Impact of price and trade policy changes during transition in Romania: The case of cereals and oilseeds

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IMPACT OF PRICE AND TRADE POLICY CHANGES

DURING TRANSITION IN ROMANIA:

THE CASE OF CEREALS AND OILSEEDS

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ABSTRACT

This paper focuses on Romanian agricultural policy and trade with emphasis on cereals and oilseeds, and investigates the changes and impact of agricultural trade policies. It analyses the impact of price changes on agricultural protection, agricultural producers, and production incentives during the transition period, using conventional methodology. The study finds that the low efficiency of the market and the poor organisation of marketing and distribution channels, as well as the slow implementation of the reform, have allowed State-owned enterprises to maintain their monopolistic and monopsonistic power. The results also show that agricultural policies lead to a large negative protection (implicit taxation) of all the products examined. Finally, the paper indicates that the changes have brought confusion and uncertainty and asks for more transparency in agricultural policy-making.

Keywords:
ROMANIA, AGRICULTURAL PROTECTION, AGRICULTURAL TRADE POLICY, TRANSITION ECONOMIES

1. Introduction

In the process of their transition towards becoming market economies, the Communist countries have proceeded with the restructuring of their economic, social, political, and judicial systems. The agricultural sector plays a central role in the development of this transformation. The process of transition is similar in all these countries, but many differences exist in the way in which the measures and reforms are applied. In Romania, the Ceausescu era left the economy in ruins. The inflation rate exceeded 250% in 1993. Agriculture, like other sectors, was left in bad shape; although Romania has traditionally been a major agricultural exporter, food shortages led to an official export embargo in 1990 and 1991 on most agricultural products, while food imports increased sharply. Privatisation in farming has been implemented in a confused way: many smallholdings have been created but without adequate equipment or finance. Romania cannot take advantage of its considerable agricultural potential until these problems are solved.

The European Union recognised the importance of the agricultural sector for the Central and Eastern European countries (CEECs) and concluded agricultural trade agreements with some of them, including Romania, with the purpose of providing a market for their exports. The drive towards trade liberalisation is one of the most important goals for the CEECs in this period. Trade protection and administered prices are crucial means of government intervention. Under the conditions of transition, a number of factors other than explicit government intervention have brought about deviations from what would have occurred if markets had been purely competitive. Among these factors are the instance of regional monopoly, the lack of measures to speed up market development, and slow privatisation. Changes in agricultural trade policy as well as the other factors mentioned have an

impact on both producers and consumers. They create transfers of welfare along the entire chain between producers, downstream sectors and final consumers.

The purpose of this study is to analyse the pre-reform instruments of agricultural policy and trade in Romania, the various changes in agricultural policy and trade that have occurred since 1989, and their impact on agricultural developments. The methodology devised by Josling and extensively used by the OECD for the calculation of the Producer Subsidy Equivalent is used to measure the impact of agricultural policy on producers. Clarification of its impact on the whole agro-food chain can assist the government in taking the appropriate decisions. This is particularly important in the Central and Eastern European countries where the maintenance of low consumer prices for the main food goods was one of the chief goals of agricultural policy in the pre-reform period.

The structure of the study is as follows. Firstly, a review is made of the most important agricultural reforms debated or introduced in Romania after 1989, concentrating on land reform and privatisation, and new pricing policies. The features of the pre-reform period are mentioned in order to provide a better understanding of the effects of changes during transition. The study then focuses on activities concerned with agricultural production, the main characteristics of Romanian agricultural trade, the changes in trends of Romanian imports and exports, and the main agreements between Romania and the European Union (EU). It illustrates how the changes in agricultural trade and policies are reflected in the Romanian agricultural sector through the calculation of the Nominal Protection Coefficient (NPC), Nominal Protection Rate (NPR), and Producer Subsidy Equivalent (PSE) for the main agricultural products (cereals and oilseeds). It concludes with a summary of the agricultural and trade policies followed and their impact on Romanian agricultural trade and development.

2. Methodology

All governments intervene in agricultural markets, for a number of reasons: in order to raise tax revenue, support producers' incomes, reduce food costs to consumers, attain self-sufficiency, or counter interventions by other governments. Policy instruments for intervention are numerous; some of them are listed in Table 1. Four widely-used measures of government intervention in the operation of agricultural markets are (1) the nominal protection coefficient, (2) the effective protection coefficient, (3) the producer and consumer subsidy equivalent, and (4) classic welfare analysis.

Table 1 - Examples of policies influencing competitiveness and trade

Direct Trade Intervention
* Tariffs and taxes
* Import and export quotas
* Export subsidies
Controlled Exchange Rates
* Fixed rates
* Differential rates
* Exchange controls, licenses
Market Price Support
* Domestic price supports linked with border measures (quotas, permits, tariffs, variable levies, and export restitution
* Price premiums (often used for fluid milk)
* Domestic price supports linked with production quotas
* Government inventory and commodity loan activity

Source: Tweeten, 1990, p. 50

Measures of protection

The nominal protection coefficient of a commodity i is defined as the ratio of its domestic producer price Pd to its border (world) price Pb:

NPC = Pdi / Pbi,

where

NPCi = nominal protection coefficient for commodity i in a given country

Pdi = domestic price of commodity i at the producer or wholesale level

Pbi = border price of commodity i at the same market location as the domestic price, with the border price constituted by the international trade or world price mutiplied by the rate of exchange.

In general, the higher the NPC, the greater the degree of protection provided to domestic industry and the greater the market distortion.

The nominal protection rate, a form of the NPC, is the percentage by which the domestic price exceeds the border price. It can be expressed as

NPR = 100(NPC - 1).

Quotas and other measures, in addition to tariffs, can drive a wedge between border and domestic prices. The NPR is a means by which to convert such measures to a tariff-equivalent rate.

The official exchange rate may not be a realistic measure of the real domestic value of foreign currency in a measurement of the NPCs. Exchange rates are frequently overvalued in developing countries because they are facing inflation. An overvalued currency constitutes a tax on exports and a subsidy to imports. The nominal protection coefficient for commodity i is:

NPCi = Pdi / Pbi$^\$$ OER,

where OER is the official exchange rate, Pdi is domestic price in local currency, and Pbi is border price in dollars. If we adjust to the shadow, parallel, or accounting exchange rate (SER) as necessary where currency value is distorted, the NPC is:

NPCi = Pdi / Pbi$^\$$ SER.

There are some alternatives to using the official exchange rates. In many instances the parallel market rate will be the best estimate of an equilibrium exchange rate (Tweeten 1990).

Measures of assistance

The Producer Subsidy Equivalent (PSE) and the Consumer Subsidy Equivalent (CSE) are designed to include and measure the impact of all policies that assist producers and consumers, respectively, of agricultural commodities. Assistance to the agricultural sector has an impact on trade which is either direct, because it is implemented through border measures, or indirect, because it affects levels of domestic production and consumption. The PSE is defined as the payment that would be required to compensate farmers for the loss of income resulting from the removal of a given policy measure. The CSE corresponds to the implicit tax on consumption resulting from a given policy measure and to any subsidies for consumption.

The PSE and the CSE are flexible and easily computed measures of all transfers of domestic policy to producers and consumers. PSE is often expressed as a percentage of gross value of farm production, and CSE as a percentage of food cost. The PSE indicates the subsidy equivalent needed to compensate producers for termination of commodity programs, tariffs, quotas, and other supports.

Economists use the coefficients of protection (NPC and EPC) and the subsidy equivalents (PSE and CSE) to establish the real impact of prices in agriculture. Josling first proposed the PSE/CSE concept as part of a study by the Food and Agriculture Organisation on international agricultural adjustments.

The concept has been useful over time in multilateral trade negotiations.

The measurement of total assistance to a commodity involves a combination of both budgetary payments and price comparisons. The PSE and CSE can be calculated by the following algebraic form :

TOTAL PSE	=	$Q (P_d - P_w) + D - L + B$
PER UNIT PSE	=	TOTAL PSE/Q
% PSE	=	$100 (TOTAL PSE)/ (Q(P_d) + D - L)$
TOTAL CSE	=	$-C(P_d - P_w) + G$
PER UNIT CSE	=	TOTAL CSE/C
% CSE	=	$100 (TOTAL CSE)/C(P_C)$,

where :

Q	=	level of production;
C	=	level of consumption;
P_d	=	domestic producer price;
P_c	=	domestic consumer price;
P_w	=	reference price;
D	=	direct payments;
L	=	producer levies and fees;
B	=	other budget payments, direct or implicit;
G	=	budget payments to consumers.

In this expression, the reference price may refer either to a world price or to a domestic price, and the budgetary payments refer to the various cost-reducing measures from which farmers benefit.

PSE methodology as it has been developed by the OECD does not take into account differences in input costs in domestic and world prices resulting from distortions in markets or government intervention in other sectors. However, since these differences are actually a source of welfare transfer between suppliers of inputs and agricultural producers, they should be taken into account in determining the level of support to producers and transfers at farm level.

A main characteristic underlying the calculation of PSE and CSE is the existence of supply and demand curves in conjunction with world price equilibrium quantities that are consumed and produced. The measurement of PSEs and CSEs assumes that commodities produced and consumed are homogeneous. This applies both to the commodities defined for reference (world) price purposes and domestic commodities. The PSE calculations do not include all transfers generated by agricultural policies. They exclude some budgetary outlays which are not received by producers such as subsidies specific to the food processing and distribution sectors, outlays for stock-holding, and others.

The CSE is the value of transfers from domestic consumers to producers and taxpayers from a given set of agricultural policies in a given year. It measures the implicit tax imposed on consumers by agricultural policies. There is a close relationship between the PSE and CSE measures. A positive (negative) transfer to producers from consumers is equivalent to a subsidy to producers (tax) and a tax on consumers (subsidy). Transfers are measured in the two ways mentioned above.

The trade competitiveness of a country is determined by the cost of production (hence its factor endowment), the price policies followed (positive or negative support), the macroeconomic and exchange rate policies (through the determination of border prices), and the marketing infrastructure (availability of good transportation, storage facilities, markets, port facilities etc).

In this study, the PSE for cereals and oilseeds is calculated and and an analysis is made of the economic conditions and trade competitiveness where these two commodities are concerned.

3. The Macroeconomic Situation in Romania

During the transition period from a centrally-planned to a market economy in Romania, important changes have taken place in agriculture, the system of trade and government policies. The government which came to power in December 1989 proposed and implemented a major reform program to restructure the economy, through which Romania joined the other Eastern European countries undergoing reform. Its objectives and many of its policies were equivalent to those of other countries in the region, but there were significant differences in detail.

The pre-reform instruments of policy were replaced and most budgetary supports have been cut. Significant measures were taken during 1993 and the first half of 1994. New conditions augur favourably for macroeconomic stability and faster structural change. The government has negotiated an extensive agreement with the International Monetary Fund (IMF) which incorporates conditions aimed at the reduction of inflation, as well as complementary structural measures to improve policy coherence. In broad terms, the structure of the economy has been changed. In 1993 - for the first time since 1988 - the Romanian economy registered a positive growth of 1%. The share of agriculture in Romanian GDP has increased, the level being one of the highest in the CEECs.

After recovery from a severe drought in 1992, agriculture was the major contributor to this positive outcome, with 14% growth. Industrial decline also stopped, and a small positive increase in production was registered. The service sector increased its share of output by 6% (from 26% of GDP to 32%). The current account deficit in the balance of payments was reduced from 8.3% of GDP in 1992 to 4.6% in 1993 (Table 2).

Table 2 - GDP by sector (% change)

	1990	1991	1992	1993
GDP (growth %)	-5.6	-12.9	-13.8	1.0
Agriculture & Forestry	14.6	-12.3	-12.4	14.0
Industry	-13.4	-14.7	-15.5	1.8
Construction	1.1	-19.4	-5.7	-0.6
Transport & Telecommunications	-23.6	-8.5	-26.7	-6.2
Trade	6.2	-25.5	-15.5	-19.5
Other	10.0	0.4	-8.5	3.6

Source: National Commission for Statistics of Romania, 1993

Price inflation accelerated in 1993 to 256%, but there are signs of deceleration (in 1995 it was below 100 %). After the application of a number of measures, there are also signs of an increase in economic growth (2.6% in 1995), an improvement in the commercial balance, and increasing of industrial and agricultural outputs.

Agricultural development is influenced by all general economic conditions in Romania, but major structural changes are underway. The break-up of the majority of cooperative farms in 1990 and the subsequent privatisation of about 80% of agricultural land stimulated those changes. Also, incomes, savings, employment and price stability are essential to agriculture and affect demand for farm products, availability of credit and farm inputs, prices of farm assets and non-farm employment opportunities (World Bank 1994). The agricultural sector occupies a very important position in the Romanian economy. It was, and still is, the second largest sector, accounting for an important percentage of GDP and total employment, and significant foreign exchange earnings. In real terms, agricultural output has fallen over time; this situation could be explained by the peculiarities of the previous system (Table 3).

The major structural change in the agricultural sector was the transfer of land and livestock assets to the private sector. In 1990, only 25% of the 14.8 million hectares of agricultural land in Romania was privately owned. This share increased to 80% in 1993. A similar transformation occurred in the livestock subsector. In 1989 private farmers produced 56% of livestock output, this share increasing to 72% in 1992. However, constraints on the potential of agricultural production continue through the land fragmentation that has taken place in the post-reform period (the average of size of land-holding is 1.7 - 2 hectares per holding) and lead to the higher cost of production and less efficient farm structures, especially when compared to those in the European Union.

Table 3 - Agricultural production, 1986-1993 (in thousand tons)

	1986-89 average	1990	1991	1992	1993	1992-93 % change
Total grain production	20,364	1,6834	1,8975	1,1942	1,5124	26.6
Wheat	7,225	7,379	5,559	3,228	5,355	65.9
Coarse grains	13,139	9,455	13,416	8,714	9,769	12.1
Total meat production[a]	1248	1473	1341	1242	1199	
Beef and veal[a]	176	213	188	202	200	-1.0
Pig meat[a]	659	791	759	680	728	7.1
Milk production[b]	4,524	4,423	4,610	4,493	4,500	0.2

Source: OECD, 1994
a: carcass weight
b: million litres

In Romania the labour force employed in agriculture has decreased during the last few years. In 1990, the share of agriculture in total employment was 20.25% whereas by 1993 this had decreased to 17.9%. This is due to the slow implementation of the land law, fragmentation of the land, and also to other employment opportunities.

Land-holdings are small and fragmented and owners have different interests. A large proportion of owners is not working the land; another group has a limited production capacity, and the demographic structure of the agricultural population is not conducive to progressive farming. The whole legal framework for the agricultural sector is not yet in place. The renting of land, a first step toward more consolidated holdings, has begun but it affects fewer than 10% of land-holdings.

A significant number of landowners formed their own organisations for the purpose of continuing collective production. There are two types of organisations: agricultural societies (AS) and farmers' associations (FA). Agricultural societies are legal bodies and operate as primary production cooperative societies with general assemblies which elect chairmen and boards of directors, and an average membership of 190 private farmers. There are 4,050 agricultural societies which work a total of about 1.9 million hectares. Not all members have surrendered all of their land to the AS for collective production. Some farmers retain a part of the land for their own production. The second type of organisation, the farmers' association (FA), is constituted in the same way as the AS with individual landowners as members. The FA is smaller than an AS and the average number of members is approximately 60. The agricultural society is three times bigger both in terms of members and the number of hectares, but the average land area per member (2.5 hectares) is the same for both types of organisations. The number of FAs is greater than ASs, but their efficiency is lower.

According to the Ministry of Agriculture, a great number of farmers, owning more than half of the land distributed, have decided to stay outside organised collective production. Nevertheless, when the previous experience of Romanian farmers with the cooperative system is taken into account, it is surprising that so many of the landowners opted for joint production. This time, the ASs and FAs were formed voluntarily by the members, of their own free will.

Some of the practical results of the privatisation process have been detrimental to the efficiency of Romanian agriculture. Fragmentation of agricultural land has been a major problem, with the average size of new farms being two hectares (the legal upper limit is ten hectares). Another problem is that just over 50% of the land was received by those outside the agriculture sector, about 30% by pensioners, and another 25% by those who do not intend to farm. However, some of the difficulties will to a large extent be overcome if a market for the sale and rental of land is actively encouraged and facilitated. The law allows for private associations to be formed in the various branches of the agro-food sector and for the renting of land, but this has not yet been significantly developed. The lack of possession of final title to land effectively prevents the existence of a properly functioning land market in Romania.

The price and support policies in Romania after 1989 were mostly defended on the grounds of food security, guaranteeing supplies of food to the population. However, the notion of food security appears to be confused with self-sufficiency, as Romanian agricultural policies tend more towards maintaining domestic production at self-sufficiency levels than ensuring that the country has the economic capacity to secure food supplies for the population from all sources, both domestic and foreign. In principle, prices are determined by market forces in Romania, but in practice, many agro-food products are either directly or indirectly subject to government intervention. This is especially the case for "basic" products - maize, wheat, cows' milk, live cattle and pigs, poultry etc - whose contract and purchase prices were guaranteed by the State in 1993. The intention behind such price intervention was to stimulate domestic agricultural production through higher prices and therefore to reduce the country's reliance on agro-food imports. However, this appears to conflict with separate policies introduced to keep the retail price of selected food products low in the interest of consumers, and yet other policies that restrict exports of agro-food products perceived to be in short supply. It is not clear whether these policies will be able to achieve the desired outcomes, and they could prove expensive for the State budget.

Measures of price liberalisation introduced in 1993 freed seventeen products and services which had their tariffs and prices controlled by a special order of the Ministry of Agriculture and approved by the Ministry of Finance. The most major products were kept within the previous system, i.e. wheat, maize, cattle, milk, pigs and poultry. The State also controlled retail prices of bread, milk and milk products, meat and meat products from State-owned companies. As a measure to ensure the access of the population to basic products, and especially of those people whose purchasing power has fallen dramatically, wholesale and retail prices for meat, milk (not powdered), bread, oil and butter were exempted from value-added tax (VAT). To offset this, "luxury" goods, such as refined alcohol, alcoholic drinks, cigarettes and tobacco products, became subject to additional taxes.

Producer prices were, and still largely are, based on the cost-plus principle. The Government used this method to estimate average cost of production both for agro-industries and primary producers. A fixed profit margin was added to these calculated costs to arrive at sale prices. This method of price determination completely disregarded Romania's comparative advantage in production; commodities for which the country did not have any comparative advantage were produced, while others in which Romania is an efficient producer were penalised by the extent of their efficiency. The principle of cost-plus price formation was probably, from the economic point of view, more costly for the agricultural and food sector than for other sectors, since this sector was heavily affected by past planning practices which advocated the production of specific products even in regions which were not best equipped with natural resources to produce some agricultural products. The regional specialisation which would have improved the efficiency of the economy was not permitted to the greatest possible extent, since the planners considered self-sufficiency for some products on the judet[23] level as necessary; hence, the sector had to adjust the regional production pattern

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[23] An administrative unit at regional level

significantly to the new relative prices. Moreover, the sector has been widely restructured since 1989, but all the necessary changes will either be delayed or even undertaken in an incorrect way if price ratios do not signal the direction which adjustments in the sector should take.

An aspect of major importance concerning Romanian agricultural trade is the Association Europe Agreement which will make access to EU markets easier; exports to the EU are an important factor for the development of the Romanian agricultural sector. As in the case of other Central and Eastern European countries, the Agreement is seen as a major step towards membership of an enlarged EU. This is a political and economic goal for both sides.

In an overall perspective, the economic impact of the Agreement is quite useful for Romania. It establishes a period of time during which Romania must carry out the obligations required for future accesion to the European Union. This means acceleration of the reform process, and it is not certain that all conditions can be satisfied by 1996, the final year for an evaluation of the state of progress.

4. Analysis of the Impact of the Agricultural Policy Changes

Measurement of protection - Nominal protection coefficients and nominal rate of protection

There is an important similarity between policy analysis using protection coefficients and project analysis using shadow prices. In both cases the systematic comparison reveals the economic differences that policy and project introduce. Protection coefficients indicate the extent to which domestic price policy protects domestic producers from the direct influence of foreign markets and in the process generates incentives for domestic production and consumption.

The first step in the analysis was data collection, and the second step border price calculation. Subsequently the ratio of the domestic price to the border price was calculated to obtain the gross NPC. According to the results, the protection was negative for wheat and sunflowers during the whole period under study. There was discrimination against producers while the consumers were favoured. For barley and maize the protection was positive in 1989 and 1990, and because of intervention consumers had to pay a higher price than they would have done without it. From 1991 to 1993 the protection was negative, thus consumers were favoured (Appendix, Tables 4-6).

Table 4 - Agricultural border prices for cereals and oilseeds in Romania

	Unit	1989	1990	1991	1992	1993
Domestic prices						
Wheat	lei/ton	1,790	2,560	10,010	32,100	100,000
Barley	lei/ton	1,260	1,840	8,020	22,900	105,000
Maize	lei/ton	1,770	3,600	9950	35,130	95,000
Sunflower	lei/ton	2,550	3,570	14,780	45,900	175,000
World prices						
Wheat	USD/ton	171	137	129	151	126
Barley	USD/ton	96	86	72	72	89
Maize	USD/ton	111	109	107	104	108
Sunflower	USD/ton	482	490	474	450	465
Border prices						
Wheat	lei/ton	2,052	2,671.5	24,381	69,460	160,776
Barley	lei/ton	1,152	1,677	13,608	33,120	113,564
Maize	lei/ton	1,332	2,125.5	20,223	47,840	137,808
Sunflower	lei/ton	5,784	9,555	89,586	207,000	593,340
Official exchange rate at the end of the year	lei/USD	12	19.5	189	460	1276
Shadow exchange rate at the end of the year	lei/USD	35	50	300	600	1,500

Source: Computed on the basis of data from the National Commission for Statistics of Romania, 1995, Institute of Agricultural Economics, Information Bulletin, 1993, National Romanian Bank, 1994

Table 5 - Nominal protection coefficients for cereals anf oilseeds

	1989	1990	1991	1992	1993
Using official exchange rate					
Wheat	0.872	0.958	0.411	0.462	0.622
Barley	1.094	1.097	0.589	0.691	0.925
Maize	1.329	1.693	0.492	0.734	0.689
Sunflower	0.441	0.374	0.165	0.222	0.295
Using shadow exchange rate					
Wheat	0.03	0.02	0.003	0.001	0.0006
Barley	0.03	0.02	0.003	0.002	0.0006
Maize	0.03	0.02	0.003	0.002	0.0006
Sunflowers	0.03	0.02	0.003	0.002	0.0006

Source: Computed on the basis of data from the National Commission for Statistics of Romania, 1995, Institute of Agricultural Economics, Information Bulletin, 1993, National Romanian Bank, 1994

Table 6 - Nominal protection rates for cereals and oilseeds

	1989	1990	1991	1992	1993
Wheat	-0.128	-0.042	-0.589	-0.538	-0.378
Barley	0.094	0.097	-0.411	-0.308	-0.075
Maize	-0.329	-0.694	-0.508	-0.266	-0.311
Sunflower	-0.559	-0.626	-0.835	-0.778	-0.705

Source: Computed on the basis of data of the National Commission for Statistics of Romania, 1995, Institute of Agricultural Economics, Information Bulletin, 1993, National Romanian Bank, 1994

The farmers are generally discriminated against because of high inflation and other economic conditions. They are paid after many months' delay for their production, which is sold to the State. Romcereal does not have the necessary funds to buy the crops and proceed with exports. Hence, farmers are sometimes unwilling to sell the grain and therefore store it. Even in cases where private companies buy the crops from the farmers, the handling facilities at export points (usually port facilities) are not suitable for the handling of large quantities for export. Thus, there is a negative effect on the country's export competitiveness.

Measurement of assistance: PSE calculation

The biggest problem in the calculation of PSEs is the validity of the basic data. This arises from the shortage of adequate data for budgetary expenditure. Also, there are no data available about quantities of different products affected by these decisions and expenditure connected with them.

The agricultural price policies pursued from1990 onwards generated a rapidly expanding system of subsidies since the difference between the cost of production and returns at administered prices (in farm input industries, at farm level and in processing) had to be largely compensated for, in the form of State subsidies. They are shown, for the products analysed, in Table 7.

Table 7 - Subsidies for Romanian agriculture in 1990-1993, in billion lei

	1990	1991	1992	1993
Total agricultural subsidies	180.0	476.0	306.5	344.0
Food subsidies	127.0	215.0	170.6	167.9
Indirect payments			135.9	176.1
Inputs/operations	53.0	261.0	96.9	115.1
Credit			39.9	61.0

Source: Institute of Agricultural Economics, Information Bulletin, 1993

The main instruments of government support for agriculture were direct and indirect support - price subsidies and deficiency payments to producers, input subsidies and some tax concessions. Here, the term "deficiency payments" means output subsidies, whose amount per unit of output is intended to cover the difference (or part of it) between centrally-fixed farm-gate prices and the unit cost of output.

The major agricultural products included in the analysis are wheat, maize, barley and sunflowers. Calculation of PSEs has been made on the basis of published official and statistical data. According to the PSE methodology all policy measures are allocated to the following groups: direct support to producers, indirect support to producers, and market price support.

In 1992, total budgetary subsidies relating to the food economy amounted to more than 268 billion lei (US\$ 0.5 billion), of which 170 billion lei were consumer food subsidies and 97 billion lei were agricultural subsidies. Total subsidies relating to the food economy were equivalent to more than 20% of agricultural GDP and about 4.5 % of total GDP. In real terms, the government expenditure on agriculture decreased if the high inflation in this period is taken into account.

The results of the PSE calculations for the products analysed and for agriculture as a whole are shown in Table 8. Over the period, PSEs are negative, showing that farmers' losses due to the distortions in the price system outweigh all the concessions given to them. The partial price and trade liberalisation in conjunction with decreasing real government support and other measures taken by the government had different effects on crop production.

Table 8 - PSE for cereals and oilseeds

	1991	1992	1993
Wheat	-143,6	-116,4	-60,8
Barley	-69,7	-44,6	-8,2
Maize	-103,2	-36,2	-45,1
Sunflower	-206,1	-51,0	-39,1

Source: Computed on the basis of data from the National Commission for Statistics of Romania, 1995, Institute of Agricultural Economics, Information Bulletin, 1993

The factors underlying the changes in total PSEs are analysed on the basis of the percentage share of the components in total PSEs. The results of the component share analysis show that, during the period under study, measures taken by the government have had the opposite effects on agriculture. In 1990 the impact of direct payments for crop producers was offset by direct taxation on farmers. Budget support to crop producers in 1991 increased to 6% of the losses due to negative market price support. In 1992 and 1993 budget support to farmers was more than 8% of the losses due to low domestic prices. The components are expressed as nominal values and percentage shares in net total PSE. Since total PSEs are negative for most of the products investigated, but some of the components are positive as well as negative, the signs of the total PSE and the component analysed need to be taken carefully into account in an examination of the influence of each of the elements. If the latter have opposite signs, it means that these components have an opposing influence on net total PSE. Where a total PSE is positive the share of each component shows what part of the total PSE is due to this component. If the total PSE is negative, the share of each component shows how the total PSE changes when this element is removed.

Market price support is a result of all agricultural policy measures concerning the trade regime and price system (e.g. fixed price or projected price system, tariffs, import and export taxes, quotas). Within the period and for the products examined, market price support is in almost all cases negative, which shows that there is a transfer of farm income to taxpayers, to other sectors or to consumers through the price and distribution systems. The analysis shows that market price support is the most important component exerting influence on PSEs.

The direct support of crops has an insignificant influence on net total PSE. Also, the indirect support for the products examined exerts only a small influence on PSEs. Within the period and for the products examined market price support is negative, which largely determines the negative results for PSEs and shows that there is a transfer of farm income to taxpayer, to other sectors, or to consumers through the price and distribution systems. The rate of transfer is high. Since market price support during the period observed is negative, the price gap between domestic and world prices had the effect not of support, but rather of taxation.

For the products examined (with the exception of sunflower) PSEs were positive in 1990, albeit small. Support to producers of wheat, maize and sunflowers became negative in 1991 and remained so in 1992 and 1993. The effective taxation of producers of these products fluctuated during this period.

In spite of the liberalisation of agricultural policy which took place during the period under study, PSEs for cereals and oilseeds, and for agriculture, remained low as a whole. Nevertheless there were some small increases in percentage PSEs so that discrimination against the production of the former and against agriculture in general declined. In order to explain the reasons for this change, the impact of the changes in the basic components (quantity produced, direct payments, indirect payments, domestic prices, world prices, exchange rate) on total PSE would need to be analysed.

Since market price support is the basic component determining the PSEs, changes in this element are the most important determinant of the changes in PSEs. Change in market price support is the combined result of changes in domestic prices, world prices and the exchange rate. Domestic prices of the products examined increased roughly in nominal terms. Changes in world prices (in US$) during the period observed were small. Because the Romanian lei depreciated there were increases in world prices in terms of national currency which were larger than the increase in internal prices. As a result, the price gap between domestic prices and world prices in national currency became bigger in nominal terms but smaller in percentage terms.

Due to the large size of the components in relation to the total PSEs for all the products examined, it is difficult to determine their impact on changes in PSEs on the basis of component share analysis. It is also impossible to make any conclusions concerning the changes in the influence of the components on PSEs. Nevertheless it is obvious that the distortions of the price system during the transition period have continued to be large. The change of the impact of the components of PSEs can be determined and analysed only by decomposition of the changes in PSEs.

Transfers to Agricultural Producers

During the first year of the transition period budgetary transfers to crop producers were negative. In spite of the deficiency payments for cereals which existed in 1990 the total amount of payments received was lower (98 million lei) than taxes paid by the producers of the crops examined (102.2 million lei). In later years the net budgetary payments to crop producers were positive. In July 1993 a value-added tax was introduced under which agricultural products are taxed at 18 %.

Transfers from Agricultural Producers

Analysis of the transfers from farmers shows that the largest part of these went to the processing sectors. Between the beginning and end of the period under study there was an increase in the share of total transfers from crop producers which went to crop processors.

The share of transfers from crop producers which went to crop exporters decreased. In the transfers to downstream sectors it was found that there was a significant change in the pattern of disposal of the products in favour of exports. There were also changes in the structure of the unit transfers for the crops examined but in the aggregate these were swamped by the high share of wheat in total transfers.

During the period 1990-1993, the PSEs of the products examined and for agriculture as a whole in Romania were negative. Government expenditure on agriculture was substantial and producers were exempt from taxes during the first two years, but these measures did not offset the distortions of the price system and the export restrictions which led to a large gap between domestic and world prices.

In 1991 PSEs for agriculture and for the products examined remained negative, but there was a small increase as a percentage of output. Total transfers from producers as ratios of value of output

at domestic prices declined in general for crop production.

In 1992 and 1993 the process of price liberalisation continued. Domestic prices went up and the exchange rate of lei to the US$ increased. Total government expenditure in favour of agriculture was smaller than in 1991 but total PSE for agriculture increased.

Some of the measures taken by the Government during this period which were intended mainly to affect consumer prices of the main foods (such as minimum farm-gate prices) have led to a substantial negative impact on producers without having much positive effect on consumers.

In spite of the transformations in agricultural policy during the transition, the changes in the level of distortions in the domestic price system up to 1993 have been small. The continuous discrimination against agriculture in Romania was largely the result of the effects of macroeconomic and trade policies.

5. Conclusions

Agriculture has played a leading role in Romania's transformation to a market economy, and the government in turn has maintained a strong presence in the agricultural sector. The Government controls pricing policies, direct credit, provision of subsidised inputs and services, and the activities of large State-owned procurement, storage, and input provision companies. Over the last few years, a large volume of legislation has been passed establishing new institutions and the statutory framework needed to govern public and private activities in a market environment. Price setting has been largely liberalised and a new tariff code adopted, with tariffs becoming the main instrument of trade policy. Some of the main objectives of agricultural policy are the increase of agricultural output, the modernisation of equipment and technology in agriculture, and the acquisition of access to EU and international markets.

Romania has traditionally been a major producer of both grain and livestock. The dissolution of the majority of cooperative farms in 1990 and the subsequent privatisation of about 80% of agricultural land are among the most important changes in agriculture. Farm sizes are now very small, holdings are fragmented and there is a large class of urban-dwelling owners of rural land. Over time, the establishment of an effective land market should bring consolidation of holdings, but the lack of a land registry and slow process of establishment of land titles make this a long process.

One important finding of this study is that the imperfect operation of the free market and the poor organisation of the distribution channels have allowed Romcereal and Government agencies to keep the monopolistic position of the State in purchasing agricultural products. Hence, the State agricultural fund purchases up to 50% of the main agricultural products for a guaranteed procurement price and up to 90% of the sugar beet and sunflower.

The procurement price established by the State is generally lower than the world price for most of the agricultural products. The absence of opportunities in the domestic markets as a result of the monopolistic position of the State increases the structural disadvantage of agriculture within the existing national macro-economic environment. As a consequence, an increase in agricultural output exceeding domestic needs for cereals led the cereal price in the free market to fall below the procurement price at the end of the1994 harvest, thus transforming the procurement price into a guaranteed minimum price.

Romania's Interim Agreement on Trade with the EU which came into effect in May 1993 brought about some changes in the agricultural sector. Basic agricultural products were granted preferential access to EU markets through exemptions or reductions of customs duties and variable levies. Customs duties were abolished for processed agricultural products, and variable levies were scheduled to be reduced progressively up to 60%.

It would appear from an overall perspective that the economic impact of the Agreement will be useful for Romania. It stipulates a period of time within which Romania must fulfil certain obligations necessary for future accession into the European Union. However, this means acceleration of the reform process, and it is not certain that all conditions can be satisfied by 1996, the final year for an evaluation of the state of progress.

A second finding is that tariffs are generally low, and the authorities have avoided the use of quantitative restrictions on imports despite difficulties with the balance of payments. A number of export quotas and bans on exports exist but these have been steadily reduced in number. At the beginning of 1994, the Government reintroduced trade restrictions on a small number of agricultural products, including wheat and maize. These bans on the export of wheat and maize are part of a policy of maintaining domestic supplies.

Thirdly, the study indicates that there is an indirect taxation in agriculture which is growing over time. The Government distorts the relative prices of the commodities examined. Pricing policies are influenced by certain enterprise-integrators and lead to domestic prices that are different from the corresponding international prices.

The study also shows that the changes in agricultural policy have brought confusion and uncertainty. A well-designed strategy which is more transparent and aimed at revitalising agriculture through market liberalisation, accelerating entry of private companies, and establishing wider competition, would serve to promote efficiency and accelerate sector growth.

An important strategy for Romanian agriculture, jointly developed by the Romanian authorities as well as the IBRD, EBRD, EU and EC-Phare, was discussed in Bucharest in January, 1994. The main recommendations were: reduction of the transition period by accelerating the privatisation process and creating the conditions and mechanisms of a market environment, the ending of agricultural reform, the formulation of a national food policy in order to ensure national food security, and the introduction of a new price system. Romania has faced a long agenda of reforms in this period of transition to a market economy based on the recommendations.

The measures taken by the Government concerning the agricultural price policy were initially intended to protect consumer prices of the main foods, but have led to a substantial negative impact on producers without having much of a positive effect on consumers. The level of distortions in the domestic price system remains large and they are not greatly affected by the changes in agricultural policy.

The necessity to provide an agricultural support system in Romania in order to increase farm incomes arises at a moment when in the world, and especially in Europe, the classic agricultural support models based on market price support are being eliminated. For this reason Romania has to find an appropriate support system which is in accordance with the GATT and the Europe Agreements.

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