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**IMPACT OF ENLARGEMENT OF THE
EUROPEAN UNION TO THE
DEVELOPMENT OF LATVIAN
AGRICULTURE**

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Abbreviations

CAP – Common agricultural policy

CMO – Common Market Organization

CP – Common position

CSB – Central Statistical Bureau

DCP – Draft of Common position;

DP – direct payments;

DREMFIA – Dynamic Regional Sector Model of Finish Agriculture

EAA – Economic Accounts for Agriculture

EAGGF – European Agricultural Guidance and Guarantee Fund

EC – European Commission

EU 0, EU 100, EU SS – analytical scenarios

EU- European Union

FADN – Farm Accountancy Data Network

GVA – Gross Value Added

LAPA – Latvian Agricultural Policy Analysis Model

LFA – Less favourable area

LVAEI, LSIAE – Latvian State Institute of Agrarian Economics (Latv.: Latvijas Valsts agrārās ekonomikas institūts)

LVL – Latvian national currency Lat, annual average exchange rate in 2000 – 0.606 LVL/USD

SPD – Single Programming Document

SS – Simplified scheme (for Candidate countries)

UL – unit of labour

Summary

Key approaches

Latvia has clearly defined its political decision to integrate into the European Union on the basis of EU accession principles including the adoption of the currently valid *acquis communautaire*. In the area of agriculture the Cabinet of Ministers approved Latvia's position at the negotiations in 2000 and regarding the basic principles it has not changed.

In April 2000 the European Commission presented its revised Draft Common Position (DCP) for the negotiations with Latvia. The DCP is based on the EU Common Position (CP) that was prepared in 2001 and on the additional analysis of the situation taking into account the theses contained in the Informative Statement Common Financial Framework 2004-2006 for the Accession Negotiations" that was published on 30 January 2002.

Assessing various accession scenarios, and particularly the one defined in the EU Draft Common Position (DCP), the following indicators were selected describing the impact of Latvia's accession to the EU on:

- The development of Latvian agriculture;
- The use of key agriculture-related resources – land and labour;
- The viability of farms of different types in the Single European economic area;
- The interrelations between and development of agroindustries within the agricultural sector depending on the application of various agricultural policy measures;
- Partly – on the public budget and on the support level to agriculture.

The differences in negotiation positions of the parties and the EC DCP allow outlining three main accession scenarios:

- **EU100:** the national position of Latvia, which was defined for the negotiations with the EU and which is reflected in the official position of the Republic of Latvia in the accession negotiations with the European Union on Chapter 7 "Agriculture".
- **EU0:** the possible position of European Union expressed in the DCP published in April 2002 will materialize 100%. In compliance with the DCP, the reference volumes would be fixed on the basis of the historically established production criteria in the period from 1995 to 1999 in the Latvian agricultural sector. But within the framework of the Common Market Organization (CMO), the size of direct support payments to Latvian (and other candidate countries') agriculture is established as increasing from 25% of the EU direct support level in 2004 to 35% in 2006, with an overall transition period of 10 years until the complete alignment of the policies. In the total amount of public financing the national co-financing rate was fixed on the level of 20% for rural and structural support payments.
- **EUSS:** the situation with the conditions mentioned in the above EU0 scenario will materialise taking into account the fact that the total amount of CAP support envisaged for Latvian (and other candidate countries') agriculture will be paid by means of the simplified payment scheme as suggested by the EC, and payments will be effected during the three post-accession years for all kinds of agricultural land (even if there are no farming activities on this land), with the size of the farmland 1 ha defined for minimum payments. In practice this would mean a reduction of the amount of payments attributable to the actual areas of agricultural production.

The scenarios envisage that Latvia might become a member country in 2004. Thus, according to all the scenarios, the effect of the EU CAP starts only from year 2004. The major difference between the scenarios is the length of DP implementation transition period and implementation regime, as well as the reference indicators.

Evaluating the EU Draft Common Position in the negotiations with Latvia, it can be said with satisfaction that the EC has been guided by the basic principle it had defined earlier, namely, that after

accession to the EU the new member countries would take over the currently valid *acquis communautaire*. Nevertheless, it should be borne in mind that the EC has demonstrated understanding of a number of problems typical to post socialist economies, especially the structural problems of rural economic development. For the purposes of comparable assessments, a Base Scenario (BA) was created, which is a dummy of the pre-accession period, as well as of future development independently from the EU. The assessment uses the statistical analysis methods, with the purpose to evaluate the effect of the EU CAP factors in the environment of comparatively stable production structures, as well as dynamic analysis methods which allow the application of economic-mathematical model in order to analyze the EC proposed CAP implementation scenario on the competitive ability of the sector.

Latvia notes that the EC based DCP on the following main principles: One can see that the EC has been guided in its document by the following principles.

1. **Right after the accession the new member countries will implement the Common Agricultural Policy that is currently in force in the EU.** The requested transition periods should be restricted in time and quantity and these transition periods need not make changes in the EU laws and policy, derange their precise functioning or seriously distort competition
2. **The new member countries enter the common European market**, gaining free access both to the consumers of other countries and opening fully their own markets to the producers of the other EU member countries including the producers of the candidate countries
3. **The financial ceiling for the accession of the new member countries is established by the budgetary ceiling set during the meeting of the leaders of the EU countries in Berlin in 1999.**
4. **In the area of agricultural policy the EC proposes to apply the same policy mechanisms that are currently in force admitting for the first time officially that the so-called “compensatory payments” are actually “direct payments” used in the framework of the CAP.**
5. **Admitting that no effective and up-to-date agricultural and rural economic structures have been established in all candidate countries in the period of reforms** (dualism of the agricultural structure, low income level in rural areas, etc.), **the EC emphasizes the necessity for the candidate countries including Latvia to restructure and modernize their agricultural economy.**

Nevertheless, it should be pointed out that in the finalized DCP the EC intends to attain the following:

- **Full introduction of the CAP is implemented in a long period of transition;**
- **For the establishment of reference indicators the actual production indicators should be used and the base period should be from 1995 to 1999** which under the conditions of implementing a rather liberal agricultural policy and influenced by the economic crisis in Russia were characterized by the sharpest drop in production output. As a result several suggested reference indicators are even lower than the current indicators, especially the volumes of milk and sugar;
- **The initial utilization intensity levels of the direct payments as one of the basic elements of the CAP – 25%, 30% and 35% in the years of 2004-2006 are significantly lower than those currently used in the EU, which is contradictory to the EU declared principle of avoiding competition distortion on the EU Common Market.**

Applying of CAP measures and Sector revenues

The impact CAP on the sector development was assessed by summarizing the effects arisen due to the implementing of main Common Market Organizations' elements (such as market price support, quotas and DP) as well as rural and farm development measures.

The influence of prices on the income of the Latvian agricultural sector

For the assessment of the impact of prices on the agricultural sector the farmers' revenues were compared on the basis of Latvian and EU producer prices. The price impact was evaluated taking into account both the forecasted changes in price levels (the direct factor of price impact) and the forecasted changes in the production output (the factor of quantity impact).

If the scenario EU0 is implemented, the possible rise in the producer revenues from the EU market prices is to a great degree reduced as a result of the losses from the institutionally established output reduction (quotas). Taking into account the direct price impact (when market revenues would increase by LVL 49.1 mln) and quantitative impact (when market revenues would reduce by LVL 31.3 mln because of production quotas) the total value of market revenues would increase only by LVL 17.8 mln or 13% and due to the reduced production output this income would be concentrated in a lower number of farms.

Implementation of the scenario EU100 would significantly increase the revenues of producers thus creating the economic basis for wide efficient use of rural production resources, land and labour, not putting an additional burden on the central government budget in the form of direct payments.

Impact of direct payments on the income of Latvia's agricultural sector

The effect of direct payments is assessed as increase of sector producers' revenues as a result of direct payments, assuming that all the producers qualify as payment recipients.

For the majority of sectors farm revenues from DP would grow in all EU scenarios, however, this support level in the EU0 scenario would be thrice lower than in the case if *acquis communautaire* would apply to Latvia in full amount already at its first, the accession year. This causes well-grounded anxiety about the competitiveness of crop farmers, producers of livestock, sheep and goat meat products on the Common European Market as well as about the ability of these producers to utilise the resources of the structural funds.

The use of simplified scheme for administration of direct payments

The EC DCP proposes to Latvia to use a simplified DP administration scheme instead of the regular scheme during the transition period, which is an entirely different policy tool with a completely different recipient group, application principles and objectives.

Approving the segregation of direct support payment from production principle, the analysis arrive at the conclusion that application of simplified direct payments in agriculture would leave an overall adverse impact on agriculture, because

It would distort the EU CAP tools in one part of the EU common market, by promoting the development of the industries which are already receiving support via market price support, at the same time significantly reducing the support to the industries which are receiving support via direct payments, and which enjoy very little price support, or none at all. **Would mean an implementation of a motivation system, which changes significantly over a time period** in a number of agricultural industries, by reducing the support level if compared to the pre-accession period, and raising it again later. Apart from that, during the transition period direct payments are entirely segregated from production of goods, while after the end of the period, according to DCP and *acquis communautaire*, it is expected that it will repeatedly be related to the production of goods. **The circle of the recipients of the support is expanded with persons who are not oriented to producing for market**, thus reducing the already low actual direct payment level and by **reducing the competitive ability of for-market producing farms in common European market**.

This contradicts the defined objective to set up a competitive structure of producers producing for market.

The impact of the various CMO's introduction regimes on the income in Latvia's agricultural subsectors

The varying implementation rates for CMO (price support for a number of industries starting with the accession moment, but with the 10 year transition period set by direct payments and implying an extremely low level at the beginning) is likely to have a substantially differing effect on the different sub-sectors within the agricultural sector. .

In the first three years after joining the EU (2004 – 2006) total revenues for **arable crops** according to the scenario EU0 would increase by LVL 9.4 to 12.9 mln. It is fully possible that there will be no income increase at all, if the expected input price increase in the EU Common market is included in the calculations.

Concerning **flax fibre, pig farming and poultry farming**, total revenues, according to the EU 0 scenario would even reduce.

In sugar beet and milk production sector the positive effect of the market price increase would be considerably offset the cuts on production due to the exceedingly low sales quotas.

For **beef producers**, the revenues owing to the price increase and to direct payments may notably increase at all scenarios, however, in case of EU 0 the increase may be insufficient for development of specialized beef production, while the low milk sales quotas would restrict the meet production possibilities from calves of dairy cows.

On the whole, with Latvia accessing the EU, a significant increase in revenues from the market price support is expected for the sectors of sugar beets and milk, and from direct payments to the sectors of field crops, potato starch and beef production but a lower revenues under the impact of lower market prices is expected in the pig meat and poultry sectors.

CAP rural development measures and revenues in agricultural sector

In accordance with the published indicative indices, the sum of commitments for measures to be included in the *Latvian Rural Development Plan* in 2004 could reach almost LVL 50 mln, nevertheless actual financial flows (payments) would be considerably less – LVL 25.7 mln.

Still, not all of these resources are directly associated with agricultural production, part of it could be channelled to cover measures of withdrawal from agricultural production on farms involved in structural measures. Taking account of assumptions referred to in the paper, increase in the share of revenues of agricultural producers related to agriculture from the EU EAGGF, envisaged for rural development measures, could not exceed LVL 24 mln annually in the period from 2004 to 2006.

In addition to these revenues and in accordance with other assumptions made in this paper, agricultural and rural budget could be supplemented by LVL 14.5 – 17 mln from co-financing of the EAGGF Guidance fund for investments in restructuring of rural economy.

Overall effect

To assess impact of CAP on the sector of agriculture in general, effect of four factors (prices and quotas, direct payments, rural development payments and farm structure development measures were analysed (see Figure 3-4). Two of the elements – prices and quotas, as well as the effects of direct payments were already described in Chapter 3.1.1. Comparing the EU0 and BA scenarios, maximal revenues from market prices (if already in the first year after accession production levels corresponded to production levels determined by the EU0) in agricultural sector in general would increase by LVL 19.8 mln in 2004 and up to LVL 16.8 mln in 2006. Comparing BA scenario with the EU100 – revenues of agricultural sector in general would increase to LVL 180.6 mln or almost 2 times. Still, it should be underlined that such increase in revenues would be possible only on condition if sectoral production levels adapted to new EU CAP circumstances that could happen only towards the end of reported period.

Summarising all the benefits and losses generated by **all the four** factors, in case of EU scenario the revenues of agricultural sector are expected to exceed the ones according to BA scenario by

57.4 million LVL in 2004 to 67.0 million LVL in 2006. In EU 100 scenario the revenues would be even up to LVL 314.3 million higher than the present revenues of Latvian agricultural sector workers.

Sectoral income assessment

On the base of Economic Accounts for Agriculture it is possible to conclude that the total output value under the EU0 scenario (25% level of support) would increase by 16% against the year 2000. But under the EU100 scenario (100% level of support) value of agricultural products would be LVL 315.6 mln that is by 30% more as actually in 2000 (only by 21% more if compared with prices in 2001).

As the result of these calculations, the value of intermediate consumption goods acquired outside agriculture is estimated as 18% higher than in 2000 (LVL 122.4 mln against LVL 103.5 mln).

In 2004 after accession, at the support level of 25% (EU0) incomes from agricultural activities are projected even less than 7% as compared with actual level in 2001. Comparing with the year 2000, it is envisaged to reach an insignificant increase in incomes – 16%. Under the EU100 sectoral income would exceed indices of the year 2000 by 57% but only by LVL 47 mln.

One of the major factors reducing production level and also revenues, as compared with the possible situation, are production quotas. A low level of marketing quota for sugar and milk is influencing the reduction of sectoral income projected at LVL 12.6 mln (prices of 2004). It amounts to about 10% of the total agricultural income.

Impact of CAP measures on farms

To assess CAP impact on actual farm revenues level, Latvian FADN data of 2000 on agricultural producers is used, assuming that under conditions of common market prices for agricultural products are changing, the same refers to prices for purchased and own-farm produced seeds and fodder but the volume of output and the rest of production costs stay unchanged. The impact of direct payments is assessed by applying eligibility of direct payments under CAP to conformity criteria included in the FADN database.

The impact of simplified scheme (SS) is assessed separately.

The expected income has been analyzed for farms representing 6 specializations and 5 regions in Latvia.

Positive impact of the EU price changes is observed on dairy farms where the value of production increases by 28%, also – on mixed farms – by 25%, but negative impact of the EU price changes is observed in pig and poultry production farms where reduction reaches 17%.

Direct payment support after accession to the EU under all scenarios, excluding EUSS case, as compared with the year 2000 increases in average from 21% under the scenario EU0, to 245% under the scenario EU100. In case of EUSS, the total support received by farms covered by the FADN is reduced by 14%.

When assessing farm revenues level, it can be concluded that under all the scenarios and in all farm groups, excluding pig and poultry farms, net value added per labour unit increases as compared with 2000.

For the purpose of assessing the income level in agriculture versus other sectors of national economy, average costs per agricultural worker (gross wage and social tax payable by the employer) were compared with net added value per labour unit. NVA has to cover both the labour costs as well as any rent costs, interest costs. The analyses indicate that only in two farm specialisation groups –crop farming with sugar beets and rearing of grazing animals – this indicator slightly exceeds the average labour cost in national economy.

From all the scenarios the least revenues level is generated from agricultural production if a simplified DP scheme is applied. It can serve as basis for conclusion that this scheme is not a mere simplification of administration system but it can be assessed as a completely different mechanism with a diverse impact on agricultural holdings.

When analysing value added by regions then only in the most economically developed region – Riga region – implementation of CAP under any scenario could mean levelling and even exceeding of the average revenues, as compared with the average cost of staff in the national economy. But under TM 100 scenario, in two more regions – Kurzeme and Zemgale – revenues levelling with the average indexes of the national economy could be observed that could be a sufficient motivation for economic recovery of agricultural sector as a vertebrae of rural economy.

Determination of a long-term agricultural perspective

In order to access the development possibilities of Latvian agricultural sector over time as well as the potential benefits and losses, various sectoral development scenarios were simulated and analysed applying LAPA model; however, not including rural development measures.

Support level

Direct payments to agricultural producers in 2004 could increase to LVL 34 mln under the EU100 scenario. Whereas, in case of the EU0 and the EUSS scenarios where the size of Latvia's national envelope is reduced, in the year of accession the actual EU support to agriculture could be equal to the current level of national direct payments – approximately LVL 5.5 mln.

The increased authorised DP rates do not compensate lesser amounts of resources involved in production of goods than the amounts indicated in reference indicators. This proves a limited competitiveness of the sector under such conditions.

If a simplified scheme were applied, the total direct support to Latvia's agricultural producers would not increase.

Development perspectives

When analysing agricultural production perspectives, it is clear that compliance with requirements of the EU0 and the EUSS scenarios (on possible milk sales quotas) without already implemented milk production limiting mechanism (already before accession) and additional social measures, may lead to social conflicts in rural areas due to imposing on farming activities of sharp and uncompensated institutional limitations.

Utilisation of resources

Increase in production efficiency and productivity will inevitably give rise to essential reduction of land used for agricultural production purposes. Nevertheless, depending on the scenario of policy development, actual areas used in production would differ considerably.

Only in case of the EU100 at least about half of productive agricultural land resources currently available in Latvia would remain in active production chain showing a trend towards stabilisation.

Similar trends could be observed also when the labour use is analyzed. Only under the EU100 scenario agricultural labour would stay on the level 4-5% from the total employment. Under other scenarios, especially if new labour places will not occur in other sectors of rural economy, the general socio-economic problems can only develop.

Income in agricultural sector

If after Latvia's accession to the EU, the scenarios EU0 and EUSS are embodied, then the projected Latvia's farm income in 2004 might amount to LVL 125 mln, rapidly increasing in the year of accession. But already the next years income level in agricultural sector will reduce, taking account the introduction of limiting measures (quotas) and a possible price reduction in dairy and cereal sectors.

Only under the EU100, a stable income growing tendencies will be maintained also after Latvia's accession to the EU, and it will allow filling in the gap between income levels of population employed in agriculture and those in other sectors of economy.

Accession scenarios and competitiveness of agricultural sectors

In the sector of **arable crops** the EU100 scenario is the only one, which is the most advantageous for favorable environment development for sector competitiveness already on the moment of accession. Under the EU0, only upon reaching the level of direct payments as 35% of the rates determined by the EU, decline of the sector development is stopped that itself outlines a turning point in the development of a comparative competitiveness of the given sector. Furthermore, under the EU SS scenario a continuous stagnation in production of arable crops is observed over the whole analyzed post-accession period.

In **dairy sector** only the EU100 scenario allows for a gradual increase in milk production in the post-reform period, allowing to partly recover the capacity to use the possibilities provided by the comparative competitiveness in circumstances of the EU Single Market, and at the end of the analyzed period, approaching the size of milk supply quota defined in Latvia's position paper, allowing to use the large resources of agricultural land suitable for production of animal products and without motivation to their afforestation.

In **beef sector** development of specialised beef animal will not be able to compensate reduction in meat production from calves of dairy cows, as it is forecasted that the low level of the direct payments will not allow farms to switch over from dairy cows to suckler cows that makes the whole production chain more expensive thus, determining competitiveness of relatively specialised beef production farms

Sectors of **sugar beets and potato starch**, similar to the dairy sector subjected to quota system where the major support measure is market price support, the development after accession to the EU will be restricted by the possible size of quotas. No differences are observed in comparative competitiveness of the sectors under various scenarios.

Sheep sector is in particular situation. It is projected that applying CAP measures to Latvia in full (the EU100 scenario), Latvia's sheep breeding would not be competitive on the EU market. As the direct payments applicable would not be able to compensate the price reduction projected.

Rural and structural development measures

In accordance with the EU Regulation 1257/99, rural development measures accompany and supplement other CAP instruments and are a part of the measures promoting the development and structural adjustment in the regions lagging behind. .

In Latvia as the target 1 territory – rural and farm structural development measures shall be funded by both parts of EAGGF fund.

Guarantee section

To finance Latvia's rural development measures in 2004 and with a view to paying out aid to farms LVL 25.7 mln (EUR 45.6 mln) could be available that together with the necessary national co-financing would make the total sum of LVL 32.1 mln.

In the period of time to 2006 this sum could increase to LVL 74.1 mln, together with the national co-financing LVL 31.1 mln amounting in total to LVL 157.1 mln in 2004 – 2006.

Groups of measures

The measures financed from this part can be broken down in three groups, the tow major are:

- Compensatory measures supporting conventional production – compensations to farms in less favourable areas (LFA), support to semi-self-subsistence farms. The measures of this group are applicable practically to all farms in a respective territory and **according to their economic implications are close to direct payments included in CMO**;
- Compensatory measures for restructuring (withdrawal) and production limitation – agri-environmental development; afforestation of agricultural land; support to early retirement.

These are applicable only when agricultural activities are being limited on a beneficiary farm;

- Promoting the development of food producer groups.

Guidance section

Assuming the indicative amount of the EU structural funds available for financing of agriculture and rural structural measures in Latvia should not be less than 20% of the total financing available under structural funds, the sector development could benefit in amount of EUR 43 mln or LVL 24 mln as commitments in 2004, which, together with Latvian co-financing, may exceed 30 million LVL in 2004 and increase up to LVL 44 million in 2006. All in all, between 2004 and 2006 this sum could reach LVL 90 – 110 mln.

Measures to be financed

Among other measures, 2 of the most popular national support measures included in the current SAPARD program:

- Investments into agricultural holdings
- Improving processing and marketing of agricultural products
- Setting up of young farmers
- Training
- Forestry development (excluding afforestation)
- Promoting the adaptation and development of rural areas (Article 33).

If assumed that 60 – 70% of the total program financing could be channelled to investments into agricultural holdings and to development and adaptation of rural areas, in 2004 to absorb resources of this program, Latvia's agricultural sector and the sector of rural economy associated to it must be capable of attracting in total LVL 50 – 65 mln, half of these resources could be reimbursed as public co-financing after project implementation.

Taking account of the projected farm income level under various accession scenarios, only in the case of the EU100 increase in added value up to LVL 26.5 mln justifies assumption on sufficient absorbing capacity of the sector, allowing to describe this scenario as a relatively balanced one.

1. Introduction

Latvia has clearly defined its political decision to integrate into the European Union on the basis of EU accession principles including the adoption of the currently valid *acquis communautaire*. In the area of agriculture Latvia's negotiating position was formulated in 2000 and regarding the basic principles it has not changed.

In April 2000 the EU presented its revised Draft Common Position (DCP) for the negotiations with Latvia. The DCP is based on the EU Common Position (CP) that was prepared in 2001 and on the additional analysis of the situation taking into account the theses contained in the "Information note" "Common Financial Framework 2004-2006 for the Accession Negotiations" that was published on 30 January 2002.

The present paper shows the results of a survey that was conducted with an aim to assess various accession scenarios, especially the one formulated in the Draft Common Position (DCP) and to gain an idea on how Latvia's accession to the EU will impact:

- The development of Latvia's agriculture;
- The use of land and labour, as a basic agriculture-related resources;
- The viability of farms of different types in the Single European economic area;
- The mutual impact among the agricultural sectors and their development depending on the application of various agricultural policy measures;
- Partly – on the public budget and on the support level to agriculture.

This survey was implemented using various analytical tools and methods to analyze the development perspectives of the agricultural sector assessing these perspectives from various levels of aggregation (farm, sub-sector, the sector as a whole) and applying different approaches to the survey – both the static and the dynamic approach.

1.1. Scenarios assessed

Analyzing the potential preconditions on the basis of which the Republic of Latvia will integrate into the European Union, detailed calculations in this work were made in compliance with different scenarios for the development of the sector. On the basis of the official national position of Latvia and the DCP prepared by the European Commission, these scenarios formulate the main assumptions about the development of Latvia's agriculture in accordance with the implementation of the national and CAP policy measures. All in all, four main scenarios for the analysis were developed:

- **EU 100:** the national position of Latvia, which was defined for the negotiations with the EU and which is reflected in the document "The official position of the Republic of Latvia in the accession negotiations with the European Union. Chapter 7. "Agriculture".
- **EU 0:** the possible position of Europe expressed in the DCP published in April 2002 will materialise 100%. In compliance with the DCP, the reference volumes would be fixed on the basis of the historically established production criteria in the period from 1995 to 1999 in the Latvian agricultural sector. But within the framework of the Common Market Organization (CMO), the size of direct support payments to Latvian (and other candidate countries') agriculture is established as increasing from 25% of the EU direct support level in 2004 to 35% in 2006, with an overall transition period of 10 years until the complete alignment of the policies. Rural and structural funds will have to be co-financed by Latvia at the rate of 20% of public sector financing.
- **EU SS:** the situation with the conditions mentioned in the above EU 0 scenario will materialise taking into account the fact that the total amount of CAP support envisaged for Latvian (and other candidate countries') agriculture will be paid on the base of the simplified payment scheme as suggested by the EC, and payments will be effected during the three post-accession years for all kinds of agricultural land (even if there are no farming activities on this land), with the size of the farmland 1 ha defined for minimum payments. In practice this would mean a reduction of actual production area-related payment size.
- **BA:** a development option for Latvia that is independent from the European Union will be implemented and the national agricultural policy will be continued without any substantial

change; the lack and inaccessibility of financial investment will not restrict production growth. The base scenario was worked out in order to create a the grounds for making comparisons with all the above mentioned scenarios assessing from the economic point of view the possible gains and losses from the accession to the EU.

The principal differences among the above scenarios are shown in Table 1-1.

As can be seen in this table, according to the Latvian Position Document, the required indicators of the basic areas and cereal productivity for the calculation of CAP compensatory payments could be on the level of 688 thsd ha and 3 tonnes per ha; these indicators were taken into account for the creation of the scenario EU 100 (Table 1-1, last column).

Whereas, according to the DCP (Table 1-1, column 5), the reference volumes for basic areas and cereal productivity could be 484.7 thsd ha and 2.6 t/ha, respectively, and this forms the basis for the scenario EU 0.

Table 1-1 Scenarios for the implementation of the national position of Latvia

Sector	Indicator	Unit	Scenarios			
			BA	EU 0	EU SS	EU 100
1.	2.	3.	4.	5.	6.	7.
Wheat, rye, barley, oats, triticale, buckwheat, pulses, rape, flax, silage	Reference area	thsd ha	-	484.7	2267*	688
	Reference yield	t/ha	-	2.06	-	3.0
Sugar beet	Sugar production quota	thsd t	75	52.5	52.5	110
Potato starch	Starch production quota	thsd t	-	3.4	3.4	15
Milk	Milk production quota	thsd t	-	489	489	1 200
Beef	Cattle special premium	Number of animals	National support	70 200	-	75 000
	Suckler cow premium	Number of animals	National support	2 021	-	25 000
	Slaughter premium	Number of animals	National support	124 320	-	145 000
	Calf slaughter premium	Number of animals	National support	53 280	-	75 000
Sheep	Ewes premium	Number of animals	National support	18 437	-	50 000
Honey	Bee colonies	Number of bee hives	-	54 000	-	54 000

*According to the results of the 2001 Agricultural Census (www.csb.lv/Satr/Iskzin.htm#10) the size of land used for agricultural purposes in 96% of the farms that were included in the lists and that owned or used 1 ha and more of agricultural land

The other CAP measures that influence the production of sugar, potatoes, starch, milk, meat and honey have been formalised in a similar way.

Within the EU SS scenario, which according to the EC DCP envisages to attribute the whole CAP support to agricultural land taking into account the minimum farm size ceiling from 0.3 to 1 hectare, the whole area of agricultural land was analysed as a reference area in those 96% of farms that owned or used 1 hectare or more (see Table 1-1, column 6), presuming that this is a case of the simplified scheme which lays down that the minimum area of farmland for CAP payments in Latvia is 1 hectare.

By contrast, the BA scenario evaluated the measures of the current national agricultural policy such as the production quota for sugar (Table 1-1, column 4), payments per ha for arable crops, direct payments for animals and payments for starch potatoes produced (see the Annex 3).

The rates of direct payments per ha (animal) differ in all European integration scenarios.
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It is assumed in the scenario EU 100 that the CAP support mechanism will be 100% attributed to the Latvian farmers in the same way as it is envisaged for the 15 countries of the European Union.

In the scenario EU 0 direct payments per hectare or animal in 2004 represent only 25% of the CAP direct payment rates (scenario EU 100 level), 30% in 2005 and 35% in 2006 (see Annex 3).

Assessing the current DP rates, a precondition was set in the scenario EU SS that the annual Latvian DP envelope would align with the volume envisaged in the scenario EU 0 (LVL 13.6 mln in 2004, LVL 16.6 mln in 2005 and LVL 19.8 mln in 2006, respectively). In that case, applying the simplified scheme, the CAP support per hectare might be LVL 6 in 2004, LVL 7.3 in 2005 and LVL 8.7 in 2006, respectively.

It is assumed in the scenarios that the levels of producer prices are the same in all EU accession scenarios. These levels are given in table of Annex 2 column 6 along with the producer prices in Latvia which, in turn, were used in the calculations in accordance with the base scenario (BA).

The scenarios envisage that Latvia might become a member country in 2004. This is why the assessment of the EU CAP impact is given only beginning with 2004. The pre-accession period as well as further development not dependent on the EU is simulated in the base scenario (BA).

1.2. Methods

The development perspectives of the Latvian agricultural sector were analyzed in accordance with the above-mentioned scenarios, applying:

1. **The dynamic partial equilibrium optimization model for the regional agricultural sector** (LAPA, which is a version of DREMFA¹ model adapted for the needs of Latvia, which projects the development of the sector on the basis of expecting a rational and gradual reaction of the producing entrepreneurs to changes in the economic environment, attempting to maximize their gains (profit) as well as on the basis of the consumers' wish for a maximum gain from the purchase of the most suitable product;
2. **The calculations of the comparable growth indexes using information for the year of 2000 from the FADN data base** to forecast the results of activities of farms of different kinds (differing in size, specialization, regional location and form of entrepreneurship) and taking into account the changes in producer prices and support policies. These calculations follow a precondition that the structure of farms and production level will not change in the future;
3. The calculations of the comparable growth indexes using the results of the 2000 and 2001 Economic Accounts in Agriculture (EEA) with potential changes in input and output prices taken into account as well as the change of support policy measures on the condition that the agricultural production structure will not change in the future;
4. **The analytical factor impact calculations of the effect of price and support policy change on the whole agricultural sector of Latvia;**

Overall, the development of the Latvian agricultural sector was evaluated for the period between 1999 to 2007, taking into account the analytical and forecast possibilities of each analytical tool. Besides, the base period for the calculations was 1999-2000 that was characterised by

- The situation in Latvia's agriculture (output, productivity, input and expenditures),
- The consumption level and the volume of foreign trade;
- The current situation and forecasts of the development of the European and world markets;
- The applying of the agricultural support policy in Latvia.

Dynamic regional sector model of Finish agriculture (DREMFA), developed by Hekki Lehtonen from MTTL Institute (Helsinki)

2. What are the new elements the EC document introduced in the accession negotiations with Latvia?

Evaluating the EC Draft Common Position in the negotiations with Latvia, it can be said with some satisfaction that the EC has been guided by the basic principle it had defined earlier, namely, that after accession to the EU the new member countries will take over the currently valid *acquis communautaire*. Nevertheless, it should be borne in mind that the EC has demonstrated understanding of a number of problems typical to post socialist economies, especially the structural problems of rural economic development. We have observed that the EC has been guided in its document by the following principles:

1. Right after the accession the new member countries will implement the Common Agricultural Policy that is currently in force in the EU. However, due to certain structural peculiarities and political administration possibilities some deviations are possible. Nevertheless, the requested transition periods should be restricted in time and quantity and there must be a plan that clearly defines the stages in the introduction of *acquis communautaire*. These transition periods need not make changes in the EU laws and policy, derange their precise functioning or seriously distort competition.
2. It can be surmised from the previous item that **right after the accession the new member countries enter the common European market**, gaining free access both to the consumers of other countries and opening fully their own markets to the producers of the other EU member countries including the producers of the candidate countries.
3. **The financial ceiling for the accession of the new member countries is established by the budgetary ceiling set during the meeting of the leaders of the EU countries in Berlin in 1999**; this ceiling for 2004 is EUR 11.610 billion, rising to EUR 16.780 billion in 2006. From the point of the EC, financial resources earmarked for the purpose of accession in 2002 and 2003 and not utilized by that time will not be available. But it should be borne in mind that it is the financing of agricultural policy in this package that does not exceed EUR 3.933 billion in 2006. However, part of the financing for agricultural development (investment in agricultural, processing and marketing enterprises) is intended to be drawn from structural measures for which the major part in the package exceeding 2/3 of the total available resources is allocated.
4. **In the area of agricultural policy the EC proposes to apply the same policy mechanisms that are currently in force admitting for the first time officially that the so-called “compensatory payments” are actually “direct payments” used in the framework of the CAP.** As it is emphasised in the EC document there will be no two agricultural policies but only one, the CAP. True, there is a reservation about this statement that this will take some time.
5. Admitting that no effective and up-to-date agricultural and rural economic structures have been established in all candidate countries in the period of reforms (dualism of the agricultural structure, low income level in rural areas, etc.), the EC emphasises the necessity for the candidate countries including Latvia to restructure and modernise their agricultural economy. This is why in its offer of financial resources the EC does not accentuate the payments that are directly related to production (the so-called “direct payments”, financing of the market price supporting measures) but focuses on those measures that promote the development of agriculture and rural structures.

Nevertheless, it should be pointed out that in the finalised DCP the EC intends to attain the following:

- Full introduction of the CAP is implemented in a long period of transition, for example, achieving equivalent EU direct payment level only in 2013;
- For the establishment of reference indicators the actual production indicators should be used and the base period should be from 1995 to 1999 which under the conditions of implementing a rather liberal agricultural policy and influenced by the economic crisis in Russia were characterised by the sharpest drop in production output. As a result several suggested reference indicators are even lower than the current indicators, especially the volumes of milk and sugar.
- The initial utilisation intensity levels of the direct payments as one of the basic elements of the CAP – 25%, 30% and 35% in the years of 2004-2006 are significantly lower than those

currently used in the EU, which is contradictory to the EU declared principle of avoiding competition distortion on the EU Common Market.

3. Impact of the common market organizations on the development of the sector

In this chapter we have assessed three relevant CMO elements – the impact of the market price supporting measures, quotas and direct payments for the indicators of the development of the sector.

The impact of the market price support is assessed as the increase (or decrease) in the producer income under the effect of price changes for the product sale.

The evaluation of the impact of quotas is assessed as institutional restrictions on business (output volumes) in the sector. The impact of direct payments is assessed as the increase in the producer income under the effect of direct payments assuming that all producers would meet the qualification requirements necessary to be eligible for the payments.

3.1. Analytical evaluation of the impact of CAP measures

3.1.1. CMO impact on the agricultural industries

In order to assess the impact of individual CMO measures such as price support and related quotas, other production reference indicators and direct payments for the agricultural development in the years of 2004-2006, the methodical principles of growth index analysis were used against the base indicators (output and prices) of the Latvian agricultural sector, attributing the CMO measures according to the previously described scenarios BA, EU 0 and EU 100. In this way the impact of forecasted price changes and the CAP support payments were analyzed. All scenarios are based on the precondition that the agricultural production structure, such as it was in 2000, will not change before 2006 while production output will be forecasted taking into account the EU quota caused restrictions and reference volumes according to each scenario.

a) The influence of prices on the income of the Latvian agricultural sector

For the assessment of the impact of prices on the agricultural sector the farmers' incomes were compared on the basis of Latvian and EU producer prices. The price impact was evaluated taking into account both the forecasted changes in price levels (the direct factor of price impact) and the forecasted changes in the production output (the factor of quantity impact).

Price assumptions: the Latvian producer prices of 2000 were used in the scenario BA while in the EU scenarios (EU 0, EU 100) prices are stable and forecasted for 2004. The forecast of the prices of the main agricultural products is given in the Annex 2.

Assumptions on quantities: in the scenario BA the Latvian production output in 2000 was taken but in the scenario EU 100 those volumes of output were evaluated that were derived from the production reference indicators fixed in the Latvian Position Document while output volumes analyzed in the scenario EU 0 were derived from the production reference indicators fixed in the DCP. This includes the reduced forecasted beef production output due to the quota-restricted production of milk thus making it necessary to reduce the cowherd and a number of the reared young cattle.

For the evaluation of EU prices for crop farming industries (**grain cultivation, sugar beet and oleaginous plants**) data on EU prices were used beginning with the early 1990s and a forecast for 2004—2006 was made using expert methods. For the cereal and sugar beets sector data from *Eurostat* were taken but for oleaginous plants the *Oil World* data on the world rape prices HAMBURG CIF, EUROPE “OO” OIL were used. This forecast is based on the price links between the EU farms with the institutionally established product intervention prices. The EU forecast of **flax fibre** prices for 2004-2006 is based on expert evaluation of the world price level for short and long flax fibre for the period of 2004 to 2006.

Price forecasts for **livestock products** are based on the *FAPRI* 2002 calculation data assuming that producer prices in Latvia might be 10-20% lower than the average in the EU.

Assessing the price impact on the products in various sectors as a change in income from the new prices for the output volume of 2000, a conclusion can be made that on the whole the influence of EU prices is positive and the farmers' income resulting from the price increase would substantially rise in the milk and cattle sector, by LVL 4.2 mln and LVL 9.0 mln, respectively (see Figure 3-1, Table 3-1 and the Annex 2). An exception to this is the production of pork and poultry in respect of which the EU price impact is negative; with Latvia's accession to the EU, income from the sale of the same quantity of products would decrease by LVL 3.5 mln and LVL 1.3 mln, respectively.

Table 3-1 Changes in value of output produced by the major agricultural sectors under impact of the EU market price support, LVL mln.

	Income from market (mln LVL)			Price impact (mln LVL) EU0,EU 100	Quantity impact (mln LVL)	
	BA	EU 0	EU 100		EU 0	EU 100
Wheat	26.1	27.3	38.6	0.4	0.8	12.1
Rye	6.2	6.8	9.7	0.4	0.2	3.0
Barley	15.7	17.0	23.9	0.8	0.5	7.5
Oats	4.5	5.3	7.4	0.6	0.2	2.3
Pulses	0.3	0.4	0.6	0.1	0.0	0.2
Rape	1.0	1.1	1.6	0.1	0.0	0.5
Flax fibre	0.1	0.3	0.9	0.1	0.1	0.7
Sugar beet	8.6	8.4	17,5	1.6	-1.8	7.3
Starch potatoes	0.7	0.5	2.1	0.1	-0.4	1.3
Milk (without feed consumption)	57.5	72.4	177.4	40.2	-25.4	79.6
Beef (slaughter weight)	13.8	17.2	38.7	9.0	-5.6	16.0
Pork (slaughter weight)	29.2	25.6	25.6	-3.5	0.0	0.0
Mutton	0.3	0.6	1.6	0.2	0.1	1.1
Poultry meat	6.3	5,0	5.0	-1.3	0.0	0.0
Honey	1.3	1.6	1.6	0.3	0.0	0.0
TOTAL	171.6	189.5	352.2	49.1	-31.3	131.6

Source: LSIAE calculations

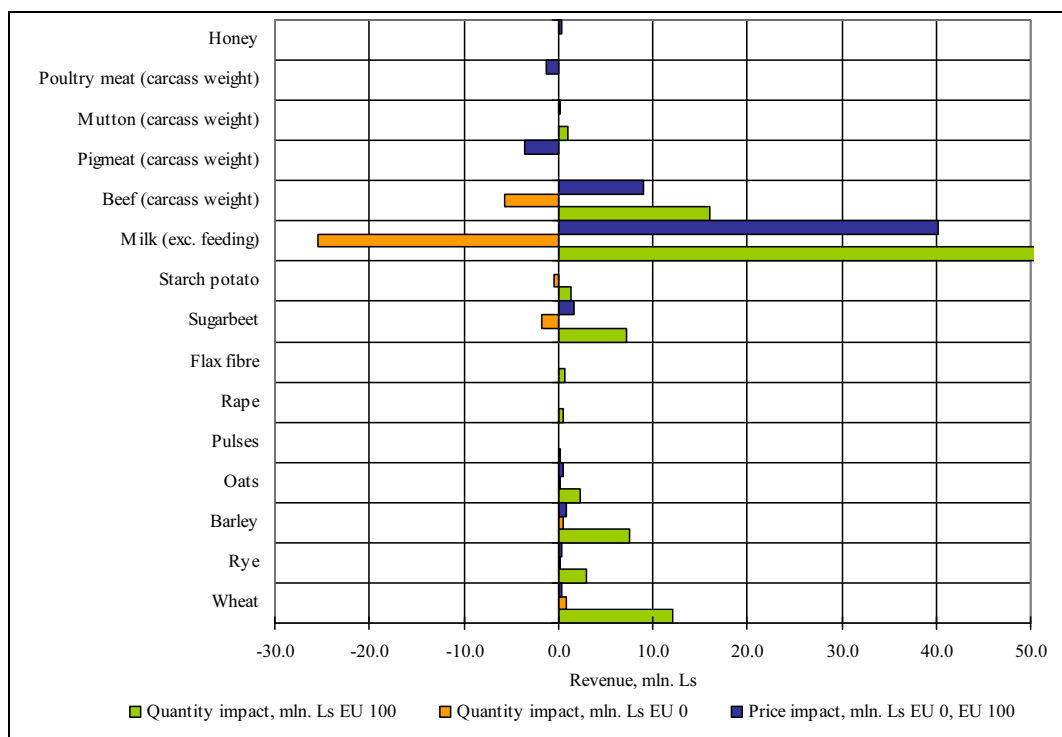
If the scenario EU 0 would materialise, the impact of quantity on the change of product value is on the whole negative, especially in the case of quoted products such as milk and the related beef products, sugar and potato starch products. Quotas for these products are set at a lower level than the actual output volume in 2000. The decrease in beef production is related to the small quota assigned for milk.

Conclusion. If the scenario EU 0 is implemented, the possible rise in the producer income from the EU market prices is to a great degree reduced as a result of the losses from the institutionally established output reduction (quotas). The total value of market income would increase only by LVL 17.8 mln or 10.4% and due to the reduced production output this income would be concentrated in a lower number of farms.

If, in its turn, the scenario EU 100 would be implemented, the impact of quantity on the changes in production value would be positive for the main kinds of products. The producers of milk, beef and wheat would see the sharpest rise in income, by LVL 79.6 mln, LVL 16.0 mln and LVL 12.1 mln, respectively. The total increase in market earnings for the analyzed sectors would be LVL 180.7 mln.

Conclusion. Implementation of the scenario EU 100 would significantly increase the income of producers thus creating the economic basis for wide efficient use of rural production resources, land and labour, not placing an additional burden on the central government budget in the form of direct payments.

Figure 3-1 Possible increase in value of the staple products under impact of the EU market, LVL mln



Source: LSIAE calculations

b) Impact of direct payments on the income of Latvia's agricultural sector

With Latvia joining the EU, the potential size of direct payments (DP) in the agricultural sector was established by way of calculations based on the assumptions formulated in the above-described scenarios BA, EU 0, EU 100 and EU SS. The direct payment rates used in the analysis are reflected in the Annex 3.

The DP amounts in the scenarios BA, EU 0 and EU 100 were calculated taking into account the payment rates and objects established in the EU *acquis communautaire* and Latvia. In order to compare the amount of support among the scenarios, total support in the calculations on the livestock sector was recalculated into support per ton of products manufactured.

A completely different approach from the current support in Latvia and also from the EU CMO mechanism is the simplified scheme offered by the EC (DCP) whereby for a restricted period of time (three years) after joining the EU the government would use a simplified system of direct payments (SSDP) instead of the ordinary direct payment system, that is, payments of one type for the area of the usable agricultural land. The payment rates are calculated dividing the total DP amount assigned to the country by the total area of the country's agricultural land. To compare the impact of this payment scheme on the production of individual products, the DP amount assigned for the country was calculated by evaluating the area of agricultural land necessary for grass fodder and multiplying it by the DP simplified scheme rate allotted to the country.

The comparison of the projected EU DP size with the currently effected direct support payments to agriculture as described in the scenario BA and the evaluation of the size of direct payments per production sector shows that the income from this support in the majority of all sectors would increase in all EU scenarios except for the sectors of flax fibre, milk and pork (see Figure 3-2). The support in the form of direct payments to the pork sector will decrease, as in the EU CMO such support to pork is not envisaged at all. This also refers to flax fibre because the current Latvian payment rate per 1 ha of flax is higher than projected in the EU CMO. Producer support after joining the EU in the form of direct payments to the milk sector would be replaced by a set of market price support measures, and the direct payments envisaged by the EU Milk CMO and planned to be introduced in 2005 are considerably lower than those currently in force in Latvia.

A comparison of BA scenario and the EU 0 scenario shows that arable crops enjoy the highest increase of support, 84% in 2004 and as high as 164% in 2006. Of the livestock sectors the biggest winners would be livestock producers – 8.2 times in 2004 and up to 11.0 times in 2006.

Conclusion: For the majority of sectors enterprise income from DP would grow in all EU scenarios, however, this support level in the EU 0 scenario would be thrice lower than in the case if *acquis communautaire* would apply to Latvia already at its first, the accession year, as described by the results of the scenario EU 100. This causes well-grounded anxiety about the competitiveness of crop farmers, producers of livestock, sheep and goat meat products on the Common European Market as well as about the ability of these producers to utilise the resources of the structural funds.

If, compared with the BA scenario, the scenario EU SS would be implemented, the steepest support rise would occur in the cattle and sheep sectors, by 300% and 193%, respectively. This would ensure a smooth transition to these products to the EU support without a sharp reduction in producer incomes. By contrast, the sharp alterations in the level of support to crop producers, with support lower in the transition period than in the pre-accession time and a marked increase after the transition period, will negatively affect production. So for example, for field crops it would be 38% lower than the already low support level in the sector and after the transition period it would rise again on average by 127% compared with the BA scenario.

This scheme would in addition create distortions in the milk sector as the main CMO support mechanism in the EU is the market price support whereas as a result of the implementation of the scenario EU SS the sector would receive additional support from the payments per hectare of agricultural land and this in the transition period would create a “greenhouse effect” for the producers of this sector.

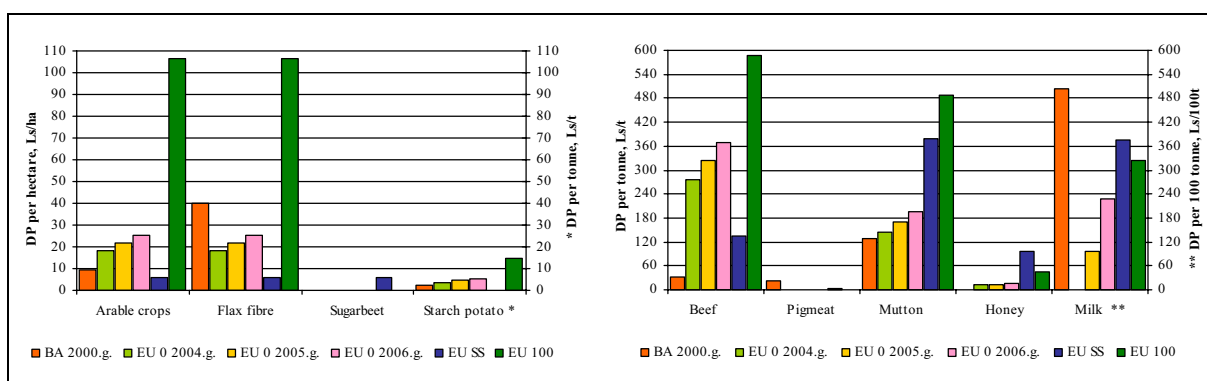
Conclusions. The DPSS would negatively affect the agricultural sector as a whole as it would promote the development of those sectors that already receive support through the market price support and would strongly reduce support to those sectors that are supported by means of direct payments and for which market price support is small or non-existent.

In the same way such policy would mean an introduction of a strongly changeable system of motivation in several agricultural sectors due to the lowering of the support level in comparison with the pre-accession period and then raising it again.

Furthermore, this support in the transition period is completely separated from the production of goods while after its termination the repeated direct correlation with the production of goods is envisaged according to the DCP and the theses of *acquis communautaire*.

Besides, the range of beneficiaries is enlarged, including persons who are not oriented on agricultural production for market thus; reducing the actual level of already shrank direct payments and reducing the competitiveness on the Single Market of farms oriented on production for market. Beneficiaries have no obligation to produce only to maintain the land area in line with the environment protection requirements. This is contradicts the set objective to build a competitive structure of market producers.

Figure 3-2 EU direct support value per unit under various scenarios, LVL/ha or LVL/t



Source: LSIAE calculations

c) Overall impact of the CMO on the income of Latvia's agricultural sector

The assessment by various scenarios about income changes in the agricultural sectors depending on the level of market prices and direct payments and a comparison of results with the BA scenario (the situation in 2000) reveals some relevant differences. Incomes by sector are given in Annex 4 and Figure 3-3.

Conclusions.

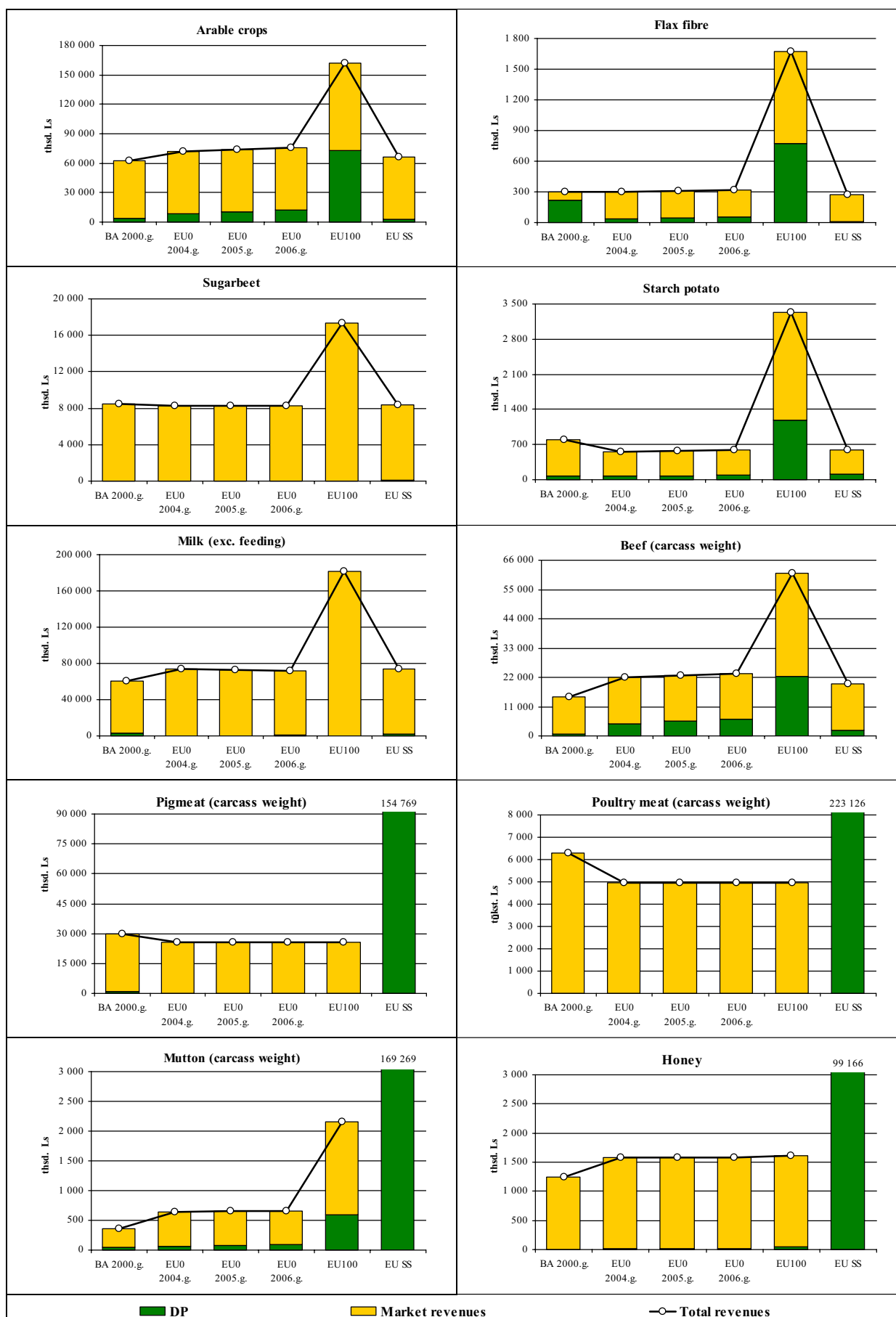
In the first three years after joining the EU (2004-2006) total income **for arable crops** according to the scenario EU 0 would increase by LVL 9.4 to 12.9 mln but according to EU 100 – by LVL 99.8 mln thus creating a good basis for the motivation of farm holders to invest in their farms and to make them efficient rural enterprises that would be able to guarantee a sufficient level of earnings to their employees.

For flax fibre, total income according to the scenario EU 0 would even decrease by LVL 0.15 mln in 2004 and LVL 0.13 mln in 2006 whereas total income in the scenario EU 100 would increase 3.9 times or by LVL 0.84 mln, mainly on account of the increase of 4.5 times in the payments for hectares. Taking into consideration the regional location of this sector in the economically depressed frontier area of Latvia, this would make an additional contribution to the economic development of the territory.

For sugar beets, total income according to the scenario EU 0 would be even by LVL 0.24 mln lower than according to the BA scenario since the EU price increase for sugar beets cannot offset the decrease in production output caused by the production quota fixed by the DCP for Latvia at only 52.5 thsd tons (for reference: in 2001 the sugar quota for Latvia was 64 thsd tons, which is 18% higher than the one proposed by the DCP). Consequently, with Latvia accessing the EU, production cut is inevitable although in its present agricultural policy Latvia has declared its aim to increase production up to the level of domestic market avoiding at the same time over production on this market. By contrast, in the scenario EU 100 higher sugar beet prices and the sugar production quota that equates sugar production to the projected domestic consumption in the future, guarantee the farmers an increase of income at LVL 8.8 mln.

For the producers of starch potatoes, a comparison between the BA scenario and the EU scenarios shows that total income after joining the EU will decrease by LVL 0.24 mln in 2004 to LVL 0.21 mln in 2006 according to the scenario EU 0 whereas according to the scenario EU 100 total income will increase by LVL 2.5 mln.

Figure 3-3 Income of the major agricultural sectors from market prices and direct payments under various scenarios, LVL thsd



Source: LSIAE calculations

For the **milk production** sector income growth after entering the EU will depend on the increase of producer prices. Beginning in 2005, institutional prices in the EU will be reduced as a result of which the income of EU producers from the sale of milk will also decrease but compared with the current level of Latvia, the earning of the Latvian producers would increase significantly. Thus comparing the scenario EU 0 with the BA scenario, income would increase by LVL 13.0 mln in 2004 up to LVL 11.1 mln in 2006. In turn, a comparison of the scenario EU 100 with the BA scenario shows that the income of the sector would grow on average by LVL 120.4 mln. In comparison with other branches of the Latvian agricultural sector (for example, production of starch and sheepmeat), milk production influences the development of Latvian agriculture significantly and the turnover of this sector is decisive for the economic position of Latvia.

For the **producers of beef**, compared with the BA scenario, income from prices and direct payments in the scenario EU 0 might increase by LVL 7.3 mln in 2004 to LVL 8.8 mln in 2006 but comparing the BA scenario with the EU 100 scenario income will rise as high as LVL 46.5 mln laying foundations for the development of special beef production sector which would be nearly impossible if the reduced direct payment rates persisted.

The sectors of **pigmeat and poultry meat** production in the EU are regulated only minimally and the main policy tools are the customs tariffs and export repayments (a supplementary support for the private storage of pigmeat). The market organizations of this sector are rather flexible and their development depends only on the mutual relations between supply and demand and the market price. By lifting the set of market price support measures that exist in Latvia, the EU scenarios predict a decrease of LVL 4.3 mln in the income of pigmeat producers and LVL 1.3 mln for the poultry sector.

In the **sheepmeat** sector, comparing the BA scenario with the EU scenarios, in the first three years after joining the EU, total revenue in the scenario EU 0 will rise by LVL 0.28 mln in 2004 and LVL 0.31 mln in 2006, but according to the EU 100 - even by LVL 1.8 mln. This is similar to the case of beef production but in regard of the scenario EU 100 there is an economic ground for competitive development of the sector.

The projected income in the **honey sector** from prices and the size of direct payments in the scenario EU 0 in comparison with BA scenario will increase by LVL 0.32 in 2004 up to by LVL 0.33 mln in 2006 but comparing the BA scenario with the EU 100 scenario incomes will rise by LVL 0.36 mln.

On the whole, with Latvia accessing the EU, a significant increase in income from the market price support is expected for the sectors of sugar beets and milk, and from direct payments to the sectors of arable crops, potato starch and beef production but a lower income under the impact of lower market prices is expected in the pigmeat and poultry sectors.

3.1.2. CAP rural development measures and income in agricultural sector

Possibilities to implement CAP rural development measures are analyzed in chapter 4 of this paper.

Based on the results obtained in present study, in this chapter we shall present only the aggregate figures describing the potential financing amounts for rural development measures.

In accordance with the published indicative indices, the sum of commitments for measures to be included in the Latvian Rural Development Plan in 2004 could reach almost LVL 50 mln, nevertheless actual financial flows (payments) would be considerably less – LVL 25,7 mln.

Still, not all these resources are directly associated with agricultural production. Taking account of assumptions referred to in the paper, increase in the share of incomes of agricultural producers related to agriculture from the EU EAGGF envisaged for rural development measures, could not exceed LVL 24 mln annually in the period from 2004 to 2006, which, together with national co-financing, in 2004 would provide an extra increase of income by 30 million LVL to agricultural producers. This is illustrated in figure 3-4.

Apart from these revenues, as the continuation of the study assesses, co-financing of investment for restructuring of rural economy may complement the revenues of agricultural producers.

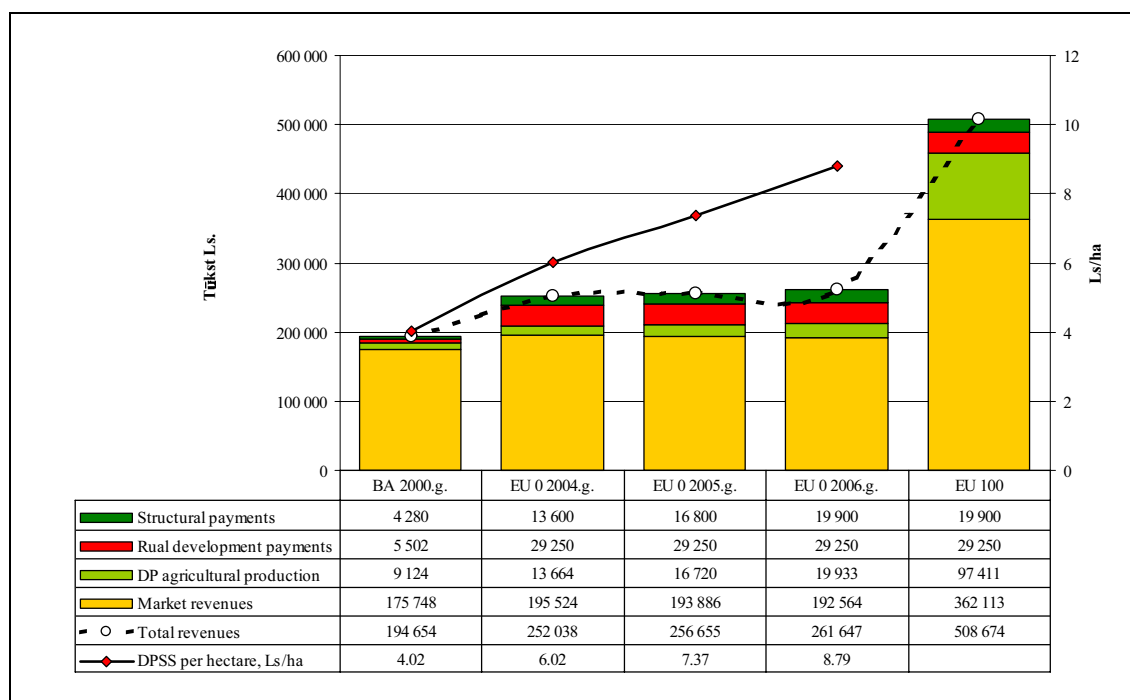
Total expected resource volume to be made available from EU Agricultural fund Management (structural) part, together with Latvian co-financing, is expected to be a little over 30 mln LVL in 2004, and to grow up to 28.7 mln LVL in 2006.

However, out of these resources, only a part would be associated with agricultural production. Assuming that in all programme structure the share designated for agricultural company development could reach 45%, while the share of Rural area development and adaptation measures 20%, we can forecast that support available to private sector un rural economy is likely to reach LVL 19.6 million in 2004, increasing to 28.7 million LVL in 2006. Out of this, LVL 13.6 mln to 20 mln could be investment support to agricultural company development.

3.1.3. General effect

To assess impact of CAP on the sector of agriculture in general, effect of four factors (price and quotas, direct payments, rural development payments and farm structural development measures) was analyzed (see Figure 3-4). On the first two factors – impact left by price and support schemes we analyzed in the chapter 3.1.1.

Figure 3-4 Increase in Latvia’s agricultural incomes upon accession to the EU (in accordance with the EC position 15.04.2002), LVL thsd.



Source: LSIAE calculations

Comparing the EU 0 and BA scenarios, **production value in market prices** (if already in the first year after accession production levels corresponded to production levels determined by the EU 0) in agricultural sector in general would increase by LVL 19.8 mln in 2004 and up to LVL 16.8 mln in 2006. Decline in increase of incomes can be explained by the projected reduction of price support for milk production that due to the agreed transition period for DP application, would not be correspondingly compensated by DP increase for milk producers. But the determined milk sales quota would still limit the production, in its turn. When comparing BA scenario with the EU 100 – incomes of agricultural sector in general would increase to LVL 186.2 mln or almost two times. Still, it should be underlined that such increase in incomes would be possible only on condition if sectoral production levels adapted to new EU CAP circumstances that could happen only towards the end of reported period.

The aggregate State support to agriculture in the form of DP under EU 0 scenario, if compared with the current national support (BA scenario), in 2004 would be LVL 4.5 mln, the difference being increased to LVL 10.8 mln in 2006.

Under scenario EU 100, the level of direct payments related to production in the nearest future would increase to even LVL 97.4 mln.

Summarizing gains and losses of **all four factors** we see that, under EU 0 scenario income in agricultural sector would increase by LVL 57.4 mln in 2004 to LVL 67.0 mln in 2006 if compared with agricultural income received under BA scenario but under EU 100 scenario this increase would reach LVL 314.3 mln, comparing with the current income in agriculture.

We shall seek for the answer to the question – is it possible and sufficient or a sustainable development of the Latvian agricultural sector – in the subsequent chapters of the present analytical study.

3.2. Sectoral income assessment

In the previous chapter we assessed the impact of various accession scenarios on incomes of Latvia's agricultural sector. This chapter, applying methodology of Economic Accounts for Agriculture and the prepared database on actual situation in the sector in 2000, will deal with the evaluation of the possible differences in incomes of Latvia's agricultural sector.

Possible incomes of agricultural sector are evaluated, applying prices of 2004 envisaged by the EU as well as DP within CAP under 2 of the above mentioned scenarios:

- EU 0 when 25% of the EU direct payments currently applicable by *acquis communautaire* are applied to Latvia;
- EU 100 that would mean application of a full level of the direct payments to Latvia.

Production stays on the actual level of the year 2000, taking into account only restrictions laid down by the EU quotas (they restrict production of sugar beets and milk). The support level is also envisaged, taking account of actual sown areas, output and the number of livestock in 2000 as well as quotas offered by the EU.

3.2.1. Product value

Analyzing changes of production value in terms of producer prices without taking account of the direct payments (Annex 5), it can be concluded that under impact of CAP prices (regarding groups of products to which these prices have been envisaged, regarding others, in lesser proportion, applying the actual prices of 2000), the sectoral gross product would increase by 15%, including crop sector - 9% but in livestock sector by 21% against the level of 2000. In crop sector the most considerable increase in prices is envisaged only in respect of certain crops – sugar beets and potatoes (in respect of products mentioned it is caused by the low prices of 2000) but in livestock sector – considerable increase (respectively by 80% and 64%) for milk and beef, for honey - considerable reduction (by 38%), eggs (by 29 %), poultry meat (19%) and pork (12%).

When summarising support (direct payments) provided for within CAP and comparing with those actually paid in 2000, it can be seen that applying support level of 25% under scenario EU 0, the total level of support is not considerably changed nevertheless, its structure changes. The major part of support is channeled to arable crops (support to crop sector would increase from LVL 4 mln to LVL 8.3 mln or 2.1 times) but it would be reduced in livestock sector (from LVL 4.5 mln to LVL 3.4 mln or by 24%). Nevertheless, in several sectors it is reducing considerably that together with forecasted price reduction may threaten the very existence of these sectors. Here pig breeding and flax growing should be mentioned.

The total value of output under EU 0 scenario (25% level of support) would increase by 16% against the year 2000. It should be noted that in 2000 Latvia's agriculture was not yet recovered from the crisis of 1998-1999, and its production levels as well as prices were one of the lowest in visible past. Already in 2001 (Table 3-2) the value of output increased by 14% (including prices - by 7.2%)

therefore, if we evaluate output in the prices of 2001, the increase forecasted for the year 2004 amounts to approximately 8%.

Whereas, under scenario EU 100 (100% level of support) amount of subsidies (payments) would amount to LVL 45.5 mln but the value of agricultural output LVL 315.6 mln that is by 30% more than in 2000 (more by 21% if compared with prices of 2001).

Table 3-2 Key items building agricultural income (a comparison of the EU CAP scenarios and the actual figures for 2000 and 2001).

Items	Value in basis prices (incl. product subsidies, mln LVL)				Change in % (+/-)		
	BA 2000.	BA 2001.	2004.		BA 2001. to 2000.	2004. to 2000.	2004. to 2000.
			EU0	EU100		EU0	EU100
Crop production	115.2	122.4	129.7	154.6	6	13	34
Livestock production	127.5	153.2	152.1	161.0	20	19	26
Agricultural output	242.7	275.5	281.8	315.6	14	16	30
	23.6						
Agricultural "sector" output	269.7	300.7	307.3	341.1	11	14	26
Intermediate consumption	151.1	157.4	171.8	171.8	4	14	14
Gross value added	118.6	143.3	135.4	169.2	21	14	43
Net value added (factor expenses)	86.9	107.3	102.1	135.9	23	17	56
Income from agricultural activity	82.3	102.7	95.4	129.2	25	16	57

Source: LSIAE calculations on the base of EAA

3.2.2. Expenditures and income

By deducting all the payments needed to ensure production (intermediate consumption and others) as well as by adding the received payments that do not relate to specific products, we receive income of the sector. The aforementioned payments at the present moment we can assess only approximately, taking account of the actual level and the projected trends.

Table 3-3 General principles for agricultural performance calculation.

Output of agricultural goods = crop farming + livestock farming (including direct payments).
Output of agricultural "sector" = output of agricultural goods+inseparable supplementary activities.
Gross added value = output of agricultural "sector" – intermediate consumption.
Net added value (factors' costs) = gross added value – production linked taxes + production linked other subsidies (compensations) – consumption of equity capital.
Income from agricultural activities = net added value – payment for lease of land – interest on the use of loan capital.

The intermediate consumption is assessed, taking account of information on prices for fuel, fertilizers and compound feeding stuffs in the EU (mainly in Germany), envisaging, similar to calculation of output value, relevant prices in 2004 in Latvia. Approximation to the EU level of prices for other resources is also foreseen. When projecting changes in the levels of consumed resources, trends observed lately in Latvia have been taken into consideration. The intermediate consumption has been corrected, taking into account the foreseen reduction in production of sugar beets and milk due to quota restrictions. In the result of these calculations value of intermediate consumption goods purchased outside agriculture is estimated to be 18% more than in 2000 (LVL 122.4 mln against LVL 103.5.mln) but including output of agricultural sector, the increase is estimated to be 14%. This increase is basically influenced by the difference in prices for diesel fuel in Germany and Latvia (67%) as well the foreseen increase in prices for the bulk of resources by 10-25%. According to this pattern also the rest of payments have been assessed.

Income from agricultural activities in the meaning of these calculations covers income from entrepreneurship, salaried staff income as well as personal income tax.

The aforementioned Table shows that in 2004 after accession, at the support level of 25% income from agricultural activities are projected even less than 7% as compared with actual level in 2001. It should be noted that the volume of output in 2001 increased by 4.1%. As compared with 2000, it is envisaged to reach an insignificant increase in incomes - 16%. Fewer than 100% payment level sectoral income would exceed indices those of the year 2000 by 57% but only by LVL 47 mln.

One of the major factors reducing production level and also income, as compared with the possible situation, are production quotas. Quota restrictions obliges to reduce milk production by 14% (taking into account also the foreseen structural changes) and sugar beet production by 13% as compared with the actual level in 2000 (Annex 5). Due to this, the value of milk output is reduced by LVL 17.4 mln and of sugar beets by LVL 1.3 mln, in total by LVL 18.7 mln. Income is also reduced respectively. Reduction of income for this reason, in accordance with the calculations, is envisaged by LVL 12.6 mln (prices of 2004). It makes about 10% of the total income in agriculture.

These calculations have been based on a number of assumptions and they do not cover possible changes in production structures, which, upon changing of production conditions of certain products, will happen for sure. But a more speedy increase in income is hindered by production and support payment quotas planned by the EU, which is the reason why it is hardly possible (if at all) to increase production of goods ensuring increase in income (milk, sugar beets, cereals, partly beef). Whereas, in production of these goods, which are getting less beneficial, reduction is envisaged (poultry meat, pig meat, eggs, etc.) therefore, changes in amounts may negatively affect the aggregate income. Anyway, this envisages even more alienation of production from ensuring domestic consumption. Calculation of costs do not cover the costs necessary for agricultural establishments to be able to comply with requirements laid down by the EU regulatory documents.

3.3. Impact of CAP measures on agricultural holdings

The EC document published on January 30, 2002 highlights:

- “The unfavorable farm structure in the candidate countries, i.e. in particular the large number of small farms and the existence of durable semi-subsistence farming combined with the presence of an emerging commercial farming sector pose a range of administrative and economic dilemmas for the Common Agricultural Policy.”
- Furthermore it is assessed that “A key risk during the early years after accession is that the restructuring process and Community instruments will be associated with growing rural unemployment and poverty without being able to tackle the root problem of alternative sources of income directly.”
- It is based on the EC conclusion that “Excessive cash injections through direct payments in favour of specific segments of one professional group would risk creating considerable income disparities and social distortions in the rural societies of the new Member States, potentially creating imbalances both within rural areas (due to wide differences in land ownership) and between rural and urban areas.”

Assuming that rules of economics are driving the national economic development in the direction where utilization of resources provides the highest increase of welfare, and that the two basic and available resources of rural economy is labour force and land, the direct cohesion of these resources is in the sector of agriculture. In this analytical paper we would like to assess how agricultural integration conditions offered by the EC could influence the development potential of agriculture as the basic sector of rural economy and whether there are grounds for concerns about structural distortions in the long run.

3.3.1. Object of analysis and methodology

To assess CMO impact on actual farm income level, FADN data of 2000 on agricultural producers is used, assuming that under conditions of common market prices for agricultural products are changing, the same refers to prices for purchased and own-farm produced seeds and fodder but the volume of output and the rest of production costs stay unchanged. The impact of direct payments is assessed by

applying eligibility of direct payments under CAP to relevant characteristics of agricultural holdings included in the FADN database.

a) Groups of specialization

Groups of specialization of agricultural holdings have been determined applying classification criteria adopted in FADN analysis that are based on standard gross coverage indicators. Taking into account Latvia's agricultural structure as well as CMO peculiarities, from the group of agricultural holdings specialized in arable crops have been isolated agricultural holdings also dealing with arable crops but with the developed sugar beet production. Directions of specialization analyzed in this analytical work are as follows:

- Arable crops, mixed field crop farming with sugar beets,
- Arable crops, mixed crop farming without sugar beets,
- Dairy farming,
- Rearing of grazing animals, excluding dairy farming,
- Pig breeding, poultry farming,
- Mixed agricultural holdings.

By regions:

- Riga region,
- Vidzeme,
- Kurzeme,
- Zemgale,
- Latgale.

b) Analyzed scenarios

This paper compares projected economic performance after possible accession to the EU with Latvia's actual results in 2000. Analytical scenarios of accession consist of two components:

- Projected product price level (shown in Table 3-4);
- Direct payments provided by CAP where these direct payments with a view to comparability of the calculations have been recalculated per one production unit (Table 3-5). In the calculations DP level is calculated by applying the support measure to all eligible areas and livestock groups though in practice not all the agricultural holdings apply for their due sums therefore, actual level of support on farms could be less than that shown in the given calculations.

The following scenarios have assessed direct payments:

- Offered by the Commission - a full application scheme of direct payments with the rate of 25% (EU 0) of the currently applied in the EU Member States (in accordance with the EC offer)
- The EC proposed alternative simplified payment scheme, proceeding from the 25% rate payments (EU SS);

Latvia-proposed full direct payment scheme at 100% rate (EU100), as currently effective in the member countries (in compliance with Latvian national policy). Apart from the scenarios described above, an extra version was assessed on the condition that full scheme is applied at a 50% rate (EU 50).

According to assumptions, levels of production productivity and resource consumption do not change in scenarios but applying the prognosticated prices, the value of agricultural output and agricultural products consumed in production process: seed and animal feed, is changed.

Table 3-4 Agricultural product prices, LVL/tonne

	LVL actual level in 2000.g.	European Union 2004. – 2006.g.	%
Wheat	61	62	3
Rye	56	60	6
Barley	60	63	4
Oats	56	64	13
Pulses	74	101	36
Rape	104	111	7
Flax fibre	69	73	6
Sugar beets	21	25	19
Potatoes	23	27	16
Milk	87	151	73
Beef meat (slaughter weight)	618	1019	65
Pig meat (slaughter weight)	925	813	-12
Sheep meat	780	1287	65
Poultry meat	869	686	-21
Honey	1250	1565	25

Source: LSIAE calculations (see subchapter 3.1.1.a)

Table 3-5 EU direct payments to Latvia, LVL/tonne

		EU0	EU50	EU100
Area-related payments	LVL/ha	18.27	36,54	106.41
For starch potatoes	LVL/t	3.74	7,48	14.95
Dairy production	LVL/t	0.00	0.97	0.00
Cattle special premium	LVL/animal	29.56	59,12	118.23
Suckler cow premium	LVL/animal	28.15	56,3	112.60
Slaughter premium	LVL/animal	11.26	22,52	45.04
Calf slaughter premium	LVL/animal	7.04	14,08	28.15
Extra payments for cattle	LVL/animal	4.22	4.22	8.96
Ewes premium	LVL/animal	2.96	3.55	11.82
Ewes payments	LVL/animal	0.58	1,16	0.00
Bee colonies	Ls/colony	0.21	0.42	0.84

Remark: * Average exchange rate in 2001 was 1 EUR = 0.563 LVL (CSB data)

Source: LSIAE calculations

3.3.2. Assessment of price impact

When analyzing CMO impact, first of all the farm output is assessed by applying EU prices (Table 3-6). In average the value of output of all FADN farms increases by 18%. Nevertheless, the impact of price factor is different in various specialization groups. Impact of a positive price change is felt on dairy farms where the value of output is increased by 28%, also on farms with mixed specialisation – by 25%, but a negative impact of the EU prices is observed on farms specialized in pig and poultry breeding, reduction - by 17%.

Table 3-6 Impact of the EU prices on changes in output value by specialization directions, LVL thsd.

	Mixed arable crop farming with sugar beets	Mixed crop farming without sugar beets	Dairy farming	Rearing of grazing animals, excluding dairy farming	Pig breeding, poultry farming	Mixed agricultural holdings	All activities
Crop production							
Latvia 2000	27085	3633	2212	12698	2570	2211	3016
European prices	29717	3844	2314	13100	2789	2339	3201
Changes %	9	5	4	3	8	5	6
Livestock production							
Latvia 2000	1488	1500	3405	17679	105616	2706	3139
European prices	2271	2098	5792	29552	88560	4262	4414
Changes %	34	29	41	40	-19	36	29
Production in total							
Latvia 2000	30932	6070	6485	52103	115014	5157	6814
European prices	34347	6879	8975	64379	98177	6840	8274
Changes %	10	12	28	19	-17	25	18

Source: LSIAE calculations on the base of FADN data

When evaluating how assessment of output is changing under impact of the EU prices in regions (Table 3-7), we see that according to specialization in Zemgale region it is arable crops - also the price impact is the least – increase by 14%, but highest increase is observed in Vidzeme and Latgale – 21%. Regarding output of crop sector, price changes do not bear regional differences: 5-6%, but regarding animal sector, in average prices are increasing in all the regions but in Zemgale is observed the least increase – 22% that is linked with a higher significance of farms specialized in pig and poultry breeding in this region.

Table 3-7 Impact of the EU prices on changes in output value by regions, LVL thsd.

	Riga region	Vidzeme	Latgale	Kurzeme	Zemgale	Total area
Crop production						
Latvia 2000	17429	2162	2167	3218	3945	3016
European prices	18400	2305	2307	3390	4182	3201
Changes %	5	6	6	5	6	6
Livestock production:						
Latvia 2000	13740	2722	2024	3921	3869	3139
European prices	20223	4112	3020	5731	4968	4414
Changes %	32	34	33	32	22	29
Production in total						
Latvia 2000	37675	5636	4335	8769	8367	6814
European prices	45128	7169	5473	10751	9703	8274
Changes %	17	21	21	18	14	18

Source: LSIAE calculations on the base of FADN data

3.3.3. Impact of direct payments

While analyzing the impact of the received direct payment, we are going to assess four scenarios: direct payments (EU 0) on 25%, 50% (EU 50) and 100% (EU 100) level as well as fixed payments per ha of agricultural land – according to a simplified scheme (EU SS).

According to the direction of farm specialization (Table 3-8), support in all the scenarios of direct payments after accession to the EU, as compared with that allocated according to Latvia's national support program 2000, is increasing in average from 21% under scenario of EU 0 to 245% under scenario EU 100. At the same time it should be noted that upon application of a simplified scheme, the total support received in the form of direct payments by farms covered by FADN by reduces by 14%.

Upon assessing the level of payments per ha of agricultural land used by Latvia's FADN farms in 2000, in average it made 17 LVL/ha that is a little bit less than that received under EU 0 scenario but under scenario EU 100 it exceeds the level of support for more than 3 times in Latvia in 2000. Under the simplified scheme, support is reduced by 14% and that makes 14 LVL/ha.

The impact of support scenarios on farms with various specialization is sharply different, the greatest benefits experience dairy farms and mixed specialization farms, respectively 48% under scenario EU 0 and increasing under EU 100 scenario to 374%.

Table 3-8 Support received by farms under various scenarios, by specialisation directions

	Mixed arable crop farming with sugar beets	Mixed crop farming without sugar beets	Dairy farming	Rearing of grazing animals, excluding dairy farming	Pig breeding, poultry farming	Mixed agricultural holdings	All activities
Changes in the EU support comparing with Latvia in 2000, %							
EU 0	10	27	48	-5	-84	19	21
EU 50	66	94	161	46	-75	104	97
EU 100	175	227	374	145	-58	263	245
EU SS	-18	-5	-2	-38	-86	-18	-14
Support LVL/ha of agricultural land used							
Latvija 2000	23	17	12	36	83	16	17
EU 0	25	22	18	34	13	19	20
EU 50	38	34	32	53	21	32	33
EU 100	63	57	57	89	35	57	57
EU SS	19	17	12	23	12	13	14

Source: LSIAE calculations on the base of FADN data

Direct payments are reducing under all the scenarios on pig and poultry breeding farms. These farms are not engaged in pig and poultry breeding only therefore, the impact of different levels of DP support is felt there, and the least reduction of support is under EU 100 - by 58% but calculating per 1 ha of agricultural land, it reduces from LVL 83 in Latvia in 2000 to LVL 35 LVL/ha under EU 100 % scenario.

Under the simplified scheme, as compared with 2000, support is reduced on farms with all the specializations in average by 14% but on pig and poultry breeding farms – even by 85%. Under less simplified scheme dairy farms and crop farms (without sugar beets) are losing – respectively 2% and 5% of the support received in 2000. Though, the reduction on farms with grazing animals makes 38%, still farms of this group benefits from the highest support per 1 ha of agricultural land – LVL 23 that is equal to EU 0 scenario in the groups of crop farms.

Analyzing support level in Latvia's regions (Table 3-9), we see that in average in 2000 it was 17 LVL/ha but in Riga region it was 2.5 times more than the average one. Under scenarios of direct payments, farms of all the regions are benefiting except Riga region where under EU 0 scenario support is reduced from LVL 42 to LVL 33 – by 21%, still in Riga region support per 1 ha of agricultural land stays the highest under any of the scenarios. Under the simplified scheme – farms of Riga and Latgale regions where support was the highest are losing, in other regions it is close to Latvia's results in 2000.

Table 3-9 Support received by farms under various scenarios, by regions

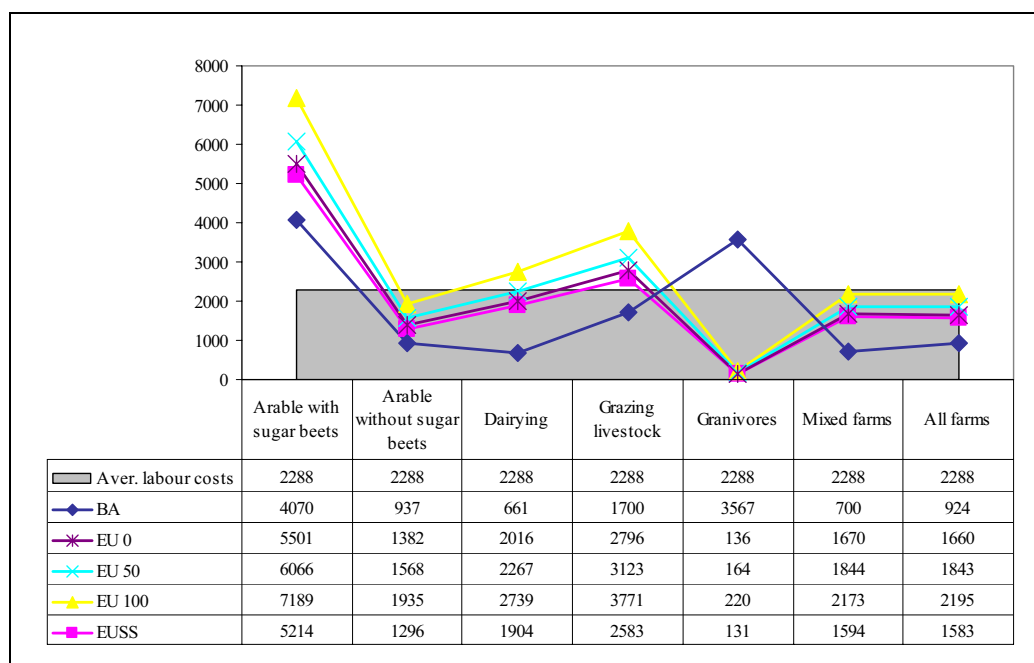
	Riga region	Vidzeme	Latgale	Kurzeme	Zemgale	Total area
Changes in the EU support comparing with Latvia in 2000, %						
EU 0	-21	25	-14	60	26	16
EU 50	14	102	37	174	106	89
EU 100	81	249	136	396	259	228
EU SS	-38	-4	-35	3	-6	-14
Support LVL/ha of agricultural land used						
Latvia 2000	42	15	22	12	15	17
EU 0	33	19	19	19	19	19
EU 50	48	30	31	33	31	31
EU 100	76	52	53	60	53	55
EU SS	26	14	14	12	14	14

Source: LSIAE calculations on the base of FADN data

3.3.4. Income level

To assess the income level on farms of different size and structure, having in principle a different labour force employment system, the net added value (newly created) per unit of labour is used in this analysis as an impartial indicator. It allows avoiding problems with structural differences, to evaluate and incorporate into calculation the cost of non-salaried labour.

Analyzing the level of support on farms with various specialization (Table 3-10), it is obvious that under all the scenarios and in all groups of farms the net added value per unit of labour is increasing as compared with 2000

Table 3-10 The net added value on farms per unit of labour (UL) under various scenarios, by specialization directions, LVL/UL


Source: LSIAE calculations on the base of FADN data

Exception is pig and poultry breeding farms whose results are considerably worse under all the scenarios as not only the EU prices for products of pig and poultry sector are low but also the level of national support though, according to Latvia's results of the year 2000, this group of farms had the highest added value per labour unit after crop farms engaged in sugar beet production.

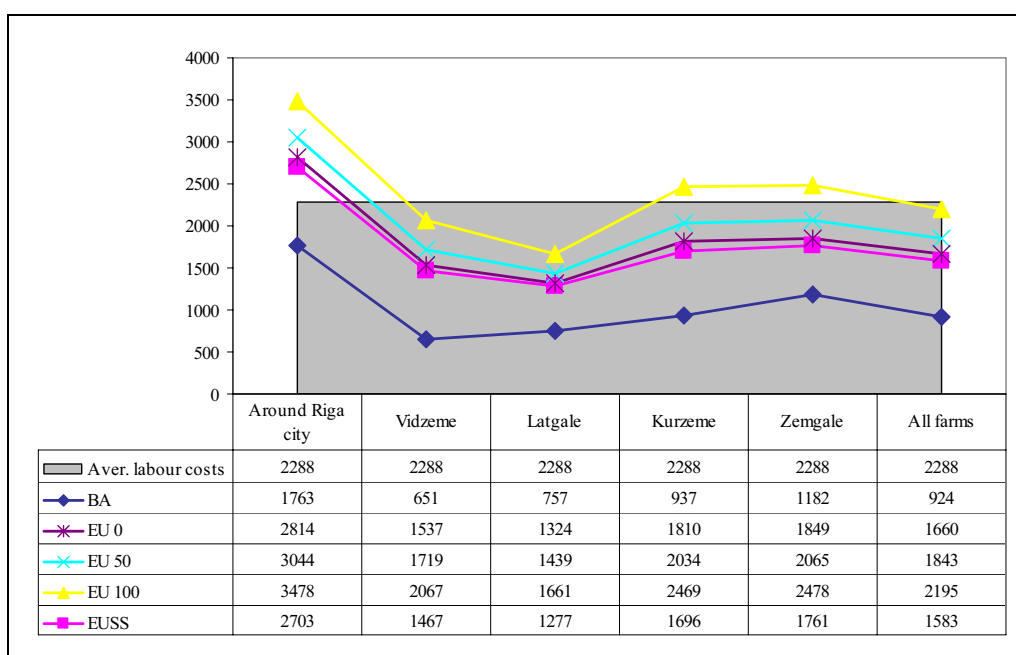
Nevertheless, if the level of income in agricultural sector is compared with income of those employed in other sectors of the national economy, and this income for the sake of comparison, as reflected in statistics, is characterized as the salary of employed population with social tax paid by employer added, it is obvious that only in two of the analyzed groups – crop farms with sugar beets and farms with grazing animals – the net added value per labour unit is higher than the average level of personnel costs in the national economy. Besides:

- It shows in all the scenarios, irrespectively of the direct payments (that for sure increases also the income level of these farms);
- These calculations do not cover remuneration on the capital as the production factor, and farms of this sector according to their availability of funds are in a leading position.

Whereas, of all the scenarios the least income from agricultural production farms receive under the simplified scheme. It serves as the basis for conclusion that this scheme is not solely simplification of administration system but it can be looked upon as a completely different policy mechanism with diverse impact on farms.

Analyzing the newly created value (net value added) by regions (Figure 3-5), it is obvious that income level is higher under all the scenarios as compared with the year 2000. Still, implementation of the EU CAP only in Latvia’s most developed region – Riga region under any of the scenarios, could mean equalization of the average income and even exceeding it, as compared with the average level of personnel cost in the national economy. Whereas, only under scenario EU 100 in two regions more – Kurzeme and Zemgale income equalization with average indexes of the national economy could be observed that would be a sufficient motivation for economic revival of agriculture as a backbone of rural economy.

Figure 3-5 The net added value on farms per one unit of labour force under various scenarios, by regions, LVL/LDV



Source: LSIAE calculations on the base of FADN data

3.4. Determination of a long-term perspective by means of LAPA model

3.4.1. General assessment of the development perspective of Latvia’s agricultural sector

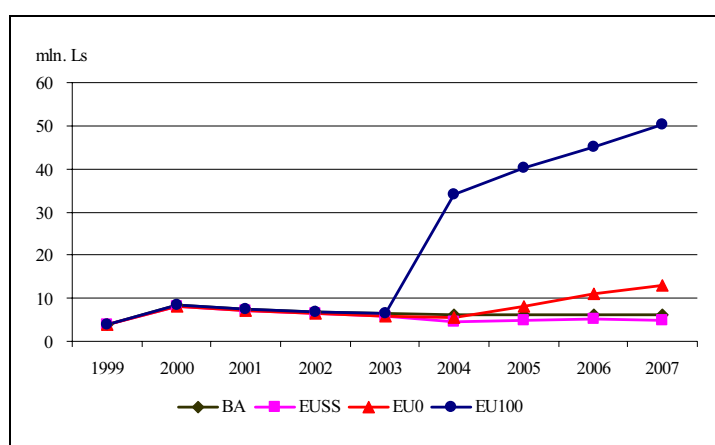
In order to assess the development opportunities of Latvia’s agricultural sector in due time, and advantages and possible losses thus obtained were simulated and analyzed by LAPA model (see Table 1-1) under various sectoral development scenarios, depending on accession conditions of the Republic of Latvia. Development perspectives of Latvia’s agricultural sector were assessed on the basis of the following criteria:

- Agricultural production (distribution) levels;
- Land use in agriculture;
- Labour use in agriculture;
- Income the sector of agriculture;
- Level of the governmental support.

a) Level of support for production promotion

Sectoral development perspectives are to a large extent dependent on the State support measures to be implemented in future. In Latvia, support measures play an important role, as without them Latvia's agriculture will not be able to turn into an effective, industrially developed sector. Upon accession to the EU, the possible support to Latvia's agriculture may increase according to scenarios EU 0 and EU 100, as compared with the current policy pursued by the Republic of Latvia BA scenario (Figure 3-6).

Figure 3-6 Projected level of the national direct payments to Latvia's agriculture in the period from 1999 to 2007, LVL mln



Source: LSIAE calculations

Upon accession to the EU on condition that direct payments are administered applying standard scheme and taking reference areas, yields and number of animals into account, the direct support to agricultural producers in 2004 could increase to LVL 34 mln under EU 100 scenario. But under EU 0 and EU SS scenarios Latvia's national envelope is reduced to 25%, 30% and 35% - respectively in the years 2004, 2005 and 2006, upon the moment of accession the EU direct support in agriculture could be equal to the current level of the direct payments – approximately LVL 5.5 mln.

The increased DP rates do not compensate the reduced amounts of resources involved in production chain, than those determined by reference figures. Moreover, if under EU 0 scenario, the EU support increases step by step, then under the EU SS scenario the direct support will remain unchanged, even if the amount of the national envelope of payments gradually increases. With the growth of the projected yields of crop sector, agricultural land areas actually used in production will reduce.

Under a simplified scheme (EU SS scenario) the total direct support to Latvia's agricultural producers would not increase.

b) Sectoral growth

As shown above, depending on the possible policy scenario, levels of the direct support may differ considerably, that, in its turn, may essentially influence the further development of entire Latvia's agriculture. Thus, analyzing possible production levels of agriculture on condition that the annual rates of efficiency and productivity growth are equal in all of the scenarios, it could be concluded that thanks to respective levels of the State support already in 2007 agricultural production levels, as compared with 1999, could increase. Still, in case of the EU 0 scenario the increase would be only 14% while under the EU 100 scenario this indicator would amount to 61% (Figure 3-7).

When analyzing the possible agricultural development, it is clear that BA scenario has certain advantages, as compared with the EU 0 and the EU SS scenarios. Nevertheless, it should be noted that according to its assumptions BA is rather optimistic scenario as it envisages a considerable increase in productivity, assuming that financial resources available for technological upgrading are not limited. Apparently, the stringent restrictions imposed on milk and sugar production (see the penult column of the Table 1-1) provided by the European Commission proposals, will not allow for considerable increase in production levels (the EU 0 and the EU SS scenarios). Thus, Latvia's agricultural producers would be able to produce more products under BA scenario.

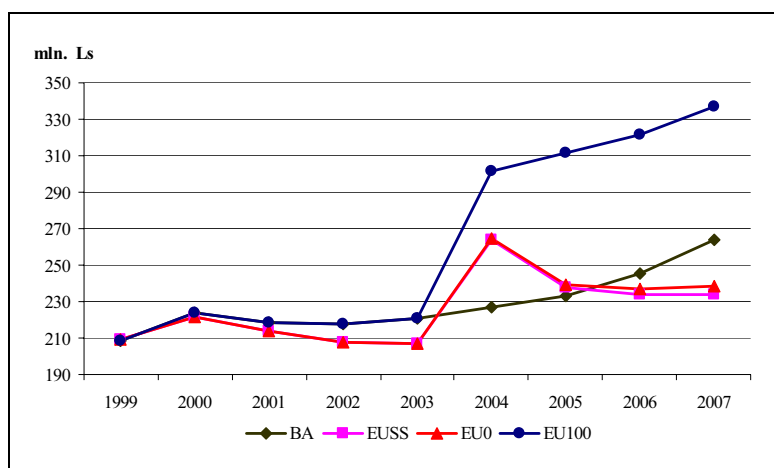
The reduction of final output levels by 10% in 2005 under the EU 0 and the EU SS scenarios, as compared with the year of accession, is forecasted based on milk price reduction on the European market.

It should be mentioned that the size of milk quotas applied under the EU 0 and the EU SS scenarios, amounting to 58% of milk quantity produced in 2001, has a considerable impact on the entire development of Latvia's agriculture. For example, in accordance with the calculations, milk output in 2004 could be limited within 489 thsd. t only if it is possible to apply already in pre-accession period the actual limiting mechanism of milk production and respectively the amounts of milk supplies would be limited within the level of 550 thsd. t in 2003 (as a reference – actual milk supply in Latvia in 2001 was 667 thsd. t).

In calculations this mechanism, limiting milk production, was applied when simulating the pre-accession period under the EU 0 and the EU SS scenarios. Thus, the accession conditions for the year 2004 under the EU 0 and the EU SS scenarios were projected differently from the EU 100 and BA.

Conclusion. When analyzing agricultural production perspectives, it is clear that compliance with requirements of the EU 0 and the EU SS scenarios (on possible milk sales quotas) without already implemented milk production limiting mechanism and additional social measures, may lead to social conflicts in rural areas due to imposing on farming activities of sharp and uncompensated institutional limitations (quotas).

Figure 3-7 Projected agricultural output levels in the period from 1999 to 2007, LVL mln



Source: LSIAE calculations

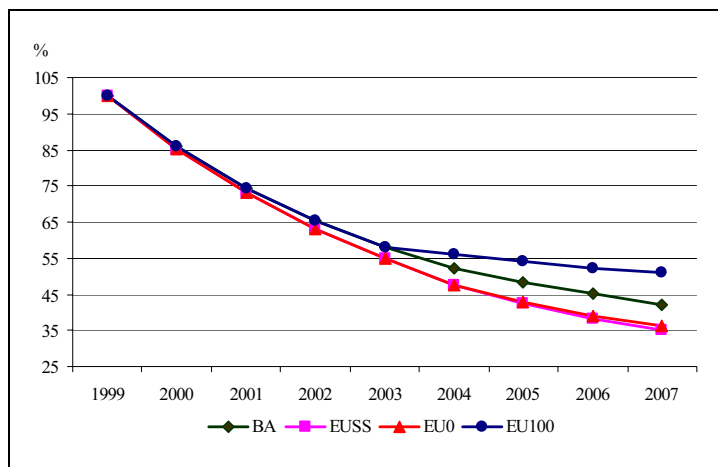
c) Utilization of resources

The levels of support payments and measures restricting production have an essential impact on utilization of resources in agricultural production. It is projected that increase in production efficiency and productivity will give rise to significant reduction of areas used for agricultural production purposes. Nevertheless, depending on the scenario of policy development, actual areas used in production would differ considerably.

For example, in 2007, if the EU 100 scenario is applied, it is forecasted that agricultural land areas used for agricultural production would be even 1,35 times more than under the EU SS scenario. The reason for this is mainly milk production volumes limited by quotas as well as the production of arable crops and some other products influenced by limited direct payments (Figure 3-8).

Conclusion. Only under scenario EU 100 about half of productive agricultural land resources currently available in Latvia would remain in active production chain showing a trend towards stabilization.

Figure 3-8 Projected size of agricultural area in the period from 1999 to 2007, percentage

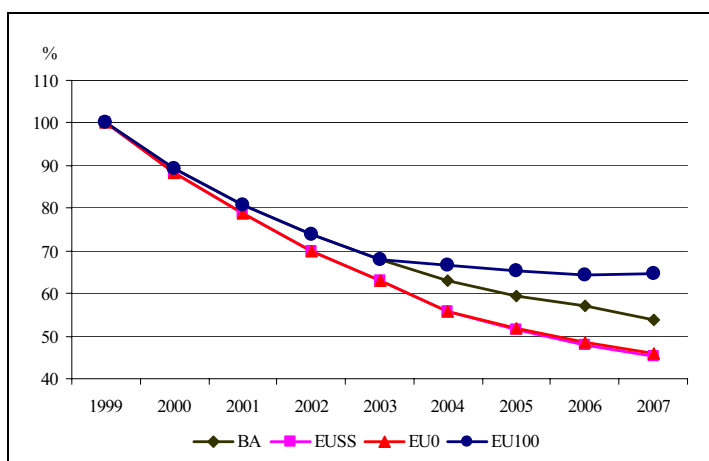


Source: LSIAE calculations

Similar tendencies are being observed also in the use of labour. As it is shown in the Figure 3-9, only in case the EU 100 scenario is applied, increase in agricultural production allows for stabilization of the use of labour force together with maintenance of importance of the role agriculture plays in rural economy. The projected number of full-time workers involved in agricultural production would reach 4-5% of the total employed population in 2004-2005. In its turn, under the EU 0, the EU SS and BA scenarios, the trend of rapidly decreasing use of labour does not change even after accession of Latvia to the European Union.

Conclusion. Only under the EU 100 the number of population employed in agriculture would stabilize on the level of 4-5%. Under other scenarios if new jobs are not created in other production sectors, rural socio-economic problems may become more aggravated.

Figure 3-9 Projected use of labour in the period from 1999 to 2007, percentage



Source: LSIAE calculations

d) Income in agricultural sector

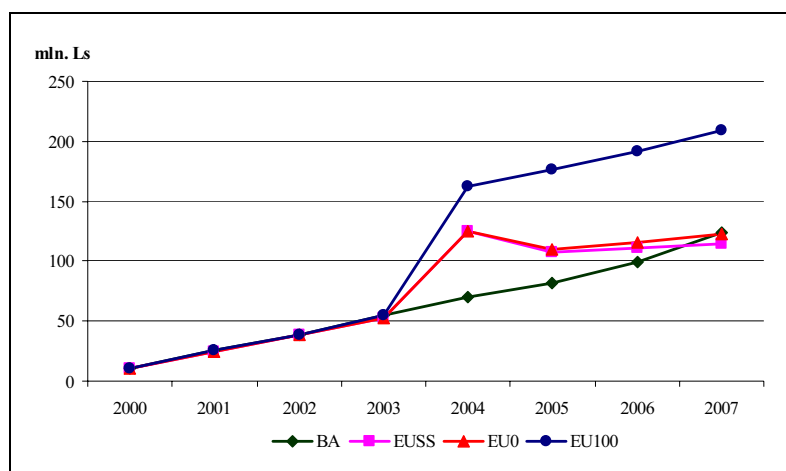
In after Latvia's accession to the EU, scenarios EU 0 or EU SS are applied; the projected Latvia's agricultural sector income in 2004 might amount to LVL 125 million (see Figure 3-10), rapidly increasing in the year of accession. But already the next year 2005, in accordance with the EU 0 and the EU SS scenarios, income in agricultural sector will reduce, taking into account the introduction of restricting measures (quotas) and a possible price reduction in dairy and cereal sectors. Only under EU 100 scenario, it will be possible to maintain the tendency of a stable income growth, enabling to

fill in the gap between income levels of population employed in agriculture and those in other sectors of economy, also after Latvia's accession to the EU.

Comparing with the rest of scenarios, EU SS scenario is the most pessimistic one, as the major essential production limits associated with the lowest support level to producers will lead to lower incomes in agricultural sector.

Conclusion. Only under EU 100, a stable income growing tendencies will be maintained also after Latvia's accession to the EU, and it will allow to fill in the gap between income levels of population employed in agriculture and that in other sectors of economy.

Figure 3-10 Projected income in agricultural sector in the period from 1999 to 2007, LVL mln



Source: LSIAE calculations

3.4.2. Assessment of agricultural sectors

When analyzing the impact of the EU accession scenarios on individual agricultural sectors in Latvia, we assessed the differences in competitiveness of individual agricultural sectors. In the choice of the assessment criteria we relied upon the definition of core of competitiveness given in the economic literature that the competitiveness means obtaining and retaining of the market share and “keeping it profitable.

Therefore, to characterize competitiveness we used in this analytical summary a ratio of production levels of every next year against the level to be reached by 2004 envisaged by sectoral development strategy of the sector to be analyzed. Feasible development trends of each agricultural sector have been obtained by means of economically mathematical model LAPA on conditions of various scenarios (see Figure 3-11).

Undoubtedly, a certain distortion in assessment of the sectoral competitiveness can be seen in this analysis regarding dairy and sugar as well starch potato sectors, which are directly limited by possible production (distribution) quotas. But these sectors have also indirect effect on the related sectors as for example – production of field crops exerts an indirect influence on production of pig meat; production of milk – on production of field crops and beef but production of sugar beets is related to production of field crops, mainly - wheat. In the same manner it should be taken into account that calculations do not include a possible rise in prices for resources that would occur by fully implementing restrictions imposed by environmental protection required by the EU and acquiring resources on the EU Single Market.

Various accession scenarios have a significant effect on practically all-major sectors of agriculture. But the different CAP application models affect most of all production of field crops, milk and beef.

Sector of field crops. The EU 100 scenario is the most advantageous not only for production of field crops but also the only one that lays basis of a favourable environment development for sectoral competitiveness already on the moment of accession. Under the EU 0, only upon reaching the level of direct payments as 35% of the rates determined by the EU, decline of the sectoral development is stopped that itself outlines a turning point in the development of a comparative competitiveness of the

given sector. Furthermore, under the EU SS scenario a continuous stagnation in production of field crops is observed over the whole analysed post-accession period that has been underlined in the Draft Common Position (DCP). Besides, the calculations do not include a possible rise in prices for resources that would occur by fully implementing all restrictions associated with environmental protection required by the EU and acquiring resources on the EU Single Market.

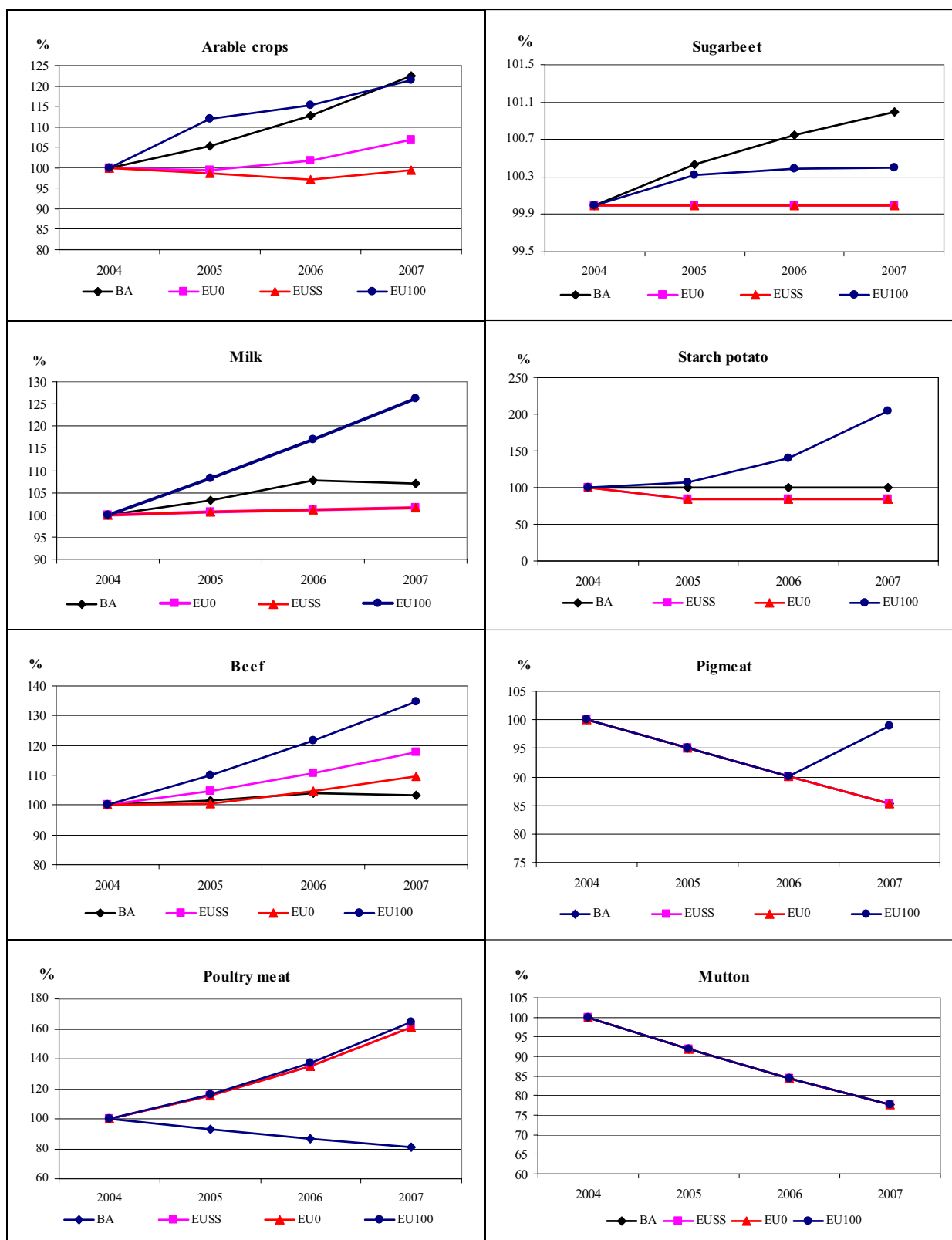
Projections by the EU SS scenario is not a surprise if taken into account that a relatively small portfolio of the direct payments is not applied to a limited reference area of 484,7 thou ha of sowings provided by DCP but to the whole area of agricultural land that is five time larger.

Dairy sector. Only the EU 100 scenario allows for a gradual increase in milk production and for possibility to partly recover the capacity to utilise in the post-accession period possibilities provided by the comparative competitiveness in circumstances of the EU Single Market, and at the end of the analysed period, approaching the size of milk supply quota defined in Latvia's position paper, allowing to use the large resources of agricultural land suitable for production of animal products and without motivation to their afforestation. Differences in scenarios of the EU 0 and the EU SS have an insignificant impact on milk production amounts as area related payments within a simplified scheme (VS) would be small as compared with increase in income and profitability due to market price support. Thus, there are grounds for opinion that the EU SS scenario, contrary to the desire spelled out by the EU to phase out the principle of sales quotas in the dairy sector, in the case of Latvia and maybe other Candidate States as well, increasing of quota lease would create additional distortions in the dairy sector. At the same time this can be considered as inefficient utilization of resources necessary for adjustment of competitiveness in other sectors, supporting of producers in one individual sector and even distortion of the EU Single Market by applying to one individual sector, in addition to the EU sectoral support instrument, one more instrument – the direct and territorially not differentiated income support payments.

Beef sector. Tendencies similar to the sector of field crop are forecasted in beef sector. Less restrictive impact than in the case with field crops of the EU 0 and the EU SS scenarios is determined by the fact that higher beef prices are observed on the EU Single Market as on a relatively liberal Latvia's domestic market. This would compensate the restrictive impact caused by application of a relatively less intensity of the direct payments, contrary to the sector of field crops where increase in producer prices cannot be foreseen. As beef production in Latvia is closely related to milk production and a major part of calves are born to dairy cows and not to beef animals, in addition to impact of the direct payments, the volume of beef production would be considerably influenced also by lower milk sale quotas in the EU 0 scenario that would reduce the number of dairy cows at the same time reducing the number of calves reared for beef production. Thus, in the EU 100 scenario as compared with the

EU 0, production of beef in 2007 could increase by 34%. Still, implementation of a low quota level in the dairy sector (the EU 0 and the EU SS scenarios) as well as application of a simplified scheme in administration of the direct payments (the EU SS scenario) when the direct payments in the beef sector will be paid not per animal but per ha of agricultural land, may considerably deteriorate viability of Latvia's beef sector. Development of beef animal sector will not be able to compensate reduction in meat production from calves of dairy cows, as it is forecasted that the low level of the direct payments will not allow farms to switch over from dairy cows to suckler cows that makes the whole production chain more expensive thus, determining competitiveness of relatively specialised beef production farms. As a result, implementing the EU 0 and the EU SS scenarios in 2007, self-sufficiency of Latvia with beef could oscillate within the limits of 50-55%.

Figure 3-11 Major trends in production of the basic agricultural goods under various accession scenarios in 2004-2007, the year 2004= 100%



Source: LSIIE calculations

Sector of sugar beets and potato starch. Similar to the dairy sector subjected to quota system where the major support measure is market price support, the development after accession to the EU will be restricted by the possible size of sugar quotas. No differences are observed in comparative competitiveness of the sector under various scenarios.

Sheep sector is in particular situation. It is projected that applying CAP measures to Latvia in full (the EU 100 scenario) Latvia's sheep breeding would not be competitive on the EU market. As the direct payments applicable would not be able to compensate the projected price reduction.

4. Rural and structural development measures

Latvia in its Position Document has undertaken commitment to implement all rural development measures defined in Regulation 1257/99. EC rural development measures are looked upon as an additional support to farmers and a better alternative to direct and production oriented payments.

Nevertheless, it is not the whole truth. In this analytical paper we will attempt to show in what way Latvia having got access to the EU CAP rural development measures in available amounts would raise its competitiveness, following application requirements laid down in Regulation 1257/99.

4.1. Types the measures and the size of sources

In accordance with the EU Regulation 1257/99, rural development measures supplement the other CAP policy instruments and are part of the measures, promoting development and structural adaptation of the regions, which are underdeveloped (the so-called Target 1 territories where also Latvia belongs to).

It is also said that in Target 1 territories, consequently also in Latvia – rural and farm structure development measures shall be financed from both the part of EAGGF fund:

4.1.1. Guarantee (market) part

a) Resources available for Latvia

Calculations of the resources available for Latvia to finance rural development measures from Guarantee (market) part of EAGGF fund are shown in Table 4-1. In accordance with approximate breakdown of the resources available within framework of the EU enlargement financing, in 2004, with a view to paying out support to farms LVL 25.7 mln (EUR 45.6 mln) could be available that together with the necessary national co-financing would make the total sum of LVL 74.1 mln that in 2004-2006 would amount to LVL 157.1 mln but together with the national co-financing – LVL 31.1 mln.

Table 4-1 Financial resources for rural development measures available from the Guarantee (market) part of EAGGF fund (LVL and EURO mln).

	EU available finances according to commitments' sum (80 %)		EU available finances according to payments' sum (mln. EUR)		Latvian co-financing (20%)		Available sum of payments in total (100%)	
	mln. EUR	mln. LVL	mln. EUR	mln. LVL	mln. EUR	mln. LVL	mln. EUR	mln. LVL
2004	88.7	49.9	45.6	25.7	11.4	6,4	57	32,1
2005	96.9	54.6	72.4	40.7	18.1	10,2	90,5	50,9
2006	103.1	58.0	105.5	59.3	26.4	14,8	131,9	74,1
Latvia in total	288.7	162.5	223.5	125.7	55.9	31,4	279,4	157,1
Latvian share, %	6.1							

Source: LSIAE calculations

b) Funded measures

Measures financed from this part of the fund, and depending on targets set for them and application principles, could be broken down in three groups:

(1) Compensatory conventional production support measures

- 1) Compensation to farms situated in less favourable areas payable per 1 ha of agricultural land to partly compensate foregone income as compared with farming in normal conditions – is available on the territories defined as such. In accordance with the Latvia's Position Paper, 64% of Latvia's agricultural land has been declared to comply with the criterion;
- 2) Support to self-subsistence farms – payable to an individual farm as a fixed sum EUR 750 (LVL 422) on condition that this farm has produced the business plan with a view to converting the farm in question into sustainable commercial farm – are available on the whole territory of Latvia.

Measures of this group are applicable to practically all farms, which are located in a respective territory, and according to their economic significance they are closely related to direct payments covered by CMO.

(2) Compensatory measures to production restriction and restructuring (termination):

- 1) Development of agri-environment;
- 2) Afforestation of agricultural land;
- 3) Support to early retirement (early retirement program).

A distinctive feature of measures belonging to this group is their application possibility only if production activity is being restricted on a beneficiary farm – either by applying particular nature protection measures or withdrawing farms or their parts from agricultural activities.

Therefore, it would be incorrect to look upon agri-environment developmental measures, support to afforestation of agricultural land as well as early retirement program as an alternative to DP with a view to raising comparable competitiveness of farms. According to their economic significance they are CMO supplementary measures.

(3) Encouraging establishment of food producer organizations

This measure is particularly significant for sectors where producer groups constitute a significant CMO element, for instance, fruits and vegetables.

c) Programmatic distribution of resources

Currently, prior to preparation of Latvia's rural development Plan and a detailed research carried out to this end, it is too early to prognosticate programmatic distribution of specific resources. We can only outline the distribution succession, taking account of the previous analyses and questionnaires of persons involved in the sectoral developments.

Sums to be channelled to LAMLA measures and measures focused on the growth of small-size farms could be foreseen as not exceeding LVL 30 mln, including the part of EAGGF – LVL 24 mln, that is determined by the maximum of available funding for payments in 2004.

4.1.2. Guidance (structural) part

a) Resources available for Latvia

Projection of resources covered by this part of the support policy is the most complicated of all the offers included in the Commission Paper of January 30.

The Commission paper indicates neither the part of resources to be channelled to rural and agricultural development nor the part of total structural support measures available for Latvia. Therefore we can only draw some outlines.

The total volume of financing commitments of structural measures implemented by all new Member States is estimated EUR 7067 mln in 2004, increasing to EUR 10350 mln in 2006.

The total sum planned for structural measures in Latvia, taking account of the limits referred to the Commission Paper as EUR 137 per capita and not exceeding 4% of GDP, could amount to about EUR

320 mln in 2004. One-third part of this amount shall be channelled to financing of measures provided by the program of Cohesion Fund.

Thus, resources allocated to the rest of Latvia's structural measures could be MEUR 215. Distribution of these resources by various programs of structural measures, including agricultural and rural development measures, would stay in the competence of the Joint Programming Document prepared by Latvia and approved by the EU, taking into account priorities laid down in the National Development Plan.

Considering experience of the EU Member States (for example in Ireland in financing of structural measures, the proportion of the Guidance division of EAGGF fund is 22,29%, in Finland – 20,37%, Sweden Norra Norrland region – 12,93%, Södra Skogslän region – 17,15%), we can conclude that an indicative level of the EU structural funds available for agricultural and rural structural measures in Latvia should not be less than 20% of the total financing available for financing of structural funds – EUR 43 mln or LVL 24 mln in the Guarantee division in 2004. In total, in 2004-2006 this sum could reach LVL 90-110 mln.

b) Measures to be funded

In compliance with the EC DCP and taking into account that Latvia has been included into Target 1 territory, measures to be financed from this source are as follows:

1. Investments into agricultural establishments;
2. Support to young farmers;
3. Training;
4. Forestry development (excluding afforestation);
5. Improvement of processing and marketing of agricultural products;
6. Development and adaptation of rural areas (Article 33).

It is obvious that two of the most popular national support measures included into SAPARD program – investments into agricultural establishments and improvement of processing and marketing of agricultural products, also -development and adaptation of rural areas, should be included into the division of structural measures.

The overall financing principle of these measures is 50/50 where the beneficiary shall finance half of eligible project costs. Whereas, the second half shall be financed by the State in compliance with the Commission offer to share the burden of expenditure with the EU in proportion 20/80.

c) Programmatic division of resources and pre- and post-financing of the private sector

Similar to aggregate measures financed from the Guarantee division, it is too early to make projections in respect of programmatic division of specific resources, before the Joint Programming Document laying down application principles of structural funds is prepared. We can only outline the distribution succession, taking into account the preliminary analysis and questionnaires of persons involved in the sectoral developments.

60-70% of the total program financing could be channeled on investments into agricultural establishments and development and adaptation of rural environment. Taking into account the rate of the private sector co-financing, this would mean that

In 2004, to absorb resources provided by this program, Latvia's agriculture and the sector of rural economy associated to it should be able to attract in total LVL 50-65 mln. of which half could be paid back after project implementation as public co-financing.

Taking into account the projected level of agricultural income under various accession scenarios (chapter 3.2.2.), only under EU 100 increase in added value LVL 26.5 mln gives rise to an assumption of a sufficient absorbency of the sector, allowing to look upon this scenario as a relatively balanced one.

5. Perspective of a simplified scheme application in Latvia

In accordance with DCP, upon accession to the EU Latvia should choose one of the two direct payment administration schemes in agriculture:

- Standard – that has already been implemented in the EU 15 in the course of IACS system implementation and its full enforcement (Regulation No 3508/92) or
- Simplified - envisages the three years after accession to the EU, to cover by annual financial support envelopes the whole area of agricultural land irrespectively whether agricultural activities are carried out on this land or not.

When choosing one of the above-mentioned schemes, farms should be identified, which this program should be applied to and how this will correlate with a sustainable growth of Latvia's agricultural sector and an adequate national economic development. Therefore, gains and losses must be assessed in the context of a long-term objective and priorities of the sectoral development.

The following can mention as positive application effects of a simplified scheme:

1. A simplified scheme envisages a simpler implementation and control mechanism that will allow to reduce imperfections and to adjust the complicated implementation mechanism of the CAP standard schemes in the period of three years;
2. A large number of small-size farms, which under standard direct payment schemes would not be able to apply for financial support, will be covered by CAP payment schemes;
3. Farms will have a better choice and possibility to adjust their production structure if direct payments are available per each unit of agricultural land (minimum area 0.3 ha).

At the same time, application of a simplified scheme can have also a negative effect:

1. Condition allowing to benefit from those areas of agricultural land that are not actually used in any kind of agricultural production, will not sufficiently promote restructuring process in rural areas, future-oriented competitive development of rural holdings as well as reorientation of self-subsistence farms on production for market;
2. Less favourable conditions will be created for farms, which upon accession will have a successfully developed production, allowing receiving direct payments for specific crop areas, herds or output. The major losers will be producers of field crops and beef as particularly in these sectors CAP direct support level is the highest (per ha or animal).
3. The most essential – comparing with both the current national policy and principles of the current CAP and CAP foreseen in the nearest future, application of a simplified system will mean enforcement of other policy mechanism completely different from the current one when agricultural support measures are substituted by payments not associated with production. Thus, for three years after accession to the EU there will be a foundation laid for application of another agricultural policy that would be again interrupted in 2007 with compulsory introduction of the standard scheme.

Also analytical calculations carried out by several techniques show that the development perspectives of Latvia's agriculture are differing, depending on applicable direct payment administration mechanism.

In the same way, assuming that the scenario offered by the Commission for Latvia's accession will come into effect, and if all the rest of conditions remain unchanged, and only upon application of a simplified scheme, the total direct payment to Latvia's agricultural producers might be reduced by LVL 8 mln in 2007 (see Table 5-1). This reduction is projected, taking account of the fact that the size of agricultural land in Latvia can be reduced considerably simultaneously with the increase in productivity and efficiency. Thus, direct payments payable for agricultural land actually used for agricultural production that will directly affect Latvia's agricultural producers, will be reduced proportionally to the size of land. Therefore, notwithstanding the increase in annual financial envelope (25% of the EU standard DP level in 2004, 30% - in 2005 and 35% - in 2006), direct payments to

actual agricultural producers practically will not be changed and it will amount to LVL 5 mln over the whole projected period (2004-2006).

Table 5-1 Dependency of the development perspectives of Latvia's agricultural sector on the type of direct payment administration system as by 2007.

Indicators	Scenarios	
	EU 0	EU SS
Direct support to the agricultural producers, mln. LVL	13	5
Agricultural production, mln. LVL	238	234
Production of cereals, thsd. t.	442	408
Production of beef meat, thsd. t.	20	18
Agricultural income, mln. LVL	123	115

Source: LSIAE calculations

If a simplified system is applied, the actual reduction of support will have an impact on both the growth of the sector as such and on its separate branches. So, decrease in beef production could be even more rapid than it would be under standard support scheme (see Table 5-1). Whereas, in cereal sector production volumes may be reduced by 36 thsd. t.

6. Some Conclusions

Applying a variety of analytical methods and research approaches while assessing the scenario for integration of Latvia in the EU, as proposed by the European Commission and officially defined in Draft Common Position, and analyzing Latvian rural and agricultural future development prospects, we arrived at the following conclusions:

1. Assessing the EU Draft Common Position (DCP) for the negotiations with Latvia, we are pleased to state that the European Commission has been guided from the formerly defined key principle – while joining the EU, the new member countries adopt the currently *acquis communautaire* currently in effect, and at the same time has demonstrated an understanding of problems typical for a number of post-socialist countries, particularly the structural problems of rural economic development.

However, stating that the EU will not have two agricultural policies, the EC proposes in DCP to all the candidate countries, including Latvia:

- To implement CAP to full extent after a lengthy transition period, and only in 2013 to attain direct payment level equal to that existing in the EU, which means barring the new member countries from CAP during the formation process after 2006 and up to 2013;
- At the beginning to reduce the level of direct payments, which is one of the key elements of CAP (by 25%, 30%, 35% respectively in years 2004-2006), which contradicts the principle declared by the EU concerning refraining from distortion of competition in the EU common market;
- To set reference indicators, based on the actual performance data in the base period in the years between 1995 and up to 1999, which are the bottom line in the sector output volumes. As a result, the references are even lower than the present performance indicators (especially in case of milk and sugar), and are considerably lower than the levels used for EU-15).

2. Evaluating the effect of various CMO activities on the development of Latvian agricultural sector, depending whether the EC or Latvian national position is implemented (see chapter 1.1., scenarios to be assessed), one can see that after the EU accession, in 2004, the implementation of the EC scenario would result in a considerable reduction of the expected benefits to the Latvian producers from the EU internal market price support – due to institutionally set output volume restrictions (quotas). Thus, considering the price impact factor (when the value of the product can increase by 49.1 million LVL) and the effect of output volume (when the market revenues may reduce by 31.3 million LVL due to restrictions on output), the total value of product would increase only by 17.8 million LVL or by 10.4%, compared to 2000. Alternatively, in case of the Latvian national position, the total output value could increase by 180.6 million LVL or by 105%.

3. Latvian agriculture has a key feature - dairy production has a material effect on the development of the entire agricultural sector, and the turnover in dairy has a critical effect on the economic situation of the Latvian agricultural sector. Analyzing the long-term prospects of Latvian agricultural development, the compliance with the EC low dairy quotas, without a prior implementation of the restrictions on output (in order not to surpass the EC proposed milk sales quota of 489 thousand tons, already in 2003 milk output should not be more than 550 thousand tons, though in 2001 total milk sales volume amounted to 667 thousand tons), and without applying extra social measures, could lead to significant social conflicts in the countryside – this would be the result of radical and non-compensated institutional restrictions on business.

4. After the EU admission, in long term, the revenues from direct payments may increase considerably for most of the industries of the Latvian agricultural sector. However, the support level at the terms and conditions as proposed by the EK would be more than three times lower than that if *acquis communautaire* were applied to Latvia already in the first year after admission. This generates a reasonable concern about the competitive ability of crop, cattle, sheep and goat product producers in the common European market, and also about the capacity of the producers in the said industries to utilise the money allocated via structural funds. Moreover, if the national package for Latvia will be

reduced to 25%, 30% and 35% respectively in years 2004, 2005 and 2006, the actual EU support at the year of accession would equal that of national direct payments in 2001, which was about 5.5 million LVL.

5. Analyzing the potential lack of balance in payments both in rural areas as well as between towns and the countryside direct payments, in case direct payments are applied to full extent, we assessed net added value per unit of labour in case of different scenarios, and the indicators were compared to average labour costs in national economy per employee (gross wage plus social tax payable by the employer). One can conclude that only in two specialized farm groups – arable crop farming with sugar beets, and rearing of grazing animals - net added value per unit of labour slightly exceed the average labour cost in national economy. The results of this comparison fail to confirm the EC thesis about significant misbalance in income and social gaps and misbalance in case direct payments are implemented to full extent in the new member countries.

6. The calculations prove that the administration of direct payments as proposed in the Draft Common Position – a simplified scheme – is an entirely different political tool which segregates direct payments from producing of products, and implementation of which only for a three year period may leave an adverse impact on Latvian agriculture, since it 1) distorts the EU CAP mechanism in that part of the EU common market, where this simplified system will be introduced, by promoting already well-supported industries with a market price support (e.g milk production), simultaneously cutting down the support to the industries which are receiving support via direct payments (beef or crop production); 2) changes the motivation of producers in several agro industries, would reduce the support level to agricultural producers during the period when the simplified system is in effect; 3) expands the circle of persons eligible to support with people who are not oriented to producing for market, and by reducing the competitive ability of for-market producing farms in common European market.

7. Since the European Agricultural Guidance and Guarantee Fund financed rural development activities include production and restructuring compensating activities as well (such as development of agricultural environment, planting of agricultural land with forests and support to early retirement), which are related to restriction of agricultural activities in the recipient farms, these may not be regarded as an alternative to direct payments which are designated for enhancement of the farm competitive ability. According to their economic meaning, these are activities complementing CMO, as a part of CAP.

7. Sources

1. Абалкин Л. И., Шамхалов Ф. И. Экономическая энциклопедия. – Москва, “Экономика”, 1999 г. - 309. – 310., 816. – 817., 828. – 830. с.
2. Analysis and Evaluation of the European Commission Proposal of January 30th, 2002, for Candidate Countries//Working document.- Warsaw, March, 2002.-63 p.
3. Analysis of the Impact on Agricultural Markets and Incomes of EU Enlargement to the CEECs//European Commission Directorate General for Agriculture.- Brussels, March, 2002.-89 p.
4. Baleviča V. Investīcijas. Naudas, kredīta un nodokļu politika. – 1998., Datorzinību centrs – 23. – 29. lpp.
5. Benze J. Finanšu grāmatvedība. – Rīga, 1995. – 6. – 11. lpp.
6. Black J. – A Dictionary of Economics. - Oxford University Press, Oxford, New York, 1997. – p. 75.
7. Bojārs J., Vilne V. Starptautiskās investīcijas. – Rīga, 1996. – 213. – 225. lpp.
8. Cīrule V., Leoke E. “ES piena politika”, ”AGROPOLS” N9, 2002.g. maijs,18.- 19. lpp.
9. CSP.Lauksaimniecība Latvijā 1990-1994. - Rīga, 1995 - 30., 42. lpp.
10. CSP.Lauksaimniecība Latvijā 1991-1995. - Rīga, 1996. - 40. lpp.
11. CSP.Lauku saimniecības Latvijā 1996. gadā - Rīga, 1997. 40. lpp.
12. CSP.Lauku saimniecības Latvijā 1997. gadā. - Rīga, 1998. 44. lpp.
13. CSP.Lauku saimniecības Latvijā 1998. gadā. - Rīga, 1999. - 44. lpp.
14. CSP.Lauku saimniecības Latvijā 1999. gadā. - Rīga, 2000. - 52. lpp.
15. CSP.Lauku saimniecības Latvijā 2000. gadā. - Rīga, 2001. - 50. lpp.
16. CSP.Lauku saimniecības Latvijā 2001. gadā. - Rīga, 2002. - 51. lpp.
17. Day, R.H. (1978), Some adaptive models. European Review of Agricultural Economics 3 (2/3)pp. 323 – 248.
18. Department of Economics and Business. Alternative measures of effective exchange rates for agricultural trade. – North Carolina, Raleigh, 1987. – pp. 427 – 442.
19. Детковская Л. П., Лимантова Е. М. Влияние удобрений на урожай и качество зерна, 1987г. – 146 с.
20. Dobele A., Mihejeva L., K.Špoģis, Urīte I. ..., Saimniekošanas mācība, Ozolnieki, 1999. – 114. – 126. lpp., 133.- 146.lpp.
21. Ekonomikas skaidrojošā vārdnīca:4478 termini ar tulkojumuangļu, vācu, franču un krievu valodā/Sast.R.Grēviņa (aut.kol.vad.).-Rīga:Zinātne, 2000.-702 lpp.
22. ESAO datu bāze. <http://www.oecd.org/agr>
23. FAPRI Country-Specific Baseline 2002 Tables
24. Gods U. Mikroekonomika II. – Rīga, Biznesa augstskola “Turība”, 1998. -
25. Hutchinson D.S., Langham R.M. Productivity Growth in the Carribean: A measure of Key Components. – 1999. - pp. 14.
26. IAMO. Competitiveness of the Baltic agricultural and food sectors after accession to the EU. – 1998. – pp. 179.
27. Jasjko D., Lehtonen H., Miglavs A., Kettunen L. Perspectives for Latvian Agricultural Sector Development. Using of LAPA Model approach for quantitative assessment. – Research report. Rīga.:LVAEI. 1999.-p.68.
28. Koo W.W. The U.S. Cane and Beet Sugar Industry Under Alternative Trade Liberalization Policy Options. – 2000. – pp. 12 – 17.

29. Lehtonen H., Principles, Structure and Application of Regional Sector Model of Finish Agriculture. Helsinki.:Agrifood Research Finland, Economic Research (MTTL), 2001.- p. 264
30. Lopbarības vajadzības plānošana/ Sast. J. Latvietis. –Jelgava: LLU, 1996.-27.lpp.)
31. LLKC. Bruto seguma aprēķins zemnieku saimniecībai. – Ozolnieki, 2000. – 58. lpp.
32. LLKC. Bruto seguma aprēķins zemnieku saimniecībai 2000.gadā. – Ozolnieki, 2001.
33. LR Ekonomikas ministrija. Ziņojums par Latvijas tautsaimniecības attīstību. – Rīga, 2001. gada jūnijs – 67., 68. lpp.
34. LR Ekonomikas ministrija. Ziņojums par Latvijas tautsaimniecības attīstību. – Rīga, 2000. gada jūnijs – 67., 68. lpp.
35. LR Zemkopības ministrija. Lauksaimniecības gada ziņojums. – Rīga, 1999. gada jūnijs – 63. – 68. lpp.
36. LR Zemkopības ministrija. Latvijas lauku attīstības plāns ES pirmsiestāšanās pasākumiem lauksaimniecības un lauku attīstībai. – 1999. – 78. lpp.
37. LR Zemkopības ministrija. Valsts subsīdiju izlietošana lauksaimniecības attīstībai 2000. – Rīga, 2000.
38. LR Zemkopības ministrija. Valsts subsīdiju izlietošana lauksaimniecības attīstībai 2001. – Rīga, 2001.
39. LR Zemkopības ministrija.2002.gada Lauksaimniecības attīstības programma. – Rīga, Janvāris, 2002.
40. LVAEI. Latvijas lauksaimniecība un lauki 2000: politika un attīstība. – Rīga, 2000. – 215. lpp.
41. LVAEI. Latvijas lauksaimniecība 1999: politika un attīstība. – Rīga, 1999. – 152. lpp.
42. LVAEI. SUDAT: Latvijas lauku saimniecību darba ekonomiskās analīzes rezultāti 1998. – Rīga, 1999.
43. Lyons R., Goodhue R., Rausser G., Simon L. A dynamic model of the food processing sector in the new market economies of Central Europe. – 1998. – pp. 13
44. Marsh W.I., Tokarick P.S. Competitiveness Indicators: A Theoretical and Empirical Assesment – 1994, March – pp. 47.
45. Metcalfe M. Environmental Regulation and Implications for U.S. Pork Exports. – 2000. – pp. 3 – 6.
46. Miglavs A., Jasjko D., Leoke E., Selickis E. “Ko nozīmē EK dokumenti”, ”AGROPOLS” N3, 2002.g. februāris, 1, 6.-7.lpp.
47. Miglavs A., Jasjko D., Leoke E., Selickis E. “Dažas ES KLP pamatpatiesības”, ”AGROPOLS” N4, 2002.g. marts; Pielikuma 1.- 4.lpp.
48. Miglavs A., Jasjko D., Leoke E., Selickis E. “Lauksaimnieku ieņēmumi Eiropā”, ”AGROPOLS” N5, 2002.g. marts, Pielikuma 1.- 2., 7.-8. lpp.
49. Miglavs A., Jasjko D., Leoke E., Selickis E. “Latvijas lauksaimniecības sektora attīstība Eiropas Komisijas skatījumā”, ”AGROPOLS” N6, 2002.g. aprīlis, Pielikuma 1.- 2., 7.-8. lpp.
50. Miglavs A., Jasjko D., Leoke E., Selickis E. “Lauksaimnieku ieņēmumi Eiropā”, ”AGROPOLS” N7, 2002.g. aprīlis, Pielikuma 1.- 4. lpp.
51. Mihejeva L. Uzņēmējdarbības stratēģija. – Jelgava, 1999. – 81. – 144. lpp.
52. OECD. Latvijas lauksaimniecības pārskats. – Rīga, 1996. – 135. – 143. lpp.
53. Osītis U., Barības līdzekļu novērtēšana atgremotāju ēdināšanā.- Rīga, 1998.- 203.lpp. (62., 191.lpp).
54. Paarlberg P., Boehlje M., Foster K., Doering O., Tyner W. Structural Change and Market Performance in Agriculture: Critical Issues and Concerns about Concentration in the Pork Industry. – 1999. – pp. 2.
55. Revised Draft of Common Position//European Commission, Directorate-General for Enlargement.- Accession negotiations- Latvia., Brussels, 15 April, 2002.-83 p.

56. Rokasgrāmata lauksaimniecības darbiniekiem – Latvijas Valsts izdevniecība: Rīga, 1964.-650 lpp. (31., 142.lpp.).
57. Rozenberga V. Infrastuktūras stāvoklis un attīstības problēmas//Lauksaimniecības politikas un tirgus attīstība. – Rīga, 1996. – 75. – 79. lpp.
58. Rurāne M. Uzņēmuma finanšu vadība. – 1997., Turības mācību centrs – 193. – 194. lpp.
59. Škapars R. Mikroekonomika. – Rīga, 1995. – 105. – 128., 232. lpp.
60. Treisijs M. Lauksaimniecība un pārtika tirgus ekonomikā. – Rīga, 1996. – 20. – 67., 152. – 163. lpp.
61. Zemļicka D., Kovaļevska O. Latvijas ekonomiskā ģeogrāfija. – Rīga, Mācību grāmata, 1993. – 5., 7. – 8., 39. – 43. lpp
62. The Agricultural situation in the European union 1994 report//European Commission, Brussels, 1995
63. The Agricultural situation in the European union 1998 report//European Commission, Brussels, 1999
64. The Agricultural situation in the European union 1999 report//European Commission, Brussels, 2000

8. ANNEXES

Annex 1 Reference amounts

		LVL actual 2000	EU0	EU100
Reference yield	Tons/ha	2.20	2.06	3.0
References area	Thsd. tones	469.9	484.7	688.0
Flax fibre	Thsd. tones	1.120	1.467	5.000
Long flax fibre	Thsd. tones	0.190	0.361	1.500
Short flax fibre	Thsd. tones	0.930	1.106	3.500
Potato starch	Thsd. tones	5.900	3.447	15.000
Sugar	Thsd. tones	64.0	52.48	110.0
Milk production quota	Thsd. tones	661	489.474	1 200.0
Special premium	Number of animals.	46 758	70 200	75 000
Suckler cow premium	Number of animals.	2 160	1 758	25 000
Slaughter premium	Number of animals.	100 700	124 320	145 000
Calf slaughter premium	Number of animals	12 200	53 280	75 000
Ewes premium	Number of animals.	16 000	18 437	50 000
Bee colonies	Number of hives.	54 000	54 000	54 000

Source: DCP, CSB data

Annex 2 Changes in the value of output of basic agricultural sectors under impact of the EU market price support, LVL mln.

	Volumes, thsd. t			Prices, LVL/tonne		Market revenues, mln LVL			Price impact, mln LVL		Impact of quantity, mln LVL	
	BA	EU0	EU100	Latvia 2000	EU, from 2004 till 2006 (EU0, EUSS, EU100)	BA	EU 0	EU 100	EU 0, EU 100	EU 0	EU 100	
<i>I.</i>	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
Wheat	427.4	441	622	61	62	26.1	27.3	38.6	0.4	0.80	12.10	
Rye	110.7	114	161	56	60	6.2	6.8	9.7	0.4	0.20	3.00	
Barley	261.1	269	380	60	63	15.7	17.0	23.9	0.8	0.50	7.50	
Oats	79.6	82	116	56	64	4.5	5.3	7.4	0.6	0.20	2.30	
Pulses	3.9	4	6	74	101	0.3	0.4	0.6	0.1	0.00	0.20	
Rape	10.0	10	15	104	111	1.0	1.1	1.6	0.1	0.00	0.50	
Flax fibre	1.1	2	5	69	180	0.1	0.3	0.9	0.1	0.10	0.70	
Sugar beets	407.7	334	701	21	25	8.6	8.4	17.5	1.6	-1.80	7.30	
Potato starch	31.3	18	80	23	27	0.7	0.5	2.1	0.1	-0.40	1.30	
Milk (excl. feed requirements)	661.5	489.5	1200	87	148	57.5	72.4	177.4	40.2	-25.40	79.60	
Beef meat (slaughter weight)	22.3	16.8	38.01	618	1019	13.8	17.2	38.7	9	-5.60	16.00	
Pig meat (slaughter weight)	31.5	31.5	31.54	925	813	29.2	25.6	25.6	-3.5	0.00	0.00	
Mutton	0.4	0.4	1.21	780	1287	0.3	0.6	1.6	0.2	0.10	1.10	
Poultry meat	7.2	7.2	7.23	869	686	6.3	5.0	5.0	-1.3	0.00	0.00	
Honey	1.0	1.0	1.00	1250	1565	1.3	1.6	1.6	0.3	0.00	0.00	

Source: LSIAE calculations

Annex 3 Income of the basic agricultural sectors under CMO impact under various scenarios.

	BA	EU 0			EU 100	EU SS
		2004	2005	2006		
Arable crops						
Areas of arable crops, thsd. ha	469.9	484.7	484.7	484.7	688.0	484.7
Arable crops' output, thsd. t	1 394.6	1 437.9	1 437.9	1 437.9	2 032.9	1 437.9
Arable crop price (recalculated), LVL/t	41.71	43.81	43.81	43.81	43.81	43.81
Direct support, LVL/ha	9.67	18.27	21.92	25.57	106.41	6.02
Market revenues, thsd. LVL	58 174	62 989	62 989	62 989	89 057	62 989
Revenues from the direct support, thsd. LVL	4 544	8 854	10 628	12 395	73 208	2 920
Total revenues, thsd. LVL	62 718	71 843	73 617	75 384	162 265	65 909
Flax fibre						
Areas of flax fibre, thsd. ha	1.6	2.1	2.1	2.1	7.3	2.1
Flax fibre output, thsd. t	1.1	1.5	1.5	1.5	5.0	1.5
Price of flax fibre (recalculated), LVL/t	69.00	180.00	180.00	180.00	180.00	180.00
Direct support, LVL/t	141.8	-	-	-	-	-
Direct support, LVL/ha	40.00	18.27	21.92	25.57	106.41	6.02
Market revenues, thsd. LVL	76	264	264	264	900	264
Revenues from the direct support, thsd. LVL	220	39	47	55	774	13
Total revenues, thsd. LVL	296	303	311	319	1 674	277
Potato starch						
Areas of potatoes, thsd. ha	1.11	0.65	0.65	0.65	2.83	0.65
Production of potatoes, thsd. t	31.28	18.27	18.27	18.27	79.51	18.27
Starch quota, tūkst. t	5.90	3.45	3.45	3.45	15.00	3.45
Price of potato starch, LVL/t	23.25	26.87	26.87	26.87	26.87	26.87
Direct support, LVL/ha	-	-	-	-	-	6.02
Direct support, LVL/t	2.24	3.74	4.49	5.23	14.95	-
Market revenues, thsd. LVL	727	491	491	491	2 137	491
Revenues from the direct support, thsd. LVL	70	68	82	96	1 189	110
Total revenues, thsd. LVL	797	559	573	587	3 326	601
Sugar						
Area of sugar beets, thsd. ha	12.7	10.4	10.4	10.4	21.8	10.4
Production of sugar beets, thsd. t	407.67	334.3	334.3	334.3	700.7	334.3
Sugar quota, thsd. t	64.0	52.5	52.5	52.5	110.0	52.5
Price of sugar beets, LVL/t	20.86	24.72	24.72	24.72	24.72	24.72
Direct support, LVL/ha	0.00	0.00	0.00	0.00	0.00	6.02
Market revenues, thsd. LVL	8 504	8 264	8 264	8 264	17 321	8 264
Revenues from the direct support, thsd. LVL	0	0	0	0	0	63
Total revenues, thsd. LVL	8 504	8 264	8 264	8 264	17 321	8 327

Source: LSIAE calculations

Continuation of Annex 3.

	BA	EU			EU 100	EU SS
		2004	2005	2006		
Milk						
Dairy cows, number of animals						152 256
Milk production (excl. feed requirements), thsd. t	661	489	489	489	1200	489
Milk quota, thsd. t		489	489	489	1200	489
Milk price, LVL/kg	0.09	0.15	0.15	0.14	0.15	0.15
Direct support, LVL/t	5.05	0.00	0.97	2.26	3.24	-
Direct support, LVL/ha	-	-	-	-	-	6.02
Market revenues, thsd. LVL	57 549	73 885	72 246	70 925	177 379	72 352
Revenues from the direct support, (2 ha per animal), thsd. LVL	3 340	0	475	1 108	3 882	1 835
Total revenues, thsd. LVL	60 889	73 885	72 722	72 033	181 262	74 187
Beef meat						
Cattle, number of animals						250 046
Beef meat (slaughter weight), thsd. t	22	17	17	17	38	17
Price of beef meat (slaughter weight), LVL/kg	0.62	1.02	1.02	1.02	1.02	1.02
Special premium, thsd. LVL	670	2 075	2 490	2 905	8 867	-
Suckler cow premium, thsd. LVL	80	63	76	89	2 815	-
Slaughter premium for cattle, thsd. LVL	0	1 400	1 680	1 960	6 531	-
Calf slaughter premium, thsd. LVL	0	375	450	525	2 111	-
Additional payments, thsd. LVL	0	749	749	749	1 971	-
Direct support, LVL/ha	-	-	-	-	-	6.02
Market revenues, thsd. LVL	13 801	17 169	17 169	17 169	38 749	17 169
Revenues from the direct support, (1.5 ha per animal), thsd. LVL	750	4 662	5 445	6 227	22 295	2 260
Total revenues, thsd. LVL	14 551	21 831	22 614	23 397	61 044	19 429
Pig meat production						
Number of pigs						428 700
Pig meat (slaughter weight), thsd.t	31.5	31.5	31.5	31.5	31.5	31.5
Price of pig meat (slaughter weight), LVL/kg	0.92	0.81	0.81	0.81	0.81	0.81
Direct support, LVL/t	23.78	0.00	0.00	0.00	0.00	
Direct support, LVL/ha						6.02
Market revenues, thsd. LVL	29 162	25 628	25 628	25 628	25 628	25 628
Revenues from the direct support, (0.05 ha per animal), thsd.. LVL	750	0	0	0	0	129 141
Total revenues, thsd. LVL	29 912	25 628	25 628	25 628	25 628	154 769

Source: LSIAE calculations

Continuation of Annex 3.

	BA	EU 0			EU 100	EU SS
		2004	2005	2006		
Mutton						
Number of sheep						56 000
Mutton, thsd. t	0.39	0.45	0.45	0.45	1.21	0.45
Price of mutton, LVL/kg	0.78	1.29	1.29	1.29	1.29	1.29
Ewes premium	50.00	54.50	65.39	76.29	591.15	
Additional payments	0.00	10.70	10.70	10.70	0.00	
Direct support, LVL/ha						6.02
Market revenues, thsd. LVL	303	575	575	575	1 561	575
Revenues from the direct support, (0.5 ha per animal), thsd. LVL	50	65	76	87	591	168 693
Total revenues, thsd. LVL	353	641	652	662	2 152	169 269
Honey						
Number of bee colonies						54 000
Honey production, thsd. t	1.00	1.00	1.00	1.00	1.00	1.00
Honey price, LVL/kg	1.25	1.57	1.57	1.57	1.57	1.57
Direct support per tone of honey, LVL	0	11	14	16	46	
Direct support, LVL/ha						6.02
Market revenues, thsd. LVL	1250	1565	1565	1565	1565	1565
Revenues from the direct support, (0.3 ha per colony), thsd. LVL	0	11	14	16	46	97 601
Total revenues, thsd. LVL	1 250	1 577	1 579	1 581	1 611	99 166
Poultry meat						
Number of poultries, mln animals						3.621
Poultry meat production, thsd. t	7.23	7.23	7.23	7.23	7.23	7.23
Price of poultry meat (slaughter weight), LVL/kg	0.87	0.69	0.69	0.69	0.69	0.69
Direct support, LVL/ha						6.02
Market revenues, thsd. LVL	6 279	4 957	4 957	4 957	4 957	4 957
Revenues from the direct support (0.3 ha per animal), thsd. LVL						218 169
Total revenues, thsd. LVL	6 279	4 957	4 957	4 957	4 957	223 126

Source: LSIAE calculations

Annex 4 Income of the basic agricultural sectors under CMO impact under various scenarios, LVL thsd.

		BA 2000	EU 0 2004	EU 0 2005	EU 0 2006	EU 100	EU SS
Arable crops	Market revenues	58 174	62 989	62 989	62 989	89 057	62 989
	Revenues from the direct support	4 544	8 857	10 628	12 399	73 291	2 920
	Total	62 718	71 846	73 617	75 388	162 348	65 909
Flax fibre	Market revenues	76	264	264	264	900	264
	Revenues from the direct support	220	39	47	55	774	13
	Total	296	303	311	319	1 674	277
Potato starch	Market revenues	727	491	491	491	2 137	491
	Revenues from the direct support	70	68	82	96	1 189	110
	Total	797	559	573	587	3 326	601
Sugar beets	Market revenues	8 504	8 264	8 264	8 264	17 321	8 264
	Revenues from the direct support	0	0	0	0	0	63
	Total	8 504	8 264	8 264	8 264	17 321	8 327
Dairy sector	Market revenues	57 549	73 885	72 246	70 925	181 138	72 352
	Revenues from the direct support	3 340	0	475	1 108	0	1 835
	Total	60 889	73 885	72 722	72 033	181 138	74 187
Beef meat	Market revenues	13 801	17 169	17 169	17 169	38 749	17 169
	Revenues from the direct support	750	4 662	5 445	6 227	22 295	2 260
	Total	14 551	21 831	22 614	23 397	61 044	19 429
Mutton	Market revenues	303	575	575	575	1 561	575
	Revenues from the direct support	50	65	76	87	591	168 693
	Total	353	641	652	662	2 152	169 269
Honey	Market revenues	1 250	1 565	1 565	1 565	1 565	1 565
	Revenues from the direct support	0	11	14	16	46	97 601
	Total	1 250	1 577	1 579	1 581	1 611	99 166
Pig meat	Market revenues	29 162	25 628	25 628	25 628	25 628	25 628
	Revenues from the direct support	750	0	0	0	0	129 141
	Total	29 912	25 628	25 628	25 628	25 628	154 769
Poultry meat	Market revenues	6 279	4 957	4 957	4 957	4 957	4 957
	Revenues from the direct support	0	0	0	0	0	218 169
	Total	6 279	4 957	4 957	4 957	4 957	223 126

Source: LSIAE calculations

Annex 5 Assessment of the impact of prices and support on agricultural output (based on EAA)

Sector/product	Quantities		Changes in quantities 2000 =1	Price, LVL/t		Price changes 2000 =1	Subsidies, thsd. LVL		Changes in subsidies 2000 =1	Value, thsd. LVL		Changes in value 2000 =1
	2000	EU 2004		2000	EU, 2004		2000	EU, 2004		2000	EU, 2004	
Wheat	427 396	427 396	1.00	61	62	1.03	1 444	2 846	1.97	24 506	26 996	1.10
Rye	110 716	110 716	1.00	56	60	1.07	448	986	2.20	6 092	7 081	1.16
Barley	261 121	261 121	1.00	59	63	1.06	859	2 428	2.83	14 545	16 942	1.16
Oats	79 586	79 586	1.00	58	64	1.09	284	819	2.89	4 314	5 393	1.25
Rape seeds	10 010	10 010	1.00	104	111	1.07	48	124	2.60	1 061	1 224	1.15
Sugar beets	407 716	354 888	0.87	21	25	1.18	0	0		8 473	8 255	0.97
Flax fibre	1 123	1 123	1.00	69	73	1.05	243	52	0.21	313	126	0.40
Vegetables on open area	97 697	97 697	1.00	89	89	1.00	0	0		7 263	8 319	1.15
Vegetables under the glass	8 150	8 150	1.00	370	370	1.00	154	0	0.00	3 033	2 994	0.99
Potatoes	747 072	747 072	1.00	36	40	1.11	150	117	0.78	16 956	22 545	1.33
Fruits and berries	48 584	48 584	1.00	113	113	0.99	0	0		5 148	5 112	0.99
Milk	822 983	707 892	0.86	84	151	1.80	2 719	0	0.00	56 733	79 831	1.41
Cattle	41 472	41 472	1.00	335	550	1.64	643	3 360	5.23	13 918	25 180	1.81
Pigs	39 711	39 711	1.00	721	634	0.88	1 000	0	0.00	28 489	24 158	0.85
Sheep and goats	796	796	1.00	457	644	1.41	45	57	1.27	408	569	1.39
Poultry	10 163	10 163	1.00	596	480	0.81	0	0		5 318	4 815	0.91
Eggs	437 200	437 200	1.00	40	28	0.71	0	0		16 216	11 551	0.71
	In prices of 2000			Value (excl. subsidies)			Subsidies			Value incl. subsidies		
Crop production in total	11 1274	10 9749	0.99	11 1274	121 410	1.09	3 951	8 303	2.10	11 5224	12 9713	1.13
Animal production in total	122 957	113 303	0.92	122 957	148 9639	1.21	4 507	3 429	0.76	127 464	152 068	1.19
Agricultural sector in total	234 230	223 052	0.95	234 230	270 050	1.15	8 458	11 732	1.39	242 688	281 781	1.16
							100% of direct payments					
Crop production in total								33 211	8.41		15 4622	1.34
Animal production in total								12 340	2.74		16 0980	1.26
Agricultural sector in total								45 552	5.39		315 601	1.30

Source: LSIAE calculations