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AGRICULTURAL IMPLICATIONS OF EU EASTERN ENLARGEMENT AND THE FUTURE OF THE CAP

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1. Introduction

One of the major factors now regularly considered in debates about the future of agricultural trade and policies in Europe is the impending Eastern enlargement of the European Union. The exact timing of that next round of enlargement not yet fully clear. The EU has, though, decided that accession negotiations with the first countries from Central Europe (candidates still to be suggested by the EU Commission) will start six months after the conclusion of the Intergovernmental Conference ("Maastricht II") on the future institutional structure of the EU, which is expected for mid-1997. In other words, accession negotiations are likely to start early in 1997. In past rounds of EU enlargement, accession negotiations took anywhere between three and seven years. Hence, at this time most observers believe that EU accession of the first countries from Central Europe will be at least five years down the road, and that it will take another five years or so before the majority of the ten countries from Central Europe (CEC-10) which now have association agreements with the EU (and therefore are candidates for accession) will have joined the Union. It is also not yet clear in which sequence the countries of Central Europe will join the EU. However, it would be surprising if the first round of Eastern enlargement would not entail at least Poland, Hungary and the Czech Republic, and possibly more countries.

In spite of these residual uncertainties about the process and speed of Eastern enlargement, the debate about its agricultural implications is already in full swing. The reasons are easy to understand. Agriculture is a large sector in Central Europe, and its weight in an enlarged Union will be considerably greater than in today's EU-15. Hence, when Central Europe joins the EU the viability of the CAP as it stands today is under serious threat. Farm lobbies in the EU are, therefore, less than enthusiastic about the prospect of Eastern enlargement. Many farmers in Central Europe, on the other hand, can hardly await the moment they are admitted to the Promised Land of CAP benefits. In a situation like that, agriculture can rightly be described as one of the "political land mines" on the way towards Eastern enlargement (Baldwin, 1994).

In a discussion about the agricultural implications of Eastern enlargement it is useful to start from some factual information regarding the situation of agriculture in Central Europe. Such information will be provided in Section 2 of this paper. Against this background we can discuss the quantitative effects of extending an unreformed CAP to Central Europe (Section 3). These effects are such that strategic decisions on the future of Europe's agricultural policies can hardly be avoided (Section 4).¹

While the EU-15 prepares for Eastern enlargement, the countries in Central Europe will continue to puzzle over the nature (if not the existence) of the CAP they will

encounter on joining the Union. Their domestic policies in the meantime may, and indeed should, decisively depend on the outcome of the debate about the future of the CAP in the EU-15. However, domestic agricultural policy strategies in Central Europe will not be discussed in this paper (but see Tangermann and Josling, 1994). Another important element of agricultural relations between the EU and Central Europe is the treatment of trade in farm and food products pre-accession. Preferential arrangements in agriculture under the association agreements leave much to be desired. This set of issues will, also, not be discussed in this paper (but see Tangermann, 1993, and Overberg, 1996).

2. How Important is Agriculture in Central Europe?

Before going into any details on agricultural policy consequences of EU Eastern enlargement, it is useful to take note of a few facts which illustrate the importance of agriculture in Central Europe.

- (1) Agriculture is much more important to the economies of the CEC than is the case in Western Europe.

In the CEC-10, agriculture contributes 7.8 per cent to total GDP, more than three times as much as in the EU-15 (see Graph 1). Agriculture employs 26.7 per cent of all labour, nearly five times the share in the EU. The share of agricultural area in total area in the CEC-10 is above that in the EU. The share of food in total household expenditure in the CEC-10 (36 per cent) is more than fifty per cent above that in the EU. All this says that agriculture is much more important as an economic activity in the CEC than in the EU. Hence the attention which CEC governments pay to agricultural issues is great when it comes to considering the implications of accession to the EU, and for the CEC the nature of agricultural policies pursued is more important than it is for most countries in the EU-15. This cannot, however, be simply taken to indicate that CEC governments are more interested in higher levels of agricultural protection than governments of West European countries. After all, as food has a much higher share in total expenditure of CEC consumers, food prices are significantly more of a political issue than they are in Western Europe.

- (2) As a consequence of the large size of agriculture in Central Europe, the weight of agriculture in the overall economy of the EU will grow significantly when it comes to Eastern enlargement.

Accession by the CEC-10 would expand the size of agriculture in the European Union very considerably. Agricultural employment would grow by more than one hundred per cent; agricultural and arable areas as well as cereals production would expand by around 50 per cent; livestock production would grow by around one fifth (see Graph 2). On the other hand, enlargement to include the CEC-10 would add no more than just three per cent to the size of the overall economy of the EU (measured by GDP at current prices). By the time Eastern enlargement will actually take place, some of these indicators will have changed. In particular, agricultural employment in Central Europe is likely to shrink, and GDP in Central Europe will probably grow faster than in the EU-15. Nevertheless, Eastern enlargement will make agriculture in the Union grow much more than the overall economy. As a result, the economic conditions under which agricultural policies will have to be pursued in an enlarged Union will be much different from what they are in the current Union. In particular,

agricultural policies which transfer income from the rest of the economy to agriculture will have to consider that, in an enlarged Union, agriculture will be much larger relative to the rest of the economy. At the same time, the political weight of agricultural interests in society may gain significantly as a result of Eastern enlargement.

- (3) The size of individual countries in Central Europe, and of their agriculture, differs greatly from country to country.

The largest country among the CEC-10, measured in whatever way, is Poland. Poland also has the largest agricultural sector among all CEC-10. Nearly one third of total agricultural area in the CEC-10 is in Poland (see Graph 3). Romania has another quarter of CEC-10 agricultural area, and the three Baltic countries jointly have one eighth. Bulgaria, Hungary and the Czech and Slovak Republics taken together each have one tenth. Slovenia, a special case in many regards, not the least in its agricultural policies, is rather small, with no more than 1.5 per cent of total agricultural area in the CEC-10.

- (4) In the course of the transition process, agricultural output in Central Europe has declined notably.

After 1989, the overall volume of agricultural output has declined in all CEC. In some countries, agricultural output has fallen by forty per cent or more (see Graph 4). A number of reasons are behind this development, including a sharp decline in the sectoral terms of trade for agriculture (resulting from de-subsidization); the far reaching structural changes (resulting from privatization and de-collectivization); liquidity problems in agriculture and the food industry; decline of domestic demand for agricultural products; breakdown of trade relations with former COMECON countries; economic and structural difficulties in the downstream sectors (see for example Tangermann and Josling, 1994). As far as different sub-sectors in agriculture are concerned, the decline was particularly pronounced in livestock production. Only recently has this downward trend in agricultural output been reversed, but most countries in Central Europe have not yet reached their pre-transition levels of agricultural output again. One conclusion to be drawn from this development is that current levels of agricultural output in Central Europe are not indicative of the longer run production potential of the region. At least it is clear that the physical production potential in Central Europe was in the past larger than what current levels of agricultural output indicate (though this does not necessarily say that the economic potential for larger volumes of agricultural production actually exists).

- (5) Agriculture has proved to be relatively robust during the transition process, and may have a comparative advantage in Central Europe.

During the transition process, output has declined not only in agriculture, but in other sectors of the CEC economies as well. As a matter of fact, relative to industrial output, the volume of agricultural production has increased in most countries in Central Europe (see Graph 5). This was true at least during the early years of the transition process, and only more recently industrial output begins to grow faster than agricultural production in some CEC. A full explanation of the relative performance of different sectors in the transition economies during the

transformation process would require an in-depth analysis. However, it is tempting to argue that agriculture in Central Europe has, in spite of all the difficulties it is facing during the transition process, shown a degree of remarkable robustness in comparison with other sectors. If this interpretation is correct, then agriculture in Central Europe may have a promising future and the potential to become an internationally competitive sector.

- (6) During the first phase of the transition process, support for agriculture in Central Europe has declined steeply. More recently, however, CEC agricultural policies have become more protectionist.

In socialist countries, there was a pronounced tendency for governments to channel large scale subsidies into the agricultural and food system. When the process of economic reforms began, governments of most countries in Central Europe began to engage in macro-economic stabilization programmes. As one element of their efforts to reduce the deficits of government budgets, they greatly reduced expenditure on agricultural and food policies (see Graph 6). At the same time, many agricultural markets in Central Europe were increasingly opened up to international trade, and little, if any, protection for agriculture remained. The resulting decline in farm incomes, exacerbated by the effects of structural change, induced farm lobbies to assert pressure for more protection and support. In most CEC, governments found it difficult to resist this political pressure, and more recently they again began to provide more support and protection to agriculture through various forms of domestic programmes and trade policies (Swinnen 1995; Hartell and Swinnen 1997; Bojnec and Swinnen, 1997). As some of the policy instruments now introduced in Central Europe resemble (though only vaguely) those traditionally employed by the CAP, some authors have commented that Central Europe has embarked on a process of establishing "CAP-like" policies (Swinnen 1994). However, even though there has, in recent years, been an increase in agricultural support and protection in Central Europe, the level of support provided, as measured by producer subsidy equivalents (PSE, expressed in per cent of producer returns), is still significantly below that provided under the CAP in the EU-15 (see Graph 7). In particular, agricultural producer prices in Central Europe are still significantly below those in the EU, and in some cases even below those on world markets (see Graph 8).

3. Quantitative Implications of Extending the CAP to Central Europe

There is now a rapidly growing literature on the potential implications of extending the CAP to Central Europe. One important ingredient in the debate is analysis of the quantitative effects of including Central Europe in the CAP, with or without prior reform of the policy. Future levels of production and use of agricultural products, as affected by different future policy scenarios, will be important as they determine trade flows, international market prices, and budgetary implications for the EU. A number of studies have made estimates of these quantitative implications in agriculture of Eastern enlargement.² Results differ widely, depending on all sorts of assumptions made regarding future market conditions, policy scenarios and other factors. As one indication of the diverging nature of results, estimated budget implications of extending the CAP to Central Europe differ between 2.6 and 66.3 billion dollars per year (USDA 1997).

A widely publicized estimate of the quantitative implications of Eastern enlargement for European agriculture is contained in the Agricultural Strategy Paper issued by the EU Commissioner for agriculture, Franz Fischler (EU Commission 1995b). In this document the Commission projects developments on agricultural markets in the CEC-10 and the EU-15 for the years 2000, 2005 and 2010, based on the assumption that Central Europe joins the EU in the year 2000 and adjusts its agricultural prices to the CAP (post-MacSharry reform) over a five year period, so that by 2005 the CAP fully applies in Central Europe. The Commission projects that under these conditions the CEC-10 will become, by 2005, net exporters of cereals (7.2 million tonnes), oilseeds (0.7 million tonnes), milk (2.6 million tonnes), beef (0.6 million tonnes), and poultry (0.2 million tonnes), but will be net importers of sugar (0.4 million tonnes) and about self-sufficient in pork. The extra expenditure required to include the CEC-10 in the CAP would, according to the Commission, be around 12 billion ECU (in 1993 prices), half of which would be for MacSharry compensation payments to CEC-4 farmers.

The Commission's estimates were partly based on the European Simulation Model (ESIM). This model, developed by the Economic Research Service of the United States Department of Agriculture in collaboration with T. Josling from Stanford University and the present author (first used in Tangermann and Josling, 1994), is a partial equilibrium model of national and international markets for some 27 agricultural and first stage processed products. It includes country/region modules for the EU-12, the three EFTA countries which have joined the EU, Norway, Switzerland, each of the CEC-4, the USA, other industrialized countries, other formerly centrally planned countries and the rest of the world. Cross-commodity linkages, including various feed components and their relationships with livestock production, are modelled in much detail. The model is rich in policy detail and incorporates all important policy instruments of the post-MacSharry and post-Uruguay Round CAP (including intervention prices, threshold prices, tariffs, export subsidies, quotas, set-aside, compensation payments) and their effects on market behaviour. Alternative macro-economic assumptions on income and populations growth and changes in real exchange rates can be analyzed.

When the model was run for the EU Commission, relatively conservative assumptions were made regarding future productivity improvements and supply responses in the CEC-4. Moreover, the assumption was made that quotas are imposed on milk and sugar production in the CEC-4. The volumes of these quotas were determined on the basis of the respective export subsidy commitments accepted in the WTO by the CEC-4. For future CAP prices some decline in real terms was assumed. Of course this is only one constellation of assumptions one can make, and results will differ significantly depending on the scenario one is analysing. The fundamental problem one is faced with when analysing the agricultural implications of Eastern enlargement is the lack of firm knowledge on future conditions in agriculture and the overall economy of the countries in Central Europe. To show the large importance of varying assumptions on central factors, we shall present here the results of different runs using that same model.³ In a base run ("no CAP") we assume that the CEC-4 do not align their policies with the CAP, keeping their agricultural policy prices constant in real terms at 1993 levels. Against this base we set four different runs in which accession to the EU and adoption of the CAP are assumed. In these accession runs, we assume that the CEC-4 align their policies gradually with the CAP, beginning in 1998 and reaching full CAP levels in 2003. In

2004, the CEC-4 are then assumed to join the EU and to be completely integrated into EU agricultural markets.⁴ The CAP is assumed to remain as it now stands after the MacSharry reform, with minor further reductions of real policy prices in the years to come.

In the first three of these accession runs, the CEC-4 are assumed to recover soon from the production declines which occurred during the early years of the transition process.⁵ The first accession run ("CAP w/o quotas") assumes that CAP prices are adopted by the CEC-4, but that no supply control measures apply in Central Europe (i.e. no quotas on sugar and milk, no set-aside). This run is thought to illustrate the full potential supply pressure that might originate in Central Europe. The second accession run ("CAP w quotas") assumes that quotas on sugar and milk production are imposed on the CEC-4, roughly in accordance with their WTO export subsidy commitments. At the same time, set-aside at a rate of 10 per cent⁶ is required in the CEC-4, as a *quid quo pro* for MacSharry compensation payments which are also assumed to be extended to the CEC-4.⁷

The third accession run ("CAP revaluation") assumes that the currencies of the CEC-4 appreciate quite strongly in real terms in the years to come. Specifically, it is assumed that both EU and CEC-4 exchange rates adjust to their 1995 purchasing power parities in real terms until 2005. This scenario implies that the ECU devalues slightly, whereas the CEC-4 currencies revalue substantially against the US\$. The strongest revaluation takes place in the Czech Republic and Slovakia with 7 per cent per year, while the Forint and the Zloty appreciate by only 2 per cent per year.⁸ As a result of these currency developments, the price gap between the EU and the CEC-4 is significantly reduced, and alignment with the CAP requires much smaller price increases in the CEC-4.⁹ The last accession run ("CAP no recovery") explores the effects of lower productivity in CEC agriculture. In this run it is assumed that productivity in the CEC-4 does not recover from the decline which occurred in the early years of the transition period, though supply is still assumed to respond to price signals, with the same elasticities used in the other runs. No quotas on sugar and milk in the CEC-4 are assumed in the latter two runs, but compensation payments are introduced in the CEC-4 and set-aside at the rate of 5 per cent is required.

Implications of these scenarios for CEC-4 net exports of selected agricultural products are shown in Graphs 9 to 12.¹⁰ Also shown in these graphs are actual net exports in 1989 and 1994, as well as maximum levels of subsidized exports under the WTO commitments of the CEC-4.¹¹ For cereals (Graph 9), our projection suggests that even without inclusion in the CAP, net exports from the CEC-4 may grow to nearly 4 million tonnes by 2005. This volume is above the WTO constraint on subsidized exports. However, that does not pose a problem as under this scenario domestic prices in the CEC-4 are so low that export subsidies are not needed. If the CAP is extended to the CEC-4 without quotas and set-aside, our estimate is that net exports of cereals from the CEC-4 could grow to as much as 13 million tonnes, while application of set-aside in the CEC-4 would still leave net exports of 9 million tonnes. Compliance with the WTO constraint on subsidized cereal exports would then be seriously threatened (see discussion in the following section). Less optimistic assumptions regarding recovery of CEC-4 agriculture would reduce cereals net exports somewhat, though not enough to meet the WTO constraints. However, should the currencies of the CEC-4 appreciate significantly (in

real terms) before accession, then the CEC-4 might become net importers of cereals, and no problems with WTO commitments on subsidized exports would arise.

Our projections for sugar and milk (results shown only for butter) demonstrate the extent to which quotas imposed on CEC-4 production would suppress the supply potential which would otherwise be triggered by extending high CAP support prices for these products to the CEC-4 (see Graphs 10 and 11). For both sugar and butter, assumptions regarding recovery of CEC agriculture have little effect on net exports. Exchange rate assumptions, though, again matter very much. However, even if significant appreciation of CEC-4 currencies is assumed, both sugar and milk production in the CEC-4 would need to be constrained by quotas in order to honour WTO constraints on subsidized exports. Beef prices in the CEC-4 would also rise significantly with inclusion in the CAP, and exports from the CEC-4 would then far exceed the WTO constraint on subsidized exports (Graph 12). Even less optimistic assumptions on recovery of CEC agriculture, and significant appreciation of CEC currencies do not fundamentally change that result.

Our estimates of the budget implications of these alternative scenarios are shown in Graph 13. If the CEC-4 are not included in the CAP and keep their policy prices constant in real terms (at the 1993 level), then the budget expenditure required for their agricultural market and trade policies is low. However, if their prices are aligned with those under the CAP without supply controls being imposed, expenditure in the CEC-4 might grow to around 13 billion ECU in 2005 (in 1993 prices).¹² Application of quotas and set-aside in the CEC-4 would save budget outlays. At the same time, though, extension of compensation payments to CEC-4 farmers would require additional expenditure. Taking everything together, full inclusion of the CEC-4 in all CAP measures would, according to our estimate, raise expenditure in the CEC-4 to around 15 billion ECU.¹³ If CEC agriculture recovers less well from the transition decline, the budget implications are somewhat less pronounced. Appreciation of CEC currencies could reduce the budgetary impact of extending the CAP to Central Europe significantly.

One of the lessons from such simulation runs is that macro-economic developments and, in particular, exchange rates, matter very much for the agricultural implications of Eastern enlargement. However, such macro-economic developments are also not completely exogenous to the agricultural policy sphere. Future exchange rate developments in Central Europe will not only depend on intrinsic macro-economic developments in the countries concerned. They can also be directly affected by the process of acceding to the EU and adopting the CAP. In particular, if the CEC align their agricultural policies with those of the EU, driving up the level of their agricultural protection and support towards that currently prevailing under the CAP, this will have the well-known protection effect of making their real exchange rates appreciate. This exchange rate effect would occur while the CEC are still outside the EU, but raise agricultural protection to meet the EU level. In addition, when they join the EU, a second round of real exchange rate appreciation can be expected, resulting from inclusion in the "financial solidarity" as provided under the CAP. As long as the CEC are still outside the EU, they have to finance their agricultural policy expenditure from their own national budgets. However, as soon as they have joined the EU, all agricultural policy expenditure related to market and trade policies will be financed out of the EU budget (to which the CEC will make only small contributions, given the low level of their GDP). Thus, from the moment the CEC are fully included

in the CAP there will be a financial transfer to them from the EU budget, adding to the flow of foreign currencies into the CEC.

To see what the magnitude of these exchange rate effects might be, consider the case of Hungary. Banse (1996) has developed a dynamic CGE model for Hungary which allows the analysing of the transformation process in that country.¹⁴ That same model has also been run to investigate the macro-economic implications of Hungary's accession to the CAP (Banse and Tangermann, 1996). The accession scenario, regarding the process and time-frame of adoption of the CAP, is essentially the same as the one described above for analysis based on the ESIM model. Only the development of some macro-economic indicators resulting from that model run is presented here (see Graph 14). Results are shown relative to those of the base run where Hungary is assumed not to accede to the EU and not to align its policies with the CAP. Gradual adoption of the CAP by Hungary on a national basis (i.e. before accession to the EU), in particular raising Hungary's agricultural tariffs and export subsidies to EU levels, would, in that analysis, drive up the real exchange rate of the Forint by 9.5 per cent (see exchange rate for 2004). This currency appreciation results simply from the protection effect. When Hungary then joins the EU (in 2005) and begins to benefit from "financial solidarity" under the CAP, the real exchange rate of the Forint appreciates by another two percentage points, due to the transfer of EU budget expenditure to Hungary.¹⁵ Inclusion in the "financial solidarity" under the current CAP would also allow investments in Hungary to increase by more than two per cent, and would add around 1.5 per cent to Hungary's GDP.¹⁶

In other words, accession to the CAP can have significant macro-economic effects in Central Europe. The nature of these macro-economic repercussions, though, could be to reduce the agricultural market, trade and budget effects of Eastern enlargement. In particular, if accession to the EU should result in an appreciation of real exchange rates in Central Europe, the gap between agricultural prices in Central Europe and the EU would be further reduced, and hence the expansionary effect of extending the CAP to Central Europe might be smaller than otherwise assumed.

In summary, there is still much uncertainty regarding the quantitative implications of extending the CAP to Central Europe. So far too little is known about the extent and speed of the future process of recovery from the agricultural output decline which occurred during the early stages of transition; about future domestic policies in Central Europe before accession to the EU; about the extent to which all CAP measures will be extended to Central Europe; and about future macro-economic developments in Central Europe. For the years to come, agricultural economists have a rich research agenda in this area, and analytical results will keep changing as the process of preparing for Eastern enlargement goes on.

4. Implications for the Future of the CAP

Whatever the particular set of projections is one wants to subscribe to, there is little doubt that the quantitative implications of extending the current CAP to Central Europe can be dramatic, and a threat to the future of the CAP. In a situation like that, a number of strategic decisions have to be taken. Let us consider some of these decisions, starting from the general process of Eastern enlargement and progressing to the detail of the CAP.

A first decision to be taken is whether Eastern enlargement should take place at all. Some (though fortunately not many) agricultural lobby groups might prefer to drop the project of Eastern enlargement altogether, hoping that the CAP might then survive intact. However, that fundamental decision will not be taken on agricultural grounds - and indeed has long been taken, positively. Moreover, even in the absence of Eastern enlargement there are good, if not overwhelming reasons for reforming the CAP, to which we shall come back below.

A second decision concerns the inclusion of agriculture in the process of Eastern enlargement. Is it conceivable that the countries of Central Europe could join the EU, but leave their agriculture outside the Single Market and the CAP, continuing to pursue, and finance, their agricultural policies on a national basis? A proposition like that would appear to be a complete non-starter. Not only would such a "solution" generate all sorts of technical and legal problems, it would make the countries of Central Europe second-class members of the Union. Given the large importance of agriculture to the economies of Central Europe, and their pronounced interest in free access to agricultural markets in Western Europe, it is plainly inconceivable that exclusion of agriculture from the process of Eastern enlargement would ever be politically feasible. Moreover, it would not make any economic sense.

A third decision relates to the time horizon for, and process of accession by, Central Europe. Many agricultural policy makers in the EU appear to believe that pressure on the CAP would be the less the later Central Europe joins the Union. Yet, agricultural issues will probably play only a minor role when it comes to deciding on the time schedule for Eastern enlargement. To a large extent, timing will depend on foreign policy considerations, on the ability of the Union to revise its institutional structures to fit an even larger number of member states, and on the progress the individual countries in Central Europe make in terms of establishing a stable political and economic system and creating the necessary institutional and legal framework. However, at a lower level of decision making, timing may well become a "technical" issue related, among others, to agricultural implications. In particular, there will be the question of whether or not there should be a transition period after accession. In the early rounds of EC enlargement, until accession by Spain and Portugal, such transition periods (lasting up to ten years) were used to spread adjustment of agricultural prices in the entrant countries towards those of the existing Community over a number of years. Many agricultural policy makers in the EU argue that the same approach should be used for Eastern enlargement. They appear to believe that the agricultural policy problems caused by Eastern enlargement would somehow dissipate during such a transition period. It is somewhat hard to understand the logic of such beliefs. The longer the countries of Central Europe have time to recover from the traumatic process of transition, the better equipped their farmers will be to compete with those of Western Europe. In any case, at the end of a transition period the consequences of enlargement for Europe's agriculture will have to be faced. Waiting until such time will not make the problems disappear.

However, one also has to consider the fact that an agricultural transition period of the traditional type is an approach of the past, no longer consistent with the realities of the borderless Single Market in Europe. Gradual adjustment of agricultural prices during a transition period requires the ability to maintain a price gap between the entrants and the existing Union. In the past, special agricultural trade taxes and subsidies ("accession compensatory amounts") were used for that purpose, levied

and paid on intra-Community trade at the borders between the entrants and the old Community (and included in border measures on trade between entrants and third countries).¹⁷ Border controls no longer exist in the Single Market. Hence, when the EFTA countries joined the Union, and the Single Market, on 1 January, 1995, their agricultural prices were immediately adjusted to CAP prices in what was called a "big bang" fashion. When it comes to Eastern enlargement, the borderless market principle will probably also prevail, at least for trade in goods. Under the existing association agreements between the Union and the CEC, nearly all border measures on non-agricultural trade will be abolished within the next few years at any rate. As far as technical standards are concerned, the countries in Central Europe, very much supported by the Union, are already engaged in serious efforts to meet the requirements of the Single Market soon. Would it then be possible to maintain, after Eastern enlargement, border controls on trade in goods only for agricultural products? This is hardly conceivable. After all, it is technically infeasible to control only certain types of trade. Nobody can tell whether a given truck or ship transports agricultural products or other goods, and hence all trade would have to be controlled if border measures were to be maintained on agricultural trade between the entrants from Central Europe and the existing Union. The agricultural tail would then wag the overall economy dog - a completely undesirable situation. Moreover, a transition period during which the countries of Central Europe are denied free access to Europe's agricultural markets would seriously disappoint these countries, and would therefore be undesirable for political reasons, too.

Hence it is best to face the expectation that the countries of Central Europe will have free access to EU agricultural markets, and the CAP, on the day they join the Union. What can then be done to avoid the dramatic quantitative implications for markets and the budget? One further escape from the need to change the CAP fundamentally in this situation might be seen in a tightening, and extension to new products, of supply controls (quotas, set-aside), or at least the imposition of such tight controls on the new member states from Central Europe. Apart from the lack of economic logic in such an approach, it would not even work technically. The central aim of supply management in agriculture is to maintain high support prices. High support prices require high tariffs, because imports from the rest of the world would otherwise undermine domestic price support. However, after the Uruguay Round, countries are no longer free to set their agricultural tariffs as they like. In the EU-15, most agricultural tariffs are currently still high enough to underpin existing support prices, though their required gradual reduction over time may well begin to exert pressure on some products towards the end of the current implementation period (Tangemann, 1995). At the time Eastern enlargement begins, further reductions in agricultural tariffs will probably have been agreed to in the agricultural mini-round to be initiated under the Uruguay Round Agreement on Agriculture in 1999 (Josling, Tangemann, Warley, 1996).

Most countries of Central Europe, to the extent that they are already members of the WTO, have tariff bindings much below those of the EU (see Graph 15). Unilaterally these countries can, at any rate, not raise their levels of price support to match price levels under the CAP. When they join the EU, negotiations will have to be held in the WTO on how to merge their WTO commitments with those of the EU. It is highly unlikely that the trading partners of the EU will allow the Union to absorb the countries of Central Europe while raising their agricultural tariffs to the EU level. On the contrary, Eastern enlargement will probably require the EU to accept further

reductions in its agricultural tariffs. In other words, tariff bindings in the WTO will prevent the EU from using the "easy" solution of more and tightened supply controls in order to avoid changes to the CAP.

All this said, it is nearly logically impossible to escape the conclusion that the CAP will have to be further reformed in the context of Eastern enlargement. However, before discussing the options for reform, let us pause a moment and consider that apparently inevitable conclusion one last time, in order to do justice to those who still believe that there is no need to change the CAP fundamentally. To a large extent, the view that CAP reform is necessary in the process of preparing for Eastern enlargement is based on projections of the quantitative implications for agriculture of extending the Union to Central Europe. The consequences for the EU budget and the effects on international trade are particularly important factors in that equation. If the projections are wrong and the quantitative implications are less dramatic, would CAP reform then not be necessary?

As reported in the previous section, estimates of the extra expenditure required to include Central Europe in the CAP vary widely. However, let us just consider the latest available estimate of the EU Commission, 12 billion ECU CAP expenditure for the CEC-10. According to the EU Commission (1995b), agricultural policy expenditure for the EU-15 is projected to be around 42 billion ECU (in 1993 prices) in 2005. Hence the Commission's own estimate implies that Eastern enlargement results in an increase by around 28 per cent of agricultural policy expenditure in the Union. Is this a large increase? It certainly is, relative to existing budgetary arrangements for the CAP.

Under the current budget guideline for the CAP, agricultural spending of the Union must not increase, over time, by more than 74 per cent of the growth rate of GDP in the EU (in real terms). That same factor was applied when the EFTA countries joined the EU in 1995. At the time, the budget for the CAP was augmented by 74 per cent of the rate of increase of Union GDP as a result of enlargement. If the same procedure were adopted on Eastern enlargement, the budget for the CAP would grow only minimally. At the moment the CEC-10 have a little more than three per cent of GDP in the EU-15. Let us assume that GDP in Central Europe grows much faster than in the EU-15 and that at the time when Eastern enlargement is accomplished the CEC-10 have seven per cent of GDP of the EU-15. Under the current budget mechanism, CAP expenditure would then be allowed to increase by a bit more than five per cent on Eastern enlargement. This is less than one fifth of the increase required according to the Commission's estimate. One can well argue that this is a too technical view of the process, and that focusing on the agricultural budget cost of Eastern enlargement is not helpful in view of the political significance of Eastern enlargement and considering the many benefits it will provide to the existing member states (Buckwell et al., 1994). However, it is less than certain that governments of countries in Western Europe will be happy to spend that much more on a policy which many of them feel is in urgent need of overhaul anyhow.

As far as trade implications of extending the CAP to Central Europe are concerned, available estimates also differ widely. However, in this regard, too, even a wide margin of error does little to change the policy conclusions fundamentally. The major aspect to be considered in this regard is the existence of WTO commitments regarding subsidized exports. Even if CEC-10 net exports after accession to the CAP

were to remain considerably below the relatively cautious projections by the EU Commission, they would, for many products, still be far above the (aggregate) WTO commitments of the countries concerned. Consider the case of cereals. Poland, the Czech Republic, Slovakia, and Slovenia have zero commitments for subsidized cereals exports. Hungary can export 1.141 million tonnes of wheat and 0.164 million tonnes of corn with subsidies in 2000. Romania has a commitment not to exceed 0.290 million tonnes of subsidized grain exports in the year 2004 (GATT, 1994). Thus, on aggregate, these CEC can export a maximum of about 1.6 million tonnes of cereals with export subsidies around the year 2000. In the mini-round of agricultural negotiations in the WTO, this amount is likely to be further reduced. As in the case of tariffs, the trading partners of the EU will want to make sure that the aggregate commitments of all member states are not relaxed on Eastern enlargement. Thus enlargement will not augment EU commitments on subsidized cereals exports by more than 1.6 million tonnes. However, even the EU Commission projects that net exports of cereals from the CEC-10 will be above 7 million tonnes in 2005, and nearly 11 million tonnes in 2010 (EU Commission, 1995b). The margin of error in these projections would have to be very wide if inconsistency with the WTO commitments were not to be found.

More fundamentally, though, the same conclusion holds for the EU-15 even in the absence of Eastern enlargement. Take the case of cereals again. The WTO export subsidy commitments for wheat and coarse grains on aggregate for the EU-15 stand at 23.41 million tonnes for 2000, and will probably have to be reduced thereafter. The EU Commission projects net export availabilities in the EU-15 of 30 million tonnes in 2000, more than 40 million tonnes in 2005, and nearly 55 million tonnes in 2010.¹⁸ Thus, as long as the EU has to subsidize cereal exports it will find it increasingly difficult, if not impossible, to comply with its WTO commitments. The situation is similar (though somewhat less dramatic) for a number of other agricultural products. In other words, even if agricultural production and net export availability in Central Europe were to grow less than projected, added to likely market trends in the EU-15 the conclusion is relatively clear. The Union will have major difficulties in complying with its WTO commitments in agriculture - if it does not change the CAP.

What are, then, the options for reforming the CAP? Essentially there is only one strategy which can prepare Europe's agricultural and food sector successfully for Eastern enlargement, and which makes economic sense at the same time. This strategy aims at improving the competitiveness of EU agriculture so that it no longer needs government support. Without going into detail (see Josling and Tangermann, 1995, and Marsh and Tangermann, 1996), that strategy would have three major elements. First, CAP support prices are reduced so that export subsidies are no longer necessary. Second, supply management (quotas, set-aside) is abandoned. Third, compensation payments to farmers, to the extent they are considered necessary by agricultural policy makers, are completely decoupled from production, and their duration is limited.

A reduction of CAP support prices towards the level of world market prices is the only way the need for export subsidies can be eliminated. At the same time it is the only policy which allows Europe's farmers, in the West and in the East, to participate in the future growth of world markets for agricultural products. As long as Europe needs export subsidies, its volume of agricultural exports will be constrained by the

WTO commitments. If export subsidies are eliminated, these commitments no longer bind the volume of exports. Agriculture in Central Europe is likely to be so competitive that it could well export growing volumes to world markets, without export subsidies, if only the CAP would allow it to do so. If the volume of agricultural exports from Central Europe needs to be constrained because the EU cannot eliminate export subsidies, then Central Europe's resource base will not be fully utilised.

Removal of supply management under the CAP is a direct corollary of the elimination of export subsidies. If exports are not subsidized there is no reason to constrain domestic agricultural production in Europe, neither from a budgetary nor from a WTO point of view. Moreover, it does not make economic sense to integrate farmers from Central Europe into the common agricultural market of the Union, but at the same time to subject their production to quotas so that they cannot compete with farmers in Western Europe.

As far as individual agricultural products are concerned, the political difficulties of achieving a removal of export subsidies and an elimination of supply management will differ from case to case. In the cereals sector, EU prices after the MacSharry reform are already relatively close to world market levels (and have recently even been kept below world market prices). There are now a growing number of farmers and agricultural policy makers in the EU who are prepared to give up on export subsidies for cereals, as a *quid pro quo* for eliminating the need for set-aside. They find political support among those producers of pork and poultry products who (rightly) believe they are capable of exporting without subsidies only if they get access to feed grain at world market prices. In the cases of milk and sugar, EU prices would have to come down more before the level of world market prices is reached, and political opposition against fundamental CAP reform is strongest in those sectors. On the other hand, prices for these two products in Central Europe are particularly well below those in the EU, and hence the need for reform in these two sectors is even more pronounced than for other products.

The need for decoupling compensation payments (existing and new, if unavoidable) from production also increases with Eastern enlargement. There is general agreement that farmers in Central Europe should not receive such payments. Past reductions of CAP support prices, which were the reason to introduce such payments under the MacSharry reform, did not affect farmers in Central Europe, and future price reductions should be made before Central Europe joins the Union. Moreover, EU payments to farmers in Central Europe would distort income distribution between agriculture and the rest of the economy. However, if compensation payments are not made in one part of the enlarged Union, severe distortions of allocation can only be avoided if they are fully decoupled from production and resource use in other parts of the Union. Full decoupling requires, among others, limiting the duration of these payments because otherwise they effect the functioning of factor (in particular labour) markets. Moreover, the only justification for such payments can be that they help farmers to tide over the adjustment to a fundamental change in policy, and that justification does not support permanent payments.

If export subsidies are eliminated, supply management is abandoned and compensation payments are decoupled, the CAP has been reformed in a way which

allows Eastern enlargement to proceed without negative implications in agriculture. Farmers in the West and the East of an enlarged Union can fully use their productive potential, and agricultural policy no longer gets in the way of other sectors of the economy. Removing the agricultural "land mines" from the road towards Eastern enlargement will not be politically easy. But the benefits will be extensive.

5. Conclusions

The prospect of Eastern enlargement is about to change the environment for agricultural policy making in the European Union fundamentally. In an enlarged Union, agriculture will carry such a large weight that traditional agricultural policies as pursued under the CAP will no longer fit. With Eastern enlargement, the productive potential of EU agriculture may expand dramatically. The farming industry in Central Europe is highly competitive, much more so than large parts of agriculture in the EU-15. In the absence of CAP reform, agricultural expenditure would grow so much that other more productive policies might suffer. Moreover, agricultural exports from an enlarged Union with an unchanged CAP would exceed the WTO constraints, and would seriously threaten the stability of the new international trading order in agriculture after the Uruguay Round.

To avoid such problems, the EU will have to change its agricultural policies fundamentally. Delaying the process of enlargement would not help, nor is an extended transition period after accession of the countries from Central Europe a viable solution. Agricultural policy makers in the EU should face the new prospects, and should engage in CAP reform. Export subsidies should be eliminated, supply management should be abandoned, and compensation payments should be decoupled.

In the views of the EU Commission (1995b), such changes to the CAP amount to "radical reform" (attributed by the Commission to "a number of high ranking agricultural economists"). The Commission prefers to "develop the 1992 approach", i.e. to complete the MacSharry reform of the CAP. However, much of what the Commission describes under that approach shows that the gulf between "radical reform" and its own vision of how the CAP should be prepared for Eastern enlargement is less wide than what is suggested. In other words, even the Commission appears to be convinced that a very fundamental reform of the CAP is a prerequisite for Eastern enlargement. It will be interesting to watch the political process from which this reform will emerge.

This process is now well underway, and the EU Commission is expected to submit proposals for the future CAP later in 1997. It is important that reforms are then decided soon, for two reasons. First, the countries in Central Europe need to know how the CAP will look when they join the Union. As long as support and protection for farmers under the CAP is high, the temptation to raise levels of support and protection in Central Europe will be even more difficult to resist than it is already. Second, and closely related, if reform of the CAP is delayed until Eastern enlargement begins to take place it will be so more difficult to achieve. Once the countries of Central Europe have joined the Union they may have an immediate interest in maintaining high levels of support and protection. As agricultural exporters, and small contributors to the EU budget, they can only benefit from being

included in an unreformed CAP. Hence after Eastern enlargement it may be too late for a reform of the CAP.

However, CAP reform is necessary not only because of Eastern enlargement. The CAP is outdated even for the current Union. The MacSharry reform has not sufficed to bring it in line with the realities and needs of the times. In a post-Uruguay Round world, farmers who rely on export subsidies and supply management are fighting a losing battle. The United States has understood this message, and has recently changed its agricultural policies fundamentally. Europe should not wait too long before it reforms the CAP in a similarly sweeping way.

¹ This paper draws heavily on Tangermann (1996).

² For a brief survey of some of these studies, see Tangermann (1996). See also USDA (1997).

³ I am greatly indebted to Wolfgang Münch for his contribution to the model development and for making the model runs presented here. Wolfgang Münch is currently in the process of updating the model to a more recent base period, and adding more Central European countries to the model.

⁴ In 2003, policy prices (such as intervention prices) in the CEC-4 are assumed to be aligned with the CAP, while in 2004 market prices are assumed to be identical with those in the EU-15 as a result of accession. Where the net trade position of an individual acceding country is different from that of the enlarged EU, the market price in that country can change on accession. This happens, for example, in Poland where the wheat price is at the threshold level in 2003 because Poland is projected to be a net importer of wheat, while the price drops to the intervention level in 2004 because the EU on aggregate is a net exporter of wheat.

⁵ Recovery is modelled through supply curve shifters, essentially shifting supply curves from 1997 onwards back to where they were in 1989-91.

⁶ Because of the exemption of "small" producers from set-aside, only 1.4 per cent of the relevant acreage would actually be set aside in Poland in this case.

⁷ In its market and budget projections in the Agricultural Strategy Paper, the EU Commission (1995b) assumes that set-aside (at a rate of 15 per cent) applies in Central Europe, but that MacSharry compensation payments are not extended to the CEC. The combination of these two assumptions lacks logic, as under the CAP farmers have no incentive to set-aside land if compensation payments are not made.

⁸ For details on these assumptions and the reasoning behind them, see Bojnec, Münch and Swinnen (forthcoming), where results of this run are also presented in more detail.

⁹ For technical reasons, in this run, full alignment with the CAP and accession to the EU take place one year later than in the other runs shown here. However, this does not affect the final outcome in the year 2005.

¹⁰ For more detailed results, see Münch (1995).

¹¹ WTO commitments apply, of course, to each of the CEC-4 individually. What is shown in the graphs is the sum of their individual commitments. For a detailed analysis of the Uruguay Round Agreement on Agriculture, see Josling, Tangermann, Warley (forthcoming).

¹² Budget projections provided here include rough estimates of net expenditure on products and policies not modelled in ESIM. These estimates are based on expenditure proportions in the EU-15.

¹³ When comparing our estimate with that of the EU Commission it should be noted that we have included the CEC-4 only, while the Commission estimate applies to the aggregate of the CEC-10.

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- ¹⁴ For more detailed information on the model structure and mode of analysis, see Banse (1996). Summary information is also provided in Banse and Tangermann (1996).
- ¹⁵ Note that the accession effect on the exchange rate (and on other macro-economic indicators) shown here is only the isolated effect of extending the "financial solidarity" to Hungary. As accession to the EU takes place, there will also be other financial flows from the EU to Hungary (e.g. under regional policies), and in addition there may be an increase in foreign direct investments made in Hungary. Effects of these additional currency flows are not taken into account in the analysis presented here.
- ¹⁶ Investments grow as substitution of EU budget expenditure for national government expenditure on agricultural policy eases the government deficit in Hungary and results in higher savings. GDP rises as a direct consequence of foreign transfers to Hungary, and in response to a relaxation of macro-economic constraints resulting from these larger transfers.
- ¹⁷ For the case of Portugal's accession, see Josling and Tangermann (1987).
- ¹⁸ For comparison with WTO export subsidy commitments, gross imports (around 7 million tonnes) have to be added and food aid (1.3 million tonnes) has to be subtracted from these net export figures. Inconsistency with WTO commitments is then even more pronounced.

References

- Baldwin, R.E. (1994). *Towards an Integrated Europe*. London: Centre for Economic Policy Research.
- Banse, M. (1996). *Die Analyse der Transformation der ungarischen Volkswirtschaft - Eine Empirische Allgemeine Gleichgewichtsanalyse unter besonderer Berücksichtigung des Agrarsektors und der Ernährungsindustrie*. Ph.D. thesis, Göttingen.
- Banse, M. und S. Tangermann (1996). *Agricultural Implications of Hungary's Accession to the EU - Partial versus General Equilibrium Effects*. Working Paper 1/1 of the Joint Research Project "Agricultural Implications of CEEC Accession to the EU". Göttingen: Institute of Agricultural Economics.
- Bojnec, S., and J.F.M. Swinnen (1997). *The Pattern of Agricultural Price Distortions in Central and Eastern Europe. An Update: 1990-1995*. Working Paper 3/2 of the Joint Research Project "Agricultural Implications of CEEC Accession to the EU". Leuven: Department of Agricultural Economics.
- Bojnec, S., W. Münch and J.F.M. Swinnen (forthcoming). *Exchange Rates and the Measurement of Agricultural Price Distortions in CEECs and of CEEC-EU Accession Costs*. Ljubljana, Göttingen and Leuven.
- Buckwell, A., J. Haynes, S. Davidova, and A. Kwiecinski (1994). *Feasibility of an Agricultural Strategy to Prepare the Countries of Central and Eastern Europe for EU Accession*. Study commissioned by DG I of the European Commission. Brussels: EU Commission.
- European Commission (1995a). *Agricultural Situation and Prospects in the Central and Eastern European Countries, Summary Report*. Brussels: European Commission.
- European Commission (1995b). *Study on Alternative Strategies for the Development of Relations in the Field of Agriculture between the EU and the Associated Countries with a View to Future Accession of these Countries*. Document CSE(95)607. Brussels: European Commission.
- GATT (1994). *Schedules of Market Access Concessions*. Electronic version. Geneva: GATT.
- Hartell, J.G., and J.F.M. Swinnen (1997). *Trend in Agricultural Price and Trade Policy Instruments Since 1990 in Central European Countries*. Working Paper 3/4 of the Joint Research Project "Agricultural Implications of CEEC Accession to the EU". Leuven: Department of Agricultural Economics.
- Josling, T., and S. Tangermann (1987). *Commodity Policies*. In S.R. Pearson et al., *Portuguese Agriculture in Transition*. Ithaca and London: Cornell University Press.

- Josling, T., and S. Tangermann (1995). *Toward a CAP for the Next Century*. London: European Policy Forum.
- Josling, T., S. Tangermann and T.K. Warley (1996). *Agriculture in the GATT*. Houndmills and London: Macmillan Press.
- Marsh, J., and S. Tangermann (1996). *Preparing Europe's Rural Economy for the 21st Century*. Paper prepared for the Land Use and Food Policy Intergroup (LUFPIG) of the European Parliament.
- Münch, W. (1995). *Mögliche Auswirkungen eines EU-Beitritts der Visegrad-Staaten. Eine quantitative Analyse*. Bericht an das Bundesministerium für Ernährung, Landwirtschaft und Forsten. Institut für Agrarökonomie der Universität Göttingen.
- OECD (1994). *Review of Agricultural Policies: Hungary*. Paris: OECD.
- OECD (1995a). *Review of Agricultural Policies: Poland*. Paris: OECD.
- OECD (1995b). *Agricultural Policies, Markets and Trade in OECD Countries. Monitoring and Outlook 1995*. Paris: OECD.
- OECD (1996). *Review of Agricultural Policies: Czech Republic*. Paris: OECD.
- OECD (var. issues). *Agricultural Policies, Markets and Trade in the Central and Eastern European Countries, Selected New Independent States, Mongolia and China*. Paris: OECD.
- Overberg, B. (1996). *Die Auswirkungen der Europa-Abkommen mit den mitteleuropäischen Ländern auf den Agrarhandel*. Bonn: Köllen Druck+Verlag.
- Swinnen, J.F.H. (1995). *Endogenous price and trade policy developments in Central European Agriculture*. Paper presented at the Conference on 'Agriculture and Trade in Transition Economies: Policy Design and Implementation', Prague 27-28 July.
- Swinnen, J.F.H.(1994). *Overview of Policy and Institutional Reform in Central European Agriculture*. In J.F.H. Swinnen (ed.), *Policy and Institutional Reform in Central European Agriculture*. LICOS Studies on the Transitions in Central and Eastern Europe, Vol. 1. Aldershot etc.: Avebury
- Tangermann, S. (1993). *Some Economic Effects of EC Agricultural Trade Preferences for Central Europe*. *Journal of Economic Integration* 8(2): 152-174.
- Tangermann, S. and T. Josling (1994). *Pre-Accession Agricultural Policies for Central Europe and the European Union*. Study commissioned by DG I of the European Commission. Brussels: EU Commission.

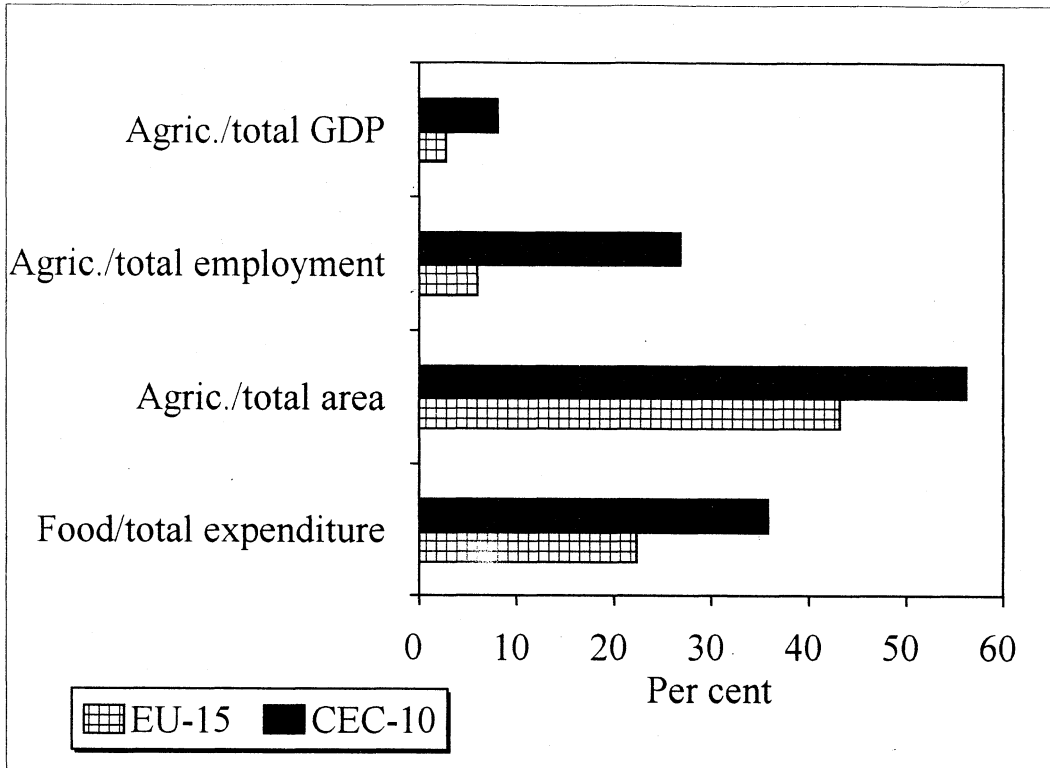
Tangermann, S. (1995). Implementation of the Uruguay Round Agreement on Agriculture by Major Developed Countries. UNCTAD document ITD/16, 3 October 1995. Geneva: UNCTAD.

Tangermann, S. (1996). *Reforming the CAP: A Prerequisite for Eastern Enlargement*. Paper prepared for the Kiel Week Conference 1996 „Quo Vadis Europe“, Institut für Weltwirtschaft, Kiel, 26-27 June 1996.

Wissenschaftlicher Beirat beim Bundesministerium für Ernährung, Landwirtschaft und Forsten (1997). Die Entwicklung der Landwirtschaft in Mitteleuropa und mögliche Folgen für die EU-Agrarpolitik. *Angewandte Wissenschaft*, Heft 458. Bonn: Köllen Druck+Verlag.

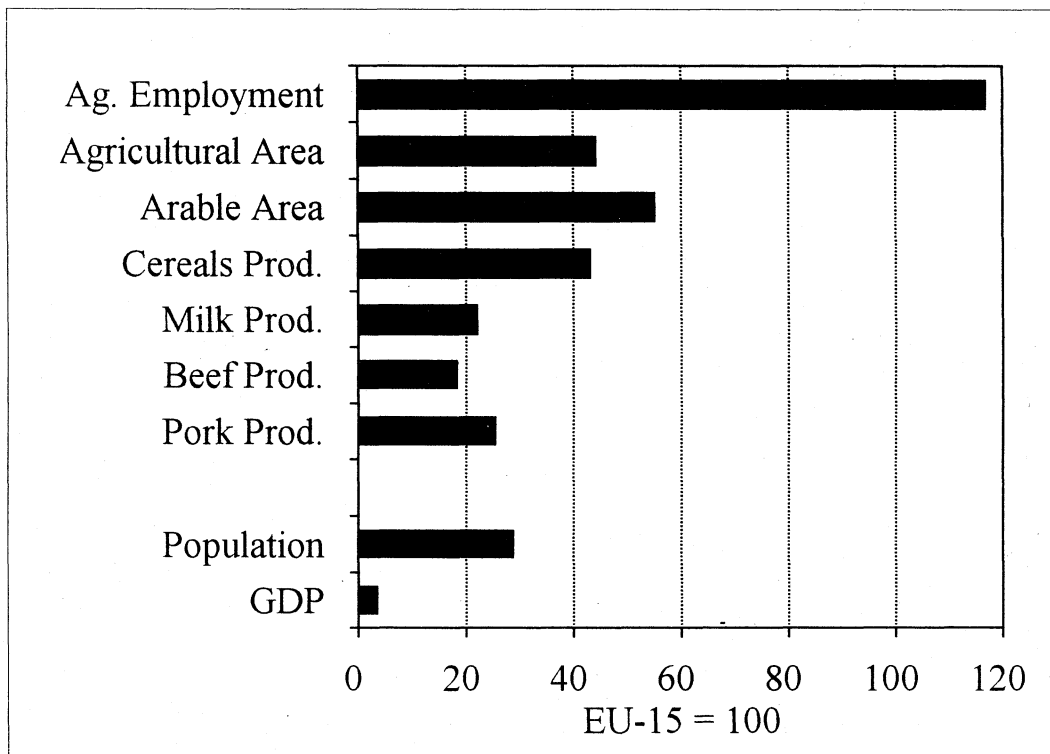
USDA/ERS (1997), *International Agriculture and Trade Reports: Europe. Situation and Outlook Series*. WRS-96-4. Washington, D.C., January 1997.

Graph 1: The Share of Agriculture in the Overall Economy, CEC-10 and EU-15, 1993



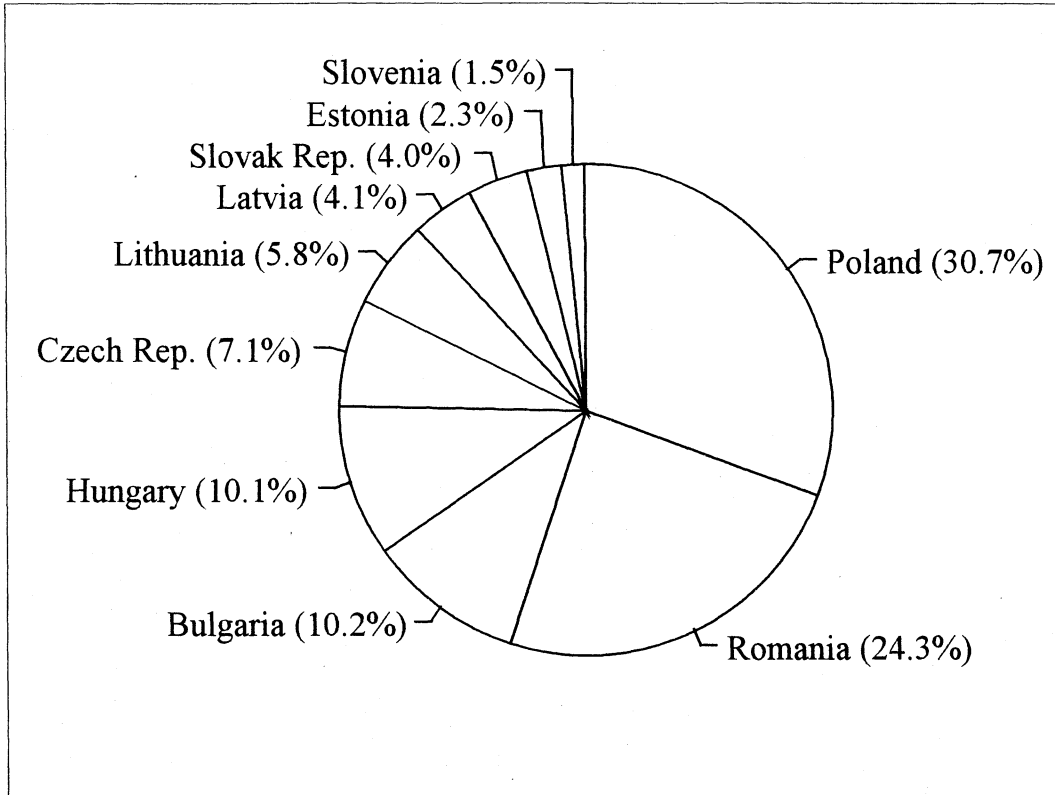
Source: EU Commission (1995a)

Graph 2: Size of CEC-10 Relative to EU-15, 1993



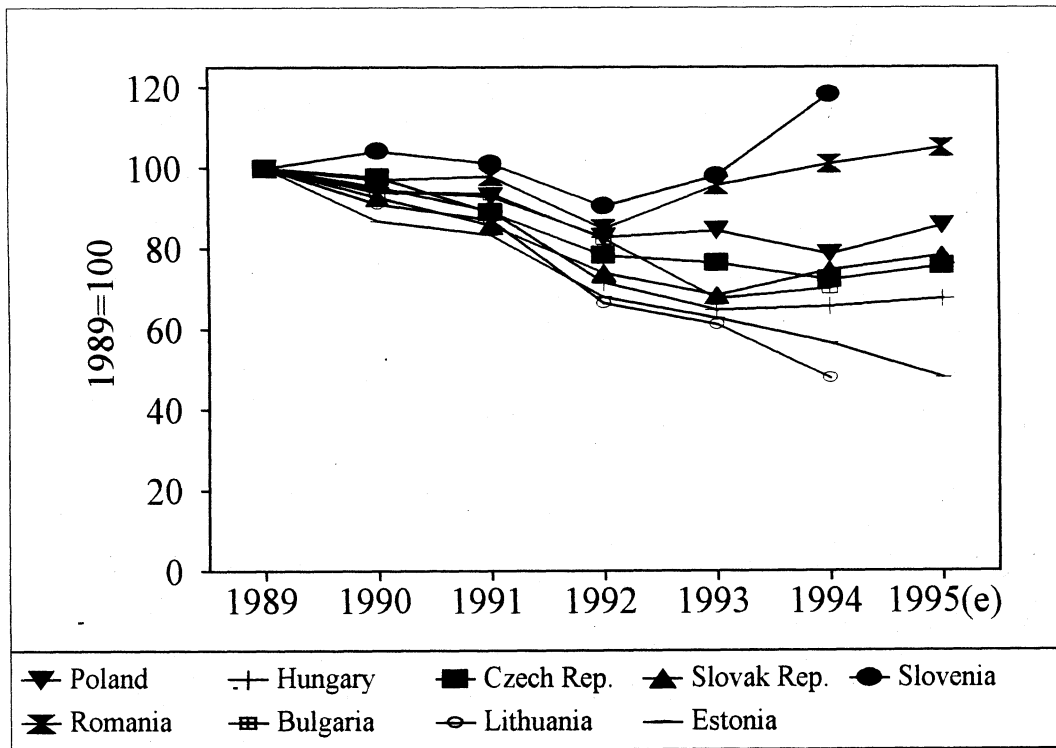
Source: EU Commission (1995a)

Graph 3: Share of Individual Countries in Total CEC-10 Agricultural Area



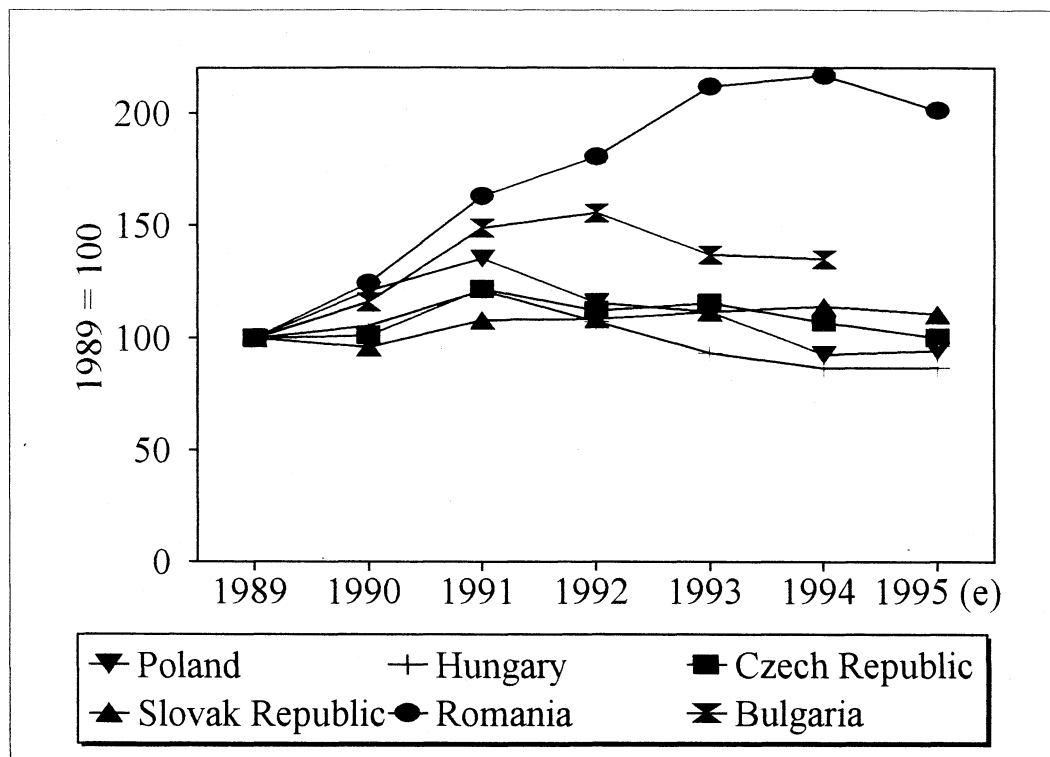
Source: EU Commission (1995a)

Graph 4: Agricultural Output in Central Europe, 1989 to 1995



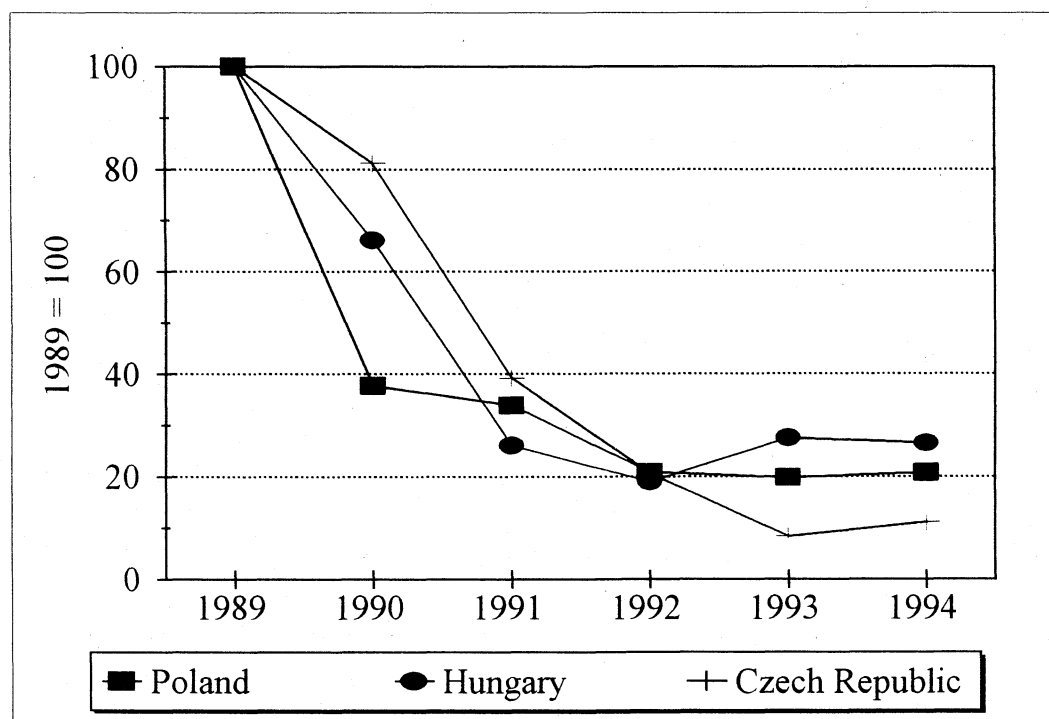
Sources: EU Commission (1995a), East Europe Agriculture and Food, var. issues

Graph 5: Agricultural Output Relative to Industrial Output in Central Europe, 1989 to 1995



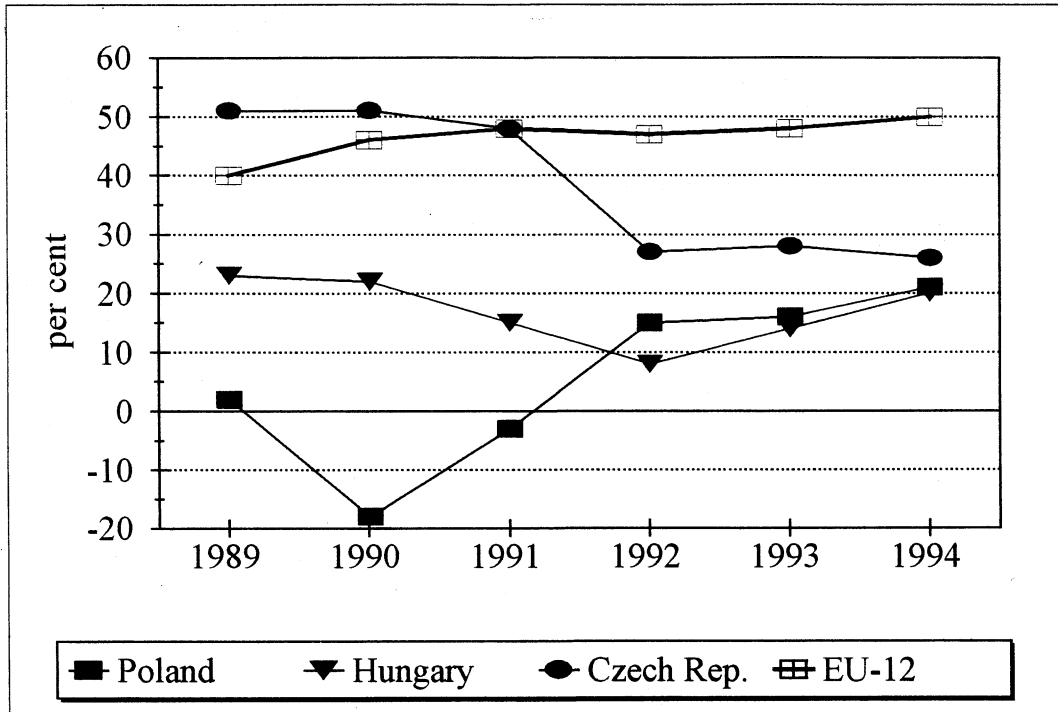
Sources: EU Commission (1995a), OECD, Short-Term Economic Indicators: Transition Economies, var. Issues

Graph 6: Budget Expenditure on Agricultural Policies in Central Europe in Real Terms, Selected Countries



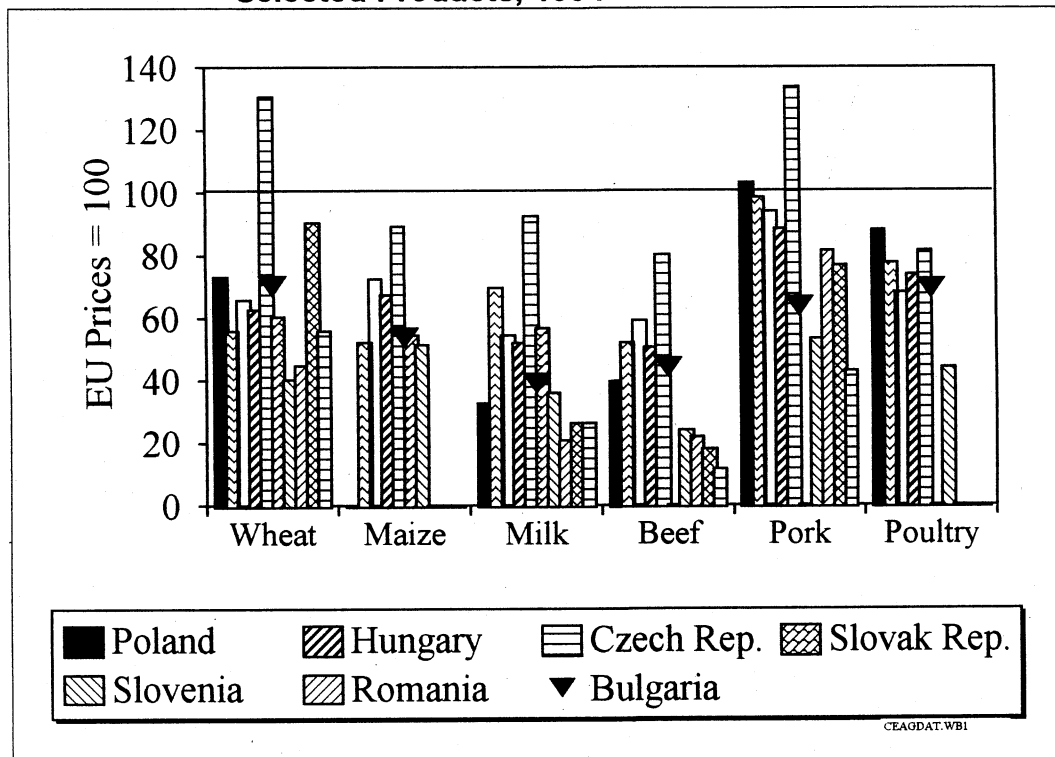
Sources: OECD (1994, 1995a, 1996), OECD (var. issues). Agricultural Policies, Markets and Trade in the Central and Eastern European Countries, Mongolia and China

Graph 7: Aggregate Producer Subsidy Equivalents in Selected Central European Countries and the EU-15



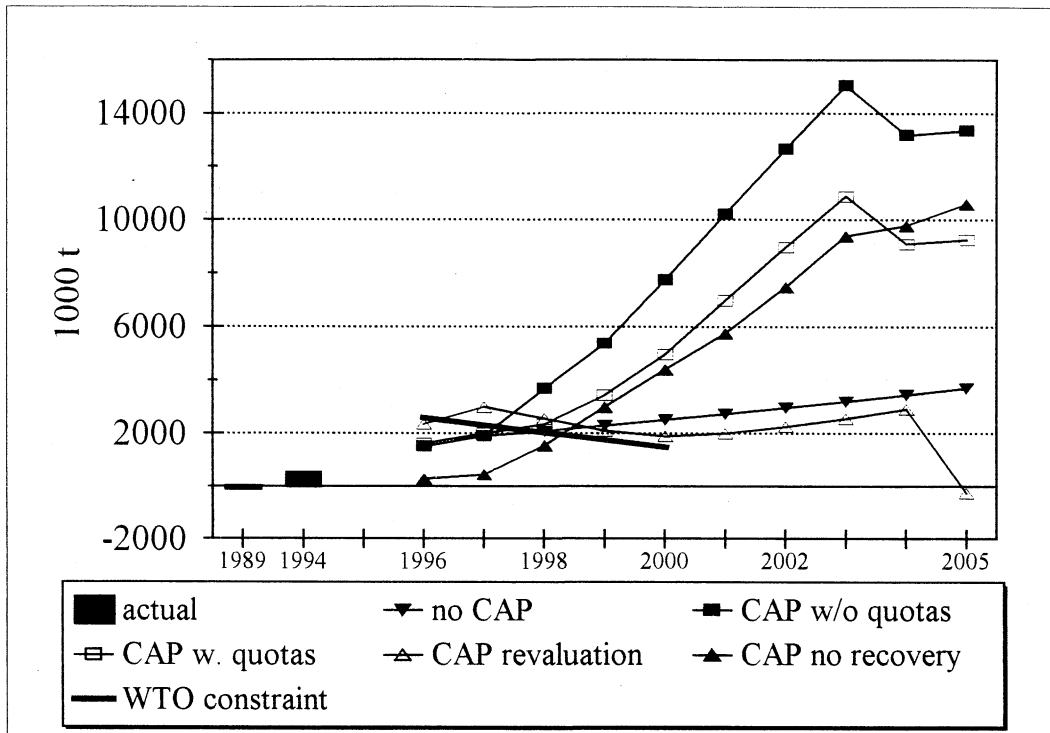
Sources: OECD (1994, 1995a, 1995b, 1996)

Graph 8: Agricultural Producer Prices in Central Europe and the EU-15, Selected Products, 1994



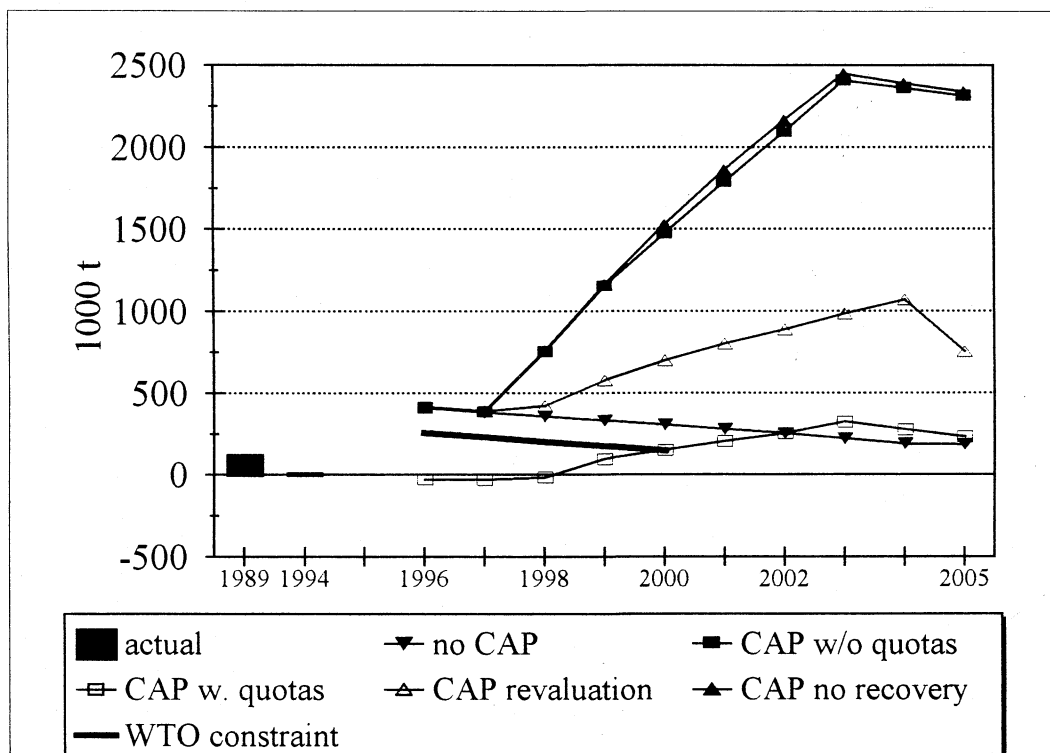
Source: EU Commission (1995a)

Graph 9: CEC-4 Net Exports of Cereals under Alternative Policy Scenarios



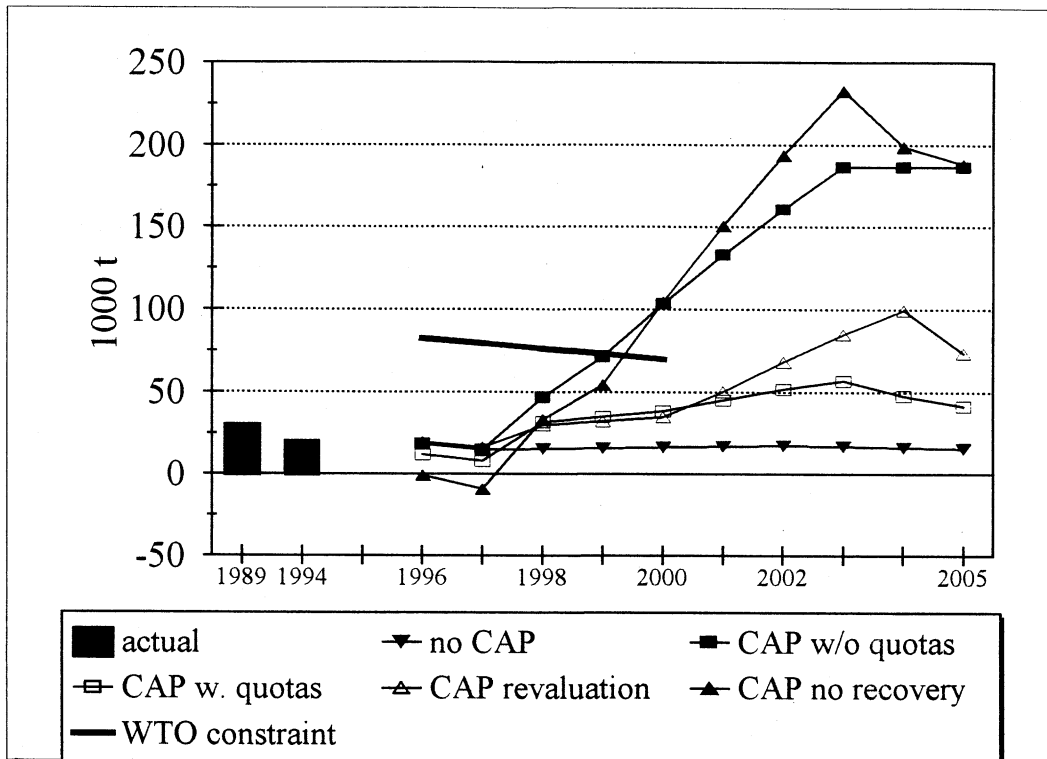
Source: Results from the analysis described in the text.

Graph 10: CEC-4 Net Exports of Sugar under Alternative Policy Scenarios



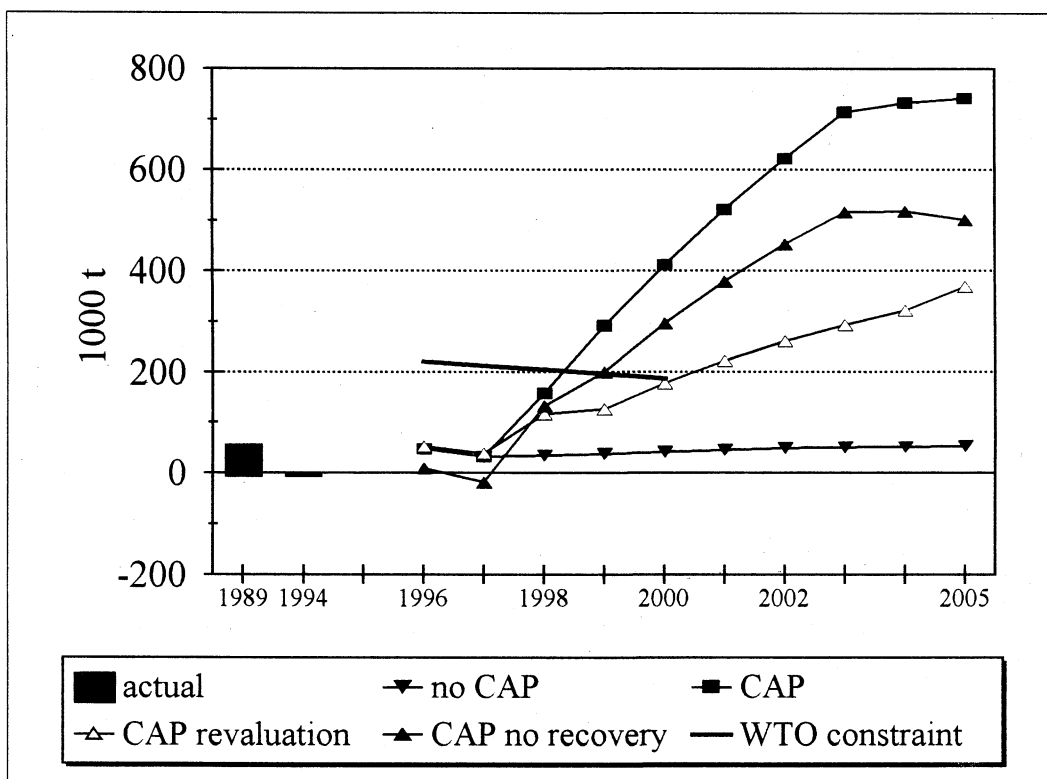
Source: Results from the analysis described in the text.

Graph 11: CEC-4 Net Exports of Butter under Alternative Policy Scenarios



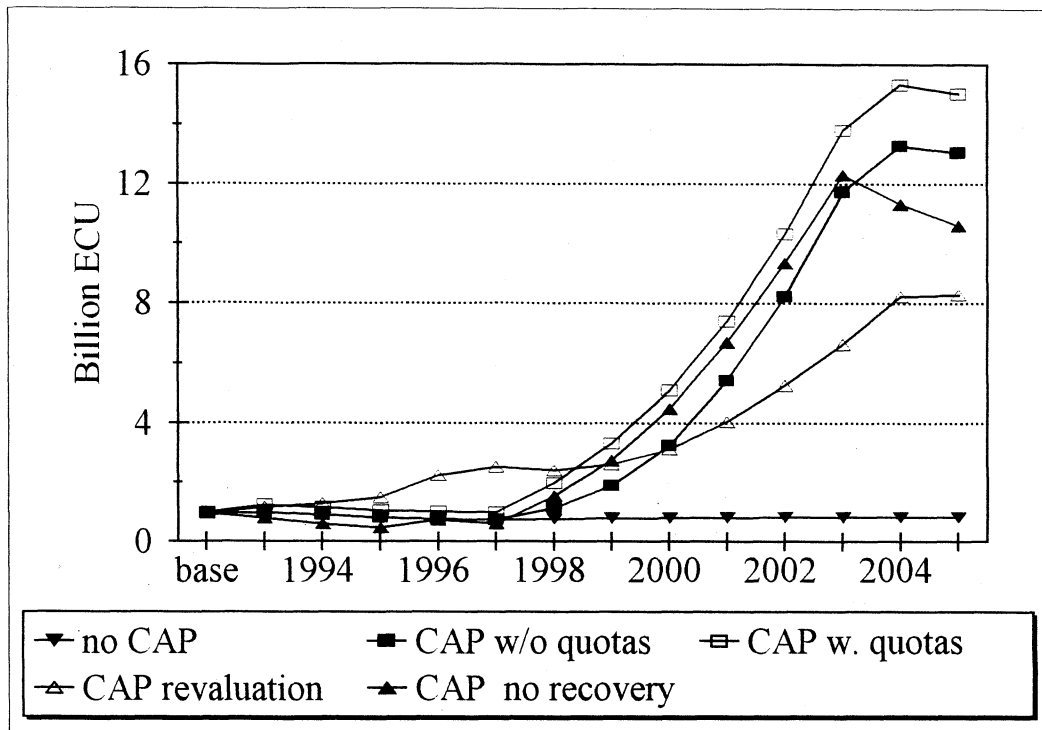
Source: Results from the analysis described in the text.

Graph 12: CEC-4 Net Exports of Beef under Alternative Policy Scenarios



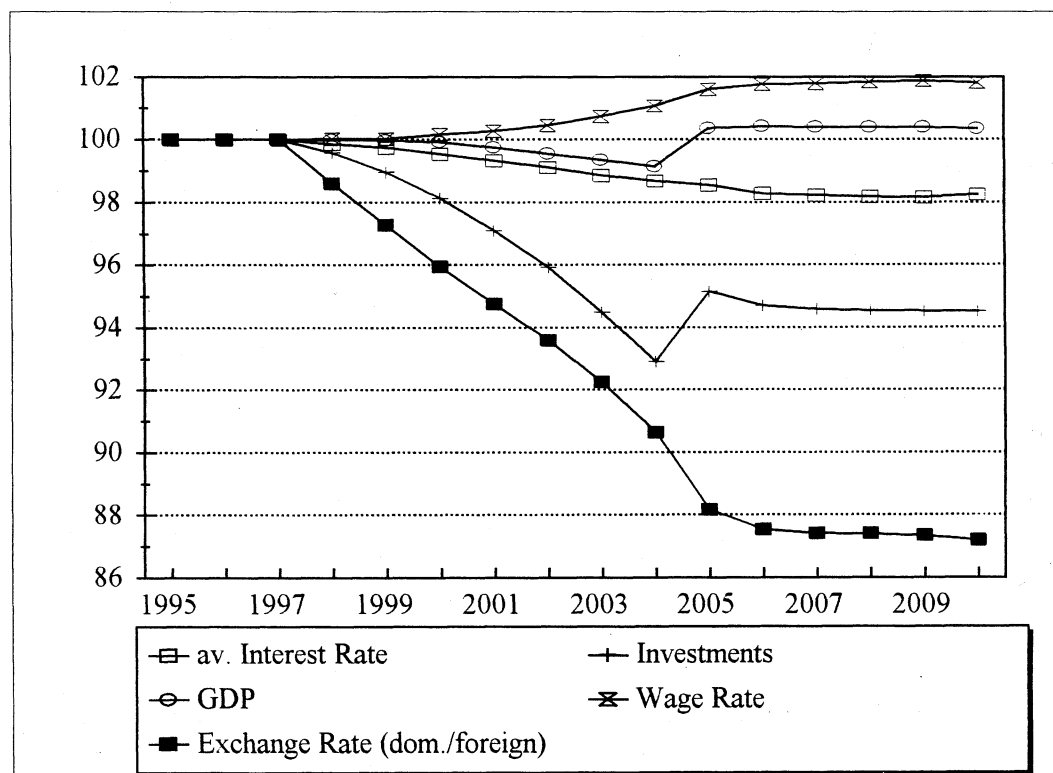
Source: Results from the analysis described in the text.

Graph 13: Budget Implications of Alternative Policy Scenarios for the CEC-4, Net Expenditure in Real Terms (1993 Prices)



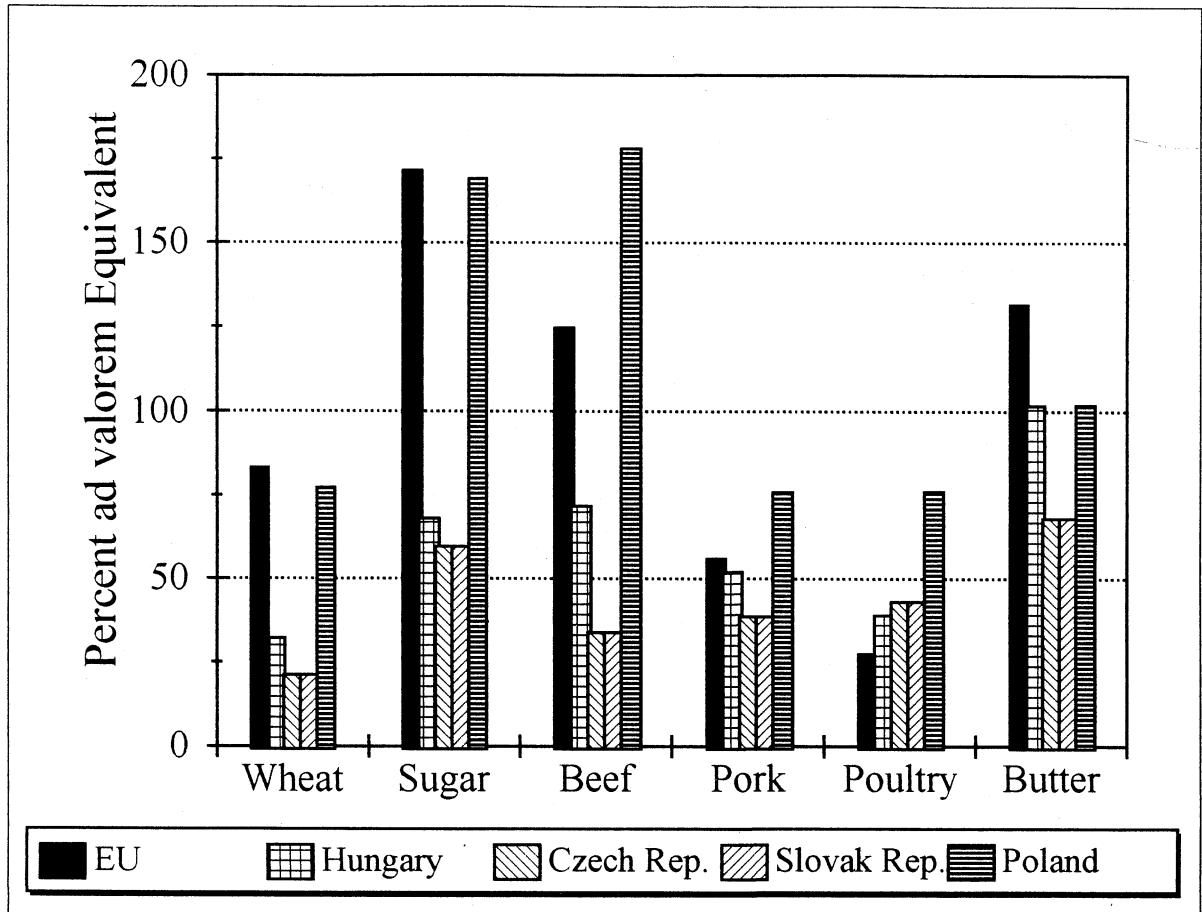
Source: Results from the analysis described in the text.

Graph 14: Some Macroeconomic Implications of Adopting the CAP in Hungary
Base Run (No Accession) = 100



Source: Banse and Tangermann (1996)

Graph 15: WTO Tariff Bindings for 2000, EU and Selected Countries in Central Europe, Selected Agricultural Products



Source: Tangermann and Josling (1994).