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THE DEVELOPMENT AND COMPETITIVENESS OF ESTONIAN AGRICULTURE PRIOR TO JOINING THE EUROPEAN UNION

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Janno Reiljan*, Liina Kulu**

Abstract

The present working paper aims to evaluate the current state, development and competitiveness of Estonian agriculture, based on the theoretical concept of the competitiveness of an industry. By means of analysis it is possible to predict what potential changes may occur in the agricultural sector after Estonia's EU accession. In outline, the present paper will discuss the concept of the competitiveness of an industry and the complex of factors influencing competitiveness, evaluate the impact of the implementation of Common Agricultural Policy (CAP) on the economies of candidate countries, analyse the factors determining the environment in which the Estonian agricultural production has to compete in the period prior to joining the European Union and assess the impact of foreign trade on the development of Estonian agriculture.

Since 1991 the agricultural production has been steadily declining in Estonia. Due to the tendency to ignore the need for an agricultural policy that would consider the realities of global economy, in Estonia this sector has been left without protection.

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A substantial competitive disadvantage, caused by the Government's economic policy, has brought about a situation in which the local producers lack capital for developing the industry, while foreign capital is not attracted. The agricultural producers, who have to dispense with government support, are unable to simultaneously handle three difficult problems:

- Transition from large-scale farming to small-scale farming that requires the introduction of modern technology and equipment;
- Loss of traditional foreign markets (Russia);
- Unfair competition with governmentally subsidised EU products, not only in foreign markets, but also in the internal market.

Only equalisation of the conditions of competition in the European Union and in Estonia's agricultural sector would make it possible to use the great natural potential of Estonia for the benefit of its economic development. Resolving this problem will be the most difficult task facing Estonia's (foreign) economic policy during the negotiations for admission to the EU. A continuing agricultural decline would mean the loss of an opportunity **b** exploit those natural resources even after joining the EU, because the pre-accession level of production will determine the production quotas.

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Introduction

In view of the European Union's eastward enlargement perspective, the building and evaluation of Estonian industries' competitive ability in the international economy is considered to be of great importance for the country. Bearing in mind, on the one hand, the economic and social issues involved and, on the other, the regional policy and security, it is crucial to be agriculturally competitive. In many countries agriculture appears to be one of the most regulated industries (with import restrictions, producer and export subsidies and other trade policy measures). The agricultural and trade policy measures applied up to now in the Estonian agricultural sector, however, have failed to guarantee this industry the position that it would be entitled to hold both in the overall economic structure and in society as a whole. Therefore, only purposeful improvement of the competitive ability of the agricultural sector would be able to assure its successful development after the EU eastward enlargement.

In outline, the present working paper aims to evaluate the current state, development and competitive ability of Estonian agriculture, based on the theoretical concept of the competitiveness of an industry. By means of analysis it is possible to predict what potential changes may occur in the agricultural sector after Estonia's EU accession. Obviously, abolition of the EU import restrictions on Estonian products and implementation of a common agricultural policy will affect Estonian agriculture more than any other branches of the economy.

The present paper will address the following topics:

- The concept of the competitiveness of an industry and the complex of factors influencing competitiveness;
- Impact of the implementation of Common Agricultural Policy (CAP) on the economies of candidate countries;
- Evaluation of the current level of the competitiveness and dynamics of Estonian agricultural producers;

- Analysis of the factors determining the environment in which the Estonian agricultural production has to compete in the period prior to joining the European Union;
- Assessing the impact of foreign trade on the development of Estonian agriculture;
- Evaluation of Estonia's agricultural policy.

When trying to evaluate how competitive an industry is, researchers are likely to encounter some problems. Although in recent years the competitiveness of an industry has become a widely discussed topic, it is still a relatively new method of treatment. For that reason, there is neither one universally recognised theory nor readily available evaluation methods, which will inevitably cause the fragmentary nature of any discussion about how competitive a particular industry is.

1. Theoretical and Economic Policy Foundations of an Industry's Competitiveness

1.1. Different Concepts of Competitiveness

There is no agreed-on definition of competitiveness among economists, and for different researchers the term seems to denote different things. Usually the factors determining economic competitiveness are expressed – some may stress a country's low costs or the level of its exchange rate, others a country's technological leadership or its growth rate (Boltho 1996, p. 2; Fröhlich 1989, p. 22). This refers to the typical treatment of the issue, meaning that instead of defining the competitiveness are explored.

Regarding competition as contradicting interests of economic entities, competitiveness reflects the position of one economic entity (country, industry, enterprise, household) in relation to other economic entities by comparing the qualities or results of activities to ascertain its superiority or inferiority. For that reason, competitiveness can be defined either in a narrow or a broader sense:

- a narrow approach explores competitiveness in the conditions where the entities' interests are contradictory (achievement of the aim by one entity would make it impossible for another entity to execute its interests);
- a broader approach to the concept also encompasses indirect and potential competition between entities, analysing those areas where their direct interests do not contradict.

The narrow approach can be primarily used when evaluating the competitiveness of one industry – it is impossible to utilize the same resources in different industries at the same time and the market share released to foreign competitors will reduce the chances of domestic producers to market their own production. In the resources market, competitiveness mainly depends on the effectiveness (profitability) of production factors, determined by how the organisation functions and how it exploits technology as well as by other factors (availability of the infrastructure and costs related to exploitation of the infrastructure, the market situation, the external and internal impact of the economic policy, etc).

Competitiveness as a quality is always associated with a certain economic entity. But economic entities vary by their nature and develop different relations between each other and the environment. Hence, their competitiveness is also revealed in different ways. Meanwhile, there are also common features characterising their competitiveness.

Analysing different levels of competitiveness will also cause problems. A country and a company are clearly determined institutions. However, an industry is often considered as a statistical unit comprising companies with a similar activity or, in other words, competitors. Industries can be seen as independent entities only if the companies belonging to the same industry have been organised and behave as a monopoly in the questions related to the industry's competitiveness, such as education, professional training, determining its R&D policies, relations with other countries' similar industries. It is possible, for example, to find only a few characteristics for Estonian agriculture from this point of view.

At the same time, the competitiveness of an **industry**, which is composed by a set of enterprises with similar activities, could be taken to resemble that of an enterprise to a certain degree (the value and profitability of a whole set of enterprises, the level of wages and the interest rate of capital in the industry). The industry is competing with the other industries in the internal economy (its role in forming the country's GDP and its dynamics should be considered in the evaluation). On the scale of the international economy, again, an industry is in rivalry with its counterparts in foreign countries (i.e. the ratio of exports and imports of the industry and its dynamics should be considered). An industry's competitiveness is also viewed as a situation in which one industry can attain a better strategic or financial position in the market than other industries (Algren 1992, p. 36).

The nature and external competitive environment as well as the basis for estimating this phenomenon depend on the particular economic entity under discussion. It would be entirely useless to discuss competitiveness and its growth in general terms. Instead, each entity's competitive strength should be examined according to the factors most vital for the survival of this entity in its specific competitive environment.

A **company's** long-term ability to produce and sell a certain assortment of goods can be considered as a proof of its competitiveness. The ultimate indicators of a company's competitiveness, however, are the market value of the shares held by the company together with its market share and profitability, while its level of wages and working conditions characterise its competitiveness in the labour market and the attainability of capital from abroad and its interest rate in the capital market.

In academic studies economic competitiveness has been defined in several ways. The most systematic work in this connection has been done by Trabold, who distinguishes between four important aspects of competitiveness (Trabold 1995, p.169):

- Ability to sell (export ability),
- Ability to attract foreign investment and labour force (location),
- Ability to adjust to changing environmental conditions,
- Ability to earn, i.e. to cover the current expenses and investment needs with income, and to show profit.

These aspects form a hierarchic system, whereas "the ability to earn" rests on the three other aspects (Figure 1). This approach views the ability to earn (the level of earnings) as the most general indicator of a country's competitiveness, whereas the abilities to export, to attract (location) and to adjust are seen as factors. At the same time, in regard to (foreign) investment, the abilities to export and to attract function as sophisticated phenomena that are independent indicators of a country's competitiveness. A wider complex of socio-economic factors with a complicated internal structure determines their level and dynamic.

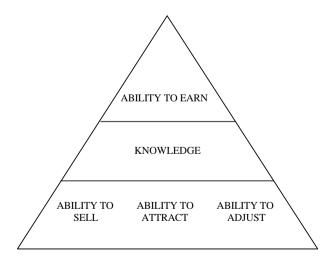


Figure 1. Hierarchy of national competitiveness (Trabold 1995, p. 182).

Competitiveness depends much upon the ability of a nation to create an environment favouring sustained creation of valueadded products. Thus it is the economic-political framework that determines the competitive ability of an industry. Under the factors determining how competitive an industry is primarily the conditions created for the industry in the domestic and foreign markets (the tax-system, direct and indirect subsidies, access to domestic and international markets) should be observed. Additionally, one should consider the long-term dimension of competitiveness reflected by the importance of such issues as education, value systems, or motivation of individuals, which strongly influence the formation of national competitiveness (Garelli 1997, p. 2).

The shortage of concrete criteria makes the evaluation of the absolute level of competitiveness problematic and subjective. Competition is a phenomenon, which emerges only in relation to other subjects with analogous interests, thus competitiveness appears only in comparison of subjects. Consequently, mainly comparative methods are used to evaluate competitiveness – comparison of the level of the economic units' activities and its dynamics within the region, economic sector, and company (Algren 1992, p. 24). Competitiveness is expressed by the success of one economic subject in comparison with another (Trous 1998, p. 44) and by the relative welfare achieved by the activity of the economic subject in comparison with another (*Ibid.*, p. 47).

1.2. Competitiveness of an Industry in the Domestic Economic Structure

To render an industry competitive, the competitive ability of the industry at the domestic level compared to other industries should be observed. The questions are how one industry can be more successful and how can it achieve a higher production growth rate (expressed as growth rates of its share of the GDP) and a higher income rate. Therefore, the existence of all industries is necessary, taking into consideration different aspects (economic, social, environmental, cultural etc.) of development. Also the industries with an inferior competition potential (concerning the objective conditions: costs for infrastructure, availability and quality of resources, character of competition), but an important position in the country's development should maintain its future perspective with the help of economic policy means. For example, Bourge has argued, that if in some regions the land has no economic value, the value could be created developing agricultural activities, even if it is economically disadvantageous in the first stage. It conduces activities supporting agricultural production and offering services for people working in agricultural sector (Bourge 1994, p. 97).

The problem will be observed from the following points of view:

- Competition between industries for their share in the country's economic structure in the GDP and employment;
- Competition between industries for their share in creating income (profit and revenue) – the level of creating additional value;
- Competition between industries for labour force the revenue and working conditions in different industries are compared;
- Competition between industries for material resources the price levels and payment conditions in different industries are compared;
- Attractiveness of industries to capital (investments) the interest rate and profit marginal on the one hand, and the risk level on the other;
- Attractiveness of industries to entrepreneurs (for creating an enterprise) the market conditions and barriers, the level of bureaucracy and corruption in different industries.

The competitiveness of an industry is therefore a complex phenomenon with a multiform structure and inconsistent nature. Regarded from different points of view, the attractiveness of an industry varies. It can happen that an industry, which is attractive to investors, is not attractive from the point of view of labour force. At the same time, it is possible, that an industry attractive to labour force is unattractive to landowners – they do not want, for example, to found an enterprise contaminating the environment (Bourge 1994, p. 78). Therefore, in order to evaluate the competitive ability of an industry, one should analyse the factors determining this industry's competitiveness in comparison with others.

Generally the competitive ability of an industry is expressed by the level and dynamics of its share in the country's economic structure – its GDP and employment. From this point of view the economy aims not only to create new values, but also to provide suitable jobs. Those indicators will reflect the impact of all processes taking place in a particular industry, in the level of development of other industries and in existing markets or economic policy environment.

Mainly the resources available or potentially available in an industry (Harley 1996), the qualitative indicators within the industry (Birkholz 1992), and its attractiveness (Bourge 1994) underlie the evaluation of how competitive this industry is. The more competitive an industry is, the more resources it will attract (Bourge 1994, p. 13). Harley discloses three categories of resources necessary for economic activities (Harley 1996, p. 24) to take place:

- Human resource;
- Capital resource;
- Cultivated land.

In comparison with other industries, cultivated land is considerably more exploited by the agricultural sector. In a future perspective, the industries utilising much cultivated land are more sensitive, because of its rising prices *(lbid.*, p. 130). The following factors determine the attractiveness of an industry to cultivated land (or persons selling or farming out land) (Bourge 1994, p. 93):

- Industry's ability to add value to cultivated land;
- Industry's ability to develop the domestic infrastructure and affect the value of the neighbourhood of cultivated land;

- Environmental damage caused by the industry;
- Industry's ability to increase the attractiveness of the cultivated land neighbouring in order to attract investors.

The importance of labour force in determining the competitiveness of an industry has been emphasised by many authors (Gilbert 1994, p. 84, Bourge 1994, p. 88, Birkholz 1992, p. 78). The income level (Birkholz 1992, p. 78), differences in the quality of labour force (*Ibid.*, p. 86), and the supply-demand relationship of different specialists in the labour market are characteristic of human resource. Bourge discloses the following factors, determining the attractiveness of an industry to labour force (Bourge 1994, p. 88):

- Income level;
- Prestige;
- Career opportunities;
- Impact of the working conditions on workers' health;
- Political support to the industry;
- Prospects for future development of the industry.

In the light of the afore-mentioned theoretical issues, the problems facing Estonian agriculture in comparison to other industries are very clear: its income level and prestige in society are low; there are no career opportunities; the working conditions pose health hazards; the political support to agriculture is minimal. For all these reasons the prospects for future development of agriculture are not good, either.

Evaluating how competitive an industry is, one should certainly consider the parameters guaranteeing its prospects for long-term development (Bionas 1998, p. 420). Those are, for example, the industry's workers' high level of education (*Ibid.*, p. 540), its attractiveness, its level of capitalisation, etc. (*Ibid.*, p. 380). Rouskal has mentioned a high level of education as the main guarantee for development (Rouskal 1998, p. 71).

We can apply the same logic, considering an industry's competitiveness in the context of financial resources. Birkholz has pointed out an industry's ability to attract financial resources as a very relevant indicator for its competitiveness. But there occur some problems in connection with the qualitative characteristics of financial resources. All financial resources can be divided as follows (Birkholz 1992, p. 136):

- Institutional money finances from banks, money markets etc.;
- Resources from households finances from the savings of the society's elite.

The competitive ability of an industry is generally related to institutional money (*Ibid.*, p. 228), while the resources from households are more risky from the borrower's point of view. In a sense, nobody owns institutional money – although banks on principle do control the use of their money, they do not apply direct sanctions for bad use of the money (except in the cases for criminal law) (*Ibid.*, p. 203).

Investors should take into account the entire complex of factors determining the competitive success of industries. The following indicators may have a role in making an industry attractive to investors (Bourge 1994, p. 123):

- Character of the markets;
- Availability of qualified labour force in the industry and the possibility to hire workers;
- Stability of providing the raw materials;
- Entry barriers to the industry;
- Political support to the industry;
- The industry's prospects for future development;
- Specificity and presence of earlier investments in the industry.

The competitiveness of an industry in the domestic market is also expressed by the dynamics of its development in comparison with other industries. As disclosed by Mantselso, the dynamics plays a salient role in economy. An industry is successful only when its development rate exceeds some marginal rate of development (Mantselso 1996, p. 23). Mantselso also points out that, for instance, in the financial sector the marginal rate is many times higher than in the agricultural sector or in forestry (*Ibid.*, p. 25).

1.3. An Industry's Competitive Ability in Foreign Markets

The formation of the competitiveness of an industry should be observed not only from the point of view of the domestic economic structure, but also from the foreign markets perspective. In our particular case this is very important especially due to Estonia's small-size, openness and likely accession to the EU. A considerable change in the foreign market can accelerate the development of one industry, while retarding another. A better strategic and financial position of one industry may be expressed by its success at the international level, in comparison with other industries that will remain on the domestic market and are not able to sell their production so successfully (Algren 1992, p. 78).

The competitiveness of an industry at the international level (as competition with analogous industries in other countries) can be analysed from several aspects:

- Competition of industries for the outcome (the market share, the revenue);
- Competition of industries for resources.

The relationship between those two aspects is very complicated. The price for the use of resources affects the financial outcomes of the industry considerably. Therefore the best relation between the price and the quality for the resources should be achieved. At the same time, the price level determines the stability and quality of the resources. These factors identify the success of the industry in a long-term perspective. For this reason, the competition strategies concerning the outcome and the resources should be balanced.

To achieve a successful outcome, the industry's ability to sell must be high. In the light of the rapid globalisation of the world economy, the ability to sell can be more and more identified with one's export ability. It will become especially topical, if we consider the prospective development of industries in small countries, which, due to the limited domestic market and an objective need to restrict specialisation will be more dependent on foreign markets. Many researchers emphasise the importance of a country's export ability in terms of its economic competitiveness:

- A country's competitiveness can be defined as its ability to compete for export markets, to maintain its economic growth and employment rates (Klemetti 1989, p. 60).
- Many economists identify competitiveness with the ability to sell or, in a broader sense, with successful foreign trade (Fagerberg 1996, p. 40). According to the Fleming-Tsiang theory, an industry's competitiveness will increase if its exports in the world market increase in comparison with other countries' analogical industries (Tsiang 1958).
- The OECD emphasises the relationship between exports and the standard of living. Competitiveness is a country's ability to produce those goods and services, which meet the test of foreign competition while simultaneously maintaining and expanding the real income of its own people (OECD 1992, p. 237). Yet, Corden is concerned that such an approach would set a target rate of growth of real wages and the competitiveness problem could be interpreted as a productivity problem – a problem of improving productivity to sustain the target rate of growth of real wages at full (or high) employment (Corden 1994, p. 280).

It does not actually matter whether an industry is achieving success and creating revenue in terms of producing for domestic or foreign markets. Fröhlich stipulates that an industry is more or less competitive when, in consequence of costs or prices dynamics or other factors, its ability to sell either in foreign and domestic markets has improved or declined (Fröhlich 1989, p. 22). Thus the competitiveness of an industry has often been described as attractiveness to entrepreneurs for creating an enterprise, which in an open economy state is expressed by the balance of investment flows and its share in creating the GDP within this industry. Some researchers identify attractiveness to investments with competitiveness, while others stress the importance of *Standortstheorie* (Trabold 1995, p. 175).

According to Georg Klaron, agricultural competitiveness should be evaluated on the basis of the export-import method for basic products (Klaron 1998, p. 22). Basic products in this context are those agricultural products which the country is producing or will produce in the future in the given climatic and production conditions, etc.

An important condition for competitiveness is the outcome, but it is very hard to determine and to evaluate it (Corden 1994, p. 267). The capital revenue may not be compatible in different industries due to differences in the capital capacity of production (Agénor 1995, p. 6); differing tax systems are another cause of this phenomenon.

2. Competitiveness of Estonian Agriculture and the Factors Determining Its Competitive Strenght

2.1. Historical Context of the Development of Estonian Agriculture

Over the years of its development, Estonian agriculture has undergone critical changes. The European tillage culture, introduced by German landlords and improved as well as adjusted to the local conditions in the course of many centuries, led to an exceptionally high level of Estonian agricultural production long before Estonia was annexed to the Russian Empire. Notwithstanding the dismantling of the German landlords' estates and the creation of a large number of small farms during the agrarian reform after the War of Independence, in the first period of independence (1918–1940), Estonian agriculture was one of the country's most developed industries, exporting high quality products all over Europe.

Following the occupation by the Soviet Union in 1940, Estonian agriculture even managed to cope with the Soviet-imposed collectivisation, with deportation of the rural elite to Siberia and with the reduced motivation caused by a centralised command economy. At the end of the 1980s, Estonia was one of the world leaders in *per capita* production of several agricultural products.

At the beginning of the 1990s, when Estonia regained its independence in 1991, the third great political reform of Estonian agriculture in this century commenced whose aim was to divide the country's big state-owned and collective farms into smaller privately-owned entities. Instead of the approximately 300 large-scale pre-reform-time farms, by the beginning of the year 2000 there had emerged 680 agricultural co-operatives and limited liability companies, and 51 081 farmsteads. The average size of a farm was only 20.8 hectares (Eesti statistika ... 2000).

The internal reform was maintained by the changes in the external environment. On the one hand, the Estonian economy was affected by the destabilisation and breakdown of the Russian market, as a result of the collapse of the Soviet centrally commanded economy system and the around 70% devaluation of the Russian rouble in August 1998. On the other, the import restrictions regulating the Western agricultural markets as well as the penetration of subsidised agricultural produce from the EU countries (but also from Poland, for example) had their impact on the Estonian agricultural sector.

2.2. Natural Resource Base as a Foundation for Estonia's Agricultural Competitiveness

The structure of the resources exploited by different industries varies. The starting point for economic development is determined by the natural resource base and conditions. If natural resources are available, it is always possible to add a degree of other resources (labour force and capital) when the industry seems to be competitive. Compared to other industries, the future potential and importance of agriculture is largely determined by the natural resource base of agricultural production. In this sense, the future prospects of Estonian agriculture are grounded on a good natural resource base. The most important natural resource for agriculture is cultivated land. By the proportion of cultivated land in the entire territory, Estonia and the other Baltic States belong to the countries with higher than average potential, due to their relatively low density of population (Human ... 1998). This could increase the share of the agricultural sector in the economic structure. Comparison with its main competitors reveals that Latvia has approximately the same percentage of cultivated land, but Lithuania has ca 40 percent more potential. Finland has ca 70 percent less cultivated land as a percentage of its territory. Comparison with the other Central and Eastern European transition countries, however, reveals that the latter outdo the Baltics by the percentage of cultivated land in the entire area (see Figure 2).

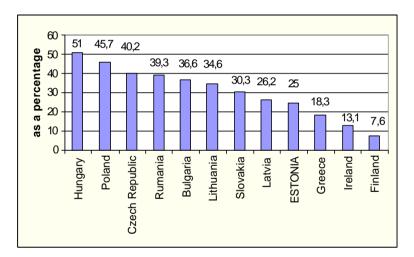


Figure 2. Cultivated land as a percentage of the entire territory, 1993.

Source: Human Development Report 1998.

Due to its relatively low population density, Estonia leads by cultivated land *per capita* (see Figure 3).

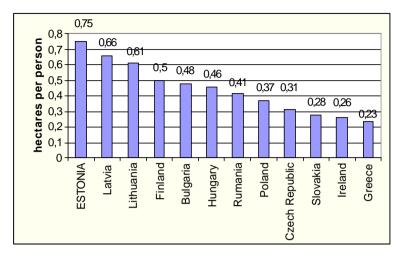


Figure 3. Cultivated land (hectares per person), 1993. Source: Human Development Report 1998.

The above-mentioned facts indicate that Estonia has a great resource potential for developing agriculture, including organic farming, with less intensive use of fertilizers. At the beginning of 1999, 120 farms were engaged in organic farming, using 3630 hectares of land (0.25 percent of the cultivated land) and producing 1720 tons of grain, 1421 tons of potatoes, 440 tons of vegetables, 2025 tons of milk, and 204 tons of meat as organic products in 1998 (Eesti Vabariigi ... 1999, p. 41). Such small quantities do not have a significant impact on the development of this branch. In the period 2000–2006 the development of organic farming in Estonia would require at least 30 million euros in investments, but at present the sources of investment are ambiguous.

Agricultural usage of land has since 1990 been steadily decreasing: instead of the 1.1 billion hectares used in 1990, about a quarter of the cultivable land (25.6 percent or 281 300 hectares) is not used for farming. In 1999, only 818 700 hectares were in use. The arable land area under vegetables is about 18 percent smaller, whereas the land under winter crops has decreased by about two-thirds, and the land under summer crops by 8 percent. Potato growing has declined by 30 percent. Due to a reduction in livestock, the acreage under fodder grain and plants has also declined by one-third (Eesti statistika ... 2000, p. 278). Because farmers use fewer fertilizers and plant protection measures, the crop yield has also dropped and accordingly the output has declined more rapidly than the arable land under different crops.

Alongside with the existence of cultivated land, Estonia's agricultural development has always depended on forestland. Above all for small farmers, forestry has played the role of a safety net, helping them to survive the large swings characteristic in the agricultural market. At the cost of the income received from forestry many farms were able to preserve dairy cattle during the crisis years of the dairy market in 1998–1999.

A large percentage of Estonia's territory (about 45 percent) consists of forest and forestland. Considering its relatively low density of the population, Estonia is in a good position to develop forestry and the wood-processing industry, given the amount of forest *per capita* (1.35 hectares) (see Figure 4).

The efficient utilisation of its forestry resource potential has in recent decades significantly underpinned the economic development of Estonian agriculture. As globally forestry is developing more or less under conditions of fair competition, the Estonian wood-processing industry has in recent years received large inflows of capital. Large-scale investment projects have also been planned for years to come. The example of forestry shows that under fair conditions of competition, the resource potential of the transformation countries will significantly enhance their opportunities for foreign investment and economic development. Thus the task of the Estonian Government should be to achieve equal conditions of competition for its agriculture and food industry as well as forestry.

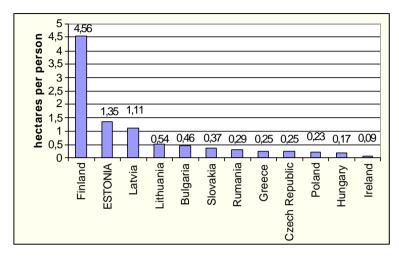


Figure 4. Forest and forestland (hectares per person), 1993. Source: Human Development Report 1998.

2.3. Other Resources in the Estonian Agricultural Sector

While crop growing mainly depends on the natural resources (cultivated land), the major resources in livestock farming are farmland as well as agricultural animals and poultry. In Estonia the number of cattle (including cows) increased steadily (excluding the trends after the Second World War) until the early 1990s. In 1985 the number of cattle was 840 000 (incl. about 300 000 cows) (see Figure 5).

In 1986 the number of pigs reached 1.1 million. The majority of the pork production has been exported to the other parts of Soviet Union. Due to the breakdown of the Russian market pork production suffered a set-back. In the 1990s the number of pigs dropped by more than 70 percent (see Figure 6).

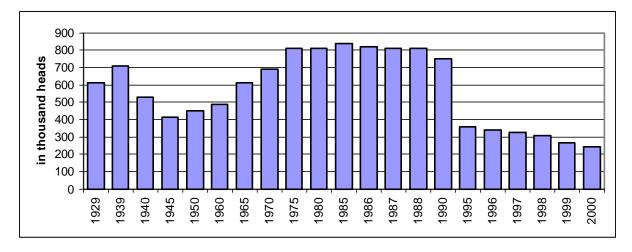


Figure 5. The number of cattle (in thousand heads), 1929–2000.

Source: Data by T. Mängel, research associate of the Department of the Economic and Social Information (MSI) at the Parliament of Estonia; Agriculture ... 2001, p. 34.

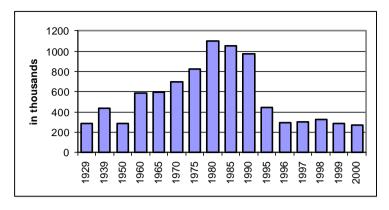


Figure 6. The number of pigs in Estonia, 1929–2000.

Source: Data from T. Mängel, research associate of the Department of the Economic and Social Information (MSI) at the Parliament of Estonia; Agriculture ... 2001, p. 34.

Poultry and egg production achieved a very high level in the 1980s but decreased also rapidly in the 1990s. The number of poultry declined in the 1990s by more than two thirds from its level in the 1960s (see Figure 7). Domestic poultry producers were mainly distressed by large amounts of import from United States. The import duties for agricultural products from countries with no free trade agreements applied in Estonia at the beginning of 2000 may improve the market position of Estonian poultry producers. Probably this sector would have better competition position in future in comparison with other agricultural production fields.

The rearing of sheep and goats suffered most, but the size of herds started to decline rapidly only in the 1990s.

All the above-mentioned negative tendencies in the cattle-rearing sectors are to a certain extent compensated for by the better breed quality; nevertheless, Estonia has lost its status as a country with a high level of cattle-rearing.

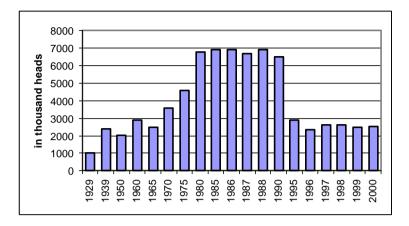


Figure 7. The dynamics of poultry in Estonian agriculture, 1929–2000.

Source: Data from T. Mängel, research associate of the Department of the Economic and Social Information (MSI) at the Parliament of Estonia; Agriculture ... 2001, p. 34.

2.4. The Level and Dynamics of Estonia's Agricultural Competitiveness

The level and dynamics of Estonia's agricultural competitiveness in the 1990s is best revealed by this industry's declining role in the GDP and in employment (see Table 1). According to the Estonian Ministry of Economic Affairs, the importance of agriculture and hunting in the GDP dropped from 16.6 percent in 1991 (second after industrial production with 36 percent) to 9.1 percent in 1995 (fourth after industrial production, trade and transport-communications). Taking into account the relatively low level of Estonian economic development initially, the starting point for the dynamics of the share of agriculture itself was not high. In countries with a much higher GDP production level, such as Greece, Portugal and Ireland, the agricultural

| | 1991 | 1992 | 1993 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|------|------|------|------|------|------|------|------|-------|
| Share of agriculture and hunting in the GDP (%) | 16.6 | 11.7 | 9.3 | 9.1 | 5.2 | 4.3 | 3.8 | 3.3 | 3.2* |
| Share of employment in agricultural sector (% from the total employment) | 18.4 | 15.0 | 13.0 | 12.6 | 8.1 | 6.9 | 6.9 | 6.2 | 5.0 |
| Productivity in agricultural sector in comparison with the average in economy (%) | 90.2 | 78.0 | 71.5 | 72.0 | 64.2 | 62.3 | 55.0 | 53.2 | 64.0* |

Dynamics of Estonian Agriculture as a Share in the GDP and Employment, 1991–2000

Notice: *nine months of 2000.

Source: Eesti statistika ... 2000, p. 213; Agricultural ... 2001, p. 7, author's calculations.

sector plays a much more significant role in the national economy as in Estonia. It has a much greater importance even in Finland, Estonia's Northern neighbour with more severe natural conditions, which has additionally advanced the industrial and service sectors.

As indicated by the data from the Estonian Statistical Office, the rapid decline has also continued in the subsequent years – in 1998 agriculture and forestry yielded only 5.2 percent of the GDP, including 3.8 percent in agriculture and hunting, and with a steadily increasing importance, 1.4 percent in forestry (Eesti statistika ... 1999). The decline continued in 1999 and 2000, with the share of agriculture and hunting in the GDP being respectively 3.3 percent and 3.2 percent (during nine months of 2000) (Eesti statistika ... 2000, p. 213, Agricultural ... 2001, p. 7). To sum up, in the last nine years, the share of agriculture has thus lost a significant part of its competitiveness in the GDP of Estonia.

The same tendencies can be observed also considering the dynamics of the share of employment in agricultural sector (from the total employment) and the productivity in agricultural sector (in comparison with the average in the economy). The share of the employment in agricultural sector has declined very rapidly since 1996 and yielded in 2000 only 5 percent of the total employment. The productivity in agricultural sector in comparison with the average in economy has declined steadily and in 2000 has lost more than one-third of its initial level.

The current share of agriculture in the economy is several times lower than would be normal for a country at this particular stage of development. This is confirmed by comparing the share of Estonian agriculture with the respective shares of the EU member states and candidate countries (see Table 2). Latvia and Lithuania, who had a similar starting position as Estonia, were able to preserve and develop their agricultural sector more successfully than Estonia. The decline in Estonia's agricultural production has not been the result of a purposeful policy towards increasing efficiency, but a spontaneous process, as a result of which the productivity of agricultural labour compared with the average labour productivity in the economy is not considerably higher than that of Latvia and Lithuania before 1997.

Table 2

| Country | | agriculture | Productivity in ag- riculture compared | | | | |
|----------------|------|-----------------|---|--|--|--|--|
| Country | GDP | Employ- ment | to the average in the economy (%) | | | | |
| Estonia (1998) | 3.8 | 6.9 | 55 | | | | |
| Latvia | 7.6 | 15.3 | 50 | | | | |
| Lithuania | 10.2 | 24.0 | 43 | | | | |
| Denmark | 4.1 | 5.0 | 82 | | | | |
| Finland | 4.1 | 7.7 | 53 | | | | |
| Ireland | 8.0 | 11.4 | 70 | | | | |
| Portugal | 2.3 | 11.6 | 20 | | | | |
| Greece | 14.9 | 20.4 | 73 | | | | |
| Czech Republic | 2.9 | 4.1 | 71 | | | | |
| Slovenia | 4.4 | 6.3 | 70 | | | | |
| Slovakia | 4.6 | 6.0 | 77 | | | | |
| Hungary | 5.8 | 8.2 | 71 | | | | |
| Poland | 6.0 | 26.7 | 22 | | | | |
| Bulgaria | 12.8 | 23.4 | 55 | | | | |
| Rumania | 19.0 | 37.3 | 51 | | | | |

Share of Agriculture in the GDP and Employment in 1997

Source: Author's calculations based on "Eesti Vabariigi ..." 1999, p. 17.

Whereas in Portugal and Poland (where the productivity of agricultural labour is about 20 percent of the national average) agriculture has an economic justification, in Estonia, in view of the need for efficiency and considering the important socioeconomic functions and goals of agriculture – such as providing employment in rural areas and mainly self-produced foodstuffs on the domestic market –, agriculture could have a much greater share in the economy. At the same time, more than 60 percent of the European Union's financial resources are allocated to promote agriculture and regional development. The number of people and entrepreneurship in the rural areas will determine the balance of transactions with the European Union after Estonia has joined it. It has to be admitted that, as a potential EU member, due to the present degeneration in the agricultural sector and a decrease in jobs offered in the countryside, Estonia has by now lost a significant part of its financial resources for supporting agriculture and regional development.

The logical outcome of the Soviet industrialisation policy in the Baltic region with centuries-old farming traditions was the unjustified reduction of the share of employment in agriculture – this share was several times lower than that of Greece, Portugal, Spain and Ireland. At present the share of agriculture in Estonia's overall employment is on the same level with that in Italy and Finland, and just a little higher than that in Japan. Once again, the current share of agriculture in the economy is several times lower than normal. This situation has been caused by the inadequate economic policy of the Estonian Government, which does not ensure Estonian producers fair conditions to compete effectively in the international market.

In the developed industrial countries, the share of agriculture in the national economy has also been steadily declining, however, in their case this process is based upon the rapid development of the modern industrial and service sectors. The characteristic feature of Estonia's agricultural decline, on the contrary, is a considerable decrease in the absolute values created by that sector during the last decade. In terms of the 1995 prices, between 1990 and 2000, the total output of agriculture dropped by more than a half of the initial level – from 10.3 billion Estonian kroons in 1990 to 4.7 billion kroons in 2000 (Eesti statistika ... 2001). During the period 1990–2000 the export-oriented livestock farming suffered most, as the total output in that branch fell about 58 percent. The arable sector lost 48 percent of its total output. The natural consequence of this process has been a substantial change in the structural pattern of Estonian agricultural production – when in 1990 the proportion between livestock farming and horticulture was 62 to 38 percent, then in 2000 it was 57 to 43 percent (Eesti statistika ... 2001).

Over the last decade, a decline has hit the production of almost all the agricultural products except rape growing. If ten years ago this oil-bearing crop verged on extinction, then by 1999 the situation had changed and 24 147 hectares were under rape (The Yearbook ... 2000, p. 276). The launch of an oil factory – *Werol tehased* – in Central Estonia gave the industry an opportunity to develop. Despite that, rape growing is still having a relatively small significance, the acreage under rape constituting only 3 percent of the arable land (*Ibid.*, p. 278). Other industrial crops stand no chance to win: the traditional Estonian flax growing has practically disappeared and experiments with sugar beet cultivation have also stopped.

Decrease in livestock breeding has been even greater than in plant growing. Between 1990 and 2000 the number of cattle dropped by approximately 68 percent – from 806.1 thousand to 252.8 thousand. In dairy products the reduction was somewhat smaller, the number of cows dropping by 55.4 percent. Meat production, on the other hand, suffered severely. As a result of that the number of beef cattle dropped by more than 70 percent, the number of sheep and goats approximately 80 percent. The decline in pig breeding and poultry has been only slightly smaller: the number of pigs dropped by 72.3 percent and the number of poultry by 65.9 percent in 1990-2000 (author's calculations based on "Loomakasvatuse ..." 2001). Unlike plant growing, the productivity of livestock farming rose during the period under discussion (milk production per cow by a bit more than 11 percent and eggs production per hen by 26 percent (Ibid.). Owing to this circumstance, the production of animal products declined less than the number of animals.

The output of meat in 2000 was less than one-third of the 1990 level – 52.8 thousand tons instead of 182.2 thousand tons. The pace of decline was comparable to that in livestock breeding: the production of mutton and goat meat suffered most, declining by 88 percent, while beef production dropped by 75.6 percent, the production of pork by 68.2 percent and that of poultry by 53.5 percent (*Ibid.*). In the period 1990–2000, the total output of milk dropped by about 48 percent and the production of eggs by about 53.5 percent, the output of wool by 77.4 percent and of honey by 42.5 percent. The reasons for the decrease in the production capacity were the loss of foreign markets as well as the drop in domestic demand. It is mainly because of the unfavourable economic conditions that the Estonian agricultural sector is losing its competitive edge.

Although the population of Estonia declined in 1990-2000 by more than 128 000 people, or about 9 percent, the per capita volume of most agricultural production declined considerably: 514 kilos of grain instead of 605 kilos, 460 kilos of milk instead of 763 kilos, 39 kilos of meat instead of 115 kilos, 186 eggs instead of 346 eggs, 328 kilos of potatoes instead of 391 kilos, 37 kilos of vegetables instead of 66 kilos in 1990 (Eesti statistika ... 2000, p. 282). Even in the area of the traditional agricultural produce, the country's agricultural production no longer meets the consumption needs of its internal market. The undercapitalised farms using outdated technology are unable to shoulder the development of the Estonian agricultural sector. Accession to the European Union will jeopardise the existence of such farms, because comprehensive investments need to be made to fulfil the EU requirements. No resources can be accumulated for those investments if the agricultural sector continues to suffer loss and the extent of programmes supporting the agricultural sector at the governmental level is not big enough. Many Estonian firms, especially small farms, cannot even guarantee the co-financed resources necessary to become eligible for the EU agricultural support programmes.

Estonian agriculture is mainly based on large farms. In 1998, farmsteads with 100-600 cattle provided about 56 percent of

the milk production and farms owning over 100 ha land yielded about 47 percent of the overall grain production (Eesti Vabariigi ... 1999, p. 23). Due to their better access to the EU support programmes (e.g. the resources of SAPARD), large farms will be more plausible for surveillance after Estonia has joined the EU.

The decline of Estonian agriculture can neither be put down to its low efficiency nor non-competitiveness in the global market, nor to the loss of the Russian market or non-accessibility of the EU market. A substantial cause is the lack of regulation in the internal market, because price fluctuations in the global market reduce the producers' motivation to invest by a half. The other half of it will disappear due to unfair trade, which eventually leaves Estonian producers without a market.

2.5. Attractiveness of the Estonian Agricultural Sector in Labour and Capital Markets

The competitiveness of an agriculture attracting labour force depends to a large degree on the relative income level in comparison with other industries. From the data about the relative income level between 1992 and 1999 (see Table 3) in Estonia it appears that, unlike other industries, during this period the Estonian agricultural sector was never either competitive or very attractive to labour force. In 1992 the average income level in agriculture reached 70 percent of the general level of *income*. In the subsequent years it has stabilised at the Evel of *ca* 60 percent of the general level. That is the main reason why the more mobile and active young labour force is leaving the rural regions and the agricultural sector.

| Field of activity | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|------|------|------|------|------|------|------|------|
| Agriculture and hunting | 0.71 | 0.60 | 0.58 | 0.59 | 0.61 | 0.60 | 0.61 | 0.54 |
| Forestry | 0.86 | 0.85 | 0.92 | 1.02 | 0.87 | 1.02 | 0.98 | 0.93 |
| Fishing | 0.98 | 1.15 | 0.98 | 0.84 | 0.91 | 1.02 | 0.89 | 0.79 |
| Mining and quarrying | 1.34 | 1.39 | 1.36 | 1.25 | 1.32 | 1.23 | 1.19 | 1.16 |
| Manufacturing industry | 0.98 | 0.97 | 1.03 | 1.02 | 1.00 | 1.00 | 0.99 | 0.93 |
| Energy generation, gas and water supply | 1.52 | 1.38 | 1.40 | 1.37 | 1.30 | 1.35 | 1.35 | 1.28 |
| Construction | 1.18 | 1.19 | 1.18 | 1.08 | 1.07 | 1.04 | 1.02 | 0.87 |
| Hotels and restaurants | 0.73 | 0.74 | 0.69 | 0.66 | 0.71 | 0.65 | 0.64 | 0.53 |
| Transport, storage and communication | 1.58 | 1.63 | 1.40 | 1.31 | 1.26 | 1.24 | 1.24 | 1.25 |
| Financial mediation | 1.96 | 2.34 | 2.06 | 2.08 | 2.05 | 2.15 | 2.16 | 2.20 |
| Government, defence, social security | 0.97 | 1.03 | 1.17 | 1.19 | 1.19 | 1.18 | 1.20 | 1.29 |
| Education | 0.84 | 0.80 | 0.73 | 0.80 | 0.78 | 0.78 | 0.82 | 0.89 |

Average Gross Earnings per Month in Estonia by Field of Activity Compared to the National Economy Average, 1992–1999

Sources: Eesti Statistika ... 2000; author's calculations.

The dynamics of the share of agriculture in employment also shows decreasing tendencies in the 1990s (see Table 4). In the last 10 years, Estonian agriculture has lost about 60 percent of its ability to ensure employment to the population. Therefore the number of jobs offered in the rural areas of Estonia has fallen by about 25 percent. Furthermore, the jobs lost in the agricultural sector have been replaced by other sectors only to a small degree.

This phenomenon is more due to the loss of selling opportunities than streamlining of the production process. However, not with standing the high unemployment rate and the low level of relative income in the countryside, people are willing to work in the agricultural sector. Thus the share of agriculture in the GDP of Estonia appears to have decreased more than in employment and productivity in Estonian agriculture is lower than that of other industries.

When analysing the competitiveness of an industry, one should also consider investment flows. The share of the Estonian agricultural sector in the total investment flows (see Table 5) reveals that capital owners too find that agriculture is unattractive. Considering the total amount of investment the share of investments in Estonian agricultural sector is in times smaller than the share of the agriculture in GDP and in employment (see Table 6). This means that the processes going on in the agricultural sector are mainly based on the amortisation of earlier investments.

| Section 1969 and 1996 (Share in cour employment, 76) | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| Field of Activity | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
| Agriculture and hunting | 0.17 | 0.17 | 0.16 | 0.15 | 0.13 | 0.11 | 0.08 | 0.08 | 0.07 | 0.07 |
| Fishing | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mining and quarrying | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 |
| Manufacturing industry | 0.26 | 0.25 | 0.25 | 0.24 | 0.21 | 0.21 | 0.25 | 0.24 | 0.22 | 0.22 |
| Energy generation, gas and water supply | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 |
| Construction | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 | 0.05 | 0.06 | 0.07 | 0.07 |
| Wholesale and retail trade | 0.07 | 0.08 | 0.08 | 0.09 | 0.11 | 0.13 | 0.13 | 0.13 | 0.14 | 0.14 |
| Transport, storage and communication | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.10 | 0.10 | 0.09 | 0.09 |
| Government and defence | 0.04 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 |
| Education | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.09 | 0.09 | 0.09 | 0.09 |
| Public health and social work | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.06 | 0.06 | 0.06 | 0.05 |

Role of Some Fields of Activity in Ensuring Employment to 15-69 Year-Olds in Estonia between 1989 and 1998 (share in total employment, %)

Sources: Eesti Statistika ... 2000; author's calculations.

Corporate Investment in Capital Assets by Fields of Activity in 1994–1999 (share in total investment, in %)

| Field of activity | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|--|--------|--------|--------|--------|--------|--------|
| Agriculture, hunting and forestry | 2.06 | 3.38 | 2.00 | 2.39 | 1.59 | 1.54 |
| Fishing | 0.58 | 0.66 | 0.31 | 0.39 | 0.23 | 0.26 |
| Mining and quarrying | 0.88 | 0.75 | 1.07 | 0.55 | 0.49 | 0.64 |
| Manufacturing industry | 20.88 | 19.87 | 19.87 | 18.42 | 22.10 | 19.68 |
| Energy generation, gas and water supply | 9.74 | 8.80 | 10.15 | 8.79 | 9.77 | 10.85 |
| Construction | 4.50 | 6.29 | 4.05 | 4.08 | 4.17 | 3.66 |
| Wholesale and retail trade | 10.13 | 13.90 | 12.41 | 13.29 | 11.90 | 11.95 |
| Hotels and Restaurants | 2.29 | 2.71 | 1.31 | 1.95 | 1.89 | 1.41 |
| Transport, storage and communication | 26.92 | 21.06 | 20.30 | 17.27 | 17.27 | 19.36 |
| Financial mediation | 7.72 | 5.82 | 6.29 | 5.87 | 3.07 | 4.02 |
| Real estate, rental and trade | 0.48 | 0.94 | 4.56 | 8.97 | 8.35 | 6.62 |
| Government, defence, and social security | 9.36 | 12.29 | 12.77 | 11.99 | 12.99 | 13.78 |
| Education | 0.77 | 1.14 | 1.14 | 1.38 | 2.15 | 1.73 |
| Public health and social welfare | 2.96 | 1.71 | 2.22 | 2.55 | 2.07 | 2.35 |
| Other public, social and personal services | 0.73 | 0.69 | 1.55 | 2.12 | 1.96 | 2.15 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Sources: Eesti Statistika ... 2000; author's calculations.

Table 6

Relationships between the Share of Investments in Estonia's Agricultural Sector, the Share of GDP Produced in the Agricultural Sector and the Share of Employment in the Agricultural Sector, 1995–1999

| | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|------|------|------|------|------|
| Share of the investments in Es- tonia's agricultural sector/share of the GDP produced in the ag- ricultural sector | 0.37 | 0.38 | 0.55 | 0.41 | 0.47 |
| Share of the investments in Es- tonia's agricultural sector/share of the employment in the agri- cultural sector | 0.23 | 0.25 | 0.35 | 0.23 | 0.25 |

Sources: Eesti Statistika ... 2000; Agriculture ... 2001, p. 7; author's calculations.

2.6. Openness of the Estonian Economy and the Competitive Ability of Estonian Agriculture

An industry's prospective development is determined first of all by the size of its market. Even the Baltic region with its population of 8 million people and a relatively low level of earnings represents too small an internal market for attracting comprehensive investments. For the competitiveness of a company or an industry, co-operation with international markets plays a relevant role. From this point of view, Estonia with a population of about 1.4 million people represents a very irregular phenomenon in the world economy. In a small-sized country, the factors determined by international markets are often more important than the domestic factors in shaping the competitive strength of industries. Estonia will be able to attract large numbers of capital owners only if it has free access to foreign markets. The policy of openness has an optimal level¹ for a country, determined by the conditions of its external environment, beyond which the national interests are undermined. Unilateral openness² is only partial openness and may, because of unbalanced international economic relations, cause to the country a direct economic loss via the unjustified reduction of the competitiveness of its products.

Estonia's economy and domestic market are completely open to international competitors, but Estonia's main trading partners apply import duties and other trade restrictions, which obstruct the domestic producers access to international markets. Double tariffs (compared to the usual trade preferences) applied by Russia discriminate against the entire Estonian economy. Compared to the member states of the European Union, but also to the other industries in Estonia, the high economic barriers (import duties, production and export subsidies) of the European Union discriminate against Estonian agriculture and food industry (according to the SITC commodity groups 1–24). Progress of Estonian agriculture is consequently prevented by nonaccessibility of essential international markets, which disallow the development and efficient application of its production and export potential.

The world cannot be considered to be open towards Estonia, because it is a source of adverse influences on Estonia's internal market, caused by political distortions of the economic condi-

¹ According to international trade theory, the aggregate welfare is at its maximum in the case of absolutely open economy – neither of the partners use any trade barriers. The introduction of trade barriers by one of the partners will reduce the total welfare and will additionally redistribute the remaining welfare in favour of the partner using barriers. In order to achieve the short-term and long-term optimum of the welfare, the discriminated partner should use its own economic policy, oriented towards equalisation of the competition conditions.

² Unilateral openness is a situation in which a country tolerates the discrimination of its producers without taking any relevant (balancing the competition conditions) countermeasures.

tions. A prerequisite for a stable long-term openness of national economies is equality in their competitive conditions. If one of the countries breaks this equality requirement, this will mean an implementation of policy against the open economy. From the partner country's point of view, there are many economic policy measures to balance the conditions of competition for domestic producers, such as, for instance, countervailing duties, producer subsidies or export subsidies.

The main problems for Estonia are connected with openness to the West. In addition to applying protective trade policy towards their agricultural products, the EU enterprises enter the Estonian market with similar products, taking advantage of government subsidies to production and export. Because of subsidies the expensive (high cost) EU products turn out to be more competitive than Estonian products that have the same quality, but are cheaper to produce³. This is an explicit violation of the principles of economic openness and free trade, which should according to national interests induce a response from the Estonian Government in terms of appropriate measures directed towards equalising the competition conditions (above all, balancing tariffs). The producer subsidy equivalent (as percentage of production costs) in the agricultural sector of the EU member states and in other developed industrial countries is shown in table 7.

In EU more than 40 percent of the production costs are covered by producer subsidies, as far as agricultural products are concerned. The producer subsidy equivalent (PSE) is on a high level also in some Central and Eastern European Countries (for example, Poland and Hungary as countries having a large agricultural sector).

³ In 1995 the price of wheat produced in Estonia was 73 percent of the average price in the EU; the price of beef being 38 percent; the price of pork 88.6 percent and the price of milk 47 percent. The principles of rural development are still under discussion and no ministry is responsible for the overall strategy (see Agenda 2000, p. 62).

Table 7

| Country | 1986-1988 | 1995 | 1996 | 1997 |
|----------------|-----------|------|------|------|
| European Union | 48 | 49 | 43 | 42 |
| Hungary | 23 | 16 | 15 | 16 |
| Island | 82 | 74 | 69 | 68 |
| Norway | 74 | 72 | 70 | 71 |
| Poland | -3 | 21 | 23 | 22 |
| Switzerland | 79 | 80 | 77 | 76 |
| United States | 30 | 13 | 15 | 16 |
| Estonia | 79 | 3 | 8 | 9 |

Producer Subsidy Equivalent (as percentage from production costs)

Source: Data from T. Mängel, research associate at the Parliament of Estonia

Table 8 shows the dynamics of changes in government support to agricultural producers in the transition countries during the transition period. According to the methodology used by OECD, the governments in centrally commanded economies supported agriculture to a very high degree. During the transition period the producer subsidy equivalent dropped to a one third of the earlier level or even more.

We can today bring forth the main characteristics of the agricultural policy of those countries:

- In Estonia and Latvia the producer subsidy equivalent (as a percentage of production costs) is very low, similar to the agricultural policy applied in New Zealand or Australia;
- Russia, Slovakia and also Lithuania are developing like the other CEE countries, supporting agriculture to a high degree, but at a lower level than the EU member states.

A year or two after the monetary reform (mid-1992), the rigorous devaluation of the Estonian kroon during the monetary reform period boosted Estonian exports and restrained imports. Cheap currency supported all industries in international markets

Table 8

| Year | Estonia | Latvia | Lithuania | Slovakia | Russia |
|------|---------|--------|-----------|----------|--------|
| 1986 | 79 | 87 | 94 | 63 | 98 |
| 1987 | 80 | 85 | 79 | 57 | 97 |
| 1988 | 80 | 87 | 83 | 52 | 91 |
| 1989 | 80 | 83 | 78 | 56 | 86 |
| 1990 | 72 | 77 | 71 | 57 | 80 |
| 1991 | 57 | 83 | -259 | 44 | 61 |
| 1992 | -91 | -93 | -113 | 39 | -105 |
| 1993 | 30 | -38 | -33 | 35 | -26 |
| 1994 | -6 | 9 | -10 | 31 | -9 |
| 1995 | 3 | 8 | 5 | 25 | 21 |
| 1996 | 8 | 4 | 12 | 19 | 32 |
| 1997 | 9 | 8 | 18 | 25 | 26 |

Producer Subsidy Equivalent (as percentage from production costs) in some CEE countries, 1986–1997

Source: Silberg 2001.

and gave a significant competitive advantage to the Estonian industry and service sectors. Thereby the expenses incurred by the restructuring of production were covered. In agriculture, the cheap currency made it possible to neutralise the impact of unfair foreign trade from international markets – the cheap Estonian kroon balanced to some degree the government subsidies to agricultural production.

However, devaluation had a short-term impact on the economy. Considering the fixed nominal exchange rates, the inflation of the Estonian kroon in the domestic market (89.8 percent in 1993, 47.7 percent in 1994 – 598.8 percent after the monetary reform until January 2002) essentially meant becoming more expensive in international markets (advance of real exchange rates). As a result, from 1993 to 1998 exports steadily decreased and imports increased. Considering the trends characteristic of Estonia's foreign trade, international markets are mainly pro-

tected with import duties and other trade restrictions and foreign competitors using producer and export subsidies injure the policy of openness in the domestic market.

The impact of the foreign trade restrictions on international cooperation, especially on international investment flows, is not unitary. The world economy experience has shown that the policy of openness may diminish the attractiveness of the region to foreign investors. It is not reasonable to cover the cost and risks associated with direct foreign investment, if the goal of investment is to surpass trade barriers, encroaching on the market and selling of foreign enterprises' production is not limited in this region. In the context of industrial production from the economic point of view, an investment is the more beneficial, the more beneficial are the costs caused by all possible export-related international trade barriers. The above-mentioned aspect is of no essential importance for the Estonian agricultural sector because of the limited domestic market in the majority on fields where the production capacity of optimally sized enterprises surpasses the capacity of the domestic market. However, Estonian entrepreneurs have emphasised the need to tide over the Russian trade barriers as a main reason for investment in Russia in 1996–1997

The positive impact of trade barriers in relation to foreign investment reveals itself in the first place in industries with enough enterprises producing to cover the needs of the domestic market. Estonian agriculture is interesting from this point of view as well. Limited access of domestic producers to international markets, an unfair trade policy and low productivity in Estonian agriculture has caused a decline in the competitiveness of Estonian agriculture and its fading attractiveness to investments. The trade barriers applied by the developed industrial countries against the developing countries also distort Estonia's economic structure, decreasing its competitiveness and endangering its socio-economic development.

2.7. Impact of Foreign Trade on the Development of Estonian Agriculture

In the former Soviet Union, Estonian agriculture, owing to its historic and climatic conditions, was oriented towards adding value by importing fodder and turning it into meat and diary products, a large portion of which was allocated to the central government in Moscow to be re-distributed to the other member-states. Because of the transition period, political discrimination by Russia (Estonia has to pay double tariffs compared to usual trade preferences) and even more so due to the economic recession and chaos in Russia, the export market for Estonian agricultural products that developed during the last decades has shrunk considerably. The drastic devaluation of the rouble in August 1998 made the export of agricultural products to Russia economically unattractive. This process is reflected by the dynamics of Russia's share in Estonian agricultural exports, which declined from 44.9 percent in 1994 to 4.6 percent in 2000 (Data from the Estonian Ministry of Agriculture 2001).

Currently the traditional European export markets for Estonian agricultural products are protected by high economic barriers (import duties, government subsidies), being therefore nearly non-accessible. The share of the European Union in Estonian agricultural exports is 39.4 percent (Data from the Estonian Ministry of Agriculture 2001).

The only markets completely open to Estonian agricultural products are those of Latvia, Lithuania and the Ukraine. They are relatively small markets with relatively low purchasing power. Because of their similar production structure and the stage of development, Latvia and Lithuania are Estonia's competitors. Estonia's access to the somewhat bigger Ukrainian market is considerably restricted by bureaucratic mechanisms and monetary barriers (cheap *grivna*). The positive result of non-existent trade barriers on export is most explicitly indicated by the fact that the open markets of Latvia and Lithuania absorb more Estonian agricultural exports than the hundredfold larger EU market with its hundreds of times higher purchasing power.

We arrive to the same conclusion by comparing the shares of the EU and the Ukraine in Estonian agricultural exports – a very poor Ukraine had a share of about 60 percent of the EU percentage.

In the period 1992–1994, the Estonian market was somewhat protected by the relatively undervalued Estonian kroon. In 1998 a moderate system of direct subsidies on dairy and cereals was introduced. The total amount of subsidies is still estimated to be less than 10 percent of the production costs (in EU subsidies to agriculture continuously constitute more than 40 percent of the production costs), hardly covering a quarter of the deficit in income needed for normal development of agriculture. Estonia is unable to compete with the developed industrial countries in the subsidising of producers; therefore, compared to local producers, foreign competitors are in an advantaged position even in the Estonian internal market. The European Union with its high production costs steadily provides approximately 60 percent of Estonian agricultural imports. Poland has rapidly increased its share in the Estonian market, taking advantage of the Estonian liberal trade regime. It has not, however, opened its own market to the goods of Estonian producers.

The potential of Estonian agriculture is best characterised by the fact that with mutually open markets the trade balance in agricultural products is strongly positive - the importance of the Ukraine in Estonian agricultural imports is approximately 15 times smaller than in exports. In the case of Latvia this ratio is more than five and in the case of Lithuania slightly less than three (Eesti statistika ... 1999). It is clear that the reason for the decline of Estonian agriculture is not its low competitiveness but rather the economic policy-induced disadvantaged position of Estonian producers in terms of competition conditions. Because of unfair competition conditions the Estonian foreign trade balance of agricultural production has constantly deteriorated. Estonia, having a strong agricultural tradition and a developed foodstuffs industry, has since 1995 imported more agricultural products than exported (see Table 9). Its imports increased very rapidly until 1997, but owing to restricted access

to foreign markets, no similar jump in the growth rate of exports followed. In 1997, the annual foreign trade deficit in agricultural products constituted over 50 percent of the value of annual output of Estonian agriculture. The major cause for this is foreign trade deficit between Estonia and the European Union.

Table 9

| Year | Export | Import | Balance |
|---------------------------|---------|---------|-------------|
| 1992 | 973.5 | 517.2 | 456.3 |
| 1993 | 2 498.6 | 1 741.0 | 757.6 |
| 1994 | 3 378.6 | 3 010.7 | 367.9 |
| 1995 | 3 113.2 | 3 774.4 | -661.2 |
| 1996 | 3 222.9 | 5 023.7 | $-1\ 800.8$ |
| 1997 | 3 387.6 | 6 213.4 | -2825.8 |
| 1998 | 3 448.5 | 6 248.1 | -2 799.6 |
| 1999 | 2 646.3 | 5 447.6 | -2 801.3 |
| 2000 | 3 188.9 | 6 181.8 | -2 992.9 |
| 2001 January – October | 3 729.3 | 5 789.2 | -2 059.9 |

Estonian Foreign Trade in Agricultural Products – According to SITC Commodity Groups 1–24 (in million EEK)

Source: Estonian Ministry of Agriculture; The Yearbook ... 2000, p. 238, 239, 245, 246.

Let us next consider Estonian agriculture in the light of changes in the production and import patterns of its two traditional products – milk and meat in 1992–2000 (see Tables 10 and 11).

Table 10

Estonia's Production and Import of Milk (thousand tons in natural weight)

| Year | Production | Import | Export | Internal consumption (for food and feed) | Production – internal consumption | Production surplus (+) or production deficit (-) from the production (%) |
|------|------------|--------|--------|--|---|--|
| 1990 | 1208.0 | 27.9 | 357.4 | 884.0 | 324.0 | 26.8 |
| 1991 | 1092.8 | 0.6 | 352.9 | 738.0 | 354.8 | 32.5 |
| 1992 | 919.3 | 5.0 | 243.0 | 643.0 | 276.3 | 30.0 |
| 1993 | 807.1 | 26.0 | 390.0 | 487.5 | 319.6 | 39.6 |
| 1994 | 771.8 | 50.0 | 335.0 | 486.2 | 285.6 | 37.0 |
| 1995 | 706.9 | 150.0 | 335.0 | 510.0 | 196.9 | 27.9 |
| 1996 | 674.8 | 210.0 | 440.0 | 450.0 | 224.8 | 33.3 |
| 1997 | 717.1 | 380.0 | 620.0 | 470.0 | 247.1 | 34.5 |
| 1998 | 729.5 | 264.0 | 523.1 | 466.5 | 263.0 | 36.0 |
| 1999 | 626.1 | 77.1 | 248.1 | 442.0 | 184.1 | 29.4 |
| 2000 | 629.6 | 44.3 | 171.8 | 466.8 | 162.8 | 25.9 |

Source: Estonian Ministry of Agriculture; The Yearbook ... 2000, p. 245, 280 author's calculations.

| Year | Production | Import | Export | Internal consumption (for food and feed) | Production – internal consumption | Production surplus (+) or production deficit (-) from the production (%) |
|------|------------|--------|--------|--|---|--|
| 1990 | 182.2 | 1.6 | 57.0 | 123.6 | 58.6 | 32.2 |
| 1991 | 151.8 | 0.1 | 56.0 | 94.7 | 57.1 | 37.6 |
| 1992 | 107.9 | 0.6 | 12.0 | 91.9 | 16.0 | 14.8 |
| 1993 | 83.7 | 4.5 | 11.7 | 78.0 | 5.7 | 6.8 |
| 1994 | 69.4 | 15.0 | 8.5 | 74.9 | -5.5 | -7.9 |
| 1995 | 67.7 | 16.0 | 10.0 | 73.7 | -6.0 | -8.9 |
| 1996 | 58.6 | 30.0 | 5.5 | 80.0 | -21.4 | -36.5 |
| 1997 | 53.4 | 29.9 | 6.4 | 77.7 | -24.3 | -45.5 |
| 1998 | 60.0 | 30.7 | 9.6 | 81.7 | -21.7 | -36.2 |
| 1999 | 61.1 | 40.3 | 9.3 | 87.1 | -26.0 | -42.6 |
| 2000 | 52.7 | 40.6 | 9.7 | 86.2 | -33.5 | -63.6 |

Estonia's Production and Import of Meat (thousand tons)

Source: Estonian Ministry of Agriculture; The Yearbook ... 2000, p. 245, 280.

There is no need to go back as far as to the year 1990 when Estonia produced 1208 thousand tons of milk and 182.2 thousand tons of meat. The decline in 1990-1991 was caused by the disintegration of the Soviet market. The drop in 1992-1993 reflects the reduced purchasing power of the Estonian internal market, related to the monetary reform followed by economic restructuring. In 1994 the economic decline stopped. From 1995 on the incomes and the purchasing power of the internal market have steadily grown. In those years, the Russian market for agricultural products recovered to a certain extent and some export possibilities to the EU were opened. These changes, though, did not bring about a growth in agriculture; the extended market opportunities being utilised by imported products. Since 1994, there has been a consistent pressure of imports on the Estonian agricultural production, leaving thousands of people without a job and rural areas without a basis for economic development. Considering milk products since 1991 the production surplus as a share from the production has decreased in recent years (from 32.5 percent to 25.9 percent) and concerning meat production the production surplus was replaced by the production deficit during the period and the production deficit as a share from the production has increased rapidly (from -7.9 percent in 1994 to 63.6 percent in 2000). In recent years more than a quarter of meat products was imported.

Because of the large market share of imported products, Estonian producers cannot realise economies of scale, leading to reduce unit prices. Cheap imports that are subsidised and taken from the long-term inventory, have also made the market prices of agricultural products abnormally low. In 1998 the total value added in the agricultural sector was negative, but even before that profitability had been so low that no investments could be made to development. Today the sources from which to finance the investment flows needed to meet the standards and conditions applied in European Union are unclear.

3. Evaluation of Estonia's Agricultural Policy and the Competitive Ability of the Agricultural Sector Prior to Joining the EU

Competition between nations can be viewed from different aspects, e.g. competition for market shares, competition for increasing foreign investments, and competition for political power. As a rule, the main objective of any civilized and democratic country is to ensure its enterprises the best conditions for competing in both domestic and international markets. At the same time, favouring domestic producers may give a reason for conflicts, such as accusations of unfair competitiveness, countermeasures against trading partners, etc.

On the other hand, economic and social loss will most certainly be incurred if the government's economic policy does not support domestic producers, who have to operate under worse competition conditions than their foreign counterparts. To avoid the downfall of such companies or industries, the government should guarantee them equal competition conditions and help them get over the difficulties caused by unfair foreign trade barriers.

The Estonian agricultural market is still unregulated and completely open, therefore other countries can influence it with active and diversified economic policy measures. Due to those circumstances, one can argue that the decline of Estonian agriculture is to a large degree the result of the Government's adventurous agricultural policy. True, part of the blame can be put on the European Union, who, taking advantage of the selfishness of pseudo-liberal collaborators, incorporated into the Free Trade Agreement (signed in 1993) that later became a part of the Association Agreement, very unfavourable terms of trade for Estonian agricultural products and made it very difficult to change them.

Estonia has signed several so-called free trade agreements, which ignore and undermine the interests of Estonian agricul-

tural producers. According to these agreements, Estonia is under an obligation not to impose import duties on agricultural products, leaving at the same time to the trade partners (i.e. its foreign competitors) the right to close their national markets with import duties. The Accession Agreement of Estonia into the World Trade Organisation (WTO) was drafted, using the same approach. At the accession negotiations, due to misinterpretation of the WTO's nature and following the interests of importers, the Estonian delegation pursued a goal, which is destructive for agriculture – to ensure its WTO membership rather than seek equal competition conditions. Following this trivial purpose, the Estonian delegation agreed to abnormally unfavourable and unfair terms of trade for Estonian agricultural products - with ceilings of import tariffs and producer subsidies many times lower than those available to its foreign competitors

According to the WTO Accession Agreement, Estonia is obliged to limit direct subsidies to 5 percent of general and specialised subsidies. The aggregate ceiling for governmental subsidies is therefore a maximum 10 percent of the production costs. Estonia's main trade partner, the European Union, however, supports its agriculture with more than 40 percent of its production costs, which is four times more. In order to compete with the EU's agricultural and food products, the efficiency of the corresponding Estonian production should be at least onethird higher, which is in principle impossible to achieve. After signing the WTO agreement, the Estonian agricultural and food producers will stand no chance to compete successfully with EU producers either in the internal market or foreign markets. Higher export quotas negotiated with the EU will serve no purpose, as the unequal competition conditions in subsidies do not allow Estonia to export.

Under the Association Agreement, Estonia was given two years (up to the end of 1997) by the EU to introduce import tariffs. In the evaluation of the country's eligibility for accession, "Agenda 2000", the European Commission's comments on the introduction of trade restrictions in Estonia were as follows: "This should not be considered as a change in the liberal orientation of trade policy but rather as a response to the very specific problems of the agricultural sector" (Agenda ... 1997, p. 18). There can hardly be any more explicit ways in which one partner can tell the other at the negotiations that he accepts the equalisation of subsidies. Despite this, several interest groups orientated towards the short-term commissions based upon unfair competition, succeeded in hampering the introduction of import tariffs on EU agricultural products. This move leaves Estonian agriculture without development capacity, which cannot be restored even by its integration into the EU, because the EU production quotas are based on the level of production three years prior to the accession. Moreover, this reconstruction would be very expensive.

Article 5 of the WTO's Agricultural Agreement stipulates that the member countries are allowed to use protective measures in case their volume of imports exceeds the trigger level or when the price of imports in domestic currency falls below the trigger price (The Results ... 1995, p. 43). In Estonia, imports of agricultural products gained momentum only after 1993 and now their volume exceeds the trigger level several times by any techniques of computation. At the same time, the rise in the prices of agricultural products has been twice as slow as inflation, so the comparison with the trigger price indicates the right to use balancing tariffs. These tariffs should have been introduced before the admission into the WTO, because experienced EU and WTO diplomats may spend years before admitting the facts as stated previously. Within that period, most Estonian agricultural producers may be ruined.

After the EU accession, Estonia should automatically fulfil all its obligations preceding the application of Common Agricultural Policy (CAP) – for example, the sanitary requirements concerning agricultural production, transportation or conservation. Estonia should also fulfil special obligations concerning the quality of products. For those reasons, comprehensive investment flows as well as current expenditures are needed. Estonia would be able to meet all those terms only if it implemented all the rights provided by CAP to its member countries today. However, it is not clear yet whether CAP will extend to the CEECs or not.

Blumer reveals that the European Union's eastward enlargement is causing different problems to companies in the EU member states, which the EU is trying to minimise by introducing special accession conditions. For example, if some agricultural item produced in a transition country is directly having a negative effect on the supply side, price level or in other aspects important for the EU single market, such quantitative restrictions will be established to the new member state during the transition period that it is no more profitable for this country to produce this agricultural product. But after the transition period ends, the industry will be so weak that it can no more endanger European producers (Blumer 1996, p. 228). This phenomenon is also confirmed by Estonia's experience when the EU imposed such quantitative restrictions on the import of its main agricultural products.

Assmer discloses that the EU is actually interested in distributing its agricultural production into the new member states. This is also the reason why the European Union is ready to make many compromises in the accession negotiations (Assmer 1997, p. 25). The distribution of agricultural production into the CEE countries is an unofficial vision of the EU future perspectives which proceeds from the following logic: the present members of the EU are developing more quickly in other industries, so extrusion of the agricultural production may follow *(Ibid.*, p. 42). Considering strategic goals, it is impossible to desist from agricultural production and therefore the CEE countries with a lower level of economic development should specialize in producing it *(Ibid.*, p. 66).

Conclusions

Thanks to its low population density and centuries-long cultivation traditions, Estonia has a good natural resource base. But unlike other sectors, such as forestry, for instance, the agricultural potential of Estonia has not been properly utilised. Due to the tendency to ignore the need for an agricultural policy that would consider the realities of global economy, in Estonia this sector has been left without protection, or in other words, to the mercy of unfair global trade. The agricultural producers, who have to dispense with government support, are unable to simultaneously handle three difficult problems:

- Transition from large-scale farming to small-scale farming that requires the introduction of modern technology and equipment;
- Loss of traditional foreign markets (Russia);
- Unfair competition with governmentally subsidised EU products, not only in foreign markets, but also in the internal market.

All these factors combined mean that since 1991, agricultural production has been steadily declining. A substantial competitive disadvantage, caused by the Government's economic policy, has brought about a situation in which the local producers lack capital for developing the industry, while foreign capital is not attracted.

Only equalisation of the conditions of competition in the European Union and in Estonia's agricultural sector would make it possible to use the great natural potential of Estonia for the benefit of its economic development. Resolving this problem will be the most difficult task facing Estonia's (foreign) economic policy during the negotiations for admission to the EU. A continuing agricultural decline would mean the loss of an opportunity to exploit those natural resources even after joining the EU, because the pre-accession level of production will determine the production quotas.

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KOKKUVÕTE

Eesti põllumajanduse areng ja konkurentsivõime Euroopa Liiduga ühinemise eel

Hõreda asustatuse ja sajanditepikkuse euroopaliku maaviljelusja metsanduskultuuri tõttu on Eesti põllu- ja metsamajandusressursiga hästi varustatud. Erinevalt metsamajanduse loodusressursist ei ole Eesti põllumajanduspotentsiaal leidnud aga adekvaatset majanduslikku rakendust. Maailmamajanduse realiteete arvestava põllumajanduspoliitika vajalikkuse ignoreerimise tõttu on see majandusharu jäetud Eestis kaitsetult ebaausa maailmakaubanduse meelevalda. Riikliku toetuseta jäänud põllumajandustootjad ei suuda toime tulla korraga kolme raske probleemikompleksiga:

- suurtootmiselt väiketootmisele üleminek, mis nõuaks ka vastava nüüdisaegse tehnika ja tehnoloogia rakendamist;
- traditsiooniliste välisturgude (Venemaa) äralangemine;
- Euroopa Liidust pärineva riiklikult subsideeritud toodangu ebaaus konkurents nii välisturgudel kui ka Eesti siseturul.

Nende tegurite koosmõjul on Eesti põllumajandustootmine alates 1991. aastast pidevalt vähenenud. Märgatava majanduspoliitilise halvemuse tõttu konkurentsitingimustes puudub sisetootjatel kapital selle majandusharu arendamiseks, väliskapital ei tunne selle vastu aga mingit huvi. Põhiliste põllumajandussaaduste – liha-, piima- ja teraviljasaaduste – osas surub ebaausale kaubanduseelisele toetuv import Eesti tootjad siseturult välja. Peamised välisturud on aga Eesti põllumajandustootjatele impordibarjääridega suletud.

Ainult Eesti ja Euroopa Liidu põllumajanduse konkurentsitingimuste võrdsustamine võimaldaks Eestil täielikult ära kasutada suurt looduslikku ressursipotentsiaali. Selle probleemi lahendamine kujuneb kuni Euroopa Liiduga ühinemiseni Eesti (välis)majanduspoliitika raskeimaks ülesandeks. Põllumajanduse taandarengu jätkumine tähendaks aga seda, et Eesti ei saaks oma looduslikku ressurssi rakendada ka pärast Euroopa Liiduga integreerumist, sest tootmiskvoodid eraldatakse põllumajandusele liitumiseelse tootmistaseme alusel.

Euroopa Liit esitab põllumajandussaaduste tootmisele väga ranged sanitaar- ja keskkonnakaitsenõuded, mille täitmiseks peaksid Eesti põllumajandustootjad tegema miljarditesse kroonidesse ulatuvaid in vesteeringuid. Nende vahendite akumuleerimine on ebavõrdsetes konkurentsitingimustes tootvatel ettevõtetel aga võimatu, Euroopa Liidu poolt Eesti maaelu integratsiooniks ettevalmistamiseks pakutavad toetused ei kata aga paraku isegi mitte 5% põllumajandussektori vajadustest. Praeguse majanduspoliitika jätkumisel ei ole Eesti põllumajandusel võimalik jätkusuutlikuna ja Eesti vajadusi rahuldaval tasemel Euroopa Liiduga ühinemiseni vastu pidada.