

**EUROCOLLEGE WORKING PAPERS**

**No. 2**

**Heili Riik, Rena Selliov, Kristina Toming**

**ESTONIA'S ACCESSION TO THE  
EUROPEAN UNION:  
IMPLICATIONS FOR THE  
AGRICULTURAL SECTOR**

**TARTU 2002**

The publication of this material is supported by European Union.  
The content of this project does not necessarily reflect the position  
of the European Community, nor does involve any responsibility  
on the part of European Community.

Editing: Liina Kulu  
Language editing: Eda Tammelo  
Design and layout: Liina Kulu  
Cover design: Aita Linnas

Copyright © 2002 by EuroCollege, University of Tartu  
ISBN 9985-4-0276-6  
ISSN 1406-7870

Tartu University Press  
78 Tiigi St., 50410 Tartu, Estonia

## FOREWORD

As accession negotiations draw to a close, both academic and public debates on the enlargement of the European Union have become more intense and more sophisticated. While in the early phases of the enlargement process, the candidate countries were often seen as the objects of integration policy and research, they are now emerging as active partners and participants in debates about European governance.

EuroCollege, a centre for EU-related teaching, training and research at the University of Tartu, Estonia, is committed to promoting both academic and policy debates on the various challenges associated with the Eastern enlargement. In 1998, with support from the EU's Phare programme, EuroCollege launched an Estonian-language publication series in order to increase awareness and stimulate discussion about the impact of EU accession at all levels of the Estonian society. The thirteen issues published to date present analysis and arguments by many prominent scholars and policy experts.

EuroCollege Working Papers is a new, English-language series that reaches out to a broader, international audience in an attempt to stimulate discussion about the policy dilemmas associated with the Eastern enlargement. More academic in orientation, the series has two goals. First, it provides an avenue for disseminating the results of research conducted by young Estonian academics and graduate students whose work focuses on some relevant aspect of EU accession. Second, the series seeks to stimulate the exchange of ideas among the emerging centres for EU studies in Central and Eastern Europe as well as the more established research institutes in the West. By providing a forum for academic discussion, the series will facilitate the integration of young CEE scholars into the academic community focusing on European integration. With this kind of dialogue in mind, the series is open to academic contributions from scholars, experts, and graduate students whose work focuses on issues related to EU enlargement, regardless of the country of origin. Potential contributors are encouraged to contact Liina Kulu at [liina@ec.ut.ee](mailto:liina@ec.ut.ee) (Tel. + 372 7 376 379) or send their manuscripts to EuroCollege, University of Tartu, Lossi 3-304, Tartu 51003, Estonia. The first publications of the series are sponsored by the European Union, the EuroFaculty programme, and Tartu University's EuroCollege.

I hope that the articles published in this series will draw our attention to overlooked issues, interesting findings and novel arguments that help us better understand the challenges associated with Europe's current transition.

Piret Ehin, Vice Director of EuroCollege

## INTRODUCTION

The European Union (EU) is getting ready for an eastern enlargement. The negotiations on agriculture, in this process, are creating serious dissension between the Central and Eastern European countries (CEECs) and the European Union, as agriculture is a strategic field for both sides. The difficulties of the accession negotiations reveal the differences between the agricultural policies of the CEECs and the Common Agricultural Policy (CAP) of the EU. The agricultural policies of the CEECs themselves differ considerably – in some countries the government intervenes actively in the agricultural market (Slovenia, Poland), while others' agricultural policy is very liberal (Estonia, Hungary, the Czech Republic). At the same time, almost all developed countries have a high protection level of their agricultural markets. The European Union with the CAP is one of the most extreme cases, being highly protective of its agricultural producers. Although the work of the WTO (and the rounds of the GATT) has enforced the EU to somewhat reduce the subsidies to and protection of its agricultural sector over the last decades, agriculture still remains the most heavily protected and regulated sector.

Agriculture is also one of the main issues related to Estonia's accession to the EU. European Union membership will lead to a substantial change in the support and regulatory system within which Estonian agriculture is presently operating, as the principles of the CAP will also apply to the new Member States. Much research has been done on how the adoption of the CAP would impact on the agricultural sector of the CEECs. Quite many papers have dealt with the effect on Estonian agriculture as well. One of the first contributions was made by Fock (1999), closely followed by Toming (2000). The former focused on the impact of accession to the CAP on consumer expenditures in Estonia, the latter on the overall changes in trade policy due to the EU accession. Varblane *et al* (2001) has analysed how rising agricultural prices in Estonia would affect the Estonian food market. Several other studies have concentrated on the agricultural issues of integration (e.g. Roth 2001; Varblane and Toming 2001; Riik and Selliov 2001). One of the most important contributions is the analysis of the price effects of Estonia's agricultural accession to the EU (Varblane *et al*, 2002). Reiljan and Kulu (2002) have analysed the development and competitiveness of Estonian agriculture prior to joining the EU. Recently, Toming (2002) contributed a paper about the influence of Estonia's accession to the EU on agricultural imports and economic welfare. Also the influence of Estonia's accession to the EU on the Estonian food products' market (Selliov 2002), and more specifically, on the Estonian dairy products' market (Tamm 2002) have been analysed.

The aim of the present paper is to analyse the impact of Estonia's accession to the EU on the country's agricultural sector. The authors admit that the resulting effects will largely depend on the conditions under which Estonian farmers join the CAP of the EU. Although the shape of the future CAP which the CEECs will adopt has not been finalised yet, we will diverge from the approaches commonly used in economic literature so far, which investigate the accession effects by way of building up different policy scenarios. Although Agenda 2000 is not totally adjusted for the eastern enlargement of the EU and the discussion of the further reform of the CAP continues, we will only concentrate on the most probable policy scenario envisaged by Agenda 2000 proposals. In particular, we will limit ourselves to the following questions: direct support to producers, price policy, and foreign trade regime.

The paper is structured in the following way. The next, Section 1 compares the agricultural sectors in the CEECs and the EU, with an emphasis on Estonian agriculture. The three following sections, 2, 3, and 4, focus on the changes in the Estonian agricultural sector: Section 2 analyses the impact of the EU's direct support on Estonian agriculture, Section 3 discusses the implementation of the CAP intervention system in Estonia, and Section 4 mulls over possible post-accession changes in foreign trade. Section 5 analyses the possible impact of the CAP accession on Estonian consumers. The last section draws conclusions.

# 1. AGRICULTURAL SECTOR IN THE TRANSITION COUNTRIES

The agricultural sector has an important role in all the EU candidate countries ranging from 2.5 percent of GDP in 2000 in Lithuania to about 16 percent of GDP in Bulgaria (see Table 1). For comparison, the average share of agriculture in the GDPs of the EU member states was 1.7 percent (in 2000). The share of employment in agriculture ranges from 5.3 percent in the Czech Republic to 45.2 percent in Romania, compared to only 4.3 percent in the EU. Thus, the relative importance of agriculture in the CEE countries is still higher than in the EU despite the ten-year transition period.

Table 1

**The role of the agricultural sector in transition countries in 2000 (%)**

	Share of agriculture in the GDP	Share of agricultural employment	Share of food in total household expenditure	Share of agricultural and food products in exports	Share of agricultural and food products in imports
Bulgaria	15.8	11.2	45.1	10.5	6.2
Czech Republic	3.4	5.3	23.2	4.4	5.7
Estonia	5.7	7.0	30.7	3.9	9.6
Hungary	3.9	7.2	25.0	8.0	3.4
Latvia	3.9	14.4	34.6	5.3	13.0
Lithuania	2.5	18.4	39.3	11.4	9.9
Poland	2.9	18.7	31.2	8.0	6.7
Romania	11.4	45.2	37.4	3.5	7.5
Slovak Republic	2.7	7.5	27.7	3.5	6.3
Slovenia	4.3	9.6	21.2	4.2	6.7
EU-15	1.7	4.3	17.0	6.2	5.7

*Source: Agriculture in the European Union - Statistical and economic information 2001.*

Compared to the other CEECs (with some exceptions) and the EU, Estonia's population and agricultural area are relatively small. In 2000, the share of agriculture in its GDP and the share of agricultural employment were 5.7 and 7.0 percent, respectively. The share of food in total household expenditure was 30.7 percent on average. In the same year, the shares of agricultural and food products in exports and imports were 3.9 and 9.6 percent, respectively. Estonia is a net importer of agricultural products. The main trading partner in agricultural products and processed food was the EU, whose share was 41 percent in exports and

62 percent in imports. The negative trade balance mainly stemmed from trade with the EU, and the principal explanation for that is the much higher proportion of processed products in imports than in exports. This reflects, on the one hand, the low effective competitive ability of Estonian agricultural products, and the differences in policy regimes, on the other, with less support and protection in Estonia than in the EU.

As argued by Backé *et al* (2002), the dynamics of agricultural and food prices of the CEECs is more “EU accession-related” than the dynamics of overall price levels. The entry into the European Union will in all likelihood involve temporary upward pressures at the level of agricultural prices, which are considerably lower in the accession countries than in the EU (see Appendix 1). However, it should be noted that there is some variation not only in agricultural price levels among the accession countries and among the products, but also among the EU Member States themselves. Regarding the former, the agricultural producer price level is closest to the EU level in Slovenia, followed by the Czech Republic, Slovakia, Poland and Hungary. Yet, rough estimates show that the comparative agricultural price levels in these countries are between a half and three quarters of the EU average. (Pouliquen, 2001)

The fact that the agricultural price level has converged to the EU level more than the overall price level can be partly accounted for by the price supporting systems. At the end of the communist era, the producer support estimates were generally higher in the CEECs than in the EU. During the transition period, they have rapidly dropped, forming now about a half of the EU level, except in Slovenia where the support level is even higher than that of the EU. The low level of overall support may stem from a much lower macroeconomic capacity to support agriculture at the expense of the other economic sectors, as the share of agriculture in the CEECs’ economies is much higher than in the EU. Hence direct support is much less used than price support. Price support is mainly achieved through import protection measures. In some cases, for example Poland, it is even more important than in the EU.

There are two measures that can help evaluate the level of agricultural support and that of prices – namely, producer support estimates (PSE) and nominal protection rates (NPR). Table 2 gives the PSEs and NPRs calculated by the OECD for the CEECs and the EU for the years 1996, 1998 and 2000. The PSE percentage measures the rate of support of agricultural protection over and above the world prices, resulting from the price difference (market price support) and from various forms of direct subsidies.

Table 2

**Producer Support Estimates (PSE) and Nominal Production Rates (NPR)  
in the CEECs and the EU in 2000**

	Total PSE %			Producer NPC		
	1996	1998	2000	1996	1998	2000
Bulgaria	-54	2	2	0.66	1.07	1.05
Czech Republic	16	20	18	1.04	1.16	1.10
Estonia	7	19	10	1.11	1.18	1.03
Hungary	10	19	18	1.02	1.11	1.14
Latvia	3	16	18	1.05	1.23	1.28
Lithuania	1	13	9	1.06	1.24	1.30
Poland	15	21	20	1.19	1.27	1.25
Romania	12	28	11	1.16	1.64	1.28
Slovak Republic	1	27	22	0.95	1.22	1.08
Slovenia	29	44	43	1.41	1.84	1.61
EU	34	39	38	1.27	1.44	1.37

Source: OECD database.

Table 2 reveals that in the given years, the average level of agricultural protection was relatively low in Estonia, Bulgaria and Lithuania, compared to the other CEECs and the EU. Although in 1998 the PSEs for Estonia increased, they were still relatively low. Estonia's case is directly opposite to that experienced by the EU where both the market and intervention prices are higher than the world market prices, and the role of intervention prices consists in preserving a certain difference.<sup>1</sup> In 2000, the total percentage of PSE in Estonia was 10, the respective EU indicator being 38. In Estonia, the market price support and payments based on input use have played a dominant role in total PSE (36 and 34 percent of the total PSE in 2000, respectively). From 1998 on, also payments based on the cultivated area or animal numbers were granted (about 30 percent of the total PSE in 2000). In the EU, market price support and output-based payments made up about 90% of the PSE at the end of the 1980s (Agricultural policies... 2001). During the next ten years, this share dropped to about 65%. At the end of the 1990s, payments based on the cultivated area or animal numbers made up 25% of PSE (the mean of 1986–1988 was about 3–4%). Payments based on the input used have stayed around 5% of PSE. So it can be seen that according to the CAP reforms, the market price support in the EU is declining, while direct budgetary support is increasing.

Another way to protect agriculture is to use NPRs. The NPR values greater than 1 indicate that as a result of agricultural policies, the domestic price exceeds the world market price, and vice versa. The table 2 shows relatively low NPRs in

---

<sup>1</sup> Slovenia is the only CEEC whose agricultural sector is more protected than that of the EU.



Estonia, Bulgaria and the Slovak Republic. In Estonia, agricultural prices have been slightly above the world market prices. Yet, compared to the other CEECs and the EU, its agricultural sector has been relatively less protected. For instance, in 2000, agricultural producer prices in Estonia exceeded the world market prices only by 3 percent on average, while in the EU, the producer prices were 37 percent above the world market price level. Furthermore, at the same time, the producer prices in Slovenia were about 1.6 times higher than the world market prices.

Table 3 shows the PSEs by commodity in Estonia between 1995 and 2000. During the whole period, crop products have been on average more protected than livestock products. However, a look at separate commodities reveals that this mainly results from the fact that the PSEs for pork have been highly negative, leading to a low average value of PSE.

Table 3

**Producer Support Estimate (PSE) in Estonia between 1995 and 2000 (%)**

	1995	1996	1997	1998	1999	2000
Wheat	1	2	14	34	32	17
Other grains (barley, oats, rye)	16	12	15	43	33	14
Oilseeds	16	-2	-1	9	15	8
Milk	8	20	20	27	5	22
Beef and veal	-60	-42	-65	-49	-55	-51
Pork	-4	-9	-20	7	11	5
Poultry	43	41	33	21	21	12
Eggs	12	10	20	20	35	14
Crop products	13	10	14	39	31	14
Livestock products	-3	6	3	14	2	12
All commodities	0	7	5	19	5	10

Source: OECD database.

Estonia's agricultural policy differs from the CAP of the EU both by the types of measures used and their levels. One of the main distinctions between the two policies lies in their different objectives: Estonia has so far put more emphasis on liberalisation of the sector than on income support of its own producers. Its liberal policy has meant a very low support to producers and exports, and the absence of import tariffs. It was only in January 2000 that import tariffs were introduced on agricultural products and processed food. However, these are relatively low and only apply to a minority of trade partners. The average trade-weighted tariff rate in 2000 was below 1%. Other policies connected to agriculture, such as rural and regional policies, are at initial stages. In contrast, the CAP aims at guaranteeing appropriate income to domestic producers, self-sufficiency of production and reasonable prices for consumers. These aims are targeted by using a very complex set of policies, which are rather protectionist.

For technical reasons, some instruments aim at the first-stage food processing industries, such as dairies and meat processing (Banse *et al* 2000). Therefore, they receive some of the agricultural sector's subsidies. However, generally, the higher the degree of processing, the less support is granted to the industries. Nevertheless, the two policies are slowly converging as Estonia is harmonising its policies with those of the EU in view of its forthcoming accession, and the EU is liberalising its agricultural policy in the framework of GATT Uruguay Round and as a result of the eastern enlargement.

Although the CAP is designed to automatically apply to the new CEE Member States, there is a possibility that the CAP would be modified for their needs (Ardy 2000). The reforms of Agenda 2000 sought to resolve the EU's problems by reducing prices, compensating farmers with direct subsidies and by relaxation of some production controls. As Agenda 2000 could not be reconciled with the budgetary positions which the Member States were prepared to accept, at the Berlin European Council in 1999, a modified strategy of lower price cuts and thus lesser subsidies was agreed on. This reduced agricultural guarantee expenditure in the EU-15 so that it was approximately 11% below the level proposed in Agenda 2000.

Thus it is possible that implementing the direct support system of the EU may have a strong influence on restructuring and investing in the agricultural sector of the CEECs and this effect may be stronger than the implementation of the EU price support system. Still, a few exceptions, e.g., Estonia with its very liberal economic system, remain where even the price support system is at a low level, consisting only of import tariffs that were introduced as late as in 2000. In that case also the implementation of the EU domestic price support system may have a stronger influence than in other cases.

Another issue is the quality of the products in the CEECs, which is still below the EU product standards. The application of standards may lead to two contradictory effects – on the one hand, this will exclude cheap and low-quality products from the market and thus the production would shrink and/or the cost of production would grow. On the other hand, these standards may help restructure agriculture more quickly to create efficiency gains (Pouliquen 2001). The first way may dominate in the countries with slow restructuring, while the second way is characteristic of countries with faster restructuring.

As argued by Ardy (2000), the CAP is not the best policy for the transition countries who need such an agricultural policy which would enable them to exploit their advantages of low labour and land costs to expand production where it is competitive, to keep food prices relatively low, whilst facilitating the inevitable contraction of employment in agriculture. The CEEC's production will have to be limited by set-asides and quotas and there will be some food price inflation. The limited administrative capacities of the CEECs will be stretched by the requirements of meeting the agricultural *acquis*, which accounts for 50%

of the EU legislation. It can be seen as a problem in terms of the high level of quality demanded by wealthier economies such as the EU. Meeting these standards will be desirable in the long term because of the costs associated with breaches of food safety, and the necessity of supplying food of the requisite standard for exports to the EU and sales to multinational supermarkets. It would be quite difficult to meet these standards in a short time. The requests for transitional arrangements and the large proportion of food exports going to the CEECs and the CIS show this. This could mean that the CEEC food producers find it difficult to compete in the internal market, while at the same time their goods are too expensive to be sold in markets such as the former Soviet Union, where price is the main factor of consumer decisions. Another concern is the waste of administrative resources necessary for production control, e.g. monitoring the milk production and crop patterns for every farm.

As it can be seen, the attitudes towards introducing the CAP in the CEE transition countries are not univalent in the CEECs and in the EU. Rather, these attitudes are in opposition as the interests are quite different.

## **2. THE IMPLEMENTATION OF DIRECT SUPPORT TO PRODUCERS**

Since the 1990s, the direct support rates to agriculture have been generally lower in the CEECs (except in Slovenia) than in the EU. The support to the agricultural sector has mainly been affected as price support, in particular, through border protection. In the EU, direct payments are granted to farmers for the number of arable crops and cattle, following the support price cuts of the 1992 and Agenda 2000 reforms in these sectors. From 2005 onwards, similar payments will also be extended to milk, being introduced in three steps. In total, there are about thirty direct payments made to producers under the CAP. Initially, direct payments were introduced to compensate for the support price cuts, but over time they have lost their compensatory nature. For example, the Agenda 2000 reforms made direct payments subject to a range of environmental conditions. (Commission of... 2002) As argued by Pouliquen (2001), this inferiority of direct support in the EU has penalised agricultural income in the CEECs, with negative consequences to capital formation.

The question of whether and how direct payments should be introduced by the new Member States is of great importance in accession negotiations. All the candidate countries, including Estonia, have requested that direct payments be granted to their farmers after the accession to the same extent as received by the current Member States. Many EU countries argue that since there will be no price decline with the accession in the CEECs, there is no need for compensation through direct payments. Furthermore, the extension of direct payments to the CEECs by 100% would be too expensive, meaning a 16% increase in the EU

agricultural budget. Besides, it could create problems with handling the money in target regions. The economists, on the other hand, stress that structural measures would be more promising than direct payments for both the overall economy and employment in the CEECs. With or without direct payments, to avoid or reduce their overall recession within the Single Market, the CEECs will have to raise their labour productivity considerably.

However, the Commission of the EU has expressed a view that the new Member States should gradually introduce direct payments in the course of their transition period. The new strategy from January 2002 proposes a simplified direct payments system for the first three years, with an option to prolong for two more years. The new Member States should have the option of granting direct payments in the form of area payments, de-coupled from production and paid per hectare. Considering that immediate introduction of 100% direct payments would freeze the existing agricultural structures and hamper modernisation in the CEECs, the Commission favours a gradual introduction of direct payments over a ten-year transition period (Commission of... 2002). For the years 2004, 2005 and 2006, direct payments equivalent to 25%, 30% and 35% of the present system, respectively, should be paid, reaching 100% in 2013. From 2013 on, the CAP would apply equally to all the Member States. According to this proposal, additional aid could also be granted from national funds. The new member states would, however, have full and immediate access to the CAP market measures, such as, for instance, cereal intervention.

As anticipated by Pouliquen (2001), the access of the CEECs to direct cereal crops payments of the CAP would encourage these countries to increase their cereals production. In addition, obtaining direct payments for cereals could indirectly profit producers of pork and poultry. This could also be the case with milk producers (from the beef payments). However, he also argues that the direct payments are unlikely to lead to an expansion of the animal sector as a whole as these indirect effects are relatively low for the pork and dairy sectors in the semi-subsistence or large company farms. On the other hand, in the beef sector, the direct payments are expected to encourage specialisation. Yet, the CEECs' structural inadequacy and difficulties in raising their production to the EU standards should not be underestimated. However, the final impact of direct payments would depend on whether they are used for investment or absorption in consumption or increased land prices.

The availability of producer support systems creates the incentives for increasing production in the new Member States. At the same time, in order to prevent overproduction, the EU uses production quotas. The EU has stated that the quantitative reference levels of the new Member States should be determined on the basis of their past performance. However, the question about which reference periods should be chosen has been left to be addressed at a later stage of the negotiations. As argued in the Commission Issues paper (Commission of... 2002), it would be quite appropriate to determine the quantitative restrictions on

the basis of the most recent periods for which data are available, i.e. from 1995 to 1999. However, the CEECs have requested that direct subsidies be extended to them and production limits set on the basis of earlier periods when the levels were much higher than those of 1995–1999.

Table 4 shows the production quotas and other supply management instruments calculated according to the average of the period 1997–1999, and the levels requested by Estonia. As can be seen, the differences are significant, the calculated levels being far lower than the requested ones. In the arable crops sector, the non-crop specific area payment (63 EUR/t) depends on the reference yield and base area. According to the requested reference levels, the maximum area payment that Estonia would receive would be 143.3 million EUR. Yet, the calculations based on the average data in 1997–1999 only yield 43.2 million EUR, the difference being threefold. In the EU, set-aside requirements are also imposed on larger farmers, the basic level being 10% of the total area. However, considering the small size of Estonian farms, the impact of this set-aside policy is expected to be minor.

Table 4

**Production quotas and other supply management instruments for Estonia**

	1997–1999 average	Requested by Estonia
Arable crops		
base area (ha)	387,233	650,000
reference yield (t/ha)	1.77	3.50
Potato starch		
production quota (t)	250	10,000
Sugar		
production quota (t)	-	75,000
Dairy sector		
milk quota (t)	562,633	900,000
Beef		
ceilings (No of animals)		
slaughter premium (adult)	80,500	106,600
slaughter premium (calves)	73,700	79,300
special beef premium	35,580	50,000
Suckling cow premium	637	2,000
Mutton and lamb		
ceiling to ewe premium (No of animals)	27,501	142,000

Source: Commission of the European Communities. *Enlargement and Agriculture: Successfully integrating the new Member States into the CAP. Issues paper. Brussels, 30.01.2002 SEC(2002) 95 final, Annex.*

For the producers of potato starch, aid is given within a specified quota. Estonia has requested a quota of 10,000 tons, but the average production level in 1997–1999 was only 250 tons. In the sugar sector, Estonia has requested a production quota of 75,000 tons (covers both A and B quotas). However, as no sugar was produced in Estonia between 1995 and 1999, no quota can be calculated.<sup>2</sup>

In the dairy sector, dairy premiums will be paid to individual farmers from 2005 onwards, the amount being 5.75 EUR/t in 2005, 11.49 EUR/t in 2006, and 17.24 EUR/t in 2007 and subsequent years of individual reference quantity eligible. The total sum of individual reference quantities eligible for premiums cannot exceed the total national reference quantity for the quota. A dissuasive levy is imposed on milk produced in excess of quotas allocated to individual milk producers. Furthermore, the current CAP system foresees intervention purchases of butter and milk powder within a quota. The guaranteed milk price would be very attractive to producers. The total quota for deliveries and direct sales of milk that Estonia has requested is 900,000 tons, while the average production level of 1997–1999 was only 562,633 tons. However, as pointed out by Božik (1996), the efforts to reach the maximum quota (e.g., by increasing the number of dairy cows) would at the moment of entry only strengthen the inefficiency and lower the competitiveness of Estonian producers.

In the beef sector, premiums are paid upon slaughtering or exports to third countries. In addition, special beef premiums and suckling cow premiums are paid, which will be 210 EUR once per animal and 200 EUR per year in 2003. In the sheep sector, ewe premiums are granted. However, the national ceilings are fixed for the number of animals eligible for premiums. Where the national ceilings are exceeded, the premiums are reduced proportionately. Here too Estonia's requirements exceed the reference levels.

### **3. THE INFLUENCE OF THE EUROPEAN UNION PRICE SUPPORTING SYSTEM ON ESTONIAN AGRICULTURAL PRICES AND PRODUCTION**

As already mentioned above, price support has played an important role in the CAP since it was established. Although it has lost its importance due to reforms, the intervention mechanism still exists in the EU, covering all the most important agricultural products that are produced by the member states and can be stored for a longer time. The measure that almost directly influences prices and

---

<sup>2</sup> Estonia produces sugar beet for processing in other countries, for instance in Finland and Latvia.

consumers, being even for all the member states, is public intervention. It applies to cereals, butter, beef, skimmed milk powder, white sugar, and olive oil. The intervention system works as follows. When the producer prices of the products under intervention fall below the price determined by the intervening authority, the products will be bought up at the intervention price until the price level returns to the required level. This helps guarantee the producers their income.

As Swinnen (2001) argues, the recent market and policy changes have reduced the price and output effect of CAP accession. According to him, the price gap between the EU and the CEECs in agricultural products has diminished for several reasons. First, the CAP reforms undertaken in the 1990s (the 1992 MacSharry Reform and the Agenda 2000 Reform) have reduced the EU institutional prices of many products. Second, partly due to the integration process, but also as a result of domestic pressures, the CEECs have harmonised their agricultural policies with the CAP, increasing the level of support to farmers (see PSE% in Table 2). Third, appreciation of the real exchange rates in the CEECs has further reduced the nominal price gaps between the EU and the CEECs. Finally, also the quality of products in the CEECs has improved, leading to higher prices. As a result of these factors, the EU and CEECs' prices of agricultural products and processed food have converged, implying that the price effects of the EU accession are expected to be less remarkable. Referring to Swinnen (2001), significant price increases could be expected to occur only for beef, sugar, milk and coarse grains. However, as the quality of beef in the CEECs is still lagging behind the EU quality standards, the increase in the price of beef cannot be too high. Furthermore, as the CAP applies national production quotas for milk and sugar, the output cannot increase considerably as a result of rising prices. On the other hand, with higher prices for these products, consumption will decline and consequently, net exports will increase. However, this effect can be mitigated by an increase in consumer income.

The products in case of which the implementation of intervention is vitally important for Estonia are: beef, cereals, butter and skimmed milk powder. The intervention prices for these products according to the Agenda 2000 proposals are shown in Table 5.

Table 5

**Intervention prices of the CAP according to Agenda 2000**

	Beef	Cereals	Butter	Skimmed Milk Powder
Intervention price (per 100 kg)	301.3 € in 2001/2002	10.113 € in 2000/2001	328.2 € in 2000-2005	205.52 € in 2000-2005

*Source: European Commission regulations.*

Comparing the Estonian prices of food products under intervention with those of the EU countries, in the case of cereals and pork differences are not considerable. The producer price of pork is even higher in Estonia than in some EU countries. In the case of cereals, the price level is almost as high as in the EU. The producer prices of milk and beef are almost two times lower in Estonia than in the EU. The same is true about the processor's price of butter. In these product categories, the implementation of the intervention system will raise the producer prices to the EU level. This means that the prices of beef and butter will nearly double if they meet the intervention conditions.<sup>3</sup> Considering the price of skimmed milk powder that has been the most important export article for Estonia, the price has been fluctuating around the intervention price in the last years. The intervention price of butter may have a backward influence on milk producer prices. In the case of pork, it is possible that the price will even fall after the implementation of the CAP, as in the EU the fodder for nourishing pigs is subsidised.

If producing butter becomes more profitable, more raw milk will be needed. As milk production will go under the quota regime, production growth may eventually lead to a deficit of domestic raw milk. This will also raise the price of raw milk.

As the Estonian agricultural market has been very liberal during the transition, the overall economic structure as well as that of agriculture has been shaped to be close to the market structure.<sup>4</sup> The resources have been allocated quite effectively. The advent of the intervention may break the system, leading resources to the areas where the use is not so efficient. As due to the intervention prices the production of beef and butter will be more advantageous than before, the investments, resources etc. would be contracted from other agricultural areas or economic sectors to agriculture. As the wage level in Estonia is very low compared to the EU level, the labour force from the economic sectors with flexible wages, such as, for example, services, may head to the agricultural sector, distorting the whole economic structure.

Hence it is possible that the implementation of the EU intervention system may have a most significant influence on beef and butter production. Butter and skimmed milk powder production will largely depend on the size of milk quota. On the other hand, cereal production may stay unaffected as no considerable price changes caused by the CAP intervention system can be foreseen.

---

<sup>3</sup> In the case of beef, the price will rise from about 114 €100 kg to 301 €100 kg, in the case of butter, from about 183 €100 kg to 328 €100 kg.

<sup>4</sup> Although by comparison with the tendencies in developed countries the situation is rather abnormal, for usually agriculture as a sector of strategic importance is regulated much more than in Estonia.



## 4. APPLICATION OF THE EUROPEAN UNION TRADE REGIME

In January 2000, Estonia for the first time introduced tariffs for food and agricultural products. Since then, imports from third countries have significantly decreased, while imports from the EU and other free trade partners have increased. Until 2000, Russia was quite an important importer of food products to Estonia. After the customs tariffs were imposed, Russia lost its importance, and mainly the EU gained shares on the Estonian food market. In 2001, more than 60% of the food imports came from the EU (compared to 59% in 1998). The share of third countries (in Figure 1: other countries) was about 10% in 2001 (18% in 1998). But in 2001, third countries' imports in almost all important food groups amounted to nearly zero, the only exceptions being poultry, condensed milk and cream (see Figure 1). Especially significant was the trade diversion into the partner countries with which Estonia has free trade agreements in the following foodstuffs: cheese and quark, sugar, rye, barley, poultry and canned milk.

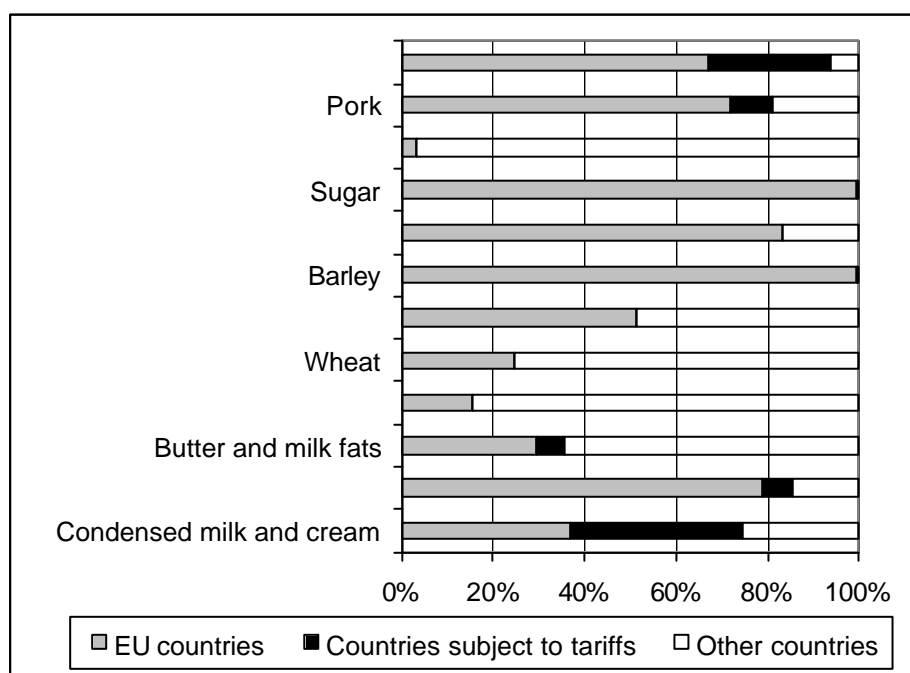


Figure 1. The shares of Estonia's trading partners in imports of the most important foodstuffs in 2001 (%).

Despite the fact that the EU is Estonia's most important import partner in agricultural products, there are still some exceptions – for example, poultry imports from the USA and wheat and rye imports from the Ukraine are still important. After the EU accession, Estonia has to implement higher tariffs on imports from

the USA (and other third countries) and also abolish the free trade agreement with the Ukraine. Also, the EU export subsidies, which at the moment make EU imports cheaper on the Estonian market, are to be removed. Concerning the EU accession, the changes in Estonian import prices and partners will have the following reasons:

- 1) application of the common external tariffs of the EU;
- 2) abolition of the EU export subsidies on the basic products before the EU accession.<sup>5</sup>

The export subsidy rates of the EU varied considerably in 2001. To analyse the effects of the removal of subsidies, the following simple scenarios were made:

- 1) I scenario – the lowest rate of subsidies was used in the calculations,
- 2) II scenario – the highest rate of subsidies was used in the calculations.

The common external tariff is high compared to the presently valid Estonian dairy prices (see Table 6) and so are the export subsidies. Even though the EU tariffs are high, their influence on milk import prices will be insignificant, because the main trading partners in milk products are already the other applicant countries and the EU.<sup>6</sup>

Table 6

**Protectionist measures on the milk market**

Product	Estonian tariff	EU autonomous tariff (EEK/t)	EU WTO tariff (EEK/t)	EU export subsidy – min (EEK/t)	EU export subsidy – max (EEK/t)
Uncondensed milk	27%	12,241	8,572	5,996	17,297
Condensed milk	30%	30,159	22,298	1,455	14,160
Acidulated or fermented milk	30%	16,627 / 13%+18,349	11,650 / 9%+12,843	2,316	10,608
Skimmed milk products	-	31,879	24,622	2,003	11,923
Butter and other milk fats	38%	50,426	35,305	24,329	33,797
Cheese and quark	38%	40,805	27,348	-	-

Source: Materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.

<sup>5</sup> The subsidies on EU agricultural exports to Estonia were, in fact, eliminated in June 2002 as a result of trade negotiations.

<sup>6</sup> Nevertheless, the CAP intervention prices may have significant price effects in the milk sector.

According to Table 7, some general conclusions can be drawn:

- The application of the common external tariff will have some influence only on the import prices of butter and condensed milk, as about 35% of these products are imported from third countries. Third countries' imports of other dairy products are nearly zero and therefore the common external tariff will have no effect on these products.
- The abolition of the EU export subsidies will affect almost all the analysed milk products except for cheese and quark. The increase in import prices will depend, of course, on the level of subsidies at the moment of abolition. When these are as high as in scenario II, the import price increase will be between 40% and 80%. However, as the EU intends to lower the level of export subsidies, this scenario is less likely, and the import prices are expected to temporarily experience merely a slight increase.
- This increase in import prices will, however, have almost no influence on the domestic prices of dairy products, because Estonia is a net exporter of dairy products and import quantities are very small compared to the country's own production and consumption levels.

Table 7

#### Changes in import prices of dairy products

Product	2001 import price (EEK/t)	2001 import quantity (t)	I scen. price (EEK/t)	I scen. – new price in relation to old (%)	II scen. price (EEK/t)	II scen. – new price in relation to old (%)
Uncondensed milk	4,398	1,016	5,599	127.3	7,868	178.9
Condensed milk	25,156	4,402	33,221	132.1	37,819	150.3
Acidulated or fermented milk	16,567	1,158	17,096	103.1	23,633	142.6
Skimmed milk products	23,593	336	25,126	106.5	32,717	138.7
Butter and other milk fats	24,275	771	32,884	135.5	35,655	146.9
Cheese and quark	41,893	2,177	41,977	100.6	41,977	100.6

Source: Authors' calculations based on the materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.

In the case of cereals, the EU export subsidies will be abolished already before Estonia's accession, and this will influence only two product groups (Table 8): wheat flour and other flour. The removal of the export subsidies will most certainly influence also the sugar prices in Estonia, because 99% of the sugar is imported from the EU.

Table 8

Protectionist measures on cereals and the sugar market

Product	Estonian tariff	EU autonomous tariff (EEK/t)	EU WTO tariff (EEK/t)	EU export subsidy – min (EEK/t)	EU export subsidy – max (EEK/t)
Wheat	16%	2,759	1,929	0	0
Rye	59%	2,269	1,591	0	0
Barley	40%	2,269	1,591	0	0
Oats	40%	2,175	1,522	0	0
Maize	0%	2,300	1,608	0	0
Other cereals	0–20%	1,158	763	0	0
Wheat flour	40%	4,193	2,942	47	888
Other flour	50%	3,529	2,468	0	1,361
Groats and granules	50%	3,906	2,734	0	0
Other processed cereals	0–50%	3,277	2,035	0	0
Sugar	0%	54,262	45,234	6,351	5,745

Source: Materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.

The general conclusions about the changes in cereals and sugar prices would be as follows:

- The EU export subsidies for wheat flour and other flour will have some influence on the import price in case of the II scenario (see Table 9). But the EU had been reducing the export subsidies during the whole 2001 and by the end of the year it was almost zero. So it would be more realistic to think that the first scenario will be realised and the price increase will be negligible.
- This is not the case for sugar. After the EU accession, the EU cannot export subsidised sugar to Estonia any more, nor can Estonia import cheap sugar from the rest of the world because of the high sugar tariffs. This means that the sugar price will rise nearly 2.5 times. The problem is serious, because Estonia itself does not produce sugar and the quantities of imported sugar are not small (cf. the quantities of sugar and rye in Table 9).
- Due to the application of the common external tariff, the import prices of wheat, rye and maize will increase. 16% of the wheat, 32% of the rye and 63% of the maize is imported from the Ukraine, which is the main reason for the import price increase. But considering the expected trade diversion and domestic production, the final price increase for rye and wheat would be 4% at most. The imported maize has until now been mainly used as animal feed, which can easily be substituted with some other feed after the EU accession.

Table 9

## Changes in the import prices of cereals and sugar

Product	2001 import price (EEK/t)	2001 import quantity (t)	I scen. price (EEK/t)	I scen. – new price in relation to old (%)	II scen. price (EEK/t)	II scen. – new price in relation to old (%)
Wheat	32,090	1,836	2,128	116	2,128	116
Rye	37,601	1,485	2,207	149	2,207	149
Barley	4,470	2,976	2,976	100	2,976	100
Oat	1,112	1,494	1,494	100	1,494	100
Maize	7,182	2,143	4,023	188	4,023	188
Other cereals	43,000	8,418	9,160	109	9,160	109
Wheat flour	35,067	3,265	3,336	102	4,036	124
Other flour	183,000	4,267	4,468	105	5,421	127
Groats and granules	3,602	3,442	4,259	124	4,259	124
Other processed cereals	3,783	4,509	6,320	140	6,320	140
Sugar	65,891	4,325	10,642	232	10,039	246

Source: Authors' calculations based on the materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.

The tariff rates and subsidies applied to meat products are given in Table 10. Due to the application of the common external tariff and abolition of the export subsidies, the main changes on the meat market will be as follows (see Table 11):

- Both the new tariffs and the abolition of the EU export subsidies will mainly affect only the price of mutton, sub-products and poultry, which are not widely produced in Estonia. Nevertheless, the import quantity of mutton is quite small, and therefore its price increase will have almost no effect on the Estonian meat market. The quantity of poultry is the highest of all meat types. In the long run, the rise in the import price of poultry will probably be below 14% because of the import diversion to the EU.
- Most of the other meat products are imported from the free trade agreement partner countries which implies that the new trade regime will cause no sudden price increase for these products.

Even though the EU common external tariff for agricultural products is mainly higher than Estonian tariffs, there are quite a few agricultural products which Estonia imports from third countries. Also the share of other free trade agreement partner countries besides the EU is high. After the EU accession, these agreements will no longer be in force, which may have an influence on Estonian imports. However, most of the free trade agreement partners will join the EU together with Estonia. The only exception is the Ukraine whose effect on Estonian imports, though, is not very significant.

Table 10

Protectionist measures on the meat market

Product	Estonian tariff	EU autonomous tariff (EEK/t)	EU WTO tariff (EEK/t)	EU export subsidy – min (EEK/t)	EU export subsidy – max (EEK/t)
Cooled beef	28%	20%+51,986	14%+36391	1,565	21,984
Frozen beef	33%	20%+52,800	14%+ 28447	1,565	5,946
Pork	10–33%	17,082	11,960	0	0
Mutton and lamb	15%	20%+44,666	14%+30,863	0	0
Sub-products	10-15%	10%	2%	2,034	4,459
Poultry	10%, 48%	13,410	9,388	0	0
Other meat and sub-products	20%	14%	6%	0	0
Bacon and pork fat	43%	6,075	4,252	0	0
Salted and smoked meat	33%, 59%	27,074/ 20%/ 24%+71,834	18,953 / 13%/ 17%+50,284	0	0
Meat products	39%	24%/ 30,542	16.8% / 21,381	0	0
Canned meat	25%, 39%	20.9%/ 33,517	13.7% / 23,460	0	0

Source: Materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.

Table 11

Changes in the import prices of meat products

Product	2001 import price (EEK/t)	2001 import quantity (t)	I scen. price (EEK/t)	I scen. – new price in relation to old (%)	II scen. price (EEK/t)	II scen. – new price in relation to old (%)
Cooled beef	1,396	24,086	24,108	100	24,393	101
Frozen beef	1,147	31,959	32,051	100	32,312	101
Pork	11,776	22,452	23,524	105	23,524	105
Mutton and lamb	70,000	35,526	64,756	182	64,756	182
Sub-products	3,135	11,736	18,576	158	18,609	159
Poultry	22,471	13,564	15,503	114	15,503	114
Other meat and sub-products	4,000	93,187	92,885	99.7	92,885	99.7
Bacon and pork fat	867,000	12,468	12,468	100	12,468	100
Salted and smoked meat	69,000	36,332	36,332	100	36,332	100

Product	2001 import price (EEK/t)	2001 import quantity (t)	I scen. price (EEK/t)	I scen. – new price in relation to old (%)	II scen. price (EEK/t)	II scen. – new price in relation to old (%)
Meat products	1,173.5	22,804	22,804	100	22,804	100
Canned meat	1,286.4	24,186	24,185	100	24,185	100

*Source: Authors' calculations based on the materials of the Estonian Ministry of Agriculture, Commission Regulation (EC) No 2261/98.*

Besides the common external tariff, the abolition of the export subsidies of the EU can have a considerable impact on Estonian imports. Especially acute is the problem in the case of sugar, 99% of which is imported from the EU at the moment. The sugar price will grow almost 2.5 times. Nor is there any possibility to substitute the imports with cheaper domestic sugar, because no domestic production exists. In the case of other agricultural products, neither the implementation of the common external tariff nor abolition of the EU export subsidies will have a significant effect. Even though the price of imported goods can slightly increase, imports can be substituted with the domestic products which means that, with the exception of sugar, no sudden price increases can occur due to the change in the trade regime after the EU accession.

## 5. THE INFLUENCE OF THE EU-ACCESSION ON THE DEMAND SIDE OF THE ESTONIAN FOOD MARKET

This section is based on the Estonian Household Surveys, which are regularly carried out by the Estonian Statistical Office. The following analysis focuses on the questions about how the EU accession could influence the food consumption under the current purchasing power developments in Estonia.

From 1996 to 2001, the income of Estonian Households has increased by 55%, while the consumer prices have increased by 38% and food prices only by 19%. However, there are remarkable inequalities in the incomes between different income/expenditure groups, i.e. quintiles. Due to the availability of data, the quintiles based on expenditure are used as follows. During this period, the fifth quintile experienced the highest income increase, i.e. 58%, contributing to the increase in income difference between the first and fifth quintile (see Figure 2). In 1996, the income of the fifth quintile differed from the income of the first quintile 5.4 times, but in 2001, the difference was almost sevenfold. As far as the lower quintiles earn less, they also spend less money on food. The food expenditures of the first quintile are even twice as low as those of the fifth quintile. Thus, the difference in food expenditures between the quintiles is still substantial and the convergence is remarkably slow.

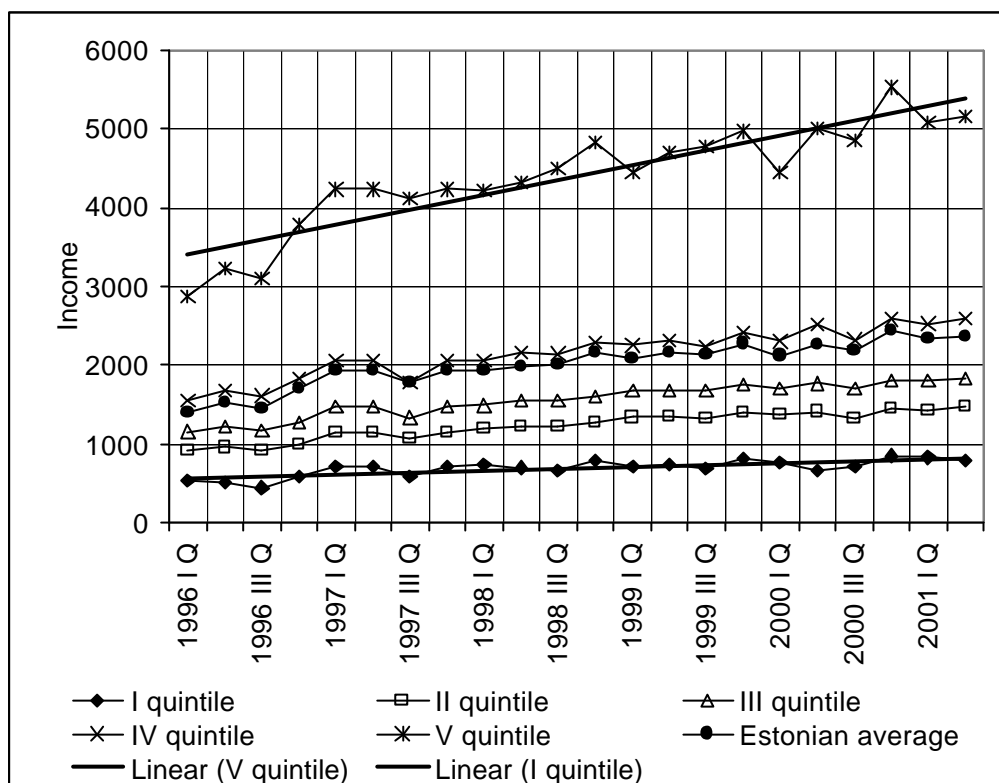


Figure 2. The income change of Estonian customers in 1996–2001 (in Estonian kroons).

In Estonia, food expenditures are the most important expenditures besides living costs. In 1996 and 2001, the food expenditures amounted to 48% and 37% of the overall expenditures, respectively. For the first quintile the corresponding number was even 50% (see Figure 3). This makes the first quintile especially sensitive to price shocks. But it should be mentioned that 45-50% of the income of the first three quintiles comes from the state in the form of transfers. Hence, if there will be any food price increase after the EU accession, the state could certainly compensate the less-earning income groups for this price increase. Compared to other European countries, the fifth quintile has already reached the level of average food expenditures in the EU, but in general, the deviance from the European level is obvious (Figure 3).

The divergence in food expenditures between the lower and higher quintiles is recognisable in the food consumption. The first quintile consumes less of almost all the most important foodstuffs than the fifth quintile, i.e. milk, pork, poultry, butter, cheese and coffee. The only exceptions are bread and sugar – there the consumption of the first quintile has the same level with the fifth. This means that there is an extreme consumption potential in the first quintile, which naturally can be achieved only when the first quintile’s income increases. On the other hand, the first quintile consumes, for example, considerably less pork,



cheese and milk than does the fifth. Therefore, concern has been expressed in Estonia that a price increase can even reduce the first quintiles' consumption of these important foodstuffs.

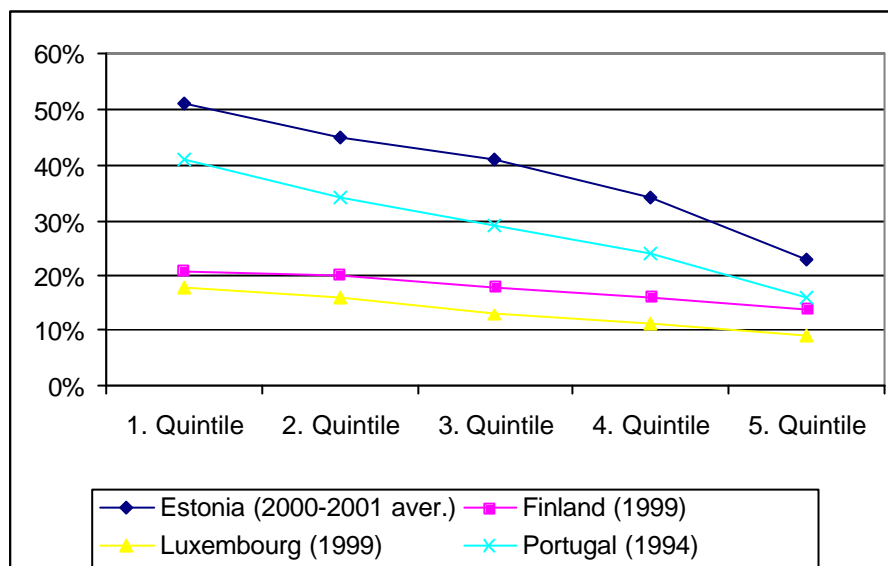


Figure 3. The food expenditures of the quintiles (percentage of total expenditures).

The divergence in food expenditures between the lower and higher quintiles is recognisable in the food consumption. The first quintile consumes less of almost all the most important foodstuffs than the fifth quintile, i.e. milk, pork, poultry, butter, cheese and coffee. The only exceptions are bread and sugar – there the consumption of the first quintile has the same level with the fifth. This means that there is an extreme consumption potential in the first quintile, which naturally can be achieved only when the first quintile's income increases. On the other hand, the first quintile consumes, for example, considerably less pork, cheese and milk than does the fifth. Therefore, concern has been expressed in Estonia that a price increase can even reduce the first quintiles' consumption of these important foodstuffs.

The only exception here is sugar, which is not produced in Estonia. The first quintile consumes more sugar than the fifth quintile, often because the foodstuffs that contain sugar are self-made. After the EU accession, the sugar price is expected to rise more than twice. As far as the lower quintiles are quite price sensitive, this will have a significant influence on sugar consumption, especially because there is no substitution possibility.

As discussed in the third section, the price increase will not be significant in the case of milk and cheese in the short run, although in the long run more considerable price increases are to be expected. The increase in butter price can cause problems especially for lower quintiles. Nevertheless, butter can be substituted

with margarine. But the increasing trend of milk products (especially milk and cheese) consumption implies another problem, connected to the EU accession (see Figure 4). In the lower quintiles, there is still a very high potential for milk and cheese consumption. Milk production quota would significantly lower the potential of the milk industry, which today is the most competitive food branch in Estonia. In the long run, this may have a raising effect on milk price.

In bread consumption, no obvious trend can be observed (see Figure 4). Nor is a significant price increase expected here upon the EU accession. We can suppose the level of 1999–2001 to be the optimal level of bread consumption. Thus it is unlikely that the EU accession will have any significant influence on bread consumption.

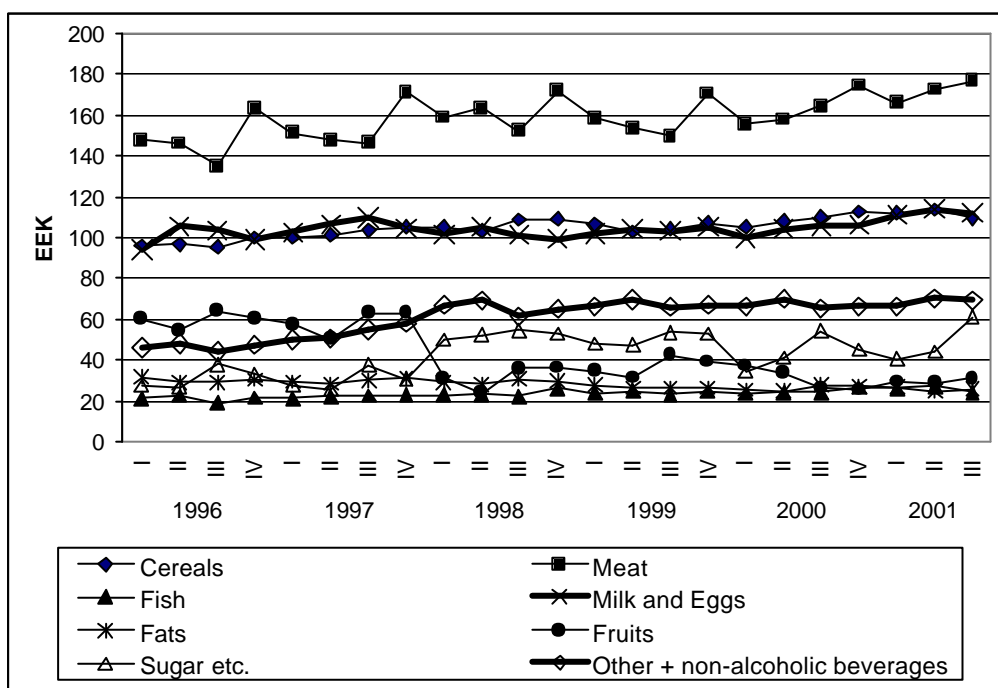


Figure 4. Monthly food expenditure per household member in Estonia in 1996–2001.

Source: Authors' figures based on the data of Estonian Household Survey.

Regarding meat, the lower quintiles consume almost as much poultry as does the fifth quintile. No sudden price increases are expected for poultry, so poultry consumption is not directly affected by the EU accession. The same holds true for pork, because pork prices are not expected to soar due to the accession. The difference in the consumption quantity of pork depends on the income, and the first quintile just prefers poultry because of its lower price. Even if the beef price would increase upon the EU accession, the lower quintiles would most probably substitute beef consumption with poultry. Hence, although the overall meat

consumption shows an increasing trend, it is possible that beef consumption may decrease after the EU accession due to the substitution effect.

As meat, milk products and cereals constitute the highest shares in food expenditures, the price changes in these categories may influence the consumers the most. In the case of meat products, consumers have a possibility to substitute the categories where prices raise most with those products whose price increase is lower. In the case of milk products, the initial shock is small, concerning only a few milk products. But in the long run, the prices of all milk products will rise due to the milk quota and the backward effect of the butter intervention price. Thus, the effect on consumers will be larger as the consumption of dairy products in Estonia is constantly increasing. The consumption of cereals will remain relatively untouched. The effect on sugar consumption in the short run is comparable with the long run effect in the dairy products market, there existing no possibility of substitution.

## **DISCUSSION OF THE RESULTS AND CONCLUDING REMARKS**

With the accession to the EU, the new Member States from Central and Eastern Europe including Estonia will have to adopt the CAP. The present paper analysed the influence of implementing the CAP price, support and trade principles on Estonian agriculture, on the assumption of the Agenda 2000 provisions. We concluded that, taking into account all the effects accompanying the EU accession, the impact of introducing the CAP in Estonia (and in the other CEECs) on agricultural prices and production will be considerably smaller than initially expected. Although any increase in prices or support would stimulate production, the system of production quotas would dampen this effect. Furthermore, the prices of Estonian agricultural products in many cases are close to EU administrative prices; hence, no considerable price increases are foreseen. However, with the accession, also the new trade regime would apply to agricultural products, which implies considerably higher import protection for Estonia through common external tariffs and abolition of the EU export subsidies when trading with Estonia. Although this will lead to an increase in import prices, the influence on substitution effects.

The EU policy instruments will hardly influence the cereals market as Estonian cereals prices are already close to those of the EU. The most important short-term effect will occur in the case of sugar as it is not produced in Estonia and there are no alternatives in consumption. In the long run, the most important effect will be seen in the dairy products market as the intervention prices for butter have a backward effect on raw milk prices especially in the presence of milk quota. In the case of meat, the price of beef may rise most of all but the consumers have the possibility to substitute it with poultry, in which no price increase can be foreseen, or with pork.

## REFERENCES

Agriculture in the European Union - Statistical and economic information 2001 [[http://europa.eu.int/comm/agriculture/agista/2001/table\\_en/en2012.pdf](http://europa.eu.int/comm/agriculture/agista/2001/table_en/en2012.pdf)].

Agricultural Policies in the OECD Countries Monitoring and Evaluation 2001 Highlights, OECD 2001, 34 pp.

**Ardy, B.** EU Enlargement and Agriculture: Prospects and Problems 2000, South Bank European Papers No. 4/2000, South Bank University, London, 17 pp.

**Backé P., Fidrmuc J., Reininger, T., Schardax, F.** Price Dynamics in Central and Eastern European EU Accession Countries, Oesterreichische Nationalbank, 2002, 47 pp. <http://www2.oenb.at/workpaper/wp61.pdf>.

**Banse, M., Guba, W.** Münch, W. Domestic Resource Costs Based on CGE Simulations: Results for the Food Industries of Hungary and Poland. In: Perspectives on Agriculture in Transition: Analytical Issues, Modelling Approaches, and Case Study Results. Ed. by Poganietz, W.-R., Zezza, A., Frohberg, K., Stamoulis, K.G. Wissenschaftsverlag Vauk Kiel KG, 2000, pp. 331–356.

**Božik, M.** The Impact of Integration into the Common Agricultural Policy on Slovak Agriculture. In: Agricultural Accession of the Central and Eastern European Countries to the European Union, A collection of papers presented on the ACE conference “Adjustment of Agricultural Policies of Central and Eastern European Countries on the Way to the European Union”, 20.-21.09.1996, Szirák Teleki Castle, Hungary. Ed. by Miklós Somai. pp. 99-104.

CEFTA Agri-Food database. [<http://www.mze.cz/eng/cefta.htm>, 08.08.2002]

Commission Regulation (EC) No 2261/98.

Commission of the European Communities. Enlargement and Agriculture: Successfully Integrating the New Member States into the CAP. Issues Paper, Brussels, 30.01.2002 SEC(2002) 95 final.

[[http://europa.eu.int/comm/enlargement/docs/financialpackage/sec2002-95\\_en.pdf](http://europa.eu.int/comm/enlargement/docs/financialpackage/sec2002-95_en.pdf)].

Estonian Household Surveys.

European Commission regulations.

**Fock, A.** Adopting an EU Agricultural Policy: The Effects on Estonian Consumers of Food Products, The World Bank, 1999.

Materials of the Estonian Ministry of Agriculture.

OECD database. [<http://www.oecd.org>].

**Oskam, A.** Current market and price policies in the EU. In: Burrell, Alison, Oskam, Arie (Eds.) Agricultural Policy and Enlargement of the European Union, 2000.

**Pouliquen, A.** Competitiveness and Farm Incomes in the CEEC Agri-Food Sectors. Oct. 2001, 95 pp.

**Reiljan, J., Kulu, L.** The Development and Competitiveness of Estonian Agriculture Prior to Joining the European Union. – University of Tartu, Faculty of Economics and Business Administration Working Paper Series No. 10, 2002, 60 p.

**Riik, H., Selliov, R.** Results of Introducing the WTO tariffs on Estonian Food Import in 2000, Proceedings of International Scientific Conference dedicated to the 50<sup>th</sup> Anniversary of the Estonian Agricultural University: Agriculture in Globalising World, No. 14/2001, EAA, Tartu, 2002 pp.45–52.

**Roth, T.** Analysing the Impact of EU-Accession on the Baltic States – a Partial Equilibrium Model for the Dairy Markets, Proceedings of International Scientific Conference dedicated to the 50<sup>th</sup> Anniversary of the Estonian Agricultural University: Agriculture in Globalising World, No. 14/2001, EAA, Tartu, 2002 pp. 238–250.

**Selliov, R.** Euroopa Liiduga ühinemise mõju Eesti toiduaineteturule. Master thesis, University of Tartu, 2002.

**Swinnen, J.F.M.** A Fischler Reform of the Common Agricultural Policy?, CEPS Working Document No. 173, Sept. 2001, 49 pp.

**Toming, K.** Estonia's Accession to the EU: What are the Effects on Agricultural Imports and Economic Welfare, March 2002, Kiel, 33 p.

**Varblane, U., Toming, K.** Convergence of Estonian and European Union Producer Prices in Agriculture: Options and Problems, Proceedings of the International Scientific Conference dedicated to the 50<sup>th</sup> Anniversary of the Estonian Agricultural University: Agriculture in Globalising World, No. 14/2001, EAA, Tartu, 2002 pp. 36–44.

**Varblane, U., Toming, K., Riik, H., Selliov, R., Tamm, D.** Võimalikud majanduspoliitilised instrumendid Eesti põllumajandussaaduste ja -toodete hindade ühtlustamiseks Euroopa Liidu hindadega. Tartu, 2001.

**Varblane, U., Selliov, R., Riik, H., Tamm, D.** Eesti põllumajandustoodete hennaerinevused Eestis ja Euroopa Liidus: prognoosid liitumiseelseks ja -järgnevaiks perioodiks. Tartu, 2002.

**The agricultural producer prices in the CEECs and the EU (ECU-EUR/100 kg)**

	Wheat			Rye			Milk			Beef			Pork		
	1994	1998	2000	1994	1998	2000	1994	1998	2000	1994	1998	2000	1994	1998	2000
Estonia	7.6	10.1	10.3	5.0	10.3	8.5	10.0	15.5	17.7	108.3	116.7	114.1	119.8	160.9	148.6
Czech Republic	---	13.8	8.2	---	12.2	6.5	24.1	27.3	---	113.9	112.0	81.5	130.3	117.9	125.9
Hungary	10.5	8.5	9.1	10.5	7.2	8.6	27.4	28.9	20.7	125.0	110.0	67.8	131.6	118.4	77.9
Poland	12.9	15.0	10.8	11.0	10.3	7.7	14.6	19.4	16.7	---	---	---	133.2	110.4	78.3
(H)	15.9	14.7	14.9	15.2	14.6	13.1	32.6	32.7	34.8	---	324.4	329.6	136.3	127.5	148.2
(L)	11.9	10.2	10.3	20.1	9.0	9.2	26.9	27.9	27.4	---	188.1	180.8	153.3	104.8	119.8

Notes: (H): Highest price in 2000 in the EU; (L): Lowest price in 2000 in the EU.

Wheat - (H): Greece, (L): Ireland;

Rye - (H): Finland, (L): Belgium;

Milk - (H): Sweden, (L): Ireland;

Beef - (H): France, (L): Spain;

Pork - (H): Portugal, (L): Austria.

Source: Hinnainfo, CEFTA Agri-Food database, European Commission, Eurostat