

**European Commission
Directorate General for Agriculture**

**Analysis of the Impact on Agricultural
Markets and Incomes of EU
Enlargement to the CEECs**

March 2002

EXECUTIVE SUMMARY

Integration of the Central and Eastern European Countries (CEECs) has been one of the main political priorities of the EU since the early 1990s. At present 13 Candidate Countries are preparing for accession, the 10 CEECs, Cyprus, Malta, and Turkey. Agricultural integration is an important aspect not only in political but also in economic terms. This report concentrates on the impact analysis of the accession of 10 CEECs without prejudice to either the date or order of entry.

The contribution of agriculture to the economies of Central and Eastern Europe is relatively more important than in most current Member States of the EU. For example in the year 2000 agriculture in the CEECs produced 4.6% of the Gross Domestic Product (GDP), compared to 2% in the EU-15. Employment in agriculture is 21% compared to only 4.3% of the active work force in the EU-15.

However, large country specific differences exist among the Candidate Countries. The contribution to GDP varies between 15.8% in Bulgaria and 2.9% in Slovenia. The equivalent range for the Member States is between 6.6% in Greece and 0.6% in Luxembourg. The high average employment in agriculture in the CEECs is mainly explained by Romania, Poland, and Lithuania, where 42%, 18.8% and 19.6%, respectively, of the active work force is in the agricultural sector. In the other CEECs the share of employment in agriculture is comparable to the figures in the Member States.

Since the beginning of the 1990s agriculture in the CEECs has changed significantly. Despite vast natural resources in terms of area, agriculture has not been able to exploit this potential to its full extent. In spite of huge efforts and – in most countries - successful developments, restructuring of agriculture and the food industries is still far from being complete.

Neither the scale of the integration foreseen in the next rounds of accession, nor the combination of patterns and characteristics of agriculture, food processing, and rural economies are comparable with the past enlargements of the EU. Integration into the EU will mean giving the CEECs' agriculture and food processing industries access to 375 Mill. affluent consumers in the EU-15 in addition to the 100 Mill. on their domestic markets. In turn it will also mean that the EU-15 agriculture and food processing gain access to the dynamic markets in the CEECs.

This report is aimed at presenting the results of a set of simulations on the possible impact of enlargement on agricultural markets for the main agricultural commodities in the CEECs, on the basis of different alternative assumptions on the conditions for accession. The results of the simulations are compared with those obtained under the assumption of unchanged policies and non-accession.

For analytical reasons, the working assumption has been taken that all Central and Eastern European Candidate Countries have obtained membership by 2007. To observe some of the long-term effects, projections have also been carried out for 2012.

For the purpose of this impact assessment four different policy scenarios have been considered each of them describing a possible evolution of agricultural policies in the CEECs and the EU-15 as well as entry and integration into the single market:

(i) **baseline**, which assumes non accession and unchanged agricultural policies in the CEECs,

(ii) the implementation of the CAP *without* direct payments. Production quotas are based on a recent reference period (**CAP**);

(iii) the implementation of the CAP *with* full direct payments and quotas. The reference quantities are based on recent reference periods (**CAP DP**);
(iv) and finally the implementation of the CAP *with* full requested direct payments and quotas. The reference quantities are based on the negotiation position of the Candidate Countries submitted up to July 2001 (**CC Position**).

The economic effects of rural development measures and structural funds on rural areas and agriculture have not been taken into account.

General Trends in the Agricultural Markets of the CEECs and the enlarged EU

The *baseline* results show that agriculture in the CEECs appears to be still under adjustment pressure. In particular, the labour-intensive part of production with comparably low value added might undergo significant restructuring in the simulation period: beef and milk production could further significantly decline. Even the competitiveness of more capital-intensive production such as cereals seems to suffer from macroeconomic developments, particularly the appreciation of the real exchange rate. Only in areas where a more protective policy is in place, such as for pork and poultry, could production develop more positively.

These developments generally confirm the past trends of markets in the CEECs, where despite price increases agricultural production generally has responded only to a limited extent. This has occurred even in countries such as the Czech Republic and Hungary where small-scale agriculture represents a minor part of agricultural production and food consumption. This shows that agriculture as a whole has not been able to restructure production technologies fast enough to offset the competitive pressures.

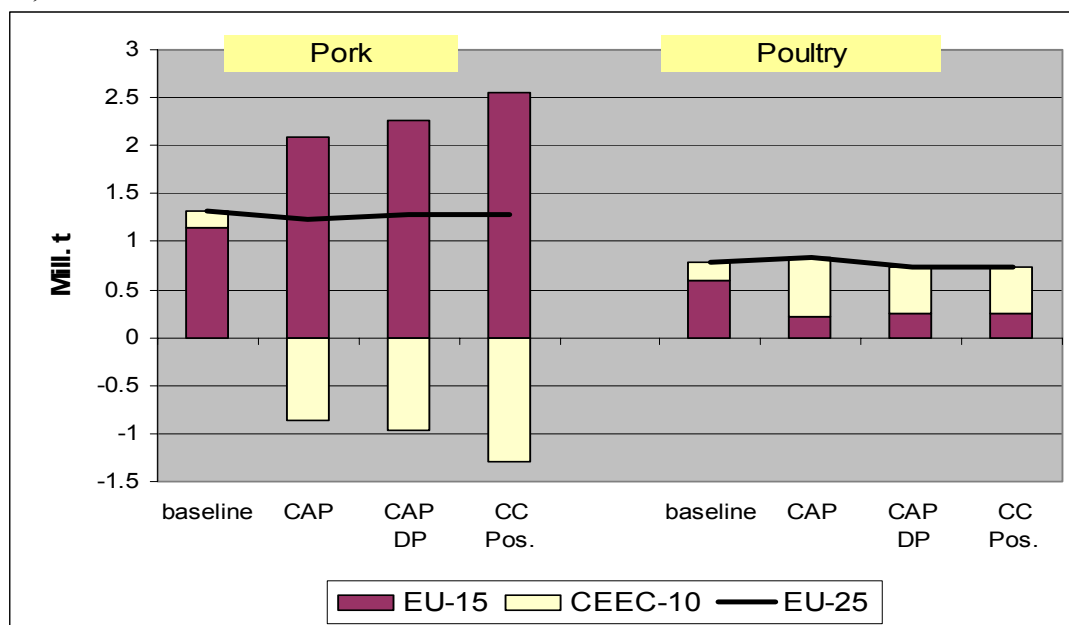
The CAP provides favourable conditions for crop and cattle production, due to the level of prices as well as of direct payments. The outlook for the grain-fed livestock, especially pork is less favourable.

Accession of the CEECs to the EU would not lead to new challenges on the markets of an enlarged EU. To be more precise, it would just accentuates the existing ones, which is the case, for example for coarse grains. The increasing specialisation of agricultural production displayed in the simulation results is of mutual benefit as countries are allowed to benefit from their special patterns of competitiveness. Restructuring remains one of most important challenges for most of the CEECs' agricultural sectors under CAP conditions, especially in livestock production.

The Shift of Pork and Poultry Production in the EU-25

Pork producers in the EU are likely to benefit from enlargement and are expected to produce approximately 1 Mill. t more than without accession to serve CEECs' markets. The CEECs face a partial collapse of pork production on accession (-0.9 to -1 Mill. t), compared to the levels of production in the *baseline* scenario. Two main factors lead to this development: (1) high quality pork carcass prices in the CEECs are consistently and significantly higher than in the EU-15 and (2) inefficient feed use should lead to increasing costs and additional adjustment pressures upon enlargement. However, after the initial decline pork production in the CEECs is foreseen to increase again by 0.3 to 0.5 Mill. t between 2007 and 2012.

Figure 1: Development of marketable surpluses¹ for pork and poultry in the EU-15, the CEECs and the EU-25 in 2007



Poultry production in the CEECs might enjoy an increase on accession mainly because market prices do tend to increase on accession. Production of poultry in the CEECs could expand by approximately 0.3 Mill. t by 2007 but is expected to remain stagnant afterwards such that producers in the EU-15 would mainly benefit from growing markets in the CEECs and would be able to increase production again.

Cereal Markets in the EU-25 and the Impact of Direct Payments and Set Aside

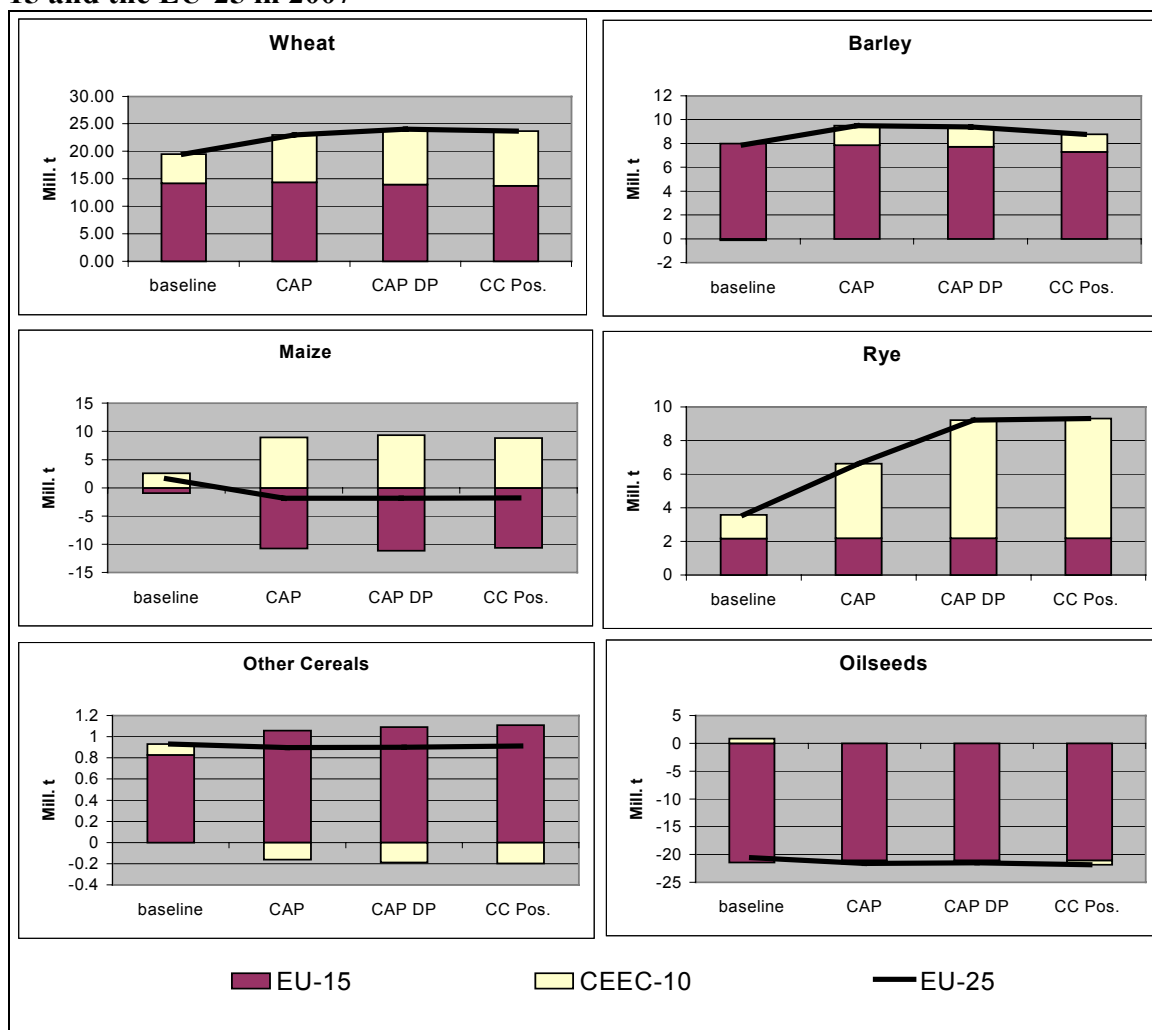
In the base period the CEECs produce 75 Mill. t and the EU-15 208 Mill. t of cereals. Under domestic policies without accession in 2007, production is foreseen to increase to 83.4 Mill. t in the CEECs and 221 Mill. t in the EU-15. In the accession scenarios in 2007 the CEECs might add approximately 92 Mill. t to 97 Mill. t, i.e. 10-14 Mill. t of cereals more than without accession, to the production of approximately 220 Mill. t in the EU-15. It is foreseen that between 2007 and 2012 the EU-25 would expand production by some further 7 to 9 Mill. t to approximately 323 Mill. t.

Domestic use in the CEECs and the EU-15 is expected to expand modestly in all accession scenarios from levels of 256 Mill. t in the base period with accession to 271-274 Mill. t in 2007 and to 277-279 Mill. t. in 2012. Marketable surpluses of cereals in the EU-25 in 2007 might reach levels of 38 to 41 Mill. t compared to 24 Mill. t in the EU-15 and 9.5 Mill. t in the CEECs without accession. The marketable surplus of the EU-25 might increase to levels of 39 Mill. t and 45 Mill. t in 2012, depending on the terms of accession.

In 2007 the market surpluses of the EU-25 are expected to consist mainly of wheat (23 Mill. t), barley (8 to 9 Mill. t) and rye (6 Mill. t to 9 Mill. t). The EU-25 might have a market deficit for maize of approximately 1.5 to 1.8 Mill. t and continue to have market surpluses of other grains of around 2.3 Mill. t.

¹ Marketable surplus and market deficit are defined as the difference between production and total domestic use.

Figure 1: Marketable Surplus for Cereals and Oilseeds in the CEEC-10, the EU-15 and the EU-25 in 2007



As a result of increasing livestock production in the EU-15 and lower maize prices, feed demand in the EU-15 is expected to expand by around 5-6 Mill. t. Moreover, lower prices, mainly for maize, might lead to a decrease of production of cereals by 1-3 Mill. t. in the EU-15. Therefore, market surpluses of the EU-15 are projected to drop by 4 to 9 Mill. t compared to non-accession in *baseline*. In the CEECs the favourable prices for rye and maize might lead to a significant growth of production upon accession. Rye production in particular is expected to increase due to a decline in production for the close substitute triticale. As a result, cereal surpluses in the CEECs could reach levels of 23-27 Mill. t, of this approximately 9 Mill. t of maize, 4-7 Mill. t of rye, and 9-10 Mill. t of wheat (see Figure 1).

The surpluses of wheat in the new Member Countries should not cause major difficulties, as world wheat prices would develop above EU intervention prices. Therefore, wheat should be competitive on world markets without export refunds. Maize surpluses would be internally absorbed². On the other hand, the high amount of rye market surplus could create a serious problem on the small world markets for rye, such that intervention stocks would have to play a dominant role in long-term marketing of this cereal.

² One should note however that high transport costs from the main surplus regions in the CEECs, namely Hungary and Bulgaria, to the main deficit regions in the EU-15 could lead to sales into intervention.

Due to the special situation caused by transition, the introduction of full direct payments in the CEECs could lead to an initial shock, which could affect the allocation of area and could attract additional area for cereals and oilseeds. During transition a considerable amount of area was shifted to fodder and pasture area and to fallow land. Fodder and pasture area expanded by 4.5 Mill. ha from 9 Mill. ha in 1987 to 13.5 Mill. ha in 2000, despite a substantial reduction of cattle (and sheep) numbers of approximately 49%. The amount of fallow land expanded and can be estimated at approximately 2 Mill. ha. Additionally a relatively large part of the area (compared to the EU-15) is used for producing low value added crops like feed potatoes. The additional land that might be available for cereal and oilseed production could be approximately 6.5 to 7.5 Mill. ha. This land reserve may be even larger, if part of the permanent grassland is of a quality high enough to justify a conversion into arable area.

In the scenarios with full direct payments, cereals and oilseeds would attract additional area from the land reserve. The simulation results show, however, that direct payments for area would trigger considerably less additional area than the available land reserve of 6.5 to 7.5 Mill. ha. Compared to *CAP* the overall gross expansion is approximately 3.7 Mill. ha and 3.9 Mill. ha, in *CAP DP* and *CC Position*, respectively. Set-aside, as a supply-limiting tool with an assumed reference rate of 10%, is projected to reduce the area by 1.2 Mill. ha and 1.3 Mill. ha, respectively³. The net effect of introducing full direct payments therefore is 2.5 Mill. ha and 2.6 Mill. ha, respectively.

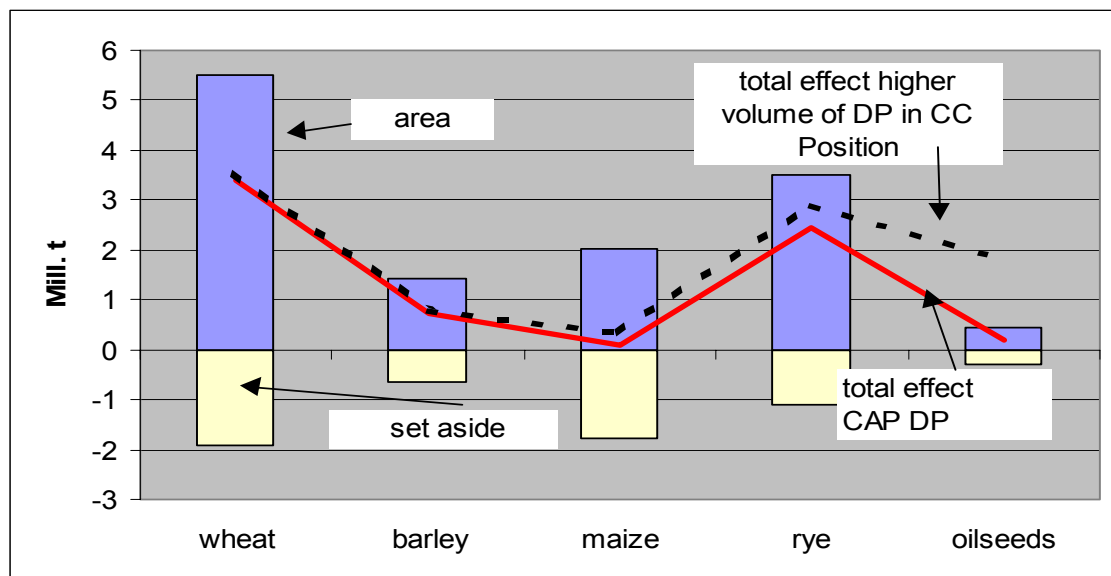
The mobilisation of less than the theoretical available additional area is due to two main reasons: (i) firstly, the level of direct payments per hectare could mobilise only a part of the potential land reserve; (ii) since the base areas are established upon historical references, additional area would lead to an overshoot which would be penalised by a reduction of direct payments per hectare.

A higher volume of direct payments due to higher references (base area and base yields) in *CC Position* would have only a limited effect on the expansion of cereal and oilseed area. In general, direct payments appear to favour those cereals, that would otherwise be less competitive (see Figure 2). High volumes of direct payments even could divert some area away from sugar beet production. This is only expected to take place, however, only in the Baltic countries where comparably poor cost structures combine with adverse natural conditions for sugarbeet production.

In 2007 the granting of full direct payments would increase production of cereals in the CEECs to approximately 5 Mill. t more than the implementation of *CAP* without direct payments. Most of that increase could materialise in rye and in wheat (see Figure 2). Higher cereal prices on the other hand would increase production by 8.8 Mill. t. These results indicate that despite the very specific situation in the CEECs, the introduction of full direct payments would have a significantly lower effect on production than the price effect.

³ The low rate of effective set aside is explained by the large share of small producers in countries like Poland, Romania and Hungary, in which small producer farm between 60 and 75 percent of the arable area.

Figure 2: The Effects of Direct Payments and Set-aside on Production of Cereals and Oilseeds in the CEECs in 2012.



The simulation results show that the introduction of full direct payments in the CEECs would give a different incentive to agricultural production than in the EU-15. Accession in the CEECs would generally increase cereal prices, in particular those for coarse grains, which would create a positive impact on profitability of cereal production. In the CEECs direct payments would tend to have an additional effect on the profitability of cereals and oilseeds. In the EU-15, on the other hand, direct payments partly compensate the decrease of intervention prices for cereals.

Beef Markets in the EU-25, Milk Quotas and Cattle Premiums in the CEECs

The decline in cattle herds in the CEECs projected under current domestic policies in *baseline*, reverses in the accession scenarios. The major factor determining beef production in the CEECs after accession is the level of the milk quota, because the majority of calves are born in the dairy herds and specialised beef production is of minor importance. This close link between milk and beef production, is foreseen to leave production high, if Candidate Countries claim milk quotas related to production levels of the early 1990s. On the other hand, milk quotas based on a reference period of 1995 to 1999 as in *CAP* and *CAP DP*, would lead only to a moderate increase of beef production in the CEECs and relatively minor market surpluses of 0.1 Mill. t. Cattle premiums increase the profitability of beef production in the CEECs. The moderate volume based on production figures of 1995 to 1999 in *CAP DP* is foreseen to increase production relatively little. However, cattle premiums could lead to a slight restructuring of the beef herd towards more specialised beef cattle production. This is more visible in *CC Position*, where increased volumes of direct payments due to higher references as requested by the Candidate Countries could lead to a beef production more independent from that of the dairy herd and to higher market surplus. The *CC Position* scenario affects the beef markets in the EU-15 to a greater extent than the other scenarios.

The increased number of beef premium rights in *CC Position* would augment surpluses in the CEECs, which are foreseen to affect markets in the EU-15. Beef markets in the EU-25 are foreseen to display sufficient flexibility to absorb the effects of accession, if consumption develops back to normal levels and no major change in

consumer preferences occur. The average price decline in the EU-25 would be the highest of the three accession scenarios with between 50€/t to 70€/t. Production in the EU-15 is projected to be more flexible than beef production in the CEECs and would react with a decline, and consumption in the EU-15 would increase.

It can be expected that in the first years after accession eventual surpluses of the CEECs would mainly consist of lower average qualities than that of the EU-15. Under these conditions pressure on prices for lower qualities would increase, while higher qualities would be less affected.

Milk Production and Quota Levels in the CEECs

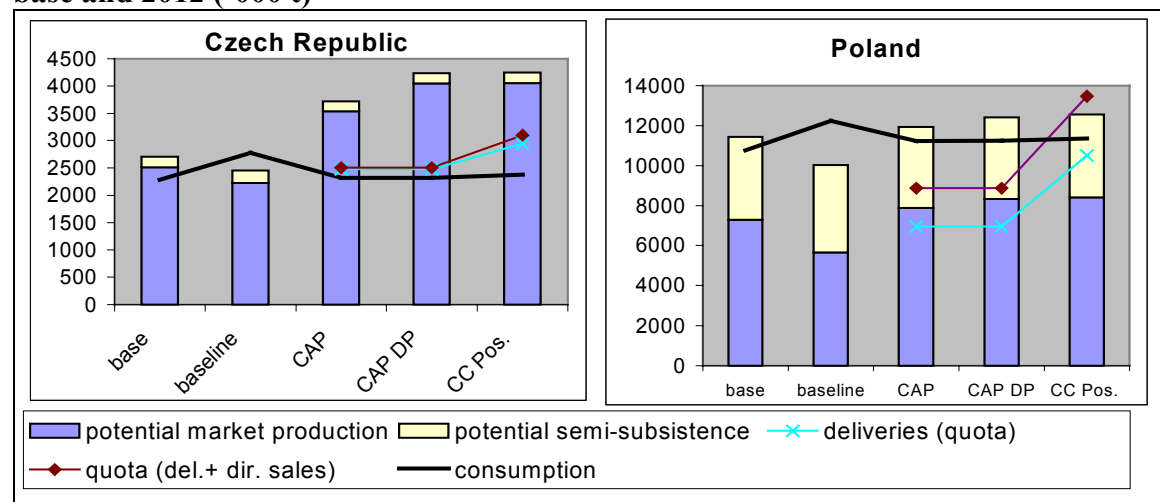
The impact of enlargement on dairy markets depends on the level of quotas fixed on accession and the structure of dairy production in the CEECs as well as in the EU-15. The analysis distinguishes between *market-oriented production* which would combine deliveries as well as commercial direct sales, and *subsistence* and *semi-subsistence* production of small farms. Quotas would affect the market-oriented production, while the subsistence sector (own-consumption) of the production would largely remain unaffected by these supply management tools.

The simulations in *CC Position* show the huge task of restructuring in order to fill the requested quota levels. Total milk production, which includes subsistence and semi-subsistence, would not reach the requested quota levels in the CEECs. Only after a longer adjustment period until 2015, would milk production reach the levels of 34.45 Mill. t. This level is even below the quota level of 34.8 Mill. t requested by the Candidate Countries. The scenarios CAP and CAP DP would increase production to 26.3 and 26.9 Mill. t.

Taking all 10 CEECs together, potential deliveries to dairies - which might be taken as an indicator of the production potential of market-oriented milk production and would include the relatively high part of the CEEC quota currently reserved for direct sales - could be 21.9 Mill. t under *CAP*. With direct payments the potential market-oriented production could increase to 24 Mill. t and under *CC Position* to 24.3 Mill. t. However, taking into account that the quota level will be binding the real market-oriented production (deliveries and direct sales) would be lower at levels of 20.4 Mill. t, 20.6 Mill. t and 22.7 Mill. t in *CAP*, *CAP DP*, and *CC Position*, respectively. The EU-25 could produce around 151 to 156 Mill. t of milk by 2012.

In the Czech Republic, Slovakia, Lithuania and Hungary potential market-oriented production is projected to match or even surpass the quota levels. This indicates that a quota based on recent references would become binding. Especially the Czech Republic and Slovakia show a large potential of production under *CAP* conditions. Estonia is foreseen to be able to expand market-oriented production in the event that direct payments are granted.

Figure 3: Potential market-oriented production, semi-subsistence production, consumption and levels of milk quotas in the Czech Republic and Poland in the base and 2012 ('000 t)



For the other countries, the picture appears rather mixed: in Bulgaria, Poland, Latvia and Slovenia market production would seem to be just able to fulfil the quotas based on a recent reference period. Under larger quota ceilings in *CC Position*, market-oriented production could not reach the requested levels in Poland, Romania, and Latvia.

In a number of CEECs direct sales and subsistence production have a significant share in domestic consumption. With declining subsistence in the course of economic development and consequently changing consumption habits, a larger share of consumption would have to be satisfied by the markets and dairy production. The critical question as to how the quotas once introduced in the CEECs might affect restructuring has not been addressed in this quantitative analysis. The scenarios assume that the transfer of quotas between producers could take place without incurring costs, which in reality is evidently not the case. In reality market-oriented farmers would have to purchase producer rights from the semi-subsistence sector. This part of the investments would then not be available for improving profitability and the income base of market-oriented farmers. With regards to the huge task of restructuring faced by the CEECs relative to most existing EU Member States, the question of restructuring and the implementation of milk quotas is of immense importance for the Candidate Countries.

Dairy Markets in the EU-25

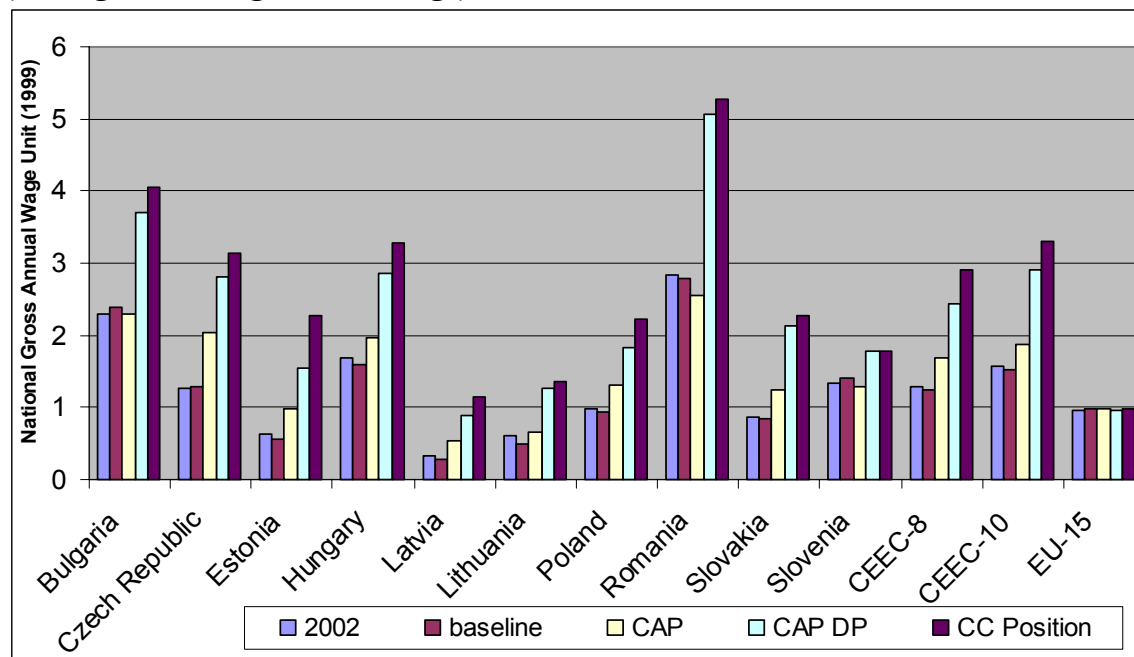
Following the Agenda 2000 reform in the EU-15, consumption of fresh dairy products and cheese should increase and dairy production should restructure towards this more profitable segment of the markets. This development is also visible in most CEECs. Despite these developments, which would draw milk away from the production of skimmed milk powder and butter, surpluses of butter in particular would continue to increase in the EU-15. The new members might bring in some additional market surpluses in particular for butter, despite having a similar trend in restructuring of the dairy sector than in the EU-15.

The Impact of Enlargement on Income in the CEECs and the EU-15

The analysed adjustment pressures and developments for agriculture visible in the baseline scenario are foreseen to be different between countries owing to different macroeconomic development and different cost structures of agricultural production. Another major factor in the future developments of the agricultural sectors of the CEECs is the dualistic structure, which differs in importance from country to country. The subsistence and semi-subsistence part and a market-oriented part of agriculture coexist and compete for the resources such as land and capital. Subsistence and semi-subsistence farming has proved to be a stable feature and a main factor of stabilisation of production during the early phase of transition. In recent years, the share of subsistence and semi-subsistence farmers even increased in some countries. The increasing pressure on agriculture might therefore be only partly expressed in declining agricultural production but consequently more in deteriorating agricultural income per employee in general, and for the semi-subsistence sector in particular. This might highlight an increasing rural poverty problem for some CEECs under existing domestic policies.

To abstract from over-employment in agriculture in some CEECs, hypothetical 20 hectare farms have been constructed for all Candidate Countries and the EU-15. The income of these farms is then put into relation with the national average annual wage. Domestic policies projected to 2007 and non-accession (*baseline*) would lead to a reduction of income for a number of countries, especially when exchange rate appreciation would lead to a further pressure on agriculture. Only the Czech Republic and Slovakia could manage well because the technical progress is projected to offset these pressures provided that the general macroeconomic developments are stable. In 2002 under current policy conditions an average 20 hectare farm provides income at the level of an annual gross average wage in the Czech Republic, Hungary, Poland, Slovenia, and also more or less so in Slovakia. Low income in the rest of the economy in Bulgaria and Romania means that a 20 hectare farm would produce 2 to 3 times more income than an average employment outside agriculture, despite comparably low income levels per hectare of land. However, the Baltic countries' types of farms would produce significantly less income combining low productivity (Latvia and Lithuania) with relatively high agricultural prices or high productivity with relatively low prices (Estonia).

**Figure 4: Relative income* of a 20 ha farm in 2002 and 2007
(GVA/gross average annual wage)**



* GVA in basic prices including direct payments.

Enlargement, even without direct payments, is likely to lead to an improvement of the income situation in most countries. In other countries, enlargement would offset declining income between 2002 and 2007. Only Romania with a non-competitive livestock sector and Slovenia, which may face a decline in agricultural prices, would see a reduction of income on accession without direct payments. However, a 20 hectare farm in Slovenia only sees a very slight decline.

Full direct payments under *CAP DP* would lead to a further improvement of the income situation such that agricultural income in most countries far outweighs wages outside agriculture. The hypothetical Polish farm would produce almost 2 national wages instead of 1.25 wage units without direct payments. In Hungary and the Czech Republic full direct payments leads to an income increase from 2 national wage units to 3. The low-income situation in Bulgaria and Romania would lead to a high increase of relative agricultural income once full direct payments would be granted. In conclusion, accession without direct payments would lead to favourable income increase in the eight CEECs, where the income of a 20 hectare farm would increase by 0.6 wages from 1.2 wages in *baseline* to 1.8 wages after accession. Full direct payments based on recent reference periods (*CAP DP*) increases incomes by further 0.8 wages to 2.6 average annual gross wages. With direct payments based on the requests of the CEECs (*CC Position*) income increases roughly by 1.2 wages to 3 national wages compared *CAP*. The application of full direct could result in some countries in a large income increase relative to the national wage level. This could support arguments about increasing inequalities in rural areas. In such a situation it is favourable for labour, to stay in agriculture instead of seeking employment outside agriculture.