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POTENTIAL, PRODUCTIVITY AND COMPETITIVENESS OF AGRICULTURE IN THE CENTRAL AND EASTERN EUROPEAN COUNTRIES BEFORE ACCESSION

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ABSTRACT

Central and Eastern Europe is undergoing a period of extensive transformation. Over the past few years, most countries of the region have made progress in the transition to a competitive market economy, macroeconomic stabilisation and structural reform. The study will survey the current agricultural problems in ten countries which are preparing for integration to the European Union. Firstly, there is a brief statistical description of agriculture both in the ten Central and Eastern European countries (CEECs) and in the Member States. Its role in the overall economy on the basis of agricultural potential, employment, gross value added and trade is presented. Then trends in agricultural production and productivity through national factor combinations as well as self-sufficiency in agricultural products of the CEECs were examined. This is followed by illustration of effective competitiveness of agriculture by the monetary appreciation, purchasing power gains, prices and direct support for the sector.

Key words: agriculture, candidate countries, the European Union, CEECs, competitiveness

INTRODUCTION

Rapid political and economic changes which occurred in the Central and Eastern European Countries (CEECs) at the beginning of the nineties originated the formation of new agricultural structure built on private ownership, and a real market system of food economy was developed, increasingly dictating the demand-supply conditions of foodstuffs.

At present, the main dilemmas concerning agriculture in the CEECs refer to its integration to the EU' agriculture. It is very important aspect in political and economic terms. The study summarizes the most important general and country-specific developments, trends and possibilities in the ten CEECs preparing for anticipated accession: five countries of the "Luxembourg Group" (Poland, Hungary, Czech Republic, Slovenia and Estonia) and five ones of "Helsinki Group" (Romania, Bulgaria, Slovakia, Lithuania and Latvia).

Neither the scale of the foreseen integration, nor the mixture of patterns and characteristics of both agriculture and rural economies are comparable with the past enlargements of the EU. Integration into the EU would give the CEECs' agri-food sectors access to 376 millions of consumers in the EU in addition to the 104 millions on their domestic markets. On the other hand, it will also mean that the EU agriculture and food processing gain access to the emerging markets in the CEECs.

The aim of this paper is to point out the backwardness but also possibilities of the CEECs agriculture before accession to the European Union. Obviously, the special focus in the research is on Poland.

The presented results are based on author's previous research and its continuation on competitiveness of Polish agriculture as well as on a review of relevant literature and working documents on the economy of the agri-food sector of the CEECs, predominantly released or published at web sites (Study carried out in the framework of the component A of the Phare project (P9704-01-03/04/13/17) "Support to the MAFE in shaping the agricultural policies through the economic analyses"). The useful source of statistical information was the European Commission and Eurostat.

COMPARATIVE ANALYSIS OF AGRICULTURE IN THE ECONOMIES OF THE CEECs AND THE EU15

Despite the fact that CEECs' agriculture was one of the first sectors hurt by the economic reforms, its importance in and consequences for national economy are still stronger that in the majority of the present Member States of the EU. In the year 2000, agriculture's proportion of the Gross Domestic Product (GDP) in the ten applicant countries was 4.6% on average compared to 2% in the EU-15. The conditions are similar considering the ratio of agricultural population. Employment in agriculture was 21.5% (9.69 mio persons) against merely 4.3% (6,9 mio persons) of the active work force in the EU-15 [1]. However, large country specific differences exist among the candidate countries (table 1).

The Gross Value Added of agriculture in GDP varies between 14.5% in Bulgaria and 3.2% in Slovenia (3.3% in Poland). Equivalent range for the EU States is between 6.7% in Greece and 0.7% in Luxembourg. Poland provides 59% of the GVA of the "Luxembourg Group", Hungary 22% and the Czech Republic 11%, i.e. 92% for these three countries [2].

The high average employment in agriculture in the CEECs was mainly observed in Romania, Lithuania and Poland, where 43%, 19.6% and 18.8%, respectively, of the active work force was in the agrarian sector. One of the decisive factors and most worrying problems is high unemployment (agricultural over-employment) in rural areas of the CEECs that is likely to continue to create strong economic pressure and to remain an important policy challenge.

Across all ten countries, 58.9 million hectares of agricultural area are available for production, and it means that agricultural land potential of the present EU would increase by 45.3%.

Table 1. Key agricultural statistics in applicant CEECs and the Member States

Countries	Agricultural area		Gross Value Added of agriculture[1]		Agricultural employment[1]		Trade of agricultural products[3]		Bilateral agricultural trade (CC's-EU & EU-CC's)		Food expenditure
	UAA [2] (000 ha)	% of total area	Mio EUR	% of GDP	(000 pers.)	% of total	% of total exports	% of total imports	% of agric. export	% of agric. import	% of total
	2001		2000		2000		2000				1999
Poland	18397	58.8	4984	3.3	2698	18.8	8.4	6.7	44.5	53.9	29.5
Czech Rep.	4280	54.3	1996	3.9	193	5.2	4.5	5.8	38.7	48.5	32.2
Estonia	986[c]	21.8	309	6.3	32	7.4	4.3	10.3	37.5	55.1	35.7
Hungary	5853	62.9	1816	4.1	227	4.8	8.0	3.6	47.1	51.8	42.1[a]
Latvia	2540[c]	39.3	314	4.5	118	13.5	5.4	13.4	37.2	44.6	38.7
Lithuania	3489	53.4	832	7.5	262	19.6	11.4	10.5	35.4	41.9	39.8
Slovakia	2444	49.8	847	4.5	119	6.7	3.5	6.4	22.8	40.1	31.8[a]
Slovenia	486[c]	24.0	560	3.2	81	9.9	4.5	6.8	24.0	51.3	24.0
Bulgaria	5498	49.5	1673	14.5	342[b]	11.3[b]	10.5	6.2	33.5	46.4	53.5[a]
Romania	14874	62.4	4564	12.6	4861[b]	42.8[b]	3.6	7.6	48.6	33.8	58.0[a]
CEEC-10	58847	54.6	17894	5.1	8933	21.4	6.3	6.4	41.0	47.1	37.1[e]
EU-15	130004	40.2	167544	2.0	7129	4.3	6.2	5.7	12.5	9.9	17.4
Belgium	1389	45.5	3118	1.3	79	2.0	5.4	6.8	13.2	5.2	17.1
Denmark	2656	61.6	3847	2.2	99	3.6	21.0	7.9	7.6	10.3	17.9
Germany	17067[c]	47.8[c]	22000	1.1	962	2.5	3.1	4.8	23.8	19.8	15.7
Greece	3901	29.6	8190	6.7	651	16.7	20.4	4.7	39.1	17.9	21.3
Spain	25136	49.7	20232	3.3	1027	6.6	10.1	7.9	13.7	3.9	18.7
France	29784[c]	54.2[c]	36592	2.6	1032	4.4	8.4	4.4	5.2	6.7	17.8
Ireland	4418[b]	62.8[b]	2952[d]	2.9[d]	127	7.5	8.2	3.1	7.7	3.0	18.2
Italy	15397[c]	51.1[c]	29992	2.6	1105	4.8	5.0	6.2	12.0	11.1	17.5
Luxembourg	127	49.2	133	0.7	4	1.6	1.0	2.0	8.5	0.5	18.2[c]
Netherlands	1976	47.6	9708	2.4	284	3.5	16.3	8.7	11.8	4.8	14.8
Austria	3407[c]	40.6[c]	4060	2.0	543	13.4	3.4	3.8	39.9	57.3	15.2
Portugal	3824	41.6	3760	3.3	535	10.9	8.4	11.2	0.9	3.0	27.0[a]
Finland	2212	6.5	4252	3.2	142	6.2	3.1	3.1	16.0	11.6	18.6
Sweden	2990	6.6	3893	1.6	116	2.7	2.6	3.7	11.0	11.5	16.8
United Kingdom	15720[c]	64.4[c]	14622	0.9	426	1.5	5.2	5.2	7.7	4.7	17.6

a = 1998; b = 1999; c = 2000; e = estimate : = n.a.
(1) Including Forestry Hunting and Fishing sector; (2) Utilized Agricultural Area; (3) All agricultural products - less fish and fish products.
Source: **European Commission, Directorate General for Agriculture (2002):** ***Analysis of the Impact on Agricultural Markets and Incomes of EU Enlargement to the CEECs*****, Brussels, p. 75.**

By the nineties, the state-owned estates and agricultural cooperatives formed by the collectivisation process of the post war period had been dominant in all the countries, but Poland. In 1988, the state or co-operative large-scale farms, being typical form of agricultural enterprise in some countries (ex. former Czechoslovakia, Bulgaria and Romania) were of several thousand hectares [3]. The re-privatisation processes fundamentally changed the agricultural structure in a number of CEECs. At present, average size of agricultural holdings in CEECs does not differ very much from that in the EU, except Slovakia and Romania (table 2).

Table 2. Average area of agricultural holdings in the EU and CEE

EU	Average size (ha), 1997	CEECs	Average size (ha)	Year
EU15	18.4	Bulgaria	4.7	2000
Austria	16.3	Czech Republic	18.0[1]	2000
Belgium	20.6		75.0[2]	2000
Denmark	42.6	Estonia	20.1	2001
Finland	23.7	Hungary	6.7	2000
France	41.7	Latvia	18.0	1999
Germany	32.1	Lithuania	7.0	2001
Greece	4.3	**Poland**	7.2	2000
Ireland	29.4	Romania	2.7	1998
Italy	6.4	Slovakia	306.0	2001
Luxembourg	42.5	Slovenia	5.1	1997
Netherlands	18.8			
Portugal	9.2			
Spain	21.1			
Sweden	34.7			
United Kingdom	69.3			

(1) holdings of natural persons; (2) average farm size
Source: **EU - Eurostat; CEEC -** ***Agricultural Situation in the Candidate Countries - Country Reports,*** **European Commission DG for Agriculture, 2002**

At the beginning of the nineties, the Soviet-oriented, traditional, agricultural international system of relationships of the CEECs has been dismantled. In the immediate future, the countries will become an integrated part of the agricultural structure of the Common Market Organisation. Over the past years, the EU orientation of candidate countries has been strengthening day by day and economic interdependence between them and the EU has significantly increased. At present, the EU is the most important partner in agricultural trade for the CEECs, particularly for Poland and Hungary (table 1). Russian crisis in 1998 led to a decline in a big export market for the CEECs and to a remarkable reorientation of agricultural trade to other geographical destinations. Agricultural trade among the CEE region has gained in weight. However, export markets outside of the EU and the CEECs have remained tight. As a consequence, production in certain sectors should regularly begin to exceed domestic consumption.

Transformation of agriculture is generally determined by the overall economic development of the country and by the standard of living of its people. Unfortunately this, measured in terms of GDP per head, in candidate countries is, on average, significantly below that of Member States. Over the past several years, there has been only a slight catching up. In terms of Purchasing Power Standards (PPS), the CEECs' GDP per capita reached 38.7% of the EU average in 2000. Its differences between the countries are substantial and ranged from 71.6% to 24.1% in Slovenia and Bulgaria respectively (table 3).

For some countries, namely for Hungary, the Czech Republic, Estonia or Slovakia it would take the next 20 years (as of 2001) to reach at least 75% of the EU average GDP per capita in PPS. In the situation of other countries, this process would take much longer, up to 33 years for Romania and Poland (table 3). These results depend on the starting GDP level and on the assumed growth rates.

There is a general tendency for the poorer countries to use a higher share of their GDP for final consumption and principally for food consumption, in order to satisfy basic needs from limited incomes. In 1998/1999, the share of expenditure accounted for by food consumption of households varied amongst candidate countries from 24% in Slovenia to 58% in Romania, according to table 1. In the EU, these figures ranged from just 15% in the Netherlands and Austria to 27% in Portugal.

Table 3. Gross Domestic Product in candidate countries

Countries	GDP real compound annual growth rates		GDP per capita in PPS			
			level (% of EU)			years [1] to reaching 75% of EU[3]
	1996-2000	2001-04[2]	1996	2000	2004*	
EU	2.6	2.3	100.0	100.0	100.0	
Bulgaria	-1.3	6.1	24.9	24.1	30.6	31
Czech Rep.	0.9	3.8	64.9	60.1	68.0	15
Estonia	5.1	5.8	33.2	38.0	47.6	19
Hungary	4.0	5.3	46.6	52.0	64.0	11
Latvia	4.7	5.7	25.2	29.3	36.5	27
Lithuania	3.2	4.7	28.7	29.2	35.2	31
Poland	5.2	3.5	35.6	38.9	45.0	33
Romania	-1.6	5.0	33.1	26.9	32.8	34
Slovak Rep.	4.6	4.5	46.2	48.1	55.9	20
Slovenia	3.9	3.8	66.0	71.6	85.3	1

(1) growth rates: PEP (Pre-accession Economic Programmes) – figures up to 2004, 2004 PEP figures thereafter; EU: forecast COM up to 2003, assumptions: there are no changes in the relative population sizes, average growth rate 1995-2003 thereafter; (2) PEP; (3) EU-15.
***Source*: European Commission: *Real Convergence in Candidate Countries - Past Performance and Scenarios in the Pre-accession Economic Programmes*, Brussels, p. 17 and European Commission: *Evaluation of the 2001 pre-accession economic programmes of candidates countries*. European Economy, Number 7, January 2002, p. 8.**

AGRICULTURAL PRODUCTION, PRODUCTIVITY AND SELF-SUFFICIENCY IN AGRICULTURAL PRODUCTS OF THE CEECs

As already cited in table 3, since the mid 1990s CEECs have on average shown higher economic growth than the EU-15. However, the overall economic recovery since 1992-1994, particularly strong in Poland, Hungary and Slovenia, was not transmitted to agricultural production. At the start of transition in the countries concerned, initial recession hit agriculture, particularly in the previously highly supported livestock sector. In Poland - with an inherited predominance of small individual holdings - the decline in agricultural production has been relatively moderate. After its brief recovery around 1995 agricultural production in CEECs has generally tended to fall back or, at best, stagnate in real terms [2].

Freeing the price system of the centrally planed economy period and rapid changes in policy areas (ex. reduction of consumer price assistance) at the beginning of the nineties resulted in the absolute recession of food consumption. In the first half of 1990, food consumption was estimated to have declined in Poland by 30% and in Hungary by at lest 15% [3]. Table 4 shows reduced domestic outlets for agricultural production, which thereafter did not increase overall but the substitutions within each group of products such as poultry meat for beef, vegetable oils and margarine for butter were observed.

Future dynamic economic performance would contribute to rising consumer incomes in CEECs. This should positively affect the demand for agricultural food products, especially of quality products [4]. Gains in purchasing power have logically tended to move towards other forms of consumption, including more processed foods.

An initial decline in and then overall stagnation of *per capita* agricultural consumption resulted in the continuing the overall slightly surplus in physical balances for major agricultural products, except cereals, in the ten candidate countries (table 4).

Table 4. Change in the balance sheets for the main agricultural products of the 10 CEECs, 1989-2000

Products	Production					Domestic use					Balance				
	1989	1997	1998	1999	2000	1989	1997	1998	1999	2000	1989	1997	1998	1999	2000
	million tonnes														
Cereals	88.2	83.7	75.9	72.9	62.2	89.6	75.0	72.1	72.2	67.0	-1.4	8.7	3.8	0.7	-4.8
Oilseeds	4.4	3.6	4.7	5.9	4.3	3.8	4.0	4.4	4.4	4.1	0.6	-0.4	0.3	1.5	0.2
Milk	38.9	28.2	29.0	28.2	27.6	35.1	25.6	26.3	26.1	25.7	3.8	2.6	2.7	2.1	1.9
Beef and veal	2.06	1.22	1.16	1.09	1.07	1.68	1.10	1.02	1.02	0.99	0.38	0.12	0.14	0.07	0.08
Pork	5.49	4.43	4.47	4.62	4.22	4.94	4.08	4.30	4.36	4.10	0.55	0.35	0.17	0.26	0.12
Chicken	1.78	1.57	1.68	1.78	1.80	1.43	1.52	1.61	1.67	1.68	0.35	0.05	0.07	0.11	0.12
Sheep, goats	n.a.	0.13	0.13	0.12	0.12	n.a.	0.12	0.11	0.11	0.10	n.a.	0.01	0.02	0.01	0.12

***Source*: European Commission *Prospects for Agricultural Markets in the Associated CEECs*, 2000.**

The level of self-sufficiency in farm products was generally higher than 100% in the entire region (table 5) but the balance in value of agri-food trade of the CEECs as a whole was negative and worsened severely during the nineties in all countries.

Table 5. Degree of self-sufficiency of the CEECs in agricultural products, 1989-2000

	Cereals	Oilseeds	Milk	Beef and veal	Pork	Poultry	Sheep, goats
	Production % total domestic use						
1989	98	116	111	122	111	124	
1997	112	90	110	111	109	103	108
1998	105	107	110	113	102	104	108
1999	101	134	108	108	104	107	109
2000	93	105	107	108	101	107	109

***Source:* Pouliquen A. *Competitiveness and farm incomes in the CEEC agri-food sectors. Implications before and after accession for EU markets and policies.* Independent Study for the European Commission, 2001, p. 10.**

Both the foreign exchange outlay of agricultural trade and export returns are very important for the balance of payment in all the countries. The only net exporters of agri-food products were Hungary and Bulgaria. The main explanation for increasing difference between physical surpluses of agricultural products and an agri-food deficit increasing in value is the much higher average level of agri-food processing for imports than for exports, particularly in trade with the EU. The latter is responsible in the most part for the overall agri-food deficit of the CEECs (table 6). In 1998, agricultural exports from the EU to the nine countries exceeded imports. Poland, the Czech Republic and Slovenia were the leading buyers.

This picture of the CEECs' agri-food trade reflects the structural difficulties of production and processing mechanism inherited from the previous system in adopting to the systemic move in their demand towards more processed and diversified products. Generally it shows the low effective competitiveness of the agri-food sector of the CEECs in relation to the EU.

Table 6. Net agri-food trade of the CEECs with the EU[1]

Candidate countries	1993	1994	1995	1996	1997	1998
	million EUR					
Poland	-352	-368	-368	-407	-674	-725
Hungary	388	368	499	624	507	521
Czech Republic	-199	-320	-528	-618	-623	-657
Slovenia	-136	-198	-309	-283	-320	-329
Estonia	-72	-69	-162	-197	-236	-212
Luxembourg Group	-371	-587	-868	-881	-1346	-1402
Romania	-236	-74	-172	-183	-106	-246
Bulgaria	-53	-56	-28	51	42	-7
Slovakia	-70	-79	-151	-162	-170	-195
Lithuania	-94	-112	-94	-125	-206	-208
Latvia	-70	-101	-165	-179	-165	-187
Helsinki Group	-523	-422	-610	-598	-605	-843
CEEC 10	-894	-1009	-1478	-1479	-1951	-2245

(1) With the 15; all products minus fish and fish products.
Source: **Eurostat, DG Agriculture and Pouliquen, op. cit.**

One of the determinants of this competitiveness is productivity of factors employed in agriculture of the applicant countries, which is very much lower than the Community average.

In the CEECs, the gross agricultural production per hectare of utilised agricultural area (UAA), converted into euro at nominal rates, only reached between 8.5 and 35% of the Community average in 1999, with exception of Slovenia (table 7).

Table 7. Gross Agricultural Production (GAP) per 1 ha UAA in 1999

Production	EU-15	**Poland**	Hungary	Czech Republic	Slovenia[1]	Slovakia	Romania	Bulgaria	Estonia	Lithuania	Latvia
Crops:											
EUR/ha	1121	303	371	274	710	233	336	246	111	160	83
% EU	100	27	33	24	63	21	30	22	9.9	14	7.4
Livestock:											
EUR/ha	806	269	311	308	608	271	182	236	178	82	80
% EU	100	33	39	38	75	34	23	29	22	10	9.9
Total:											
EUR/ha	1927	570	682	582	1318	504	518	482	288	242	163
% EU	100	30	35	30	68	26	27	25	15	13	8.5

Source: **Pouliquen, op. cit., p. 25.**

The land productivity gap is larger in the case of crop production than livestock one.

The convergence of the productivity of CEECs land toward the Community average would bring about increasing their overall self-sufficiency in addition to agri-exporting expansion. Its very considerable for the EU since enlargement will increase its agricultural land by 44% and will bring merely 22% additional consumers. Their purchasing power and per capita agricultural consumption will remain lower for a longer time than the average levels of the current Union. So, the agricultural productivity *status quo* in the CEECs can be seen as some benefit for the EU.

Both a less intensive product-mix and the weakness of physical yields are other reasons of relative lower land productivity in the CEECs. The latter results from low use of bought inputs, basically as a consequence of financing deficiency, which maintains the capitalisation of agricultural labour at low levels. One of the results is very low productivity of agricultural labour in the CEECs (table 8).

Table 8. CEEC/EU comparison of productivity in agriculture, 1998

Country	Employ./100 ha		GVA/AWU		GVA/UAA		GAP/UAA	
	AWU	EU %	EUR	EU %	EUR	EU %	EUR	EU %
Poland	16.1	320	1770	8.4	285	27	656	34
Hungary	4.5	90	7011	33.4	315	30	728	38
Czech Rep.	4.8	96	3501	16.7	217	20	671	35
Slovenia	12.8	256	4942	23.6	636	60	1175	61
Estonia	58	116	2869	13.7	168	16	344	18
CEEC I	11.9	238	2407	11.4	287	27		
Slovakia	7.5	150	2661	12.7	200	19	602	31
Romania	29.3	586	1187	5.7	348	33	649	34
Bulgaria	12.8	256	2256	10.8	289	27	479	25
Lithuania	9.6	192	1667	8.0	160	15	345	18
Latvia	7.6	152	926	4.4	70	6.6	184	9.5
CEEC-10	15.8	316	1784	8.5	282	27		
EU-15	5.0	100	20968	100	1059	100	1931	100

GVA = Gross Value Added of agriculture at market prices; AWU = Annual Work Units - agricultural job (agriculture, forestry, fishing and hunting); UAA = Utilised Agricultural Area; GAP = Gross Agricultural Production.
***Source*: Pouliquen, op. cit., p. 35.**

Comparison of GVAs and GAPs in euro at nominal exchange rates could be distorted by the differences in the prices concerned, in euro. But it is roughly applicable to these aggregates because the weighted agricultural prices and input prices of the CEECs can now be regarded as close in euro to those of the Union, at equal quality.

COMPETITIVENESS IN THE CEECs' AGRI-FOOD SECTORS

The experience of developed and developing countries offers some lessons relevant to the transition in agricultural sector. Agriculture has traditionally been subject to discriminatory practises, through exchange rate, price and tax (tariff) policies [5]. All of them determine the comparative advantage in agricultural sector.

In the economic literature competitiveness is defined as the ability to supply goods and services in the location and form and at the time they are sought by buyers at prices that are as good as or better than those of other potential suppliers.

One of the widely used measures of international competitiveness is the real exchange rate. It is usually approximated by some ratio of foreign to domestic price indexes. One way of applying this method is to divide the nominal exchange rate by the Purchasing Power Parity (PPP). Another alternative that is also often used is to multiply the nominal exchange rate with the ratio of the foreign to the domestic consumer price index, or with the same ratio of the implicit GDP price deflator [6]:

$$RER = \frac{NER}{PPP} = NER \cdot \frac{p^F}{p^D}$$

where
RER is the real exchange rate expressed in units of domestic currency per one unit of foreign currency, NER is the nominal exchange rate expressed in units of domestic currency per one unit of foreign currency, and p^F and p^D are the appropriate foreign and domestic price deflators.

At the beginning of transition the CEECs strongly devalued their currencies to achieve convertibility and relative stabilisation. As a consequence, their nominal exchange rates were then three to five times higher than their real rates, calculated on the basis of purchasing power. This gap gave the CEECs, at least officially, strong international competitiveness vis-à-vis their farm prices. However, the devaluation of the CEECs currencies is slowing down to the extent that they no longer compensate for their inflation rates (and for differences in inflation compared with the EU), which reduces both the real exchange rates and concerned gap.

Real appreciation of the currencies of the CEECs translates real constant farm prices in domestic currency (adjusted for the national level of inflation) into increasing real prices in euro, which deteriorates the CEECs' price competitiveness with respect to the EU. Since 1996, this monetary appreciation has continued at a

sustained rate in the CEECs. Even if world prices in euro had then remained stable, this would sooner or later have meant a changing trend towards a real domestic decline in farm prices in the CEECs. Between 1996 and 1999, the real fall in the farm price index reached 16% in Poland and 20% in Hungary and in the Czech Republic (table 9).

Table 9. Real cumulative change in the price indexes in CEECs and in the European Union

Country	Deflated price indexes	1995	1996	1997	1998	1999
	Food prices	100	99	97	92	87
Poland	Farm prices	100	97	92	88	81
	Prices of current inputs	100	99	100	99	97
	Food prices	100	95	94	94	88
Hungary	Farm prices	100	104	100	91	83
	Prices of current inputs	100	112	111	103	
	Food prices	100	100	96	92	89
Czech Republic	Farm prices	100	100	95	87	75
	Prices of current inputs	100	104	102	92	95
	Food prices	100	99	98	98	97
EU-15	Farm prices	100	97	94	90	85
	Prices of current inputs	100	101	100	96	93

***Source*: Pouliquen A., op. cit., p. 21**

Table 9 also illustrates that, between 1995 and 1997, weighted prices of inputs bought by agriculture were stable in domestic real terms. As these are not generally protected contrary to farm prices, monetary appreciation has made real input prices lower. Increasing integration of the CEECs in the international market of inputs, particularly through their imports (and through their exports for fertilisers) caused that they are now more or less equal with Community levels at comparable quality.

Since 1995 there has been observed a marked worsening in the output/input price ratios of agriculture. It is a major world trend, which also refers to the EU agriculture. The Community has answered to this “scissors” effect with productivity gains and the rise in direct support compensating for the drop in price support. In the majority of the CEECs, this effect was deferred (and sometimes reversed) between 1993 and 1997 under the dual protection of currencies still heavily depreciated and of increasing customs tariffs. The subsequent reduction of this protection suggests that the increase in productivity, and hence the restructuring of the sector, has become an important precondition for maintaining agricultural production in the CEECs.

The reduction in producer prices and the subsequent fall in farm incomes would have been even more serious without the future rise in production support rates in relation to world markets. The CEECs have generally levels of agricultural support measured by producer support estimate (PSE) much lower than both the EU average and OECD average (PSEs can be defined as the value of monetary transfers from customers of agricultural products and from taxpayers to producers, resulting from a given set of agricultural and trade policies in a given year. The evolution of support to Polish agricultural sector is discussed by Gorton and Zawojska [7]). Within CEECs, Poland supports agriculture to a lower degree only when comparing with Slovenia (table 10). Despite the rising price support to producers in the CEECs, there is still a large gap between the EU and CEECs in terms of the relative level of PSE.

Table 10. Producers' Support Estimates

Country	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Price Support % of PSE
	% PSE per country											
Poland	27	-12	1	18	15	18	18	23	22	23	25	82.8
Hungary	35	24	11	16	20	24	14	9	7	13	20	52.0
Czech Republic	53	54	52	31	28	20	12	13	9	21	25	70.0
Slovenia				35	28	32	37	29	37	46	52	84.6
Estonia	79	71	59	-97	-32	-10	0	7	5	19	5	
Slovakia	46	50	35	28	26	23	18	11	13	26	25	
Romania	51	28	15	8	16	19	10	12	32	9	18	
Bulgaria	72	72	-39	-45	-4	-27	-25	-54	-10	2	-6	
Lithuania	80	72	-262	-124	-37	-15	0	1	3	13	14	
Latvia	82	75	83	-101	-40	6	5	3	4	16	17	
EU*	42	45	51	44	44	42	41	35	38	45	49	63.1
OECD	38	38	41	39	38	37	35	31	31	36	40	65.0

***EU-12 for 1986-1994, EU-15 since 1995; includes the former GDR since 1990.**
***Source*: Pouliquen A., op. cit., p. 21 and author's own calculations**

Production support in the CEECs is almost solely due to the increase in price support, achieved through customs protection. Considering the composition of producer support, estimate, in general market price support dominates. In 1999, the share of price support ranged from 52% in Hungary to 84,6% in Slovenia (83% in Poland) comparing to 63% in the EU (table 10).

Instead of relative high levels of farm prices (compared with all the domestic prices) which stay much higher than in the EU, the profitability of farm production in the CEECs in recent years has remained overall much lower than Community levels. Subsequent decapitalisation of the agri-business sector is the main limiting factor on agricultural production and an obstacle to reducing its unit costs. On the other hand, the EU's agricultural production has been contained by its direct and indirect regulation of quantities, while agricultural investment has enabled productivity gains to continue. With farm prices now generally comparable, this asymmetry basically means less effective competitiveness for the CEECs.

In all the candidate countries, gains in purchasing power were noted although they have been decreased since 1996 (table 11). Weighted consumer prices were here 1.6 to 5 times lower in 1996 and in 2000 they still were 1.6 to 3.4 times lower than in the EU. In the CEECs these gains tend to move towards non-food expenditure and more highly processed food products rather than the increased consumption of their agricultural content. This trend is common for the developed economies but in the CEECs is magnified by the relative weakness of real average per capita incomes and by high expenditure on food (table 1). As was mentioned before, there is a general tendency for the poorer countries (with low GDP *per capita*) to use a higher share of their GDP for food consumption and for consumption generally, rather than for fixed capital formation. Nevertheless, in the CEECs this proportion resulted particularly from the relative high levels of farm prices, as table 9 indicates.

Table 11. GDP per head at current prices in purchasing power (PPS) compared to its euro's level at the nominal exchange rates in 1996 and 2000

Country	GDP		PPS/euro[2]	GDP		PPS/euro[2]
	PPS - euro	Euro[1]		PPS - euro	Euro[1]	
	1996			2000		
EU	18500		1.0	22500		1.0
Slovenia	12200	7500	1.6	16100	9800	1.6
Poland	6600	2900	2.3	8700	4400	2.0
Lithuania	5300	1700	3.1	6600	3300	2.0
Latvia	4700	1600	2.9	6600	3300	2.0
Estonia	6100	2300	2.7	8400	3800	2.2
Hungary	8600	3500	2.5	11700	4900	2.4
Czech Republic	12000	4400	2.7	13200	5200	2.5
Slovakia	8500	2900	2.9	10800	3900	2.8
Romania	6100	1200	5.1	6000	1800	3.3
Bulgaria	4600	900	5.1	5400	1600	3.4

1/ current prices
***Source*: Author's own calculations based on Stapel's data [8]**

A major consequence on the comparative competitiveness of farm costs and prices in the applicant countries will have land market developments. The economic transformation involved the creation of marketable landed property in the CEECs. Except for the Soviet Union, in the countries concerned, land was not completely nationalised after the war but proprietary rights were only formal (especially of land in private handling). The lack of the land market caused that land lost its character as a valuable asset and consequently land costs were not calculated in various agricultural accounts.

Currently, effective farmland rents in the CEECs are 5 to 20% of the Community average [2]. Very low land costs result partly from farmland prices which are generally much poorer compared to the EU (table 12). But even relative to the low market values of farmland, these rents are commonly lower than commercial interest rates.

Table 12. Average prices of farm land (plots): EUR*/ha

Country	Type of land	1995	1996	1997	1998	1999	2000
Germany[1]	Agricultural [3]	11537	10646	9865	9436	8939	9081
France	Arable	3142	3188	3191	3288	3461	3613
Spain	Non-irrigated	2822	3098	3394	3972	4514	n.a.
Italy	Agricultural	10916	11965	12488	12806	n.a.	n.a.
Netherlands	Arable	19725	20750	22661	24869	31492	36439
England [2]	Agricultural	5433	7444	9330	9172	10084	11707
Poland	Arable	833	952	1064	1116	874	n.a.
Hungary	Arable	537	457	395	n.a.	n.a.	n.a.
Czech Republic [2]	Agricultural	1751	1824	1806	1282	n.a.	n.a.
Slovakia (official price)	Agricultural	1002	1005	1012	967	865	n.a.
Romania	Agricultural	400	345	n.a.	n.a	n.a	n.a

***conversions at current exchange rates, (1) inc. former GDR; (2) purchases of over 5 ha UAA; (3) UAA**
***Sources*: VUZE [9]; Ministry of Agriculture [10]; Schulze & Tillack [11]; European Commission [1]**

These differences reflect the very low profitability of agricultural activity in the CEECs, compared to the EU. Very firm rises of land values can be definitely expected from the agricultural enlargement of the EU. So far, the fact that this is not enough to stimulate the purchase of farmland reflects current and future expectations of loss-making agricultural activity. However, the peasant people's love for work and perseverance suggest optimism, as the historical examples also show [3].

The accession to the EU and the convergence requires the implementation of *acquis communautaire* and the CAP. Sooner or later it will deeply change the land markets of the CEECs.

SUMMARY

1. Since the beginning of the 1990s agriculture in the CEECs has experienced intensive transformation but unfortunately the following double paradox was observed:

- despite the severely low labour productivity of agriculture, its place in the production and even more in the agricultural employment of the applicant countries has seen a significant relative and/or absolute development during transition. This place is now considerable overall, although very different depending on the considered countries, whereas in the current Member States of the EU over the last 50 years the sector was marginalized;
- in spite of structures *a priori* much more favourable to total factors' productivity, and therefore to competitiveness on factor and product markets, the production of the "modern" agricultural sector, i.e. major company and individual holdings, has tended to stagnate at a low level per hectare, or to decline.

2. CEECs have not been able to exploit their agricultural potential - vast natural resources, in terms of area, to its full extent. In spite of huge efforts and – in most countries - successful developments, restructuring of agriculture is still far from being complete.
3. The considerable persisting gaps between the actual orientations of agricultural policies in the CEECs and the CAP resulted in the difficulties of the accession negotiations. These reflect to various national degrees their specific budgetary and social constraints:

- the low macroeconomic capacity of the CEECs limits the direct and indirect support needed for the emergence and expansion of "intensive" Community-style agriculture able to compete widely with its EU-15 counterpart;
- general and rural unemployment levels have discouraged policies that would reduce their agricultural "over-employment".

4. The main challenge in the area of agricultural policy is working towards raising the productivity level in the sector and to prepare it for the adoption of the CAP in the context of accession. In some cases, such as Poland, the discussion focuses too much on the preparations for the CAP, instead of outlining productivity-enhancing reforms.
5. One of the most debated political and economic questions in the CEECs includes landed property. Institutional and political convergences require that:

- the legal bans and restrictions on the purchase of land by domestic company holdings and by natural and legal entities of the EU-15 will have to be lifted;
- the CEECs will have to adopt land legislation much more favourable to tenant-farmers;
- an access to the Union's system of direct aid will increase farm incomes, and therefore the land prices and rents.

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