THE COMMON AGRICULTURAL POLICY AND EU ENLARGEMENT: IMPLICATIONS FOR AGRICULTURAL PRODUCTION IN THE CENTRAL AND EASTERN EUROPEAN COUNTRIES

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ABSTRACT

This paper focuses on the consequences that an extension of the Common Agricultural Policy could have on agricultural production in the Central and Eastern European Countries. It reviews the evidence presented by recent attempts to quantify the potential impacts of accession on production levels in the CEECs. It also takes into account results from previous studies in order to analyse the importance that structural constraints might have on the capacity of the CEECs' agricultural sectors to respond to supply incentives under accession to the EU, and to examine some research questions that are still unanswered in relation to the supply potential of the CEECs. Some conclusions and policy recommendations are drawn at the end.

KEYWORDS: CAP, CEECs, EU enlargement, supply response, structural constraints.
I. Introduction

The extension of the Common Agricultural Policy (CAP) to the Central and Eastern European Countries (CEECs) constitutes one of the greatest challenges for the enlargement of the European Union (EU). In most of these countries, agriculture has greater relative importance than in the EU in terms of Gross Domestic Product (GDP) and employment. The CAP is besides one of the most important EU policies and its expenditure share in the EU budget is the largest. It is therefore not surprising that the negotiations on agricultural policies with the applicant countries are often seen as the most controversial in the enlargement process.

The overall effect of accession on the CEECs' agricultural prices is difficult to predict, although price and support levels increases could be envisaged for most agricultural commodities. However, the total effects of an extension of the CAP on their agricultural production levels are unclear.

This paper examines the potential consequences that an extension of the CAP could have on agricultural production in the CEECs. It first presents an up to date review of the possible outcomes of the enlargement, taking into account the evidence presented in studies that have emerged since the mid-1990s. Then, the paper analyses the importance that the presence of structural constraints might have on the capacity of the CEECs' agricultural sectors to respond to supply incentives under accession to the EU. It reviews the literature on agricultural structure in the CEECs and examines some research questions that are still unanswered in relation to the supply potential of these countries. Some conclusions and policy recommendations are presented at the end.

II. Agricultural Production in the CEECs

After World War II, the CEECs adopted Soviet-type economic regimes, which, to varying degrees, attempted to impose collectivisation in the agricultural sector. Collectivisation efforts failed in Poland and Slovenia, where most arable land remained fragmented among small private farm holdings. On the other hand, in Bulgaria and the Baltic states, almost all land was allocated to Soviet-style state farms. Hungary, Romania, and Czechoslovakia underwent only partial conversion: although most agricultural production took place in state co-operatives and large collective farms, the private agricultural sector persisted in the form of small farms that, in some cases, made significant contributions to the final agricultural output levels.

Agricultural production in all CEECs was characterised by a high degree of state intervention. Public authorities fixed prices for agricultural inputs, procurement prices and retail food prices. The state monopolised the upstream sector, and food processing and marketing were channelled through state-owned firms.

Transition to a market economy has entailed the liberalisation of producer and food prices, withdrawal of input and food subsidies, the imposition of high real interest rates and the liquidation of state monopolies. Although to varying degrees, for all CEECs this liberalisation
effort had a negative effect on agricultural production, with a decline in the real value of agricultural output in the course of the 1990s. Macours and Swinnen (2000) argue that transition has entailed a very significant deterioration in the terms of trade for agriculture, and that this factor caused 40-50% of the decline of crop output over the 1989-1995 period.

Following the liberalisation measures imposed at the beginning of the transition period, a number of CEECs have progressively adopted trade policies and systems of agricultural market support that, in most aspects, are similar to those employed in the CAP. Intervention buying, export subsidies and border protection measures have been introduced to stabilise their agricultural sectors and to facilitate their future integration into the CAP. Market support covers a wide range of commodities, including cereals, sugar, meat and dairy products.

**Table 1. Relevance of agriculture in the CEECs**

<table>
<thead>
<tr>
<th>Country</th>
<th>Agricultural Area 1000 Ha.</th>
<th>Agricultural Production (% of GDP)</th>
<th>Agricultural Employment (% Total Employment)</th>
<th>Agricultural Protection in Percentage PSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>6000</td>
<td>21</td>
<td>26</td>
<td>-16</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>4500</td>
<td>4</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Estonia</td>
<td>1500</td>
<td>6</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Hungary</td>
<td>6000</td>
<td>6</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Latvia</td>
<td>2500</td>
<td>4</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Lithuania</td>
<td>3000</td>
<td>9</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Poland</td>
<td>18500</td>
<td>4</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Romania</td>
<td>15000</td>
<td>15</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2500</td>
<td>4</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1000</td>
<td>4</td>
<td>11</td>
<td>41</td>
</tr>
</tbody>
</table>


However, market support levels in the CEECs are still on the whole lower than in the EU15, although the gap has narrowed in recent years (OECD, 2000). Thus, for example, some cereal prices reached levels that, in the late 1990s, were even above the EU prices for countries such as Poland and Slovenia, due to increases both in their internal guarantee prices and in world market prices. In any case, for most products the levels of market support are still lower than in the EU15, particularly in the milk and beef sectors.

More generally, the rate of agricultural market support in Hungary and the Baltic countries was around 40% that of the EU-15 in the late 1990s, 50% in Poland and the Czech Republic, and only Slovenia had support levels comparable to the EU. Although is difficult to predict the medium-term evolution of differences in support levels, an extension of the CAP to the CEECs is most likely to raise their agricultural prices, and might, therefore, encourage production increases.
A still unsolved question is whether the factors behind the drop in agricultural production are transitory. If this is the case, once the transition process is completed and more stable and supply encouraging conditions are achieved under integration into the CAP, then there could be scope for important increases in agricultural output in the years following accession. Significant structural changes are taking place during transition, and most CEECs have experienced timid recoveries in output since the mid-1990s. However, it is still an open issue if those changes will suffice to guarantee an effective response to supply incentives under accession.

III. Review of Supply Response Studies

The recent literature on the integration of European agriculture into a common market provides different attempts to simulate the impacts of the eastward enlargement using both Computable General Equilibrium (CGE) models (e.g. Liapis and Tsigas, 1998; Bach et al, 2000; Frandsen and Jensen, 2000) and partial equilibrium models (e.g. Münch, 1999; Fuller et al, 2000). Although their time frame varies, all the studies use as the baseline scenario the projected agricultural situation in the CEECs without adoption of the CAP. Most of these studies do provide projections under alternative accession scenarios, but only results under the most plausible ones, given the latest policy and market developments, are reported here in the form of percent variations from the projected baseline.

Since the level of commodity detail differs in each study, the present paper aggregates projected results for the cereal, livestock and dairy sectors. Neither those studies that notify more aggregated results (e.g. Hertel et al (1997)) nor those that are focused on a single sector (e.g. Fuller et al (1999)) or a single country (e.g. Banse and Tangermann (1996)) are taken into account in this review.

Most of the simulation studies considered in this paper confirm the hypothesis that integration into the CAP should encourage agricultural growth in the CEECs. They also suggest that these countries will remain net importers of food from the EU. However, since production levels are expected to increase in the CEECs, for most commodities domestic consumption is projected to be lower than production. This combination portends that production surpluses will emerge and will have to be exported outside the enlarged EU.

According to Liapis and Tsigas (1998) average production levels in Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia should increase by 24% in the cereal sector, by 41% in the livestock sector and by 119% in the dairy sector following accession, in response to potentially higher producer prices under the CAP.

For that same group of countries Bach et al (2000) project for 2005 a 33% production increase in the livestock sector, and a much higher 76% rise in the cereal sector. The assumption of the CEECs becoming eligible for Direct Payments (DPs) explains the high growth in this last sector. DPs are implemented in their modelling framework as input subsidies to agricultural land. They project also a 0.5% decrease in output in the dairy sector under the assumption that milk quotas will be introduced in the CEECs.

Frandsen and Jensen (2000) estimate, for the same countries, production increases around 31% in the cereal sector, 56% in the livestock sector and 15% in the dairy sector for year 2010. Their projections are carried out under premises similar to those employed by Bach et al (2000), although in their case they incorporate lower set aside requirements and lower DPs levels for
arable crops. Their estimates are based on the assumption that DPs would be progressively reduced in the old members and that the resulting levels would also be applied in the CEECs. The rise in production in the dairy sector is explained by an increase in the internal demand for processed dairy products.

The Münch (1999) and the Fuller et al (2000) studies show more moderate results, and probably more realistic, since their partial equilibrium approach allows for a higher degree of detail when modelling agricultural policy changes. Both of them assume that hectare and headage payments will be introduced in the CEECs, as well as the imposition of dairy quotas in these countries, at least up to 2005.

Thus, Münch (1999) reports that, for the fast-track CEECs, accession would imply increases in production around 10% for cereals, 20% for the livestock sector and 8% for the dairy sector by year 2013. According to his study, enlargement will affect production levels not only by changes in prices, but also by changes in production costs, labour productivity, interest and exchange rates. The increase in dairy production is explained by the assumed abolishment of milk quotas in the enlarged EU by 2005. On the other hand, projections made under the hypothesis that milk quotas would not be lifted result in a decrease in dairy production.

Fuller et al (2000) incorporate the reform of the CAP embodied in the Berlin Accord on Agenda 2000. They estimate for Poland, the Czech Republic and Hungary a 15% production increase for the cereal sector, a 4% decrease for livestock production and a 3% decrease in the dairy sector by 2009. In their study, the introduction of DPs in the CEECs explains the positive evolution of cereal production. The negative impacts on the livestock and dairy sectors are mainly explained by a reduction of the dairy cow number due to restrictive milk quotas.

### Table 2. Impacts of EU enlargement on agricultural production in the CEECs

<table>
<thead>
<tr>
<th>Study</th>
<th>Percent variation for cereals</th>
<th>Percent variation for livestock</th>
<th>Percent variation for dairy</th>
<th>Access to direct payments</th>
<th>Imposition of dairy quota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liapis and Tsigas†</td>
<td>24</td>
<td>41</td>
<td>119</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bach et al†</td>
<td>76</td>
<td>33</td>
<td>-0.5</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Frandsen and Jensen†</td>
<td>31</td>
<td>56</td>
<td>15</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Münch††</td>
<td>10</td>
<td>20</td>
<td>8</td>
<td>Yes</td>
<td>No after 2005</td>
</tr>
<tr>
<td>Fuller et al†††</td>
<td>15</td>
<td>-4</td>
<td>-3</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

† Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic and Slovenia  
†† Czech Republic, Estonia, Hungary, Poland and Slovenia  
††† Czech Republic, Hungary and Poland

There are, nevertheless, some problems when attempting to project future agricultural production levels in the applicant countries that are not solved by any of the mentioned studies. For example, it is questionable if the recovery in fertiliser use that integration into the CAP might entail is properly accounted for in the calculation of production growth in the CEECs.
The lack of finance has reduced yields significantly as fertilisers, pesticides and weed killers are applied at very low levels, if at all. In fact, fertiliser use has collapsed in the CEECs. Figures by the International Fertiliser Industry Association show that there is hardly any internal demand and, accordingly, the CEECs are exporting most of their fertiliser production. However, supply incentives under the CAP may reverse this situation. Even so, all the available impact studies use linear yield growth rates to account for increases in technical efficiency. These growth rates are based on calculated trends in technical improvements, and do not consider that the real growth potential could be considerably higher if fertiliser use rises.

In any case, the main criticism to these studies does not emerge from the fact that they disregard land productivity shifters, such as potential increases in fertiliser use. On the contrary, their projections might at the end be too optimistic because they totally ignore the presence of structural problems in the CEECs' agricultural and food sectors. Therefore, they implicitly take for granted the transitory nature of many of the difficulties faced by the CEECs' agricultural sectors, assuming that farmers will be able to respond to price and other supply incentives at the time of accession. In practice, they disregard the binding effect that many of the structural barriers that are present in the rural economy of these countries might have on their capacity to respond to supply incentives. The unanswered question is: to what extent those structural constraints might hamper short to medium-term increases of their agricultural production levels in the years following accession?

IV. The Importance of Structural Problems

An example of the importance that structural constraints might have on the capacity of the agricultural sector to respond to supply incentives can be found in the accession of the Iberian countries in the 1980s. In their case, simulation exercises also tended to confirm optimistic expectations about boosts to the agricultural output of the new member states (e.g. Peterson (1981)). However, the reality was that the relatively higher prices and subsidies granted under the CAP did not encourage agricultural growth in Spain and Portugal (Barceló et al, 1995; Lamo de Espinosa, 1997).

A closer look at the picture reveals that many of the obstacles that have prevented significant increases in the Spanish and Portuguese agricultural output levels are also present in the CEECs (e.g. Fernández, 1998). Thus, although it is generally true that higher prices stimulate agricultural production, a substantial number of structural factors may prevent this from happening, at least in the short to medium run. In the CEECs those structural constraints are very important at the farm level, and are also present in their rural infrastructure and in their food system.

At the farm level, the two main structural problems are the extremely polarised farm size structure and the excess non-qualified agricultural labour. As a consequence of this last aspect, agricultural production is characterised by relatively low levels of mechanisation and by insufficient training of the agricultural workforce. Jackman (1994) and Pouliquen (1998) confirm that one of the main difficulties that the CEECs' farms face is the presence of widespread rural unemployment and of an underproductive and over-numerous agricultural labour force. For example, in Romania the share of agricultural employment in total employment is around 40%, and in Poland the figure is above 20%. In Bulgaria and the Baltic countries the percentage of the working population engaged in agriculture is also very high, and only Hungary, Slovenia and the Czech and Slovak Republics have shares of agricultural employment similar to those in the EU members.
Pouliquen (1998) suggests that excess rural labour is not a sufficient condition for competitiveness in the European agricultural markets; it should be regarded instead as a structural difficulty. In fact, successful agricultural enterprises in the EU-15 present higher capital-labour ratios than in the CEECs, and are more likely to compete efficiently in an enlarged market. Accordingly, a large labour force does not ensure large agricultural production levels since labour productivity in the absence of capital is doomed to be low. In the CEECs, particularly in Poland and in those countries outside the fast-track, an abundant and cheap labour force combined with market support and subsidies has not managed to create sufficient revenues to allow for the emergence of viable and competitive agricultural enterprises. Therefore, the overmanned agricultural and food enterprises of the CEECs cannot attract investment solely because of their low labour costs.

Without investment there is low potential for increasing agricultural production and farm competitiveness. Only capital inflows into the agricultural sector can reverse the situation, but, given the state of the rural economies and the number of people occupied in agriculture, this is not going to happen easily. The problem is not transitory in nature, nor is it related to a transition period towards a new competitive status; rather it arises from deep-set structural problems, which discourage investment and growth. Pouliquen points out that its solution would imply a large drop in farm employment, and that appropriate policy measures are needed to ensure the creation of alternative employment in rural areas.

In fact, significant declines in labour employment in agriculture have been detected, so far, in the Czech Republic, Slovakia and Hungary. In contrast, agricultural employment has increased during transition in countries such as Romania. Swinnen (2000) argues that food security concerns and farm management practices have constrained labour outflow in low reform countries, while liquidation of state and collective farms and effective restructuring have caused strong outflows in faster reforming CEECs. According to Swinnen et al (2000) institutional reforms affecting ownership of assets and the governance and organization of agricultural production have strongly affected the differences in agricultural labour adjustments among transition countries.

Another major constraint for the development of agricultural production in the CEECs is their polarised farm structure. In most candidate countries agricultural production is characterised by the co-existence of micro-scale farming operating at subsistence levels and over-sized former state and collective farms that are not always economically viable. Numerous studies have focused on this issue, providing evidence of the role of farm structure as the most important micro-economic determinant of the agricultural potential and supply responsiveness of the CEECs (e.g., Miller et al, 1996; Beckmann and Hagerdon, 1997; Swinnen et al, 1997; Hughes, 1998; Mathijs and Swinnen, 1998; Hughes, 1999; Mathijs et al, 1999; Ratinger, 2000; Gorton and Davidova, 2000; Mathijs, 2000; Gorton et al, 2001). From the point of view of refining projection methodologies the debate that has most interest is, perhaps, the one that relates farm size and economic performance. The present paper focuses mostly on that debate. However, the above mentioned studies also analyse the influence of other important variables such as organization, tenure, market and internal transactions, vertical integration, diversification, and access to credit, among others.

After considering the results of studies performed in the United States, Australia, the EU and the CEECs, Hughes (1998; 1999) verifies the positive relationship between farm size and economic performance. His findings suggest that in many cases, large farms tend to produce
more efficiently, both in technical and economic terms. Furthermore, Hughes (1999) provides empirical evidence of a strong positive relationship between farm size and total factor productivity in the Czech and Slovak republics, particularly in crop production. For example, in the Czech Republic his study only finds evidence of diseconomies of scale for very large farms over 3000 hectares. He concludes that large farms have more supply potential since they permit a full use of indivisible farm equipment and fixed capital such as buildings, milking parlours and storage silos. In these two countries and in Hungary, Mathijs and Swinnen (1998) found that the indivisibility of physical assets ties farmer to large size collective farms.

Large farms also have more bargaining power with the up and downstream sectors, have greater access to credit, and allow for greater product diversification. Accordingly, they have a greater capacity to minimize risks and to undertake investments aimed towards the improvement of their supply potential. Moreover, Hughes' findings seem to confirm the limited ability of small farms to respond to supply incentives. Accordingly, land fragmentation into small plots in countries such as Poland, Romania and Slovenia could be regarded as one of the main limitations for potential increases in agricultural production.

Gorton and Davidova (2000) and Gorton et al (2001) show that in the Czech Republic, Hungary and Poland farm size is positively correlated with their domestic resource-costs ratio, implying that economic efficiency and international competitiveness is higher in large than in small farms. Also Ratinger (2000) concludes that large scale crop production in the Czech Republic has inherent efficiencies even if these have not all been realised due to shortage of capital equipment. On the other hand production of livestock and dairy products is less promising, except perhaps in Poland and the Baltic countries (Thomson, 2000).

Nevertheless, the above mentioned conclusions cannot be generalized. Miller et al (1996) confirm that in Poland total factor productivity increases with farm size for farms that are below 15 hectares. However, farms above 15 hectares seem to be less technically efficient. These findings point to the fact that former state and collective farms do not have always optimal proportions and frequently present diseconomies of scale. Hughes (1999) also detects the presence of diseconomies of scale in Hungary, in contradiction with the Gorton and Davidova (2000) and the Gorton et al (2001) findings. According to his study, the very large former state farms have lower total factor productivity than small farms.

An explanation to the relatively poorer performance of the large former state farms, detected in some of the studies for Poland and Hungary, could be the labour advantage of family farms, mainly in terms of lower transactions costs, lower opportunity costs of family labour, and an easier and more motivated management. Hughes (1999), Macours and Swinnen (2000) and Mathijs et al (1999) argue that where efficiency of small scale farms prevail, the main explanation is that the organizational form of the farm has a significant influence on performance. Family farms have more incentives than state farms or co-operatives and this outweighs the size disadvantage. However, if the analysis is limited only to family farms, then there is again a strong evidence of a positive relationship between size and economic performance (Hughes, 1999).

It can be concluded that, after ten years of transition, a polarised farm structure still prevails in the CEECs. The above mentioned studies present evidence that this polarisation is imposing serious constraints on the capacity of their agricultural sectors to respond to supply incentives. There are, however, some signs of a slow move towards a more unimodal distribution of farms sizes. The European Commission (1998) estimates that the average size of the former state-owned and collective farms is decreasing, which can contribute to increased efficiency as these
large units reach proportions that are more manageable. In fact, former state-owned and collective farms could be regarded as the most promising production units of the CEECs' agriculture.

Apart from structural constraints at the farm level, there are also very significant problems affecting the rural infrastructure of the candidate countries. In the CEECs, the rural infrastructure is generally poor, with a low density of roads, telephone lines, electrification, water supply and sewage disposal (Moehler et al, 1999; Lisztwan and Dalton, 2000; Rusu, 2000). There are also significant variations in the level of infrastructure with a pattern of peripheral regions with low population density having the worst facilities.

In addition, structural adjustment must also be performed in the up and downstream sectors to increase the efficiency of marketing channels and to improve price and quality information. Lack of infrastructure, marketing and product quality has induced imports for which there would be sufficient internal production under other conditions. Efforts still have to be made to meet consumer demands in terms of quality. Private food processing and marketing have progressed, although a high degree of monopolistic and monopsonistic power still remains in the downstream sector.

V. What Research Questions Remain Unanswered in Relation to the Supply Potential of the CEECs?

The enlargement will introduce incentives in the CEECs to increase agricultural production levels. In the short term, however, large effects on agricultural production could be questioned due to the presence of structural supply constraints. In fact, the first conclusion that can be drawn from the present paper is that the reviewed projection studies ignore the presence of structural problems and the related productivity differentials prevailing in the polarised farm structure of the CEECs. Therefore, their projected results must be interpreted with caution, and, when possible, should be completed with the findings of other research efforts focused on the binding nature of farm and rural structures in the CEECs.

This conclusion leads to the need to refine the projection methodologies that have been, so far, employed. One option could be the incorporation of data on the distribution of farms among different farm size levels and the utilization of different supply elasticities for different farm size intervals. This is, however, a difficult task because the necessary data is not available from official sources in all CEECs. In any case, the consideration of some of the theoretical tools present in the literature (e.g. Deolalikar, 1981) could facilitate the process of obtaining the relevant elasticities and productivities estimates.

Another interesting research question is if structural constraints are currently imposing any limits on the capacity of the CEECs’ farmers to respond to price and other supply incentives. Past research on farm structure has focused on the measurement of economic efficiency and competitiveness in the different types of farms prevailing in the CEECs, but has left unanswered the question if there are any ceilings to agricultural production given the current structural conditions.

On the other hand, supply incentives under the CAP are likely to further induce structural change in the CEECs' agricultural sectors over the long-term, leading, most likely, to an improvement of their supply potential. More research is needed to complement the existing studies (e.g. Hughes, 1998; Beekmann and Hagerdorn, 1997; Miller et al., 1996; Mathijs and
Swinnen, 1998; Sarris et al., 1999; Mathijs and Vranken, 2000; Gorton et al, 2001) on the analysis of the economic, social and institutional, forces leading structural change at the farm level in the CEECs. The studies that, so far, are available confirm a slight drift towards more homogeneous farm structures. They empirically identify the differences in the value of labour productivity among farm sizes as the key economic force leading these changes. However, these studies corroborate the long-term nature and the slow pace of economically induced variations in farm structure.

In relation to this last aspect, it must be taken into account that accession to the high income and market support levels granted under the CAP is expected to lead to a significant improvement of farm income (e.g. Bach et al, 2000; Frandsen and Jensen, 2000; Münch, 1999; Banse, 1999), particularly if DPs are finally granted to CEECs' farmers. For example, Münch (1999) estimates that the introduction of DPs should imply a transfer to farmers of the fast-track CEECs of 6 to 7 billion Euro.

Potential gains in farm income are likely to be unevenly distributed, not only among producers, but also among countries. More than half of income transfers would be to Polish farmers, while Slovenia is not expected to experience a rise in farm income, due to the remarkably high protection levels in place for the agricultural sector. Those farmers engaged in the arable-crop sector would, very probably, benefit the most from the extension of DPs. On the other hand, producers in the livestock and dairy sectors should face strong restructuring problems, particularly if dairy quotas are imposed in the CEECs.

In any case, as in the Iberian enlargement, a general improvement in farm income levels can be envisaged for most CEECs. This situation should improve the financial position of eastern European farmers and should, therefore, facilitate the transition towards more technically and economically efficient farm structures. However, more research is needed to clarify the net effect of DPs on farm structure on the CEECs. This is so because accession to DPs, if finally granted, is also expected to have an inflationary effect on land values (European Commission, 1996; Frandsen and Jensen, 2000). For example, Frandsen and Jensen (2000) estimate that land prices could more than double if DPs are to be introduced in the CEECs.

Finally, despite their importance, the literature has paid little attention to changes in agricultural labour markets and even less attention to the problem of setting priorities for investments in rural infrastructure in the CEECs. More research is also urgently needed in those areas.

VI. Concluding Remarks and Policy Recommendations

Most of the reviewed studies on farm structure acknowledge the key importance of institutional reforms aimed towards facilitating the transition towards a more economically and technically efficient distribution of land (e.g. Hughes 1998; 1999; Swinnen et al, 1997). The polarised farm structure prevailing in the CEECs is a problem of a persistent nature that cannot be solved in the short-term, particularly if the whole restructuring task is left to the economic incentives that agricultural markets provide. Its solution might pose numerous economic, social, and even technical difficulties, but policy action to create flexible and efficient land markets is nevertheless urgently needed.

Successful completion of reforms would require the conclusion of the restructuring and privatisation process, as well as increased certainty on property rights. No significant actions have been taken, so far, to stimulate the concentration of small land plots; on the other hand, the
sale of land from state farms and the restitution of land belonging to co-operatives have faced, and even created, substantial problems in various CEECs.

Both processes have been hampered by slow registration of land ownership and by a lack of adequate equipment and finance. For example, it is estimated that in Poland it takes between six and eight months to register a change in land ownership, due to a lack of adequately trained administrative staff (CEAS consultants, 1996). Legal restrictions remain for the purchase of land by foreigners in most CEECs, which represents an additional difficulty for Foreign Direct Investment (FDI) in the agri-food sector. Although in many CEECs land taxes are relatively low and there are generous tax exemptions for land purchases, there is still scope for reform in the laws regulating the land market.

In some CEECs, there are also legal size limits to the process of land privatisation. Accordingly, land restitution has led sometimes to the emergence of small and fragmented farms in countries like Bulgaria, and has exacerbated the fragmentation of agricultural land in countries where it already existed, as in Romania. These problems might be reduced by renting land, but land rental markets are not properly developed in most CEECs.

The lack of capital and credit sources is also a major difficulty to the land restructuring process. Although some preferential credit programmes have been established, the funding available to them is scarce. Furthermore, the prevailing uncertainty over property rights makes it difficult to use land as collateral and prevents investments in the agricultural sector.

As noted elsewhere, some of the candidate countries already face acute problems in their agricultural labour markets and these problems are likely to be aggravated under accession to the CAP. In Poland and in most of the CEECs of the second accession group a significant labour move out of agriculture can be foreseen after accession. The creation of alternative employment in rural areas and special retraining schemes will be of paramount importance and should become one of the main targets of rural development policies in an enlarged EU. Also related to the training aspect, Rizov et al. (2000) have shown that, in Romania, the choice of efficient organizational forms in agricultural production depends critically on the level of human capital.

Moreover, the CEECs continue to face overcapacity in milling, slaughterhouses and dairies, while most of the equipment is obsolete. In the fast-track group of countries FDI has played a very important role in the modernization of the agricultural and food sector (Gow and Swinnen, 1998; Foster, 1999), encouraging vertical integration in various forms and improving access to capital, inputs, and technology for farms. However, FDI is not sufficient to generalize productivity increases and concentrates only on high value-added sectors, such as beverages, tobacco and confectionery (European Commission, 1998; Gow and Swinnen, 1999).

Therefore, improvements in the rural credit system are also necessary in order to finance competitive structures at the different production and marketing stages of the food system. For example, restricted access to credit in the dairy sector of most CEECs is hampering the investments needed to improve feed ratios, hygienic standards and milking technology.

Improvements in the rural infrastructure are urgently needed. As noted, little research is being generated to orientate this task, so that the efficiency of public investments is maximized. Assuring the long-term viability of investments in rural infrastructure is also important. For
example, recently some rural communities in the CEECs have faced too much investment in infrastructure in relation to their tax base (Lisztwan and Dalton, 2000).

In sum, the agricultural and food sector and the rural infrastructure in the CEECs need deep reforms and productivity has to increase. The changes taken to date have not managed to make these countries fully competitive in an enlarged market. Problems in the quality of products and the state of the processing industry indicate that it is the EU producers and companies that are in an advantageous position.

Under the SAPARD programme the EU has compromised to promote the so much needed structural reforms before accession. The SAPARD regulation contains a list of measures to produce growth and development in the rural areas, including assistance to agricultural modernisation, re-structuring in less favoured areas, and early retirement schemes. However, this list does not seem to be sufficiently extensive to ensure development (Dalton and Thomson, 1999). Important aspects, such as incentives to change, and correct training and education for off-farm employment are not or are insufficiently covered. Therefore, the success of SAPARD depends on its integration into more broadly based national programmes.

SAPARD should define more specifically the aims and the target groups. The programme also shows weaknesses at the preparation and implementation stage. Most of the applicant countries are understaffed and badly prepared to handle the arduous proposal preparations and the day-to-day management of the projects. Furthermore, the financial provisions of the EU for the new member states are considered to be low: SAPARD has 520 million Euro per year available for the ten applicant countries. The size of these funds looks rather limited, taking into account the tasks ahead in the rural areas.

SAPARD funding will be best used to facilitate development by creating the conditions for private investment to take place. Given the scarcity of available resources, more research is urgently needed in order to set development priorities, to determine what are the most acute structural weaknesses, and to define more clearly what type of investments could maximise technical efficiency and competitiveness in the CEECs' agricultural and food sector.
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