected to persist longer in Poland than in Estonia.

Taking into account the ample availability of land, Deblitz et.al.³⁹ consider the long term potential for expanding Central European milk production as quite high, but claim that the outlook for the near future looks less optimistic. Many small farms will have difficulties adapting their production systems to EU quality standards. Generally, the dairy industry suffers from old equipment, overcapacity and lack of distribution and marketing infrastructure.

3.3 Domestic Resource Cost (DRC) and other measures of comparative advantage

Domestic Resource Cost ratio (DRC) is one of the most often used measures of comparative advantage applied in empirical analyses of agricultural activities. DRC as well as several other important indicators of protection, comparative advantages and social profitability can be illustrated using the framework of Policy Analysis Matrix (PAM) originally developed by Monke and Pearson.⁴⁰ Since some of those indicators have also been used to assess future or present profitability of milk production in the CEECs, the PAM framework is presented below.

The PAM is a product of two accounting identities: profits are defined as a difference between revenues and costs measured in either private or social terms. The second identity measures the effect of distortions as differences between observed values and social values.⁴¹

Table 21. Policy analysis matrix

	Revenue	Tradable Input Costs	Domestic Factor Costs	Profits
Private Prices	A	B	C	D
Social Prices	E	F	G	H
Transfers	I=A-E	J=F-B	K=G-C	L

³⁹ Deblitz, C., Hemme, T., Isemeyer, F., Knutson, R., and Anderson D. (1998).

⁴⁰ Monke and Pearson (1989).

⁴¹ Fang and Beghin (2000).

The PAM matrix gives three absolute measures:

- Private profitability $D = A - B - C$
- Social profitability (or Net Economic Benefit NEB) $H = E - F - G$
- Net transfer $L = I + J + K$

Indicators that are used to compare the extent of policy transfers or policy incentives and indicators that are used to compare relative efficiency or comparative advantage between agricultural commodities are summarised in Table 22, below.

Table 22. Economic indicators derived from the PAM

NPC:	Nominal protection coefficient	$[A/E]-1$
EPC:	Effective protection coefficient	$[(A-B)/(E-F)]-1$
DRC:	Domestic resource cost	$G/(E-F)$
SCB:	Social cost benefit ratio	$(F+G)/E$
PPR:	Private Profitability Ratio	$A-B-C/A$
PCR:	Private Resource Cost	$C/A-B$

As indicated by the table, DRC measures the opportunity costs of employed resources (capital, labour and other valued at social opportunity costs) relative to the payments they would receive on an unregulated market. Hence, DRC is an indicator of social profitability. Usually, the world market serves as a benchmark.⁴² DRC can also be argued to indicate cost competitiveness of an activity since it is based on comparisons between costs and benefits generated by the activity.⁴³

⁴² Tsakok (1990).

⁴³ Banse et.al. (1999).

The DRC is calculated as:

$$DRC_i = \frac{\sum_{j=k+1}^n a_{ij} V_j^S}{P_i^S - \sum_{j=1}^k a_{ij} P_j^S}$$

where:

$a_{ij}, 1$ to k are technical coefficients for traded inputs

$a_{ij}, k+1$ to n are technical coefficients for domestic resources

V_j^S is shadow price for domestic resource

P_i^S is border price of traded output

P_j^S is border price of traded input

As seen from the formula above, calculation of DRCs presupposes a detailed knowledge of production technology and relevant domestic and international prices including shadow (opportunity) prices of domestic resources. A major advantage of the DRC is the fact that interpretation of the results is intuitive. A production of a good is *not* competitive when production under world market conditions generates less income (value added) for domestic resources such as labour, capital and others, than the opportunity costs of those resources. In this case the DRC is larger than one. This implies that more of domestic resources are needed to produce the good than to import it. Hence, it is preferable to import the good instead of producing it at home. Extreme cases of non-competitiveness have negative DRCs. This occurs when an activity generates negative valued added at world prices. It follows that an activity is competitive when the DRC value is less than one. In this case social opportunity costs in terms of domestic resources used up are smaller than the corresponding social gain in terms of value added generated. A disadvantage of using DRC is that for activities that generate close to zero valued added at world price, the coefficient becomes very large and meaningless to interpret.

Because of its versatility and intuitive interpretation, DRC quickly became and remains the dominant indicator in general use. It was a dominant tool used to guide World Bank-funded sectoral structural adjustment activities.⁴⁴ DRC has also been extensively used in the CEECs.

In explaining the popularity of the DRC methodology, besides the general merits of the approach one can point at reasons specific to CEECs:

- The agricultural sectors of CEECs are often considered to be distorted by underdeveloped institutions, lacking competition, poor macroeconomic stability and interventionist policies. DRC methodology enables the disentanglement of effects of pure comparative advantage and the distorting effects of institutional and structural conditions – it grasps potential rather than revealed competitiveness
- The properties of economic convergence of these countries (the potential for relatively high rates of economic growth) imply paramount changes in relative prices (wages, RER, interest rates), which impact on competitiveness in many sectors. This impact can be traced using the DRC approach (simulating future DRC). Given the complexity of preconditions for growth and institutional development, such a simulation exercise is, however, not easy to accomplish.

This attractiveness, however, is accompanied by several specific challenges:

- It is not easy to collect the necessary data (which is even more true for CEECs). Transition implies heterogeneity of technologies and structures in production, which make the choice of technical coefficients difficult.
- DRCs are sensitive to the choice of shadow prices for non-tradable inputs, especially the opportunity costs of capital and

⁴⁴ Masters (1998).

labour, and to changes in exchange rates and international prices.

- The classification of inputs in tradable and non-tradable is to some extent arbitrary .

As pointed out by Tower and illustrated in Table 22 above, DRC is only one of several possible cost- benefit ratios.⁴⁵ A private counterpart of DRC is private resource cost or private profitability ratio (PCR). This indicator can be used to assess changes of profitability following expected changes in private incentive prices, for instance due to accession to the EU. Some authors refer to this indicator 'bilateral' DRC (see below). In terms of the PAM matrix PCR is calculated as $C/(A-B)$. The PCR is below 1 whenever an activity generates positive private profits.

The DRC concept has been criticized by Masters and Winter-Nelson since it may be biased against activities that rely heavily on domestic non-traded factors and hence does not give a proper ranking of alternative projects in terms of their social profitability.⁴⁶ Masters and Winter-Nelson argue for the use of social cost-benefits ratio (SCB), which accounts for all social cost (F+G).⁴⁷ SCB is defined as $(F+G)/E$. Only activities with a ratio below one are socially profitable.

3.4 Ex-post DRC results for dairy sector in CEECs

This section summarizes and discusses selected analyses of comparative advantage in the CEEC dairy sector based on the DRC methodology. As pointed out earlier, DRC has been a popular tool for analysing the competitiveness of agriculture in the CEECs. Examples of recent DRC studies for milk production in CEECs are given in Table 23 . The results cover 5 countries over the years 1992-1998 (Table 23) and 3 countries, for which DRC ratios are calculated, separately for various farm types, in 1997 (Table 26). One should be aware, however, that results for the various countries are not fully comparable due to specific assumptions which may have been made by different authors. Mere comparisons across

⁴⁵ Tower (1992).

⁴⁶ Masters and Winter-Nelson (1995).

⁴⁷ for a discussion, see Masters (1998).

various time periods and among farm types within each study are, therefore, unqualified.

Table 23. Ex-post DRC ratios for farm milk production in CEECs

Country	Source	Organization/ Ownership	1992	1993	1994	1995	1996	1997	1998
Bulgaria	Ratinger (1997)	n.a.	-	-	1,40	1,68	1,15	-	-
Czech Republic	Bozik <i>et al.</i> (1998)	n.a.	-	-	2,54	1,89	1,96	-	-
Hungary	Banse <i>et al.</i> (1999)	Sector level	1,99	2,58	6,9	6,13	13,98	-	-
Poland	Safin <i>et al.</i> (1997)	5-10 ha	-	0,43	0,46	0,56	-	-	-
	Gorton <i>et al.</i> (2000)	c.a. 5 cows	-	-	-	-	1,53	1,66	2,27
Slovak Republic	Bozik <i>et al.</i> (1998)	n.a.	-	12,3	5,48	2,85	2,84	-	-

Taking into consideration the above-mentioned limitations, it can be observed that only for Poland DRC values smaller than one have been observed.⁴⁸ This would suggest that, at the given structure and technologies, only Poland had a comparative advantage in milk production and only before 1996.

Changes over time

In Hungary and Poland, countries for which a longer time series of DRC has been analysed, there was a tendency for the DRC estimates to deteriorate (that is for DRC to increase) over time.

In the case of the Czech republic DRC does not show a consistent pattern over time and is only available for three years. However, Ratinger *et al.* calculated social cost benefit ratios (SCB), defined in the preceding sec-

⁴⁸ study by Safin *et al.* (1997).

tion, for four types of Czech farms between 1992-1998.⁴⁹ The SCB and DRC are strongly related.⁵⁰

Table 24. Development of social profitability (SCB ratio) 1993-1998 for milk in the Czech republic.

	Individual farms under 50 ha	Individual farms over 50 ha	Agricultural co-operatives	Farming companies
1993	1,44	1,40	1,66	1,65
1994	1,39	1,34	1,59	1,58
1995	1,30	1,24	1,47	1,45
1996	1,32	1,26	1,50	1,48
1997	1,39	1,32	1,58	1,56
1998	1,64	1,53	1,84	1,81

Source: Ratinger et.al. (1999)

Table 24 indicates lack of competitiveness and social profitability in milk production i.e. social costs of production were higher than social benefits. Situation has improved in the first years of transition but started to deteriorate in 1996. Ratinger et.al. also calculated SCBs for other farm commodities. Those calculations (not shown in the table above) indicate that social profitability of milk production in Czech republic is lower than for beef and considerably lower than for pork. Only the latter activity has been close to being profitable from the social point of view.

The tendency of DRCs to deteriorate over time reflects substantial changes in relative prices inherent to transition, and to the macroeconomic performance in these, and probably some of the other, CEECs. This performance has been marked by relatively high rates of economic growth and associated phenomena such as:

- increases in real wages (and hence the opportunity costs of labour),
- an appreciating real exchange rate of domestic currencies, and
- relatively high real interest rates.

⁴⁹ Ratinger et.al. (1999).

⁵⁰ This is seen if the following definitions using the NEB (a measure of social profitability, see PAM matrix) are compared:

$$SCB = 1 - (NEB / E)$$

$$DRC = 1 - (NEB / (E - F))$$

Changes in these variables, which directly enter the DRC ratios are partly manifestations of ‘internal’ competitive pressure exerted by the more dynamic sectors in the economy that improve productivity and attract scarce domestic resources (pushing up wages, interest rates and the prices of services and other non-traded goods).

Thus, deteriorating DRCs mean that modernization and restructuring (productivity improvement) in milk production have been too slow to offset profitability losses resulting from changing (deteriorating) sector terms of trade. Between 1993 and 1998 the nominal exchange rate (units of national currency per USD) increased slower than the general price level measured by CPI, implying a real appreciation of domestic currencies of these CEECs.

In countries and at times with DRC is higher than 1 the tendency might be, firstly, to decrease production, secondly, to maintain or increase subsidization of the sector (to sustain private profits), or, thirdly, to decrease farm wages below the level assumed by analysts as the opportunity cost of farm labour. Table 25 presents data on the changes and levels in the milk production, and subsidies to milk production in three of the considered countries. The data confirms that lack of comparative advantages induced either adjustment in production volumes or policy transfers to the sector.

Table 25. Selected variables useful in explaining DRC results in CEECs

	PSE in % Average for 1997-1999	In milk produc- tion (%)	Changes between 1993 and 1998		
			In GDP (%)	In NER (%)	In CPI (%)
Czech Republic	36	- 42	+13,7	+10,7	+56,8
Hungary	48	-28	+16,1	+133,2	+154,2
Poland	13	- 21	+33,5	+63,7	+160,2

Source: own calculations based on OECD data

Effects of farm structure

Table 26 shows differences in performance (in terms DRC values) between various types of farms. Two structural dimensions are covered:

size and organization or ownership status. The following observations can be made:

- The differences in performance among farm types are substantial, which suggests that future restructuring of the dairy sector represents a significant potential for productivity and competitiveness improvement in those countries.
- In the Czech Republic and Hungary performance of private individual farms is superior to performance of co-operative farms (Hungary) and co-operative and farm companies (Czech Republic). Table 24, above, indicates that, in the case of the Czech Republic, this pattern was consistent over the whole period.
- DRC studies in Poland are concerned more with the effect of the size of private individual farms rather than with the influence of ownership status – in 2000 state owned farms accounted for less than 10 per cent of total farm land and farm produce. Indeed, size appears to be a factor as suggested by the results in table 26, that is, there is a positive relationship between farm size and DRC value.

Table 26. DRC for farm milk production by farm structures in 1997

Country	Source	Size and ownership status of farms				
Czech Republic	Ratinger	Individual Private Farms	Individual Private Farms	-	Farming Companies	Co-operative Farms
		up to 50 ha	over 50 ha			
DRC-value		1,65	1,48	-	2,0	1,94
Hungary	Banse et al. (1999)	Individual Private Farms	Individual Private Farms	Individual Private Farms	Farming Companies	Co-operative Farms
		up to 15 ha	15-30 ha	over 30 ha		
DRC-value		1,30	1,01	1,03	1,19	2,07
Poland	Gorton et al. (2000)	Individual Farms with c.a. 2 cows	Individual Farms with c.a. 5 cows	Individual Farms with c.a. 118 cows	-	-
DRC-value		2,39	1,66	0,99	-	-

3.5 Projected comparative advantages under EU accession

The relevance of DRC studies for the estimation of the international competitiveness of CEEC agriculture has been questioned in terms of their reliance on border prices as the main benchmark. It has been argued that studies should also consider the ability of CEECs to operate at EU tradable input and output prices.⁵¹ Several authors have introduced adjustments for measuring competitiveness vis-à-vis the EU. A suitable indicator for making such an assessment is the private profitability ratio under EU prices, or 'bilateral' DRC. This coefficient measures the ability of producers of a commodity 'i' in the CEEC in question to be profitable when faced with average EU output and tradable input prices with the cost of the factors of production measured in terms of their opportunity costs within the CEEC. Two different approaches can be distinguished in the empirical analyses. Some studies are based on an ex-post, counterfactual exercise of what profitability would have been if a CEEC had been an EU-member in a particular year in the past. Others make projections of the future profitability under a specific accession scenario. The latter exercise requires also projections of a number of variables that affect calculation of the DRC under the accession scenario, especially: exchange rate, wages, interest rates, technical change etc.

Farm level

Banse et.al who calculated DRC for different farm structures in Hungary 1997, (compare table 26 in previous section), provide also analogous PCR (bilateral DRC). According to their calculations, a hypothetical accession to the EU in 1997 would have been very profitable for Hungarian milk producers, especially for individual farms over 30 hectares and farming companies, with PRC around 0,30, a considerably higher profitability than the figures reported by Davidova and Gorton (see Table 27).

Ratinger et.al analysed the impact of the accession of the Czech Republic to the EU assuming two different scenarios concerning technical progress: past trends vs. fast convergence. Wages were assumed to grow by 2 per cent per annum in real terms, other non-tradable inputs were assumed to keep their real values from 1997.

⁵¹ Gorton, Davidova (2000) .

Table 27. Private resource cost ratio under EU accession, (bilateral DRCs) for milk in Czech republic and Hungary

Country	1994	1995	1996
Czech republic	0.85	0.73	0.87
Hungary	0.65	0.80	1.07

Source: Davidova and Gorton

The results, in terms of private profitability ratios, are summarized below. All major agricultural commodities are included for the sake of comparing the relative profitability of milk. According to Ratinger, "The attractiveness of EU membership emerges clearly from the results on private profitability in the EU membership scenario. In general, Czech producers will be competitive at EU (institutional) price settings".⁵² Milk production appears to be most favourably affected. Also pork production gains considerably in profitability. It should be noted, however, that Ratinger et.al have assumed that Czech farmers will not receive direct payments. Under this assumption, products that are less/not dependent on direct payments gain relatively more after the accession.

Table 28. Private profitability ratio inside EU compared to the baseline scenario, 2005, slow technical growth, individual farms over 50 ha.

Commodity	Inside EU	Outside EU
Wheat	5%	16%
Barley	-14%	2%
Rape seed	5%	25%
Sugar beet	29%	-32%
Potatoes	32%	22%
Milk	71%	23%
Beef	9%	-30%
Pork	38%	25%
Poultry	n.a.	n.a.

Source: Adapted from Ratinger et al, table 41 and 46

⁵² Ratinger (1999), page 61.

Projected comparative advantages in milk processing industry under EU accession scenario in Poland

In a detailed study over Polish milk processing, Guba projected future comparative advantage (DRC) and private profitability (PCR) in 2007.⁵³ The projections are made under alternative assumptions concerning macroeconomic variables (growth rates, real wages, real exchange rates and real interest rates) and the rate of technical progress. The latter has been projected based on, firstly, recent trends, secondly, existing productivity gaps between Polish and EU dairy industry, and, thirdly, prospective changes in institutional and other conditions of investment activity in the considered industry.

Results

Results of the simulation based on the above-described assumptions are presented in Table 29.

Table 29. DRC and PCR projections for selected milk products under alternative scenarios of EU accession, Poland, 1997-2007

	1997		2007					
	PCR	DRC	Low Growth		Base		High Growth	
	PCR	DRC	PCR	DRC ^{EU}	PCR	DRC ^{EU}	PCR	DRC ^{EU}
	Without technical change							
Milk processing industry	0.92	1.13	1.12	1.26	1.25	1.38	1.40	1.52
Skimmilk powder	0.94	0.98	0.71	0.84	0.75	0.86	0.78	0.88
Ripening cheese	0.84	0.77	2.09	2.73	2.16	2.67	2.23	2.62
Butter	1.99	2.16	1.30	1.77	1.35	1.74	1.40	1.72
Yoghurts	0.67	1.15	0.98	1.04	1.12	1.18	1.29	1.34
	With technical change							
Milk processing industry	0.92	1.13	0.82	0.86	0.92	0.96	1.01	1.05
Skimmilk powder	0.94	0.98	0.67	0.71	0.69	0.73	0.71	0.75
Ripening cheese	0.84	0.77	1.24	1.28	1.33	1.36	1.42	1.46
Butter	1.99	2.16	1.18	1.24	1.21	1.26	1.24	1.29
Yoghurts	0.67	1.15	0.84	0.89	0.93	0.97	1.03	1.08

Source: Guba (2000)

⁵³ Guba (2000).

The following observations can be made:

- In the base year the industry as a whole was socially unprofitable. Private profitability was attained through transfers to the industry. Of the four product-specific activities, two, - namely SMP and ripening cheese -, appear to be socially profitable. All activities are privately profitable except for butter.
- Without technical change, in year 2007 (accession to the EU is assumed to take place in 2004), the industry as a whole will lose private profitability and social profitability will further deteriorate. Only SMP would stay profitable (both privately and socially).
- Without technical change in milk processing, social profitability of this economic activity is, as may be expected, lower the higher the rate of economic growth is.
- Projected rates of technical change proved sufficient to safeguard private profitability and make the industry socially profitable, however, only in the low growth and base scenarios.

Summary

Two general conclusions emerge from the analysis above. Firstly, there are tendencies for the comparative advantage of this sector to deteriorate fairly quickly over time due to worsening sector terms of trade, that is, relative prices. It is not specific to the CEECs that sector terms of trade in agriculture deteriorate in the long-term. However, in the CEECs this tendency is reinforced by, firstly, economic transition (return of domestic prices to their new "normal" levels), and, secondly, relatively high growth rates fostered by initially low development levels (economic convergence property of low-income countries undergoing liberal reforms).

Secondly, these countries are characterized by a relatively high variety of technologies used, due to the co-existence of, firstly, varying ownership and organization forms of firms, and, secondly, the polarized size structure of farms (small farms with 2-3 cows and large former state-owned

farms such as in Poland). As a result, farms differ considerably in terms of their modernization speed and ability to exploit economies of scale. Detected differences in the DRC results among these farms as well as the general technological lag relative to EU countries suggest a high potential for productivity improvement that can offset deteriorating relative prices. To sum up, the pace of structure and technological change can be identified as the decisive determinant of future competitiveness.

Major factors driving the future competitiveness of CEEC dairy industries will include growing competition (rising power of buyers and sellers, and from imports), increasing labour and decreasing capital costs, access to the EU market, increasing quality and other requirements and better access to new technologies. Accession to the EU is likely to change many of the factors affecting future competitiveness of the CEECs. Table 30 below summarizes the expected impact of EU accession on the competitiveness of dairy industry in the CEECs.

Table 30. Assessment of impacts of the prospected EU accession on the competitiveness components of CEECs dairy sectors

Competitiveness components	Impacts	
	Mechanisms	Outcome
1. Product prices	It will speed-up convergence of CEEC prices on the EU levels (limiting price gaps) because of: liberalization of product and factor markets (manifested <i>via</i> RER appreciation)	NEGATIVE
2. Factor and input prices		
- machinery other importables	The same mechanism (as above) fosters <u>decreases in prices of imported inputs</u>	POSITIVE
- wages	<u>It should foster increases in real wages</u> because of positive impact on productivity improvement	NEGATIVE
- interest rates	Positive impact on macroeconomic stability and therefore <u>decline of nominal interest rates</u>	POSITIVE
	<u>Decrease in real interest rates</u> due to increased competition in banking services	POSITIVE
3. Availability of investment capital	<u>Improved capital availability</u> because of : -improved macro- and sectoral stability -enhancing effect on FDI inflow -pre-accession aid (SAPARD) and (thereafter) Structural Funds	POSITIVE
4. Restructuring and privatization	Legal harmonization and increased market competition should accelerate the processes	POSITIVE
5. Technological change and productivity improvement	Enhanced investments including FDI and trade liberalization should <u>increase technological change and productivity improvements</u>	POSITIVE
6. Quality components	Expected <u>positive effect</u> due to -legal harmonization with the <i>acquis</i> -enhanced competition and investments	POSITIVE
7. Sectoral policies	<u>Milk quota system will impede rationalization</u> of industrial structure (concentration and integration) If base period for the quota are pre-accession years production <u>volumes (quota) may understate long-term competitive equilibrium</u>	NEGATIVE

3.6 Porter's diamond approach to competitiveness analysis

In the introduction to this chapter, a distinction was made between cost competitiveness and competitiveness that relates to the ability to innovate. While the former is applicable to generic products, the latter applies to trade in differentiated products. At the farm level the competitiveness is about keeping the cost low since product differentiation is limited. DRC methodology, applied in the previous section, is suitable for the analysis of cost competitiveness. DRC calculations focus on production technology and are often based on the assumption that quality is homogenous.

In this section competitiveness of dairy industry is analysed. The industry, contrary to primary agriculture, competes to a large extent in differentiated products. Intensity of competition in such products, especially high-branded products, is less severe but the success largely depends on the ability to invent new products and on skilful marketing. Understanding of this practice requires a dynamic view on comparative advantage with focus placed on the competitive process.

Competitive forces of Porter's diamond

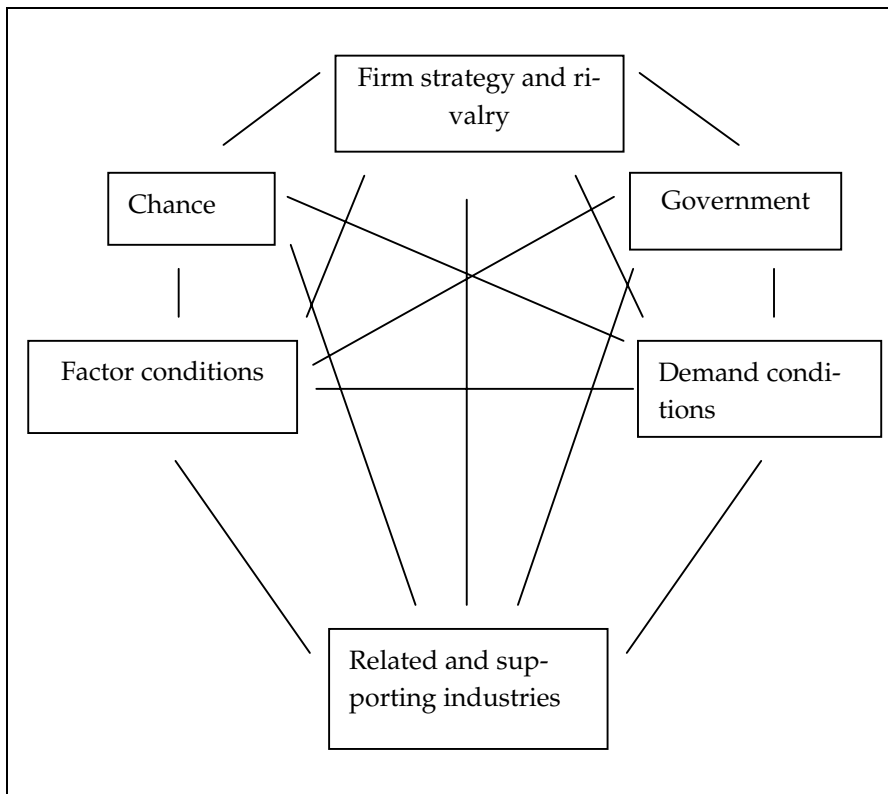
The most widely used framework for an assessment of dynamic competitive advantages is based on the work of Porter who argues that competitive advantage can be created and that certain conditions, which are embodied in his national diamond model, influence its creation.⁵⁴ In this dynamic approach, four sets of variables, - factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry – contribute to the creation of competitive advantages. Government policies, programs and instruments affect the elements of the diamond. In addition, Porter recognizes also the role of chance. The Porterian diamond is illustrated below.

The major shortcoming of this qualitative approach is that results do not allow conclusions to be drawn in a straightforward manner. Country comparisons allow for a mapping of strengths and weaknesses. However, it does not directly suggest the relative importance of various fac-

⁵⁴ Porter (1990).

tors. Economists criticize Porter's research because the results are not based on testable hypotheses.⁵⁵

Figure 7. Porter's diamond of competitive forces



Source: Porter (1990)

Analysis of Porter's competitive forces in CEEC' dairy industries

In this report, Porter's framework is applied to analyse the competitiveness of dairy industries in CEECs. The analysis follows a recent analysis of competitiveness of the dairy industry by ISMEA (1999)⁵⁶ using the

⁵⁵ See, for example, van Duren, et.al, 1994.

⁵⁶ ISMEA (1999) The European Agro-Food System and the Challenge of Global Competition

same categorization of competitive forces. Assessment of the components of these forces in the Czech Republic, Estonia, Hungary and Poland is based on a scoring system (1-4 points). The analysis is applied to the dairy processing sectors in each of the four candidate countries. Our estimates for these CEECs are presented together with results for EU and New Zealand, provided by the ISMEA report, for the purpose of comparison. The comparison with the EU is made in light of the prospect of a likely accession in the near future. The possibility of a liberalization of the EU milk market after enlargement makes a comparison with New Zealand, a major international dairy exporter, relevant.

The analysis of competitive forces is divided into six broad headings corresponding to the competitive forces (factor conditions, demand conditions, related and supporting industries, firm strategy and structure of rivalry, the role of government and chance) identified in the diagram above.

Results of the analysis are presented in table 31 below and commented by headings in the text. This type of analysis is, however, not easy, as it involves the author to make a judgement over a wide number of different criteria determining the competitive force elements. The assignment of scores is, to some extent, arbitrary. The explanation and justification for assigning a particular level is provided below factor by factor.

Table 31. Comparison of competitiveness of the dairy industry in various countries using the Porter's approach

1: poor 2: moderate 3: good 4: very good

Competitive forces	Czech Republic	Estonia	Hungary	Poland	EU	New Zealand
1. Factor conditions						
Climate/Farming system	2	2	2	2	2	4
Labour	2-3	3-4	2-3	3	2	3-4
Infrastructure / locations	3	2-3	3	3	3-4	3
Capital intensity	3	2-3	3	3	2-3	3-4
Knowledge	3	2	2-3	1-2	4	3
Environmental costs	2	3-2	2	3-2	2	3
2. Demand conditions						
Market size	1	1	1	2	4	1
Market growth	1	2	2	3	2-3	3
Quality consciousness	2-3	1	3	2	3	3
Ethics / production methods	1	n.a.	n.a.	1	3	2-3
3. Related and supporting industries						
Raw milk supply	3	2	2	3	2	4
Other supporting industries	1-2	2-1	1-2	1-2	4	3
Related industries	2	1-2	3	2	4	3
4. Firm structure and rivalry						
Power of suppliers	1	1	1	2-3	2-3	2-3
Power of buyers	3-4	4	3	2-3	2	3
Threat of substitutes	2-3	3-4	2-3	3	2-3	3-4
Threat of new entrants	3-4	4	4	4	4	3
Intensity of competition	1-2	1	2-3	1-2	3	2
5. Government						
Trade policy	3	1	3	2	3	4
Production regulations	2	1-2	2	1-2	2	3
6. Chance						
Economic & Political	2-3	2	3	3	4	3
Climatic	3	3	3	2-3	3	2

Sources: *The European Agro-Food System and the Challenge of Global Competition (ISMEA, 1999)*. Own estimates for Poland, the Czech Republic, Hungary and Estonia are made, based on the data described in text of the report.

1) Factor conditions

Climate and Farming System: Natural conditions in CEECs are favourable for the development of dairy sectors. Land is abundant, particularly in

Poland and Estonia. Farming systems are similar to those in the EU and require winter housing.

Labour: Labour costs in the EU are high. This competitive disadvantage is aggravated by the fact that the farming system in the EU is labour intensive. In the four researched countries, labour force is relatively inexpensive. However, the advantage coming from the cost of labour is deteriorating over time.

Infrastructure/Location: Good infrastructure and a short distance to the consumer market and farmers are advantageous to the EU dairy industry. The quality of infrastructure is much lower in the four countries in the study. In addition, the collection of milk from many small farmers is costly. Logistics and distribution are slowly improving, however.

Capital Intensity: High capital intensity and high cost of land contributes to high costs of raw milk production in the EU. Land availability per inhabitant is much higher in the researched countries and land is cheaper. Capital intensity is considerably lower in the researched countries but due to the imperfectly functioning capital markets, access to credit for new investments is not equally good. Farmers and the dairy industry benefit, however, from pre-accession support.

Knowledge: The level of knowledge concerning modern farming and marketing and management is often not satisfactory in the researched countries compared to EU. Management qualifications that are insufficiently developed include use of advertising, acquisition, enhanced and widened consumer services and packaging. Many of these management skills can only be acquired through a long learning-by doing process.

Environment: The low concentration of milk production in the researched countries results in a relatively low level of pollution from dairy farms. Moreover, during the 1990's cow stocking densities have declined considerably in all four countries (40 per cent on average). A decrease of capacity utilization in processing by ca. 45 per cent has also contributed to a reduction of the level of pollution. However, farmers have a low level of awareness of the impact of farming activity on environment. Large formerly state or collective farms still have problems with manure dis-

positional systems. These problems are particularly quoted in Estonia and the Czech Republic, countries with larger herds and low dairy profitability.

Environmental restrictions will eventually restrict production growth at farm level (in areas with high animal density). This may benefit the researched countries due to lower stocking densities.

Environmental costs (of processing plants) are relatively low in each of the CEECs under their current legislation but their position will change with the adoption of EU legislation and EU accession. Available, domestic and international, funds for ecological improvements are probably not big enough to cover the costs of adoption of the environmental rules in the *acquis*.

2) Demand Conditions

Market Size: With the exception of Poland (40 million inhabitants) the researched countries have limited domestic markets. The EU's large market with limited restriction on the movement of dairy goods gives a definite competitive advantage.

Market Growth: The consumption volume in the EU is growing only slowly. Potential for market growth is higher in the researched countries. Consumption of cheese is still low, which leaves opportunity for expansion. The Commission estimates that consumption of milk in the candidate countries will increase by 15 per cent between 2000 and 2007, mainly as a consequence of improved household incomes.

Quality Consciousness: The countries in the study have few nationally branded dairy products and only a few regionally based products exist that may be exploited in marketing campaigns. Due to this lack of tradition and because of considerably lower incomes, consumers in the researched countries exhibit much lower quality consciousness than consumers in the EU. In contrast, the dairy industry in the EU is facing a saturated market and discerning, high-income consumers who shift their demand towards products that meet specific requirements such as convenience and indulgence, health considerations, production ethics, etc.

Ethics and Production Methods: Intensive farming systems and the impact of processing plants on the environment cause consumer concern and tend to increase costs of the products. Due to higher incomes, consumers in the EU exhibit higher environmental awareness than consumers in the researched countries do.

3) Related and Supporting Industries

Raw Milk Supply: Stable supply, good quality and low price of raw milk constitute major competitive advantage (raw milk cost accounts for 50 per cent of the selling price of dairy products). The EU is disadvantaged by high price of raw milk compared to New Zealand. Milk prices in the four study countries are lower but the price gap vis-à-vis the EU has been reduced (and will be further reduced after accession). They are also affected by the seasonality of production with the continued 2:1 ratio of summer to winter production. The quality of procured milk is lower but gradually improving. The share of highest quality milk in Poland increased from 7 per cent in 1997 to 45 per cent in the year 2000. In Estonia in 1999, ca. 80 per cent of milk was of the highest quality, in Hungary and the Czech Republic these numbers exceed 80 per cent.

Other Supporting Industries: The mature EU and US dairy industries benefit from a well-developed network of supporting industries including processing machinery, plant and packaging materials, additives and services. Those industries are all less developed in the researched countries.

Other Related Industries: The EU is advantaged by the presence of many related industries, such as meat, pharmaceuticals/chemicals, beverages and other packaged food industries with which they can share technology. Moreover, the presence of these industries also provides opportunities for diversification. In comparison, the situation in the four countries is less advantageous.

4) Firm Structure and Rivalry

Power of Suppliers: The power of dairy farmers in the EU is considerable. In Poland, the dairy processing sector is still predominantly co-operatively owned by the farmers and has a strong farmer power base which reduces competitiveness. In other of the four countries, characterised by a greater degree of privatisation of the sector, this is less pronounced. However, position of suppliers is strengthened by the fact that plants operate under their capacity and compete for deliveries.

Power of Buyers: The high level of consolidation among retail food and service companies makes them very strong in domestic and global markets, which is a disadvantage for the dairy industry in the EU and other western regions. The power of buyers in the CEECs is relatively weak. In Poland and Hungary large food retail chains are making a significant appearance on markets. However, there are still numerous small food retail outlets, which weaken their buying position. In Estonia and the Czech Republic the situation is better for dairies due to the predominance of small independent retailers.

Threat of Substitutes: The threat of substitutes is moderate in Western Europe, where the shift towards soft drinks already is a fact. In the researched countries, where high nutritional value of milk products may appeal to poor consumers, the threat of substitutes still is weak.

Threat of New Entrants: The threat of new entrants is very low for most dairy products; only in the ingredients sector there is some room for new players. In the CEECs, foreign firms have established themselves through FDI. In all cases the studied threat of substitutes and the threat of new entrants are similar.

5) Government

Trade Policy: Trade policy and production regulations in the EU and the CEECs are converging due to the prospects of EU accession in the future.

Production Regulations: EU governments impose strict regulations directly on the dairy industry in the field of hygiene and environment, but

the environmental and ethical regulations that are imposed on dairy farmers have the greatest impact on the international competitiveness of the processors via the implied raw milk price. Adherence to production regulation (for example elements of the *acquis*, HACCP⁵⁷) in Estonia and Poland remains poor. Few plants have met EU regulations.

6) Chance

Economic and Political: Western Europe is favoured by stable economic and political conditions. Poland and Hungary are among the more economically and politically secure of the CEECs.

Climatic: Countries with a stable climate may have a competitive advantage over others. The EU is less affected by climatic risk than researched countries, especially Poland who recently experienced climatic shocks.

Summary

In factor conditions CEEC dairy industries have an advantage over the EU dairy industry in terms of basic factors such as labour and land. The opposite is the case for advanced factors such as knowledge, sophisticated infrastructure and highly skilled labour and management. These are abundantly present in the EU but less available in the CEECs. These factors are most important for competitive advantage because they are difficult to duplicate. In the EU intense competition prompted the creation of advanced factors.

In demand conditions CEEC dairy industries have an advantage over the EU dairy industry in terms of the rate of market growth. However, they have a disadvantage in terms of size of the market (except Poland), quality consciousness and production methods. Saturation, high income and changing lifestyles have caused the EU market to be highly demanding which in turn stimulates the development of innovative products and attractive packaging. Similar pressures have been lacking in the CEECs.

⁵⁷ Hazard Analysis of Critical Control Points

In related and supporting industries CEEC dairy industries are at a disadvantage compared to the EU dairy industry in terms of a reliable and stable supply of high quality milk being crucial. The CEECs have, however, better prospects for expanding farm milk supplies in the future. CEECs also have a disadvantage in terms of related and supporting industries whereas EU industries benefit from a well developed network of industries supplying packaging materials, additives and services.

In the area of structure and rivalry CEEC dairy industries are at an disadvantage when compared with the EU dairy industry in terms of the power of suppliers (the farmers), but at an advantage when it comes to buyers (power of buyers is lower in CEEC) and in terms of intensity of competition. The CEECs have a disadvantage in terms of a greater threat from both new entrants and new substitutes (these being higher).

Concerning the role of government, CEEC dairy industries have a disadvantage when compared with the EU dairy industry in terms of trade policy which is less stable in the CEECs.

With regard to chance the major advantage of the CEEC dairy industry is access to state support aimed at preparing the sector for the EU membership requirements.

4

Political analysis

4.1 Introduction

Understanding how national positions on CAP reform are determined is a crucial prerequisite for analysing the agricultural policy-making in the EU. The undeniable intergovernmental character of many negotiations in the Council of Ministers, and, particularly, in the Council of Agriculture Ministers emphasizes the importance of domestic considerations in EU decision-making. Game analysis generally acknowledges the importance of the domestic determinants for international negotiations. Thus, according to Lee Ann Patterson, “[t]he importance of domestic politics in determining the contours of the win set at the Community level cannot be overemphasized”.⁵⁸ Similarly, John Keeler states that, in the analysis of agricultural policy formation in the EU, the domestic level “represents the most important (and most neglected) piece of a complex puzzle”.⁵⁹

National policy preferences play a decisive role in determining countries’ positions in international negotiations (see literature on multilevel game analysis).⁶⁰ Applied to this study, this means that candidate countries’ positions on EU dairy policy are determined by a combination of factors, not all of which are directly linked to agriculture.

The aim of this chapter is to identify the variables that shape candidate countries’ preferences on agricultural and dairy policy. Placing the dairy sector into its economic and political context in each of the countries, respectively, allows both to understand candidate countries’ positions in the current negotiations for EU accession and to offer an analysis of their future preferences regarding reform of the CAP’s dairy regime once they have become members of the EU.

The analysis is motivated by the assumption that a new attempt at dairy reform will be made in the EU in the next few years. It is assumed that such an attempt will be aimed at reducing intervention prices for dairy

⁵⁸ Patterson (1997), p.147.

⁵⁹ Keeler (1996), p.128.

⁶⁰ Several authors have examined the role of domestic determinants in EU negotiations on CAP reform. See, for example, Patterson (1997), Schwaag Serger (2001).

products, as well as phasing out the existing system of dairy quotas. Overall, a proposed reform is projected to be aimed at deregulating and liberalizing the dairy sector.

The new negotiations for reform of the CAP's dairy regime might take place before or after the EU has been enlarged. EU aims to admit the first new members in 2004. In the Berlin Agreement to the Agenda 2000 negotiations, Member States agreed to a mid-term review of the dairy sector in 2003. Some believe that this is when the EU's dairy regime will be reformed. However, neither the date for accession nor the date for dairy reform are set in stone, making it difficult to predict which will come first.

The very timing of the proposal might in fact be linked to EU accession, with some negotiating parties preferring a decision to be reached prior to accession while others might wish to postpone reform until after the EU has been enlarged.

One of the most obvious determinants of a country's position on dairy reform might be its perception of the ability of its national dairy sector to compete in a less regulated and more liberalized dairy market. Thus, in the Agenda 2000 negotiations on dairy reform, some pro-reform countries such as Denmark and the UK, were partially driven, in the campaign for reform, by the belief that their dairy sectors would benefit from a more market-oriented dairy policy.

As has been shown elsewhere, however, the perception of national dairy sector competitiveness is not a sufficient explanation for national attitudes towards dairy reform.⁶¹ Several other variables play a significant role in shaping countries' policy preferences regarding the dairy sector. Firstly, the general economic policy orientation might determine the general predisposition towards dairy reform. Countries with a generally liberal, that is market-oriented, economic policy, might be more prone to favouring dairy reform along the lines outlined above than countries characterized by a relatively large degree of government intervention. Looking at the existing EU Member States, the UK might be cited as an

⁶¹ Schwaag Serger (2001).

example of a country with a fairly non-interventionist general economic policy orientation which also favours a deregulation and liberalization of the dairy market. In contrast, France is generally more sceptical of market forces' ability to provide the optimal outcome. Its greater faith in interventionist economic policy is reflected in its consistent resistance to attempts to reform the CAP to make it a more market-oriented agricultural policy.

The second factor that might influence countries' overall position on dairy reform is the general view held of the role of agriculture in society. In the past, the perceived need or desire for self-sufficiency, that is, the ability to feed one's population in times of international crisis, has provided a powerful argument for applying exceptional and interventionist policies, rather than relying on market forces. In addition, however, in many European countries, agriculture holds a 'special' position in society and politics, being perceived as an important guardian of a country's national and cultural heritage.

General economic policy orientation, and, in particular, public opinion on different policy choices, is particularly important in the CEECs, given the unique transition process that has taken place since 1989. All CEECs have undergone far-reaching economic and political changes since the fall of communism and central planning. The transition to a market-oriented economy necessarily creates both winners and losers and it is natural that the latter should be critical of a system that has not benefited them. With regard to our study, the crucial question is to which extent the upheavals of economic, political and institutional reforms of the past decade have created a widespread opposition to reforms aimed at deregulating, privatising and liberalizing agriculture in these countries.

The influence of the agricultural interest on policy-making is a third determining factor when seeking to understand and predict national preferences regarding agricultural reform. Finally, general views on European accession might play an important role in shaping the policy preferences of candidate countries on dairy reform.

The political analysis is complicated by the fact that the influence of these variables on policy formation is not weighted equally across countries. Thus, one variable may play a significant role in determining dairy policy preference in one country but not in others.

This section examines to what extent and how the above identified factors influence national preferences regarding dairy policy in the four candidate countries studied here. Due to the fact that it is by far the largest country and biggest dairy producer of the four, and because of the greater availability of material, the analysis will focus on Poland, with Hungary, Estonia and the Czech Republic serving more as points of reference from a general agricultural view.

4.2 Poland

General economic policy orientation

Poland experienced rapid economic growth in the second half of the 1990s, with real GDP growing 5.5 per cent yearly. As a result, Poland was one of the very few CEECs where national output in 2000 was significantly higher than in 1989, that is, before transition. Overall, Poland has been one of the most successful transition economies. However, recently the economic growth has slowed down.

According to the OECD, “[t]o a large degree, Poland owes its growth success story to the ambitious economic transformation policies implemented persistently over the last decade”.⁶² A massive privatisation program, industrial restructuring – particularly of the large state-owned coal and steel mining companies -, and the adoption of SME⁶³-friendly policies have created a comparatively business- and market-friendly environment when compared with the past and with many other CEECs today.

As a result of strong economic growth, real disposable incomes have increased significantly in the past decade. The generally positive economic performance, with rapid economic growth and rising living standards, should, all other things equal, create a relatively positive climate for the

⁶² OECD (2001), p.54.

⁶³ Small and Medium-sized Enterprises.

shift towards a more market-oriented economic policy orientation than it might in many other CEECs where performance has been less impressive.

At the same time, however, high unemployment undermines people's faith in the market economy. The Polish unemployment rate shot up from 10 per cent in 1998 to 15 per cent at the end of 2000, a near record high for Poland and the highest rate currently in the OECD. According to the OECD during the period 1998-2000, close to 900,000 jobs were lost, of which nearly one fourth in the agricultural sector.⁶⁴ Many people view the high unemployment rates experienced during the transition period as a serious blemish on the record of capitalism and a free market economy, particularly when compared with the extremely low, albeit in many respects questionable, official unemployment statistics before transition.

Opinion polls carried out by the Center for Research on Public Opinion (CBOS), one of the leading Polish polling organizations, show a relatively large distrust of the market economy. In a survey conducted in May 2000, only around one third of people saw the market economy as a way of solving economic problems.⁶⁵ In October 1999, only around one fourth of all Polish people believed that the transition to a market economy had improved material living conditions when compared with the pre-transition period.⁶⁶

There have been some clear losers in the transition to the market economy, in particular industrial workers formerly employed in the large state enterprises and farmers, and they tend to be very hostile towards market-oriented reforms. The recently renewed popularity of left-wing parties is one manifestation of dissatisfaction with the market economy

⁶⁴ OECD (2001), p.23.

⁶⁵ CBOS (2000), "The Poles on the market economy, socialism and economic changes of the last decade", May 2000 (internet summary "Attitudes to market economy": http://www.cbos.com.pl/ENGLISH/OPINIA/2000/05/4/OPINIA_4.HTM).

⁶⁶ CBOS (1999), "Was it worthwhile? – the Czechs, Hungarians and Poles on the changes of the last decade" (internet summary: <http://www.cbos.com.pl/ENGLISH/OPINIA/special/TEXT01.HTM>).

and hostility towards market-oriented economic reforms.⁶⁷ According to the *Financial Times*,

Many Poles hate the growing income inequalities of capitalist life. They are concerned that the unemployed, the sick, the old and the rural poor are being left behind by entrepreneurs, commercial managers and others.⁶⁸

However, it would be misleading to conclude that the majority of Polish people is opposed to the market economy seeking a reversal of the reforms implemented during the transition period. As stated by Hubert Tworzecki in a comment on the 1997 Polish elections:

Nearly a decade of experience with a new economic reality had given most people a fairly clear idea of their interests and prospects. There were many losers, to be sure, but also increasing numbers of relative winners, more interested in macro-economic stability and business-friendly policies than in grand redistributive schemes. In this changed context, major political parties of any ideological stripe could not afford to run on a simple, blanket critique of market reforms, and indeed they largely refrained from doing so.⁶⁹

Similarly, *the Economist* asserts that Leszek Miller, ex-communist and the leader of the Democratic Left Alliance's (SLD) and since the fall of 2001 new prime minister, is an example of "how much Poland's ex-communists have changed".⁷⁰ Thus, he sees economic growth, tax cuts for business and investment and a more flexible labour market as the main solutions to unemployment.

Agriculture in society and economics

Official Polish statistics indicate that a high proportion of the economically active population of Poland has some connection with agriculture and food production. Data produced for 1998 show that 4.3 million peo-

⁶⁷ For a discussion of general Polish views on the market economy, see, Tworzecki, Hubert (2000). "Welfare-state attitudes and electoral outcomes in Poland and Hungary", in *Problems of Post-communism*, 47:6, pp.17-29.

⁶⁸ *Financial Times*, "Survey – Poland: The long march towards union with Europe", April 17, 2000.

⁶⁹ Tworzecki (2000).

⁷⁰ *The Economist*, "Leszek Miller, Poland's wily man of the future", April 21, 2001.

ple or 27 per cent of the working population were engaged in agricultural production. According to *the Economist* only Romania had a higher share of labour force employed in agriculture in 1996.⁷¹ EU figures for employment in agriculture are lower than official Polish statistics, accounting for the fact that a large share of people counted as farmers in the official Polish statistics are only part-time farmers, gaining a significant part of their income in other activities. According to the EU, 18 per cent of the Polish employed civilian working population was employed in agriculture in 1999. The importance of part-time farming in Polish agriculture is reflected in agriculture's relatively low share in the GDP, accounting for 3.3 per cent in 1999. However, in spite of the agricultural sector relatively small importance in overall production, and regardless of which employment statistics one considers, a large share of the Polish population has close links with agriculture, particularly when compared with both other CEECs and EU Member States. In Poland, therefore, a large share of the population could be described as making up the so-called agricultural interest, that is, the group of people who have a stake in, and therefore sympathize with and support, the interests and demands of farmers.⁷² In the words of *the Financial Times*, "[w]ith some 27 per cent of working Poles still spending at least some of their time farming, it is hard to find families with no link with the land".⁷³

The majority of farmers and their families have been hard hit in the transition to a market economy. According to the OECD, close to 70 per cent of Polish farmers live below the social minimum level.⁷⁴ In its *Economic Survey of Poland*, the OECD observes that "[i]n spite of a costly agricultural policy, the low productivity in agriculture and massive hidden unemployment ... have depressed household incomes throughout the last decade".⁷⁵ Polish official sources estimate that farm incomes have fallen by 30 per cent in the years 1996-2000.⁷⁶ Having seen their economic situation deteriorate during the transition period, and viewing themselves as the losers in the transition to a market economy, it is not surprising that

⁷¹ *The Economist*, "Poland's angry second nation", October 12, 2000.

⁷² For a definition, see van der Zee.

⁷³ *Financial Times*, "Survey – Poland: The long march towards union with Europe", April 17, 2000.

⁷⁴ OECD (2001), Figure 24, p.57.

⁷⁵ OECD (2001), p.62.

⁷⁶ FAPA (2000), p.20.

farmers are some of the strongest opponents of deregulation and liberalization.

The strength of the agricultural interest is illustrated by the unwillingness of Polish governments to tackle long-overdue agricultural policy reform. This is all the more remarkable since Poland has been at the forefront of economic reform in many other sectors and policy areas. Thus, as the OECD points out, “[t]he agriculture sector has to an important extent remained outside the vast efforts of restructuring and modernization”.⁷⁷ The OECD goes on to criticize:

Presently, agricultural policy attempts at sheltering farmers from foreign competition – as well as from a number of distortions caused by foreign countries’ production subsidies – through high import tariffs and strict quotas, and aims at supporting and stabilising their income via purchase interventions on product markets. Although Poland is not among the heaviest subsidizers and maintains a relatively open farm trade environment by respecting its WTO commitments, these policies distort the domestic agriculture and food markets at huge budget and consumer costs and provoke massive income transfers.⁷⁸

The considerable influence of the Polish agricultural interest is also, to some extent, reflected in the political party system. There are two pronounced farmers’ parties in Poland, the Polish Peasants’ Party (PSL) and the radical Self Defense Movement (Samobrona), the latter described by *the Economist* as “Farmers’ populist firebrand”.⁷⁹ The PSL was the second largest parliamentary fraction between 1993 and 1997 and the junior coalition partner of the ruling former communist SLD party. PSL leader Waldemar Pawlak was premier between October 1993 and February 1995.⁸⁰ According to Aleks Szczerbiak, the PSL is

easily the largest market in terms of individual members (estimates vary between 120-150,000) and has the highest level of social implantation, particularly in rural areas

⁷⁷ OECD (2001), p.13.

⁷⁸ OECD (2001), pp.62-3.

⁷⁹ *The Economist*, “The changing Poles”, October 12, 2000.

⁸⁰ Szczerbiak (2001), p.113

where most other parties have very few branches or local organization.⁸¹

In general elections in September 2001, PSL received nearly a tenth of the vote and has again become a junior coalition partner of SLD. Moreover, Samoobrona has received around ten per cent of the vote as well.

Overall, therefore, the agricultural interest constitutes an important electoral group in Poland. The majority of farmers are small-scale producers and these tend to oppose reforms aimed at liberalizing and deregulating the farm sector, and, because of the size of the agricultural interest, their wishes are not easily ignored.

The prevalence of small scale farming struggling for survival, and therefore likely to oppose market-oriented reform, is particularly pronounced in the dairy sector. Milk as a commodity is produced on 1.3 million farms (out of 2.1 million agricultural holdings) although only an estimated 500,000 are producing milk for the market and are selling through to dairy processing plants. Generally, milk production is very extensive, and on the smaller farms costs are high and as a result profits relatively low. The average holding is below 8 ha with less than 5 per cent of farms exceeding 20 ha.⁸² The dairy sector is an important activity in terms of agricultural production, accounting for 14.9 per cent of total and 18.5 per cent of marketed production.

The view on EU membership

Initially, the overwhelming majority of Poles was in favour of membership in the European Union, with Polish opinion polls showing the highest level of support of all candidate countries. Lately, however, support for EU membership has been flagging, dropping from a peak at 80 per cent in 1996 to 55 per cent in 2000.⁸³

⁸¹ *ibid.*

⁸² *Dairy Industries International*, "Poland – Fragmentation still in milk supply but restructuring of processing", April 2000 (found at www.imes.co.uk/articles/poland.html).

⁸³ *the Economist*, "Little Polish love for the Union", January 11, 2000, and CBOS, "Czechs Hungarians and Poles on the European Union", September 2000 (www.cbos.com.pl/ENGLISH/OPINIA/2000/09/01/OPINIA_1.HTM). For a more in-depth analysis of Polish public opinion on EU membership, see Szczerbiak (2001).

Polish support of EU membership appears to be based on a matter-of-fact assessment that the benefits of membership, particularly the economic gains, outweigh any disadvantages that membership might entail. Thus, Polish support is not built on some strong ideological belief in benefits of European integration. According to Aleks Szczerbiak, “the best way to characterize the current state of Polish public opinion is that most Poles *consent* [emphasis in original] to the idea of EU membership but are not particularly *enthusiastic* [emphasis in original] about it”.⁸⁴ Similarly the growing opposition to EU membership seems to be based on socio-economic arguments rather than, for example, fears of loss of sovereignty. In the words of *the Economist*, “[t]he Poles do not, on the whole, fret about losing their cherished sovereignty, despite going without it for most of the past two centuries”.⁸⁵ Rather, the opposition to EU membership can be explained by growing concerns that accession will have a negative impact on certain sectors of the Polish economy, such as agriculture and state-owned heavy industry.⁸⁶ Szczerbiak claims that these socio-economic arguments “relate to the direct interests of significant segments of Polish society, many of whom have already lost out from the transition to a market economy...”.⁸⁷ This hypothesis is confirmed by the fact that the apparent ‘winners’, as well as those who expect to become winners, of the economic transition process also seem to be strongest supporters of EU membership. Among these are younger and city-dwellers with good incomes as well as managers, businessmen and students. On the other side the strongest opposition to EU membership can be found among those who are perceived to have lost out in the transition to a market economy, namely the elderly, less educated and low-income earning Poles living the countryside, in particular farmers. The latter are the strongest opponents to EU membership and the only occupational group where there is actually a majority against EU membership.⁸⁸

⁸⁴ Szczerbiak (2001), p.108.

⁸⁵ *the Economist*, “Little Polish love for the Union”, January 11, 2000.

⁸⁶ Szczerbiak (2001), p.114. It should be mentioned, however, that the ability of foreigners to buy Polish land is one of the few more sensitive, non-economic, issues for Poles in the accession negotiations concerns.

⁸⁷ *ibid.*

⁸⁸ *ibid.*, p.115.

Several conclusions can be drawn from this analysis of Polish public opinion on EU membership. Firstly, there is still a solid, if not necessarily wildly enthusiastic, majority in favour of EU membership. Secondly, the relatively strong opposition of farmers against EU membership is likely to put pressure on Polish negotiators to secure a favourable deal for Polish agriculture in the accession negotiations. In particular, this means pushing hard to ensure that Poland enjoys the same benefits of the CAP as the current Member States.

Polish politicians appear to be guided by two principal concerns in the negotiations for EU accession. Firstly, as support for EU membership wanes, they are under growing pressure to convince their electorate that they will not 'sell out' Polish interests in the membership negotiations.

Secondly, agriculture is a particular controversial issue for Poland in the negotiations. The size of the agricultural interest and the fact that farmers have already been hard hit by the transition process means that there is relatively low tolerance for agreements that might be seen as further disadvantaging Polish agriculture. Polish negotiators' already highly restricted room for manoeuvre might shrink even more if populist figures such as the Samoobrona leader, Andrzej Lepper, succeed in further mobilizing a growing anti-EU sentiment among the rural population.

The proposal by the European Commission to - for a long period of time - exclude Polish and other CEEC farmers from full direct payments, paid to farmers in existing Member States, is hard to accept for Polish negotiators for both reasons mentioned above. Firstly, it is perceived as an obvious discrimination and unfair treatment of CEECs vis-à-vis existing Member States. Secondly, it is perceived as striking a blow to a much larger, and already hard hit socio-economic group than in most other countries.

The strength of the Polish agricultural interest currently lies in its sheer size. However, it would be hasty to conclude that the high priority assigned by Polish negotiators to agriculture in the ongoing accession negotiations is explained by a widespread and deep-rooted popular sympathy for the farmers, as is the case in France, for example. In post-war

Western Europe, farmers seemed to be the only group not benefiting from the general rapid economic upswing. This, combined with a deep-rooted sympathy among the non-agricultural population for the farmer as the guardian of a certain way of life and national heritage, has created a widespread consensus for a policy which redistributes considerable sums of taxpayers' and consumers' money to the agricultural sector.⁸⁹ In contrast, in Poland, farmers are only one group of several socio-economic groups that were hit hard during the transition to a market economy. In addition to farmers, pensioners, workers in state industries, the less-educated, and the rural population in general, have been disadvantaged in the transformation of the economy in the past ten years. Consequently, Polish farmers compete with other important socio-economic groups when it comes to mobilizing support for securing public funds. Therefore, it is not self-evident that the Polish agricultural interest will be able to mobilize support among the non-agricultural population when it comes to reforming agricultural policy in the future, that is, once Poland is a member of the EU.

4.3 Hungary

General economic policy orientation

Following a severe recession 1990-93, and having undertaken a massive macroeconomic adjustment, restructuring and privatisation program, Hungary has enjoyed rapid economic growth in recent years.⁹⁰ Since 1997, GDP has grown by an average 4.7 per cent annually and exports have increased by double-digit rates. One of the contributing factors to Hungary's favourable economic development has been the massive inflow of foreign direct investment. In relation to its population, Hungary is one of the CEECs that have benefited by far the most from foreign direct investment inflows in recent years. Thus, it attracted around \$25bn in 1999, compared to, for example, \$39bn for Poland, which has four times the population of Hungary.

Moreover, in significant contrast to Poland, the economic upswing has considerably reduced unemployment, to a level of 6.5 per cent in June

⁸⁹ Schwaag Serger (2001).

⁹⁰ The privatization program has resulted in the private sector accounting for over 80 per cent of GDP by the end of 1999, as compared with around 70 per cent in Poland, for example.

2000. Thus, both countries have experienced strong economic growth. However, Poland's growth has to some extent accentuated the polarization of Polish society into economic winners and losers from the transition to a market economy. The recent rises in unemployment are one indication of such a polarization process. In contrast, in the second half of the 1990s Hungary has managed to combine economic growth with a widespread increase in employment.

All other things being equal, therefore, the positive overall economic development should create a relatively favourable climate for further market-oriented economic reform. In its Regular Report of Hungary (November 2000) the European Commission's claims that

[t]here is a broad political consensus on the key aspects of economic policy, in particular on the importance of European Union accession, support for private sector enterprises, and the need for foreign direct investment to finance industrial restructuring.⁹¹

Similarly, the *Financial Times* claims that, at least during the first decade of the transition period, Hungarian politics were characterized by a "consensus for free-market reforms, privatisation and European Union membership".⁹²

Against this background, it is interesting to note that in opinion polls conducted in September 2000, only 15 per cent of Hungarians believed that the transition to a market economy had brought people more gains than losses, compared to 23 per cent in the Czech Republic and 24 per cent in Poland. Furthermore, nearly one half, 45 per cent, thought that the changes had brought people more losses than gains, compared to 37 per cent in Poland and 31 per cent in the Czech Republic.⁹³ Moreover, there has been growing hostility towards the large inflows of foreign investment, increasingly perceived as foreigners coming to Hungary to

⁹¹ European Commission (2000), "2000 regular report from the Commission on Hungary's progress towards accession", November 8, 2000, p.24.

⁹² *Financial Times*, "Survey – Hungary: Landscape mired in controversy", November 22, 2000.

⁹³ CBOS (2000), "Czechs, Hungarians, and Poles on the European Union", September 2000 (found at www.cbos.com.pl/ENGLISH/OPINA/2000/09/1/OPINIA_1.HTM).

exploit workers and snatch up the best businesses.⁹⁴ A further indication of growing scepticism of capitalism and free trade and markets was the outcome of the last elections in 1998. The Alliance of Free Democrats (AYD), called FIDESZ, under current Prime Minister Viktor Orbán won the elections with slogans devilling capitalism and encroachment from the West.⁹⁵

The distrust of free market capitalism and resentment against foreign meddling in Hungary's affairs, - one widely scorned example being the IMF's criticism of Hungarian economic policy - , might create a hostile environment against market-oriented economic reforms in the agricultural sector.

Agriculture in society and economics

According to EU statistics, agriculture accounted for 5.5 per cent of GDP and 7.1 per cent of the total working population in 1999 (EU Enlargement Strategy Paper). This constitutes a significant drop in agriculture's importance for the Hungarian economy when compared with the pre-transition period. Thus, in 1989 agriculture accounted for 17.8 per cent of GDP and 15.9 per cent of the total working population.⁹⁶

Agriculture, in particular the large surplus in agri-food trade, has been an important contributor to the country's trade balance. The economy's continuously large dependence on agricultural exports ensures a determination to maintain the competitiveness of Hungarian agriculture. This, in turn, undermines opposition to agricultural policy reform.

The view on EU membership

Hungarians are generally strongly in favour of EU membership. Opinion polls show that in September 2000, 69 per cent of Hungarians said they would vote in favour of joining the EU, if there were a referendum.⁹⁷ Their attitude towards EU membership differs significantly from many other CEECs in one important aspect. Whereas many CEECs favour EU

⁹⁴ see, for example, *Financial Times*, "Biscuit factory closure hits a nerve in Hungary", May 1, 2000, and *Le Monde diplomatique*, "La Hongrie dans l'antichambre de l'Europe", by Lazslo Andor, February 2000.

⁹⁵ *Le Monde diplomatique*, "La Hongrie dans l'antichambre de l'Europe", by Lazslo Andor, February 2000.

⁹⁶ Mathijs (1997), p.243.

⁹⁷ CBOS (2000), "Czechs, Hungarians, and Poles on the European Union", September 2000 (found at www.cbos.com.pl/ENGLISH/OPINA/2000/09/1/OPINIA_1.HTM).

membership primarily for economic reasons, as could be seen in the case of Poland, Hungarians' support for EU membership has deeply rooted, and therefore less easily dismantled, political and cultural origins. A widespread view among Hungarians is that, for forty years, their country was forcefully separated from its 'natural' home in Western Europe, and instead consigned to be "just one more country among the unfortunate, occupied Socialist states of Eastern Europe".⁹⁸ Thus, EU membership is seen as a natural "end to Hungary's long and painful exile from its true home in the West".⁹⁹

At the same time, however, there is a heightened sense of nationalism. This is reflected in the previously mentioned hostility against foreign direct investment and in the general opposition to allowing foreigners to purchase Hungarian land.¹⁰⁰

4.4 The Czech Republic

General economic policy orientation

In the mid-1990s, the Czech government under then Prime Minister Vaclav Klaus implemented a mass privatisation scheme "in which control of Czech business was divided between the government, managers and secretive investment funds in a complex, and often corrupt, tangle".¹⁰¹ According to the *Financial Times*, "overenthusiastic lending by semi-privatised banks fuelled an unsustainable boom that ended in economic crisis and Mr Klaus's resignation in 1997".¹⁰²

As a result, in 1997 the Czech economy experienced a severe currency crisis which led to the implementation of a restrictive macroeconomic stabilization package combined with a range of far-reaching structural reforms. After two years of negative growth, in 1997-1999, the economy has been experiencing a solid recovery, with economic growth at 2.9 per

⁹⁸ speech by Prime Minister Victor Orbán on December 2, 1999, quoted in *Central Europe Review*, "Hungarian Identity, Globalisation and EU Accession", by Gusztáv Kosztolányi, 2:6, February 14, 2000.

⁹⁹ *Central Europe Review*, "Testing Hungary's Patience", by Gusztáv Kosztolányi, 2:23, June 12, 2000.

¹⁰⁰ See, for example, CBOS (2000), "Czechs, Hungarians and Poles on the European Union", September 2000, (found at www.cbos.com.pl/ENGLISH/OPINIA/2000/09/1/OPINIA_1.HTM), and *Financial Times*, "Eastern land issue clouds EU negotiations", April 3, 2001.

¹⁰¹ *FT*, "Surtvey – Czech Republic: Recession comes to an end", September 26, 2000.

¹⁰² *ibid.*

cent in 2000, and with GDP expected to grow at between 3 and 3.5 per cent in 2001 and 2002.¹⁰³

Unemployment is relatively high, at around 8.2 per cent of the labour force in the first quarter of 2001, with a tendency to being increasingly concentrated among low-skilled workers and in certain regions.

Overall, growth in the Czech economy has remained much more modest than in Poland and Hungary in the past decade. However, it should be borne in mind that the Czech Republic also started from a higher level than the other two economies in terms of GDP per capita. Thus, one might argue that there was less scope for an economic catch-up effect.

The Czech economy has undergone significant structural reform aimed at improving its functioning as a market economy. In particular it has made an impressive recovery from the serious economic crisis in 1997. Overall, however, it has not progressed as far as Poland and Hungary in becoming a functioning market economy. Thus, in its Regular Report (November 2000) on the candidate countries, the European Union differentiated between the latter two, which it described as functioning market economies, and the Czech Republic which it claimed "can be regarded" as such.

Agriculture in society and economics

In 1999, agriculture in the Czech Republic accounted for 3.7 per cent of gross value added and 5.3 per cent of total employment.¹⁰⁴ The Producer Support Estimate (PSE) dropped drastically from 59 per cent in 1986-88 to 19 per cent in 1998-2000 in the Czech Republic. By comparison Hungary's PSE declined from 39 per cent to 20 per cent, over the same time span, while the PSE for Poland increased to 21 per cent from 12 per cent. The PSE figure for the EU dropped slightly from 44 per cent to 40 per cent during the same time period.

¹⁰³ OECD (2001), Economic Survey Czech Republic, p.6

¹⁰⁴ EU (2000), 2000 Regular Report on the Czech Republic's Progress Towards Accession, p.52.

Overall, these figures indicate that there is a clear trend towards reduced support for agriculture in the Czech Republic, which distinguishes it significantly from Poland and Hungary, and the EU for that matter. Assuming that this trend is based on deliberate political choices, and the size of the fall in agricultural support makes this a fair assumption, one could conclude that agriculture is a less charged political issue than in Poland or the EU. Thus, the withdrawal of government support for agriculture faces less determined resistance than in the other two candidate countries examined so far.

The PSE for dairy products fell from 63 per cent to 36 per cent, that is, below the EU level, 48 per cent on average, between 1998 and 2000. In contrast Hungary's PSE for dairy products increased from 44 per cent in 1986-88 to 50 per cent in 1998-2000.

Overall, the agricultural interest seems considerably less powerful than in Poland, or most EU Member States, for that matter.

The view on EU membership

In the past ten years, Czech support for membership in the EU has been slowly but continuously improving after having been lower initially than in Hungary or Poland.

Similar to Poland and Hungary, the majority of Czechs view themselves as belonging culturally to the European Union. Thus, in an interview Czech Prime Minister Milos Zeman stated that "'We have always been a part of middle European culture' [author's translation]".¹⁰⁵

Czechs are eager to become members of the European Union and, although they will not become members at any cost, they seem more willing to compromise than, for example, the Poles or Hungarians. Agriculture certainly does not appear to be one of the issues that Czechs are likely to pick a fight over, or that will make or break the accession negotiations in the case of the Czech Republic.

¹⁰⁵ "Wir waren immer ein Teil der mitteleuropäischen Kultur". *Süddeutsche Zeitung*, "Die Tschechen sind ein skeptisches Volk", Interview with Czech Prime Minister Milos Zeman, January 24, 2001.

According to a survey of public opinion on EU membership published by the European Parliament in 1999, “[d]espite the sensitivity of the agricultural sector, the Agrarian Chamber is not opposed to joining the EU”.¹⁰⁶ In this sense, the Czech agricultural interest differs considerably from Polish interest groups, for example.

4.5 Estonia

General economic policy orientation

In terms of adaptation to a market economy and economic performance Estonia is regarded as one of the success stories among the CEECs. It is also one of the countries, which has come farthest in preparing its country for EU membership.

In addition to pursuing a determined course of trade liberalization, privatisation and deregulation, Estonia has benefited from significant inflows of foreign investment, particularly from Finland and Sweden.

Just like the other Baltic states and many other East European countries, Estonia’s economy was hit hard by the Russian Crisis in the late 1990s. After having grown more than 10 per cent in 1997, GDP fell by 1.2 per cent in 1999. The striking conclusion from Estonia’s experience with the Russian crisis is the speed with which its economy adjusted to and recovered from it. Before the crisis, more than one quarter of its exports went to the NIS, while in 2000 exports to the NIS accounted for only around 13 per cent of total exports.

Overall, Estonian politics are characterized by a strong consensus in favour of a market-oriented, free-trade economy. In contrast with a number of other transition economies, such as Russia, for example, there is little room for supporters of a return to a more protectionist and government-steered or interventionist economic policy.

The generally liberal economic policy orientation witnessed in Estonia since the collapse of the Soviet Union also extends to its agricultural policy stance. Thus it has sustained a liberal agricultural policy even though

¹⁰⁶ European Parliament (1999), Briefing No 41: Public opinion on enlargement in the EU Member States and applicant countries. (www.europarl.eu.int/enlargement/briefings/41a3_en.htm).

production was shrinking and exports falling year after year. Estonia's reintroduction of support measures seems like a preparation for EU membership, rather than a reversal in its liberal policy stance. By halting the decline in agricultural production it aims to secure a share of EU subsidies. Estonia's agricultural liberalism makes it quite unique in the world, and certainly in an enlarged European Union.

Agriculture in society and economics

One of the consequences of the transition to a market-oriented economy has been a significant reduction of the agricultural sector, both in terms of its share in GDP and in total employment. According to the EU, in 1999, agriculture accounted for 5.1 per cent of GDP and 8.8 per cent of total employed civilian working population. The figures differ from those provided by the Estonian Ministry of Agriculture, according to which agriculture accounted for 3.3 per cent of GDP and 6.2 per cent of total employment in 1999.¹⁰⁷ By comparison, in 1992, agriculture accounted for 11.7 per cent of GDP and 15 per cent of total employment. Overall, therefore, agriculture has declined considerably in economic importance in the past decade. This decline is also reflected in the share of exports made up of agricultural products, which has plummeted from close to 25 per cent in 1993 to around 6 per cent in 2000.

The view on EU membership

Similar to the other countries analysed here, Estonia is strongly committed to becoming an EU member as soon as possible. It is among the countries that have made most progress towards EU accession. On the whole, while surveys might indicate that the Estonians are less enthusiastic or passionate about EU membership than some of the other CEECs examined here, they see EU accession as a natural and the most logical development for their country based on the economic benefits associated with EU membership.

¹⁰⁷ See website of the Estonian Ministry of Agriculture, <http://www.agri.ee/eng/>.

5

Concluding discussion

5.1 Introduction

The need of a more fundamental reform of the dairy sector than the changes envisaged in Agenda 2000 decision has been advocated in several quarters, most recently by the Court of Auditors. Previous experiences indicate, however, that the dairy regime is resilient to change. Although one result of Agenda 2000 was to review the milk regime in 2003 with the aim to phase out the quota system after 2006, the final decision could well be postponed further and an essential reform may take a long time. This raises a question about the likely attitude of the researched CEECs, which may have become members of the EU at the time. In this report, it was argued that those attitudes would partly depend on the competitiveness of the researched applicant countries in milk production. Moreover, emphasising the importance of national policy preferences of the Member States for the reform of the CAP, additional variables are likely to influence their preferences on dairy policy. Furthermore, the attitudes may also depend on the outcome of the ongoing membership negotiations, especially on milk quota allocations.

5.2 Are the researched countries competitive in milk production?

The analysis in the report is based on three different complementary, rather than opposite, approaches.

The analysis includes accounting methods, domestic resource costs (DRC) and other indicators based on the PAM (policy analysis matrix) framework. In addition, Porter's framework is applied to assess the competitive potential of the dairy industry. The conclusions that emerge from the production cost analysis are that production costs at farm level are considerably lower in the researched CEECs than in the EU, mainly due to low land, labour and capital cost. Some of those advantages will be sustained for a considerable future. In Poland and Estonia milk production also appears to be competitive when compared with other farm products. Production costs in the researched CEECs seem, however, to be higher than for the leading milk exporters worldwide. This could in-

dicates that the researched countries would find it difficult to compete in a fully liberalized market. Moreover, competitiveness in production of bulk products such as milk is crucially dependent on collection costs, not accounted for in the figures quoted earlier. In the case of Poland where small producers dominate production those costs are considerable.

DRC analysis confirms that the researched countries are not competitive at world market level. Moreover, DRCs and other indicators of social profitability reported in this report are deteriorating over time, which means that modernization and restructuring (productivity improvement) in milk production have been too slow to offset profitability losses resulting from changing (deteriorating) sector terms of trade.

Private profitability at EU prices seems, however, to be satisfactory or even strongly improved. This might predict an increase of milk production in the researched countries if the quotas allow it. The same conclusion emerges from other studies. As shown in chapter 2, the Commission does not propose to include such space for expansion in the milk quotas.

Raw milk is, to a certain extent, not tradable but from logistic reasons and by applying new technology the dairies tend to move their production closer to consumption centres. The competitiveness will depend on the performance of the whole chain. Looking at the processing level, the competitive position of the researched CEECs seems less favourable. The quality of raw milk is still a problem and infrastructure is inadequate. Seasonality of many product lines caused by the seasonality of milk production poses additional problems, especially for the dairy processor who wishes to supply to the retail super market chains. Moreover, super market chains and other modern retailers who seek to economize on transaction costs prefer to buy large assortment of dairy products from the same supplier. This may constitute a considerable problem for smaller dairy companies in the researched countries if penetration of the distribution system by large foreign retailers increases.

The quality of processed products is still comparatively low. The industry with domestic capital still produces SMP, butter, casein - traditional products for which it is difficult to develop export markets any further.

According to the assessment by Guba, (quoted in chapter 3), Polish processing industry is competitive in production of SMP. However, intensity of competition, which is considerable in dairy production in general, is most severe in commodity markets where no distinguishing feature can be added to basic products. In markets for high-branded products such as ingredients and innovative desserts and drinks, competition is less intense. Hence, dairy industry of the researched CEECs will face an intensive competition. Moreover a more liberalized dairy market in the future will demand a development of new innovative products and attractive packaging as well as sophisticated branding. In this respect the researched countries are still lagging behind the dairy industry in the EU.

An obvious sign of the remaining quality problems and of the low technological standard of processing in the researched CEECs, is the fact that the number of plants which meet the processing standards of the European Union - i.e. are EU certified, is very low (see chapter 2). Inability to comply with the EU standards will seriously impair the competitiveness of the researched CEECs on the EU market.

The observed trade pattern of the researched CEECs points in the same direction as the analysis above. In contrast to a trade deficit in overall trade and in agri-food trade (with the exception of Hungary), all four countries show a positive trade balance for dairy products. This may indicate a (revealed) comparative advantage in this activity (sector), particularly in the case of Estonia's and Poland's dairy trade with the EU. However, although all countries are net exporters, they are so only at an aggregate level. Low processed products as SMP dominate exports. In several high value products these countries are large importers.

Accession to the EU is likely to change many of the factors affecting future competitiveness of the researched CEECs. Competitiveness of the CEECs can be expected to improve due to decrease in prices of imported inputs, decline of real interest rates and improved capital availability. Additional competition-enhancing factors include legal harmonisation, increased market competition and increased technological change as well as productivity improvements. On the negative side, product prices

and real wages are expected to increase. Milk quota system will impede rationalisation and may, if quota will be based on pre-accession level of production, restrict production below long term potential.

5.3 Importance of the milk sector in the politics of the researched CEECs

Based purely on size, that is when measured in terms of share of employment and GDP, one would expect the agricultural sector to carry more political weight in the candidate countries than in current EU Member States (see Table 32). What might mitigate this size-based assessment is the fact that the agricultural sector development when compared to the rest of the economy has been different in Western and Eastern Europe. Agricultural interest in Western Europe has, as frequently argued, been able to exploit the fact that the agricultural sector has stagnated or declined at a time when most other sectors benefited from a strong economic upswing. In the case of the CEECs during the transition period, agriculture is only one of many sectors to have been hit by economic hardships. As a result, one could argue that the agricultural sector in the CEECs has been less successful in securing large financial transfers from the rest of society than its counterparts in Western Europe. The political importance of agriculture and milk sector varies, however, between the researched countries. Overall, milk production is more important for Poland and Estonia than for Hungary and Czech Republic.

In Poland, the large share of rural population, as shown in the table below, makes agriculture a politically charged issue. The sheer size of rural population makes agriculture a powerful force in Polish politics. In recent elections, parties representing farm vote were very successful. Polish politicians may thus favour milk production because it absorbs a relatively lot of labour while the level of unemployment is high in Poland.

Table 32. Weight of the agricultural sector

		Poland	Hungary	Czech Republic	Estonia	EU-15
General	Population, 1999, millions (% of total)	38.6 (10.4)	10.2 (2.7)	10.3 (2.8)	1.5 (0.4)	372.7 (100)
	Votes in the Council of Ministers (% of total votes)	27 (7.8)	12 (3.5)	12 (3.5)	4 (1.2)	345 (100)
Agriculture	Employment in agriculture, 1999, (%)	18.1	7.1	5.2	8.8	4.5
	Share of agriculture in GDP, 1999 (%)	3.3	4.5	3.4	5.1	1.8
	PSE, 1999 (%)	21	23	20	n.a.	43
Dairy sector	Milk production % of total agricultural production	14				
	Dairy industry, % of total marketable agricultural output	17	12		28	17.6
	PSE for milk, 1999 (%)	13	52	35	n.a.	48
	Dairy commodities in total exports 1997/8 (%)	9.6	2	n.a.	17.6	n.a.

Selected statistics

Compared to Poland agriculture is not a highly sensitive or prioritised issue in the Czech Republic. It carries neither the economic nor the demographic importance it does in Poland (and Hungary). In the Czech Republic, government subsidies for traditional farming have declined significantly, when compared to a decade ago, indicating a general policy shift towards a more market-oriented agricultural policy. The cut-backs in support to agricultural production as well as general market-oriented economic policy should indicate a relatively low weight of agrarian interests in Czech politics.

Estonia's extremely liberal economic policy orientation, which also applies to its agricultural policy, makes it unique among the CEECs. Estonia's introduction of agricultural support measures is explained by its preparation for EU membership, and the rational desire to arrest the strong decline in agricultural production in order to secure the largest possible share of EU subsidies, rather than by some reversal in its liberal economic, and agricultural, policy stance.

Of the four countries examined here, Hungary's position on dairy reform is perhaps the most difficult to assess. In Hungary, agricultural exports, and the agri-food industry in general, play an important role for the country's trade balance. Exports of dairy products are low, however, and dairy products less competitive than crop products. Hungary appears, nevertheless, to assign a relatively high priority to protecting its dairy sector.

5.4 Key issues related to milk in the accession negotiations

The applicant countries are negotiating to join a CAP that is not well suited to their needs. This is especially the case for the milk regime. Milk quotas have several well-known disadvantages that are especially problematic under the conditions of the CEECs. In the January 2002 proposal from the Commission, the allocation of milk quotas is based on the production during 1997-99, which does not leave any room for expansion. The levels are considerably below demands of the four countries. The need of restructuring of the dairy sector is considerably more accentuated than among the incumbent Member States. Quotas, especially if those are not tradable, tend to impair structural change. If quotas are tradable, a farmer expanding production needs additional financial resources for purchase of quota.

Administration of the milk regime is complicated, extensive and costly to implement. This poses a problem even for the incumbent EU members. According to the Court of Auditors, "quota regime cannot be said to be fully implemented in all Member States 17 years after its introduction".¹⁰⁸

Understandably, the overall priority of the CEECs in the accession negotiation is to avoid becoming what might be perceived as 'second-class members' of the EU, by being excluded from part of the subsidies paid to farmers in existing Member States for a long transition period. Especially Hungary and Poland are demanding that, as EU Member States, their farmers shall be eligible for the same treatment as farmers of existing EU Member States. "Our goal primarily is not to maximise subsidies

¹⁰⁸ Court of Auditors 2001

but to avoid being placed at a disadvantage", said Peter Gottfried, Hungary's state secretary for EU integration, as a reaction to the Commission proposal, which could be interpreted as a preparedness to consider decreased subsidies for all EU farmers.

Poland's current position on agricultural policy in the EU accession negotiations is driven, firstly, by a powerful agricultural interest, and, secondly, increasing domestic pressure to secure an overall agreement which convinces the growing number of EU sceptics that Poles have something to gain from becoming members of the EU and that they will not be treated as second-rate citizens. Securing a fair and equitable treatment of its farmers is one way of achieving this. Even if the size of the rural population as well as the recent changes in the government (2001, with a farmer's party in the government coalition) make the situation in Poland special, all countries in this study would find it difficult to convince the domestic public about the merits of the membership if the deal would be perceived as deeply unfair.

Looking at milk sector negotiations, the list of demands presented by the researched CEECs is rather extensive. Some of them are relatively minor issues, connected, for instance, to the fat content of liquid milk products. The key demands, however, relate to the level of quotas and quality issues. All four countries demand quotas that exceed their 1999 year production level while the Commission wants to use production figures from the years 1997-1999.

Estonia's dairy sector is relatively competitive compared both with other CEECs, and the existing EU Member States. Since it has a strong potential to increase production, the negative reaction to the Commission's proposal of a quota less than 2/3 of Estonia's demand is quite expected. It is therefore rational that Estonia stands to benefit considerably from a reform that would allow increased production.

Except a large quota, Poland wants exceptions from milk quality requirements since an important part of the Polish milk does not fulfil EU-standards. In practice the request is, during a not specified period, to sell

lower quality milk on the domestic market. Poland also requests to apply a transitional system for managing the quotas during the first two years after accession.

Hungary has demanded a quota exceeding its 1999 production by 33 per cent which is more than for any of the other countries examined. The Czech Republic has demanded a milk quota which exceeds its 1999 production volume by 10 per cent. The Czech Republic demands regarding the dairy sector are moderate when considering that it experienced a much sharper decline in its dairy production than Hungary, for example.

The Commission's opinion is that the candidate countries should be gradually eligible to direct payments and that they have demanded milk quotas exceeding acceptable levels.

5.5 Final comments

For several reasons candidate countries are unlikely to be fervent supporters of the existing EU dairy regime once they have become members. The first reason is that their dairy sectors do not carry the same clout as their counterparts in existing EU Member States.

Estonia has a deregulated agricultural sector, in line with its general market-oriented economic policy stance. Estonia is likely to be much more supportive of a more liberal EU dairy policy than most of the existing Member States and some of the new ones examined here. Its dairy sector is relatively competitive when compared with both other CEECs and the existing EU Member States and it has a strong potential to increase production. It is therefore rational that Estonia stands to benefit considerably from a reform that would allow increased production.

The Czech Republic is unlikely to be a strong opponent of a more liberal dairy reform once it has become a Member State. The recent cutbacks in government support to agricultural production, combined with its general market-oriented economic policy, and the relatively low profile of the Czech dairy industry both domestically and in the EU accession ne-

gotiations, should indicate a relatively positive Czech position on a more liberal dairy policy for the EU in the future.

Poland's position on agriculture in the EU accessions - in particular its demands for direct payments and high dairy quotas - might appear to indicate its wholehearted embrace of the CAP in its existing form. This might lead to the conclusion that Poland, once it has become a member of the EU, will situate itself firmly among the opponents of far-reaching CAP reform. However, such a conclusion would be hasty and perhaps misleading. As this analysis has shown, agriculture, and the prospect of securing a share of the EU's generous agricultural subsidies, has not been the driving force behind Poland's strong interest in EU membership. Farmers are only one group of several socio-economic groups that were hit hard during the transition to a market economy. Consequently, Polish farmers compete with other important socio-economic groups when it comes to mobilizing support for securing public funds. Therefore, it is not self-evident that the Polish agricultural interest will be able to mobilize support among the non-agricultural population when it comes to reforming agricultural policy in the future.

The second reason for having a more favourable attitude to the reform of the milk sector is that the researched CEECs regard their industry as competitive enough to be able to benefit from and thrive in a less subsidized EU dairy sector, as is the case in Poland and Estonia. At farm level the researched CEECs have advantage over the EU mainly due to relatively low cost of labour. Cost of land may increase after the accession if those countries manage to secure access to direct payments for grains and oil seeds. However, the impact of the accession on the competitive position of the CEECs seems, as argued earlier in this chapter, mostly positive. They could thus gain from an abolition of the quota system.

Generally, candidate countries are likely to fight just as hard as existing Member States for their share of EU subsidies once they have become members. Accordingly, one should expect the researched CEECs to be more CAP friendly the more favourable outcome they will secure in the negotiations. The future position of the researched CEECs on dairy reform may, thus, be influenced by the outcome of the ongoing EU acces-

sion negotiations. The researched CEECs would be more likely to oppose an abolishment of milk quotas if they manage to obtain a quota level that allow for expansion of production. The analysis indicates that the studied countries have potentials to expand milk production and generous quotas would be advantageous for them. Generous quota allocation to the researched CEECs could also attract more FDIs to the milk sector. Poland is the least likely to support milk reforms if the quota allocation is generous.

However, experience from the previous enlargement negotiations is quota allocations at or close to the present production level. Moreover, in the accession negotiations, dairy sector is a part of a package, as EU negotiations frequently are. In such a case, each of the current candidate countries overall concern is likely to be to maximize the total benefits for itself rather than to prioritise a high degree of protection for its dairy farmers. Hence, the researched CEECs might find it difficult to get for example exceptions from milk quality standards combined with generous milk quotas. Exceptions from quality standards, as long as products are restricted to the domestic market, are probably less controversial than getting higher quota than the present level of production.

In case the quota allocation in the negotiations would turn to be unfavourable for the applicants, the researched CEECs would be more interested in supporting a reform since they will perceive their productive potential as wasted.

On the other hand, it is not highly probable that a radical reform (full liberalisation) of the milk regime would be supported by the applicants. The DRC analysis, production cost comparisons and the fact that milk production enjoys protection all indicate that the CEECs are not competitive at the world market level. Moreover, those countries are disadvantaged vis-à-vis EU in advanced factors of production and their dairy industry would, by and large, have difficulties to withstand the intensive competition on an unprotected dairy market.

Hence, the researched CEECs are not likely to support a radical reform of milk production, but they could be more liberal than existing Member States due to better possibilities to expand production. They can be expected to be more positive to abolishing milk quotas, since they appear to be competitive compared to existing Member States, but reluctant to far reaching trade liberalizations to third countries, since in a global comparison their competitiveness is not that convincing.

6

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