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# AGRICULTURAL PRICE REFORM UNDER TRANSITION IN BULGARIA, ROMANIA AND SLOVENIA: INTRODUCTION AND OVERVIEW

George Mergos

## ABSTRACT

This introductory chapter explains the rationale behind, and objectives of, the research reported in this volume, and provides an overview and synopsis of the findings. The aim of the research was the acquisition of information concerning the operation of the agricultural price system under transition, the degree of adjustment of prices to equilibrium levels, and the responsiveness of agricultural supply and of food demand systems to changes in agricultural prices. This objective is of value for reasons of theory and policy. The research was conducted in three countries - Bulgaria, Romania and Slovenia - which exhibit significant differences in their levels of development, the nature of their institutions and the economic conditions prevailing at the beginning of the transition, and in the reform policies followed.

The results indicate that in Bulgaria and Romania, long delays in introducing institutional reforms brought about the retention of non-competitive elements in the market structure which did not allow the agricultural markets and the agricultural price system to function properly. In Slovenia, price responsiveness of agricultural supply is substantial and price adjustment to equilibrium levels significant, while price response of agricultural supply in Bulgaria is very low with factors other than prices having a stronger impact on production. Also, a significant increase in subsistence farming was observed in Bulgaria and Romania, where agriculture assumed the role of an employment buffer to widespread and increasing unemployment. The decline observed in food consumption in all three countries is attributed mainly to the decline in real incomes rather than to the increase in food prices. Rural poverty has increased in Romania and Bulgaria, but it is mainly related to the incomplete process of institutional reform rather than to agricultural price policy measures. Finally, in explanation of the difference in performance of the three countries, the importance of the roles played by macro-economic stability and institutional factors in Slovenia's relative success in agricultural transition should be emphasised.

## Keywords:

AGRICULTURAL PRICES, TRANSITION ECONOMIES, PRICE REFORMS, BULGARIA, ROMANIA, SLOVENIA.

## 1. Agricultural Price Reforms under Transition

The pre-reform agricultural and food policy system in the Central and Eastern European Countries (CEECs) was geared to supply the urban population with a pre-determined basket of food items at prices which were deemed reasonable. The target food basket was dominated by livestock products, particularly meat. The food consumption targets determined agro-processing capacity and this, together with non-processed commodities consumed, determined target<sup>1</sup> output and regional land allocation. For several products regional self-sufficiency was also targeted.

<sup>1</sup> See World Bank (1990) and World Bank (1994) for extensive presentation of the pre-reform agricultural and food system (sometimes called agro-food system) in Poland and Romania, respectively. Also, Swinnen (1994) presents an

Under the economic system of central planning, governments used three mechanisms to achieve food policy goals. The first was retail price controls accomplished through a cost-plus pricing system at the various levels of the food chain. The second mechanism comprised a procurement system by State intervention agencies and State-controlled agro-processors. The third mechanism consisted of controls of commodity availability in the domestic market and strict administration of foreign trade. The result of this extensive control of the food chain was that prices did not play any role in informing producers or consumers or in allocating resources. Domestic food prices were thus extensively subsidised and domestic agricultural prices were much lower than border parity prices, while producers were partly compensated with low administered input prices.

The transition from a socialist to a market-based agriculture is a complex and multi-faceted process that raises many difficult issues. These include not only the change in farm structure and the privatisation of land and upstream and downstream industries, but most importantly, the establishment of an incentive framework and the development of markets, along with appropriate institutional changes and reforms. Many countries embarked on land privatisation and the creation of a new farm structure without the necessary incentive framework in place, thus undermining the viability of the new private farm units. The new incentive framework is needed to guide the evolution of a new, efficient farm structure, and to encourage an increase in production and productivity.

Price liberalisation, introduced as a central element of the reform and the transition to a market economy, and intended to provide such an incentive framework, includes general price decontrol in the economy; agricultural performance depends more on economy-wide policies than on sector-specific policies and measures. The process and pace of such price decontrol, however, has been a much-debated issue.

It should be stressed that overall economic performance and macro-policies (such as exchange rate, fiscal and monetary policies) have a strong impact on the structure and the performance of agriculture as well as that of all other productive sectors<sup>4</sup>. There are two types of economy-wide policies that establish the incentive framework throughout the economy and affect all sectors, though not necessarily in equal measure. Firstly, there are stabilisation policies, which aim to correct macro-economic and monetary sector imbalances. Secondly, there are adjustment policies that aim to deal with distortions in incentives, such as the elimination of price controls, operation of markets and trade liberalisation policies. Price reforms specific to the agricultural sector also involved abolition of food subsidies and domestic market controls, as well as the discontinuation of restrictive trade practices and the procurement system in a effort to improve the functioning of the price system.

Agricultural and food price liberalisation was also considered the main reason for the rapid inflation observed immediately after the beginning of the transition in almost all transition economies. Initially, prices were liberalised and consumer prices soared, while real incomes declined, leading to a strong reduction in domestic demand.

However on the issue of inflation, as pointed out by Maresse (1993), it makes little sense to blame only the reform of the regulated prices for the creation of the inflationary spiral. The high inflation that occurred in the transition economies is mainly the result of the monetary overhang of the pre-1989

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analysis, at country level, of pre-transition agricultural structures, along with early transition measures undertaken in several CEECs.

<sup>2</sup> See Swinnen (1994) for the policy mechanisms in several CEECs and early measures for reform and transition to market.

<sup>3</sup> Fischer and Gelb (1991) consider the various elements of the reform, of which price and market reform is only one, and venture to make a proposal for sequencing the reforms that is important for the pace and outcome of the transition, while others deliberately avoid this issue (see for example Boshworth and Offer, 1995). Fisher and Gelb suggest macro-economic stabilisation and control as the first reform to be undertaken and McKinnon (1991) agrees with this suggestion. However, many countries have got the order of reform wrong and created distorted incentive systems, leading to rent-seeking behaviour that prolonged the exit from the transition (Gelb et al., 1998).

<sup>4</sup> See Krueger *et al.* (1991, pp. 328-340) for methods measuring the impact of sector-specific pricing policies and of economy-wide policies on agricultural incentives.



period and the inability to improve financial discipline on State or cooperative enterprises. It is also the result of the reluctance to restructure the State-owned enterprises which created the inflationary pressures central authorities were unable to resist. At an early date, McKinnon (1991) suggested the importance of macro-economic and monetary stabilisation as a prerequisite of liberalisation.

Responding to pressures from the population, transition economies started to introduce measures to control food prices. Some countries began to operate price support mechanisms on an *ad hoc* basis and agricultural policies exhibited characteristics of the pre-reform system applied in a market-type environment.<sup>5</sup> In later stages some countries moved from *ad hoc* policies to comprehensive support policies within the constraints imposed by international agreements (Association Agreements with the EU, membership of the WTO etc.). Certain countries moved further in regional free trade agreements.

The impact of agricultural price reforms varied considerably between countries as a result of delays in the introduction of competitive elements into the economy, mainly that of the demonopolisation of agro-processing, as well as in the introduction of new marketing and retail structures, and farm restructuring. Although there was an initial confusion as to whether privatisation would be sufficient for the operation of a market economy, it was soon realised that privatisation without demonopolisation could not lead to the competitive operation of the markets, because under such conditions monopolistic and monopsonistic elements were retained in the economy, distorting the operation of the price system.

The process of introducing market reforms in agriculture was not uniform; the operation of the agricultural sector over the entire transition period lacked the institutional framework present in market economies and the price signals only partly performed their function of linking producer and consumer decisions, and thus guiding resource allocation. As a result the operation of the economy under transition retains several monopolistic and monopsonistic elements that blur price signals and introduce inefficiencies. Under such conditions, the effectiveness of price policy is questionable and there is a need for rigorous empirical work on the operation of the price system.

Supply and demand elasticity estimates constitute the cornerstone of any agricultural price policy analysis. However, knowledge of the producers' and consumers' response to policy-induced price changes under transition is extremely limited, although its importance in the definition and selection of appropriate price policies is well understood.

The response of agricultural supply and food demand to policy reform is also the subject of interest in the EU, where the budgetary costs of the accession of the CEECs and their adoption of the Common Agricultural Policy (CAP) in some shape or form have been the subject of some controversy. Furthermore, the supply consequences of the adoption of some future CAP following EU accession may be incompatible with the GATT Agreement commitments.

Changes in agricultural product prices obviously have implications for food consumers. Under transition, as a result of inflation, most CEECs have seen sharp increases in the real prices of basic foodstuffs and sharp decreases in real incomes. This has reduced food demand, especially for livestock products, adding further to the cost-price squeeze on agricultural production, and prompting concern about diet and poverty, especially among vulnerable groups within society.

Despite liberalisation, agricultural price policy responses in the CEECs have included an array of price and margin controls and subsidies in response to pressures from consumers or other population

<sup>5</sup> See Swinnen (1997a and 1997b) for a political economy-based approach to the evolution of agricultural price policies in the CEECs from initial "fire brigade" policies to more comprehensive agricultural support policies.

<sup>6</sup> For example the Visegrad countries established the Central European Free Trade Area (CEFTA), see Biskup (1994).

<sup>7</sup> Petit and Brooks (1994) pointed out the need for policy analysis to be based upon empirical foundations and noted that the lack of empirical research has adverse effects on policy analysis.

groups. Once again, without an awareness of the responsiveness of supply and demand to real price and income changes the potential impact of such measures cannot be predicted. Thus, the acquisition of information concerning the operation of the agricultural price system, the degree of adjustment of prices to equilibrium levels, and the likely response of agricultural supply and food demand to changes in prices is of value for reasons of theory and policy. This is precisely the central objective of this research effort.

Analysing the operation of the agricultural price system under transition is a difficult task for two main reasons: (i) our analytical tools are designed for a market economy, thus without proper adjustments their application may not be appropriate where an economy lacking the institutional foundations usually assumed in a market economy is concerned, and (ii) any quantitative analysis would require data that may not be available or reliable in a transition economy. As no alternative options are available, it may be necessary to proceed with the analysis of price reforms using established analytical tools and available data, taking into account such caveats and limitations.

The main issues addressed in the context of this study of agricultural price reforms are the following: (i) the institutional framework of the agricultural markets and of the operation of the price system and the extent to which elements of the pre-reform system have been retained, (ii) the price responsiveness of agricultural supply and the extent to which subsistence production has increased, (iii) the price and income responsiveness of food demand and whether the decline observed in consumption is attributable to price or income changes, (iv) how prices are formed and whether actual prices during transition diverge from supply-demand clearing prices, (v) the extent of rural poverty and whether it is linked to the operation of the agricultural price system, and (vi) the magnitude of agricultural protection and the possible implications for the prospective accession to the EU and the adoption of the Common Agricultural Policy.

## 2. Analysing Price Reforms

### Methodological considerations

The first methodological issue to be considered is whether conventional methods are applicable in the analysis of agricultural price policies in transition economies. Such conventional approaches assume the operation of a competitive market economy and, despite many market imperfections, an efficient operation of the price system. However, agricultural markets in transition economies may not function efficiently because the main institutional foundations usually assumed in a market economy are lacking. Main markets such as the land or the credit market are absent, while others are riddled with monopolistic and monopsonistic elements or pervasive government interventions. Lerner (1972) warned that it is a mistake to consider that market institutions spring up automatically in every place. Consequently it is also a mistake to think that a market economy is created simply by privatisation. The market economy should be considered as the end-product of a long, time-consuming process which involves significant adjustments and social costs.

However, one should distinguish between the need for a theory to underpin the process of reform (see for example Murrell, 1991) and the theoretical foundation of the analysis of agent behaviour. There is widespread use of neoclassical economic analysis in countries undergoing reform which is aimed at an explanation of agent behaviour (see for example, McMillan *et al.* 1989, who analyse the impact of price policy reforms in China)<sup>8</sup>. Recently, however, institutional approaches have received

<sup>8</sup> China implemented agricultural reforms with the use of a two-tier price system, comprising a State-determined procurement price and a market-determined price. The first was used for obligatory procurements of pre-specified quantities and the second was negotiated freely in the market for quantities produced over and above those required for procurement for the State processors. This system, also known as the "household responsibility system" was used to establish incentives to induce increasing production and productivity in the agricultural sector (see Liu Guoguang *et al.* 1985, pp. 162-163).

increasing attention.

The second main problem facing conventional quantitative analysis of agricultural and food policies in transition economies comprises the structural breaks observed in economic behaviour. While the economic transition makes a knowledge of agricultural supply and of food demand responses to price of vital importance for policy analysis, the structural breaks in fundamental economic behaviour which it entails make modelling problematic (see Hallam, 1998). Economic and econometric modelling typically presume a stable economic structure which is clearly not present in most CEECs.

Furthermore, there may be little detailed and reliable data available, especially that concerning prices for either pre- or post-reform periods, to allow econometric analysis of agricultural supply response. Given the dramatic structural changes in the agricultural sectors of the CEECs and the limitations of the data available, it is apparent that detailed economic modelling may not be appropriate or possible. As has been pointed out, 'best practice is simply not an option'. If there is scope for econometric analysis it is likely to be confined to capturing basic and aggregated relationships, *employing simple models in terms of selection of variables, and functional and dynamic specification* (Hallam, 1998).

Time series modelling of food demand faces similar problems and constraints, although household survey data, if available, provide an alternative. Economic time series are difficult to interpret when major structural breaks occur, unless refined techniques are introduced to take such instability into account. Whenever time series data are available, in the form of budget shares computed from National Accounts, their use is not recommended due to the radical change in the operation of the economy and the price system. Under the prevailing circumstances the most appropriate source for the analysis of food demand, nutrition and poverty issues is a *household expenditure/budgetary survey*. These surveys, which record food and non-food expenditure at the household level along with the demographic composition of the household, have been criticised as being affected by biases and reliability problems, especially in the case of Central and Eastern European countries<sup>9</sup>.

The problem of data reliability can become more severe within the context of high own-consumption and a flourishing underground economy. Several studies have analysed food demand under conditions of structural adjustment and can provide some insight into problems of data and methodology. Very few studies have estimated price and income elasticities for food demand in Central and Eastern European countries.

### Issues addressed

Most of the literature on agricultural price policies in market economies is focused on the causes, measurement and impact of agricultural protection (see Anderson and Hayami, 1986; Krueger *et al.*, 1991). The theoretical issue is to explain why most developing countries have adopted policies that implicitly tax agriculture, while most developed countries have adopted policies subsidising agriculture (Anderson and Hayami, 1986). The importance of macro-economic prices (interest rate, exchange rate, general price level, and wage rate) in the distortion of agricultural prices is now well understood. However, proceeding with a similar analysis in a transition economy would be difficult or perhaps irrelevant without first addressing issues of market development and price responsiveness. For this reason the approach initially poses some basic questions. It addresses five research issues, as follows.

The first issue is the presentation of the process of reform, the operation of the agricultural markets and the main trends of agricultural prices. The objective is to describe the institutional framework of the price system, the extent to which elements of the pre-reform price system have been retained and how they affect the operation of the agricultural price system during transition.

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<sup>9</sup> See Hallam and Mergos (1997).



The second issue is the price responsiveness of agricultural supply. If primary producers do not respond to price changes or if price signals are not transmitted to market agents because of lack of markets or of market imperfections, then supply response would be limited and the effectiveness of price policy questionable. One particular concern of the research was the scope for application of standard dynamic econometric models in the analysis of agricultural supply response for Bulgaria, Romania and Slovenia. While such models have been widely applied, their applicability in the context of agricultural sectors in transition where structural breaks are present, and time series data are in any case limited is uncertain.

The third issue is the price responsiveness of food demand and the explanation of the decline observed in food consumption. Food price liberalisation has been the most difficult and perhaps the most painful element of change in the transition process and its impact at the micro-level has been very strong, affecting both the welfare of people and their attitudes towards reform. The realignment of severely distorted food prices and the changes in real income levels had considerable impact on the structure of food consumption and nutrition, and significant implications for household welfare. As food still constitutes a large proportion of total consumption expenditure in several transition economies, analysis of own-price, cross-price, and income effects at the micro-level becomes fundamental for an assessment of the impact of price policies on welfare. Thus, an understanding of the evolution of food demand is vitally important for the definition of food policy. An assessment of the suitability of a particular methodology in the context of the macroeconomic adjustment process cannot ignore the severe data limitations and the prerequisites of flexibility and computational ease. Data availability is a major constraint; the use of time series is inappropriate, as a result of the radical change in the operation of the economy and the price system since the beginning of the reform.

The fourth issue is an examination of price convergence towards equilibrium, of how agricultural prices were formed, and how the price formation mechanism is functioning in the new economic environment of transition. The objective is to examine the diversion of actual prices from supply-demand clearing prices and the balance of forces determining the equilibrium prices (total cost or excess demand-supply). Given the data limitations and market imperfections already discussed, different models are tested and the efficiency of the transition to market is studied. Exchange rate and macro-economic considerations are also included.

The fifth aspect of the research is the consideration of the social and welfare dimensions of agricultural price reform. The various population groups are affected by price liberalisation in different ways, hence strong inequalities are observed when the cost of transition is considered. Studies in several transition countries indicate that some of the most vulnerable groups are agricultural households with little or no land in the rural areas, pensioners in the urban areas, and wage earners with children. Poverty in the rural areas is an extremely important factor for the design and implementation of agricultural price policies because of its differential impact on population groups depending upon their access to land. Within this context it is important to determine the number, incidence and features of the rural and urban poor and how agricultural price reforms and policy have an impact on rural and urban welfare.

Finally, some policy considerations are examined. The aim is to analyse the impact of agricultural policy measures on relative domestic-border prices and to estimate the rate of protection or taxation of agriculture from price policy measures. The methodology followed comprises the well-known approach of PSE calculation (Producer Subsidy Equivalent) and it is used to measure the impact of agricultural policy on price incentives<sup>10</sup>. Knowledge of the extent of intervention in the price system is helpful for the design and implementation of price policies along the agro-food chain. Finally, some future policy options are considered in view of the prospective accession to the EU and adoption of

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<sup>10</sup> See, however, Harley (1996) for a discussion on the use of the PSE methodology in transition economies and its limitations.

the Common Agricultural Policy. On the assumption that there will be a further reform of the CAP, conditioned by continuing trade liberalisation and EU enlargement, the issue is to define policy options which will ease the convergence of agricultural policies with those of the EU.

### Countries

The study includes three countries, Bulgaria, Romania and Slovenia, with particular characteristics that are very relevant to the research questions addressed.

Slovenia is the most developed of the three countries and has achieved a relatively rapid transition. It is one of the smaller countries of Europe and established its independence in 1991 from the former Yugoslavia. It has the highest level of per capita GDP of all the transition economies of Eastern Europe and the former Soviet Union (EBRD, 1997). The decline of its economy during the transition was modest compared to that of all other transition economies.

Slovenia is also the most advanced in terms of reform and transition to market of all transition economies. This may at least be partly related to the fact that market-orientated reforms had a long history in former Yugoslavia<sup>11</sup>. During the socialist period the former Yugoslavia exhibited a significant number of the characteristics of a market economy and the extent of central planning was limited, since self-management socialism had become the foundation of economic policy as early as 1950 (Estrin, 1991; Lavigne, 1995, p. 25). Also, the process of collectivisation of agriculture was abandoned very early, in 1953 (Bojnec, 1996), and as a result, the extent of central planning in the agro-food sector assumed less importance than in any other socialist economy. Furthermore, the relative importance of agriculture in the economy is very small, less than 4% of GDP and 10% of employment.

Bulgaria has a traditionally strong agricultural sector and is well-endowed with natural agricultural resources. In the pre-1989 period it was considered the garden of Eastern Europe. At the beginning of the transition agriculture was seen as an engine of economic recovery and growth. Now, after several years of reform, much less is expected of agriculture, although its role in the economy and the social life of the country is still quite strong. At the end of the socialist period the contribution of agriculture to the economy was about 11% of GDP and 22% of employment, but during the transition period the share of agriculture in GDP and employment increased (Davidova, 1994).

The Bulgarian economy started the transition to market economy from a very strict central planning system in all aspects of the agricultural and food sector. The social sector (State and collective farms) dominated at farm level, while food processing, input supply, trade and marketing were organised into large agro-industrial monopolies, one for each sector at the country level with regional production and processing units. Alongside this heavily centralised structure there were 1.6 million private plots mainly used by households for the production of own-consumed food (Davidova, 1994). In addition, Bulgaria adopted one of the most radical land reforms with restitution of land to the legal owners and the liquidation of collectives, but significantly delayed the restructuring of the food industry and the input supply system. Thus from the beginning the viability of small private farms that were faced with continuing non-competitive market structures was limited.

Romania, one of the largest countries of Eastern Europe, has a strong agricultural sector, excellent resources and good export potential. However, economic policy in the socialist period placed excessive emphasis on industry at the expense of agriculture with severe consequences for the operation of the agro-food system. Furthermore, the "Ceausescu era" marked a partial departure from the traditional centrally-planned economy towards an inward-looking, hypercentralised and politically regressive regime (Ben-Ner and Montias, 1991). The share of agriculture in GDP increased

<sup>11</sup> Estrin places the start of the Yugoslav transition in 1952 (Estrin, 1991, p. 188). There is a great volume of literature on the self-management socialism of the former Yugoslavia, also called market socialism. Economic policy in the former Yugoslavia aimed to combine socialist ownership and control with the market mechanism.



from 14% in 1989 to 20% in 1992. Agricultural employment varies considerably according to definition, but it has increased during the transition because the overall employment situation deteriorated sharply over the period, forcing the agricultural sector to assume the role of an employment buffer as a result of widespread and increasing unemployment (World Bank, 1994).

The agriculture of Romania prior to 1989 was characterised by the well-known dual structure of large scale social farm units and highly labour intensive, small scale private household production. In addition, small-scale commercial and local service activities in villages and towns were eliminated as a matter of policy, resulting in a dependence of the population on State-supplied goods and services (World Bank, 1994).

The economic characteristics of the three countries and the conditions which initially prevailed during their transition differ because of the various types of socialism which were applied in them. Murrell (1991) has pointed out that the transition is burdened with the legacies of the past, and the operation of the agricultural price system during transition cannot but reflect the pace of institutional reform. Thus, such national differences are helpful in the context of this study.

### **3. Overview of the Research and Results**

It was our ambition to examine all six issues addressed in the context of this study, in each of the three countries. Given the different level of market development and the differences in the reform policies followed in the three countries, generalisation would be possible and inferences could be made with certainty and with wider applicability of the results. Despite the difficulties encountered, this approach has been maintained and the results, structured by theme, are presented in the six parts of this volume. Each part addresses one issue and includes papers that cover all three countries. Whenever possible a methodological paper is also included. An overview of the results is given below.

#### **Markets and prices under transition**

Part I provides a description of the process of the reform, the development of markets and the evolution of agricultural prices under transition. It consists of three contributions on agricultural reform, markets and prices, one for each country, i.e. Slovenia, Bulgaria, and Romania. The papers describe the process of agricultural price and market reform, the institutional framework of the price system, the extent to which elements of the pre-reform price system have been retained and how they affect the operation of the agricultural price system during transition.

The paper on Slovenia shows that the transition to the market economy is proceeding successfully. Agriculture, although of relatively low importance in the economy, is important in the regions and the rural areas. No serious transitional problems were experienced since farming in Slovenia was largely under private ownership before transition, as was also the case in Poland. The further rationalisation of the farm structure will probably be hampered by the high unemployment rate that prevails in the economy and by the tendency of small farmers to hold on to their land. In the future, self-sufficiency will probably increase, but it is likely that the country will remain a net importer of food and agricultural products. The objectives of agricultural policy are increasingly being aligned to the CAP; direct payments are gradually being increased and input subsidies slowly reduced.

The situation in Bulgaria and Romania contrasts sharply with that in Slovenia. In Bulgaria the transition to market has been engulfed by the overall political developments and macro-economic instability which it has engendered. This had a major negative impact on agricultural reform and prevented lofty aspirations and objectives concerning the benefits of reform from being realised in practice. Furthermore, and perhaps also following on from the political instability, land privatisation

was not accompanied by the necessary institutional and legal adjustments and the privatisation of the upstream and downstream sectors<sup>12</sup>. The most important policy adjustment was made with respect to trade, when the State monopoly was removed, but other policies such as the imposition of export taxes negated its potentially beneficial effects. It was considered that a new structural policy was now needed to give renewed impetus to the reform process, and it was also pointed out that radical land reform and market imperfections might have a strongly adverse impact on production.

In the case of Romania, there was also a strong adverse impact on agricultural reform from the unstable political and macro-economic environment. There were long delays in the process of reform of the agricultural sector, credit and input distribution, and product and input marketing systems. These delays have maintained non-competitive market structures which did not allow the price system to function properly and play its informatory role.

### **Analysis of agricultural supply**

Part II examines the operation of agricultural prices as incentives in the production and supply of agricultural commodities. The research objectives are two-fold: (i) to obtain estimates of supply elasticities for major agricultural products in the three countries concerned, and (ii) to analyse the impact of the process of transition on agricultural supply responsiveness.

The selection of an appropriate methodology for supply response analysis, given the circumstances of the three countries, was the first research task. At early stages the decision was taken to pursue an econometric approach. However, the scope for applying conventional techniques of supply response modelling was much constrained by problems of structural breaks which accompanied transition and the ensuing instability, and by data limitations. A particular data-related problem is the lack of homogeneity and availability of time series of observations of adequate length, defined in a consistent way. For Slovenia, with its history of more gradual evolution, conventional methods were applicable with due allowance for the possibility of structural breaks. In fact the analysis of structural breaks formed an important part of the Slovenian research. For Bulgaria and Romania pre-transition observations were largely irrelevant to the post-transition situation while the post-transition period provides too few observations for pure time series analysis. However, the possibility of using post-transition pooled regional cross-section and time series data was explored in these cases. For Bulgaria, simple supply relationships were estimated in this way, and yielded interesting results. Unfortunately, this did not prove possible for Romania due to further data-related problems.

In terms of the specific research objectives, broadly satisfactory parameter estimates were obtained for Slovenia and Bulgaria, but not for Romania. These estimates provide some basis for predicting the effects of agricultural policy changes, and might be incorporated into simple synthetic models of agricultural markets in the two countries. However, it is extremely difficult to disentangle the effects of price changes on supply response from the general effects of the disruption of transition. It should also be borne in mind that the estimates are mainly based on data for periods of declining prices and production. It is not clear that reversibility can be assumed and that responses to rising prices would be as great. Modelling the impact of the transition process itself on supply responsiveness was only possible for Slovenia, and this provided the most interesting research results.

### **Analysis of food demand**

Part III provides an analysis of food consumption, demand and welfare in the three countries. The effect of relative price changes and radical changes in real incomes was a considerable instability in

<sup>12</sup> As Brooks points out, the prerequisites for efficient functioning of markets may not exist in a transition economy and markets may fail, not because of defects in the market system but because the necessary institutional framework within which the markets operate is not properly established. Such a basic institutional framework includes, for example, the absence of market power, well-defined property rights, legal and enforcement systems, transparent market information, and basic levels of management skills (Brooks, 1995, p. 494).

food consumption patterns in transition economies. The estimation of price and income elasticities for policy analysis is essential although their interpretation for policy purposes should be made with extreme caution, given: (i) the quality of the data, and (ii) the continuous macro-economic instability, which inevitably has spillover effects on food consumption patterns, especially in countries such as Romania and Bulgaria.

The structure of food consumption is different in the three countries under analysis. The share of food consumption expenditure in total expenditure is lowest in Slovenia when compared to that in other Central and Eastern European countries, and amongst the highest in Bulgaria and Romania (ranging from 35-60%), depending on the income group. Meat consumption is comparatively high in Slovenia whilst bread consumption is high in Romania and Bulgaria. An exact comparison of food structures is not possible, given the variation in availability and disaggregation of the data among the three countries.

All three studies used budget surveys. However, whilst in Slovenia it was possible to estimate and compare elasticities before and after the transition (1988 and 1993), this was not the case in Bulgaria and Romania. In these two countries the period under analysis is that from 1990/91 to 1994. A major difference in methodology is that, whereas the quality of the data in Slovenia permitted the estimation of a demand system, this was not possible in Romania and Bulgaria and Engel functions were estimated instead. Thus, the results from Slovenia cannot be directly compared with those from the other two countries, although a comparison is possible between Bulgaria and Romania. For Bulgaria, own and cross-price elasticities were estimated using the Frisch method but yielded unstable results due to the difficulty in estimating the Frisch parameter.

Furthermore, analysis of the Romanian study focused only on food items purchased by households through the market, while that of the Bulgarian study also included food items produced by the household. This household (subsistence) production on small private plots, also prevalent under socialism, has been maintained and has increased in importance, both in production and consumption. Subsistence production accounts for a large part of total food consumption in both Bulgaria and Romania, especially, but not only, in the rural areas.

In Slovenia, expenditure elasticities range between 0.7 (meat) and 1.4 (milk). Bread and cereals, vegetables and other food have an expenditure elasticity close to one. Own price elasticities were generally in accordance with the theory. Most cross-price elasticities are inelastic and close to zero. In the case of Bulgaria, income elasticities vary from 0.36 (oil and fats) to 1.40 (potatoes). The high elasticities for potatoes is questionable and needs further investigation. The elasticity for milk is considered rather low, as is that for meat for the low income groups.

These results are rather different from those obtained by the Romanian study, although a direct comparison is difficult due to different product aggregates. The elasticity for bread is very low for wage earners. The estimates for meat products are similar in both countries (although in the case of wage earners the results for meat are more disaggregated). There is some inconsistency in the product coverage (at least in the reported results) between wage-earners and peasant families.

In the case of Romania, the results obtained from the semi-log and the double-log do not differ fundamentally between income groups for all product categories, although there are some noticeable differences in the case of low income agricultural families. Future food demand analysis in this country should focus on this vulnerable group. Given the data constraints in Romania and Bulgaria and in spite of methodological limitations, the two papers provide useful information about the food demand behaviour of households in the two countries.

### **Agricultural price adjustment**

Part IV examines the extent of diversion of actual agricultural prices from supply-demand clearing prices. Adjustments of administered prices and price liberalisation have played an important part in



reforming socialist economies. Price reforms have been undertaken for several purposes: to alleviate shortages associated with queues, to correct relative price imbalances that lead to a less efficient allocation of resources, and to eliminate or reduce commodity subsidies. In some cases, prices have simply been freed and allowed to adjust to market clearing levels. In other cases the authorities have adjusted administered prices while maintaining some degree of restriction or control over them.

The analysis examined the diversion of actual prices from market clearing prices. The results indicate a shift of the operation of the agricultural price system towards a market determination of prices. The econometric estimation results for Bulgaria show that for many products the impact of total cost on price formation is declining during the transition period; on the other hand the impact of excess demand is increasing for all the products that were considered in the study. The results of the model indicate the existence of an important structural break in the determination of agricultural prices in Bulgaria. This structural break, which is observed in the years following the beginning of transition, confirms that a transformation of the price formation mechanism is actually taking place in Bulgaria, leading the agricultural sector towards a liberalised mechanism of price determination.

The use of estimated models for the evaluation of the equilibrium prices of agricultural products in Slovenia shows that price determination for all the agricultural products examined in the paper, except wine, potatoes and poultry meat, is influenced by policy interventions. For wine grapes, apples and milk the difference between the observed and the market clearing price was close to 30% in 1994. The prices of wine, potatoes and poultry meat would have been lower during the period studied (i.e. 1991-1994) by about 60%, 27% and 15% respectively. Finally, for maize and cattle meat it seems that the observed prices were very close to the market clearing price. The model was also used to evaluate the policy to be followed as far as the exchange rate is concerned. The comparison of the price to an average international import-export price converted into domestic currency shows that even if the price evolution of each agricultural product is different, the Purchasing Power Parity (PPP) approach would have required a revaluation of the national currency in 1992 and a devaluation of the exchange rate in 1993.

### **Social dimensions**

Part V considers whether poverty has increased and if it is related to the operation of the agricultural price system. In this context, the main questions generally discussed in the paper are: (i) the nature and extent of poverty and the relationship between agricultural growth and poverty alleviation, (ii) how poverty can be alleviated or decreased with equity, (iii) unemployment trends for men and women, (iv) social aspects of the transition with a focus on agricultural price policies, and (v) analysis of poverty in Slovenia and a comparison of experiences in Slovenia, Bulgaria and Romania.

In the case of Bulgaria and Romania, the incomplete process of land reform, the lack of agricultural credit for smallholders, the lack of marketing and credit cooperatives for smallholders, and the lack of legislation facilitating and regulating the open market, make it practically impossible to assess the impact of agricultural policies on agricultural production, employment and incomes in rural areas. The data available for these two countries indicate that agricultural prices have limited impact on agricultural production because of limited price transmission. The situation in Slovenia is different and there are no relevant sociological studies that could help assess the social and economic impact of agricultural prices. It seems that there is a need in all three countries to undertake detailed poverty studies and to assess the impact of targeted interventions aimed at the alleviation of poverty among different vulnerable groups, including farm households with female heads and farm households in which women are the farm managers.

The second paper aims to measure the extent of poverty and inequality in Slovenia before and after transition, using Household Budget survey data. The results show that irrespective of the method used to determine the poverty line, inequality and poverty have increased slightly between 1988 and 1993.

The paper on Romania describes food consumption and poverty in Romania based on secondary analysis from Household Budget surveys. The results indicate that poverty has increased, that rural poverty is extensive and subsistence production is widespread.

### **Policy aspects**

Part VI measures the extent of agricultural protection during transition using the conventional Producer Subsidy Equivalent (PSE) methodology. There are several objections raised for the use of such methodology in transition economies (see Harley, 1996), but its results are interpreted with caution. According to the results, agricultural protection as measured by the PSE in a transition economy depends heavily on the movements of the exchange rate. In a stable macro-economic environment PSE calculations provide an indication of the impact of agricultural and trade policies on the spread between border and domestic prices. Under macro-economic instability, however, the PSE calculation may be misleading because large fluctuations in the exchange rate lead to large movements in the estimates of agricultural protection.

The two countries for which the PSE calculation was undertaken, Slovenia and Romania, provide interesting results. In Slovenia, which achieved macro-economic and exchange rate stability very early in the transition process, protection is positive for all commodities. In fact protection levels do not differ from OECD average protection levels and are slightly lower than those for the EU. The tone of the paper is that a further increase in protection should be expected in Slovenia in the future.

The paper on Romania examines protection levels for the main annual crops of the country, i.e. cereals and oilseeds. The results show a significant negative protection in all products examined. It is interesting to see that the study attributes the negative protection at least in part to the low integration of the market and to government interventions aimed at the protection of the consumer from inflation. Low market integration is attributed to the poor organisation of the distribution channels that have allowed State-owned enterprises, such as Romcereal, to maintain their monopolistic and monopsonistic powers. It also indicates that changes in agricultural policy have brought confusion and uncertainty and highlights a demand for more transparency in policy-making.

The final paper examines the issues and policy options that the three countries face during their transition, in view of their prospective future accession to EU and adoption of the Common Agricultural Policy (CAP). Given the assumption that there will be further reform of the CAP conditioned by continuing trade liberalisation and EU enlargement, the paper discusses policy options for Bulgaria, Romania and Slovenia which will ease the convergence of their policies with those of the EU. Protection levels in Slovenia are, as explained above, quite similar to those of the EU. By and large, the agricultural sector in the other two countries (Romania and Bulgaria) attracts much less support than would be available under a reformed CAP, and participation in the CAP is therefore likely to bring positive rather than negative effects. Nevertheless, the low price responsiveness of production and supply found by this study indicates that production response might be limited. While the GATT commitments impose certain limits on the options available, the two countries are faced with two contrasting choices. The first is that they could move closer to the current policy regime in the EU with the level of support and policy instruments it entails. This assumes that the present nature of this policy will continue, which would encourage an expansion in production so as to strengthen the negotiating capacity of the respective countries at the time of preparation for accession. The second broad choice would entail keeping intervention to a minimum, mainly supporting infrastructural and institutional development and the reduction or elimination of market failures or imperfections.

The more appropriate and realistic approach is to adopt the latter route as the shape of the CAP at

the exact time of accession will more than likely be very different to that of today<sup>13</sup>. Within that scenario the achievement of higher levels of productivity and competitiveness should be promoted with as little price and market support as possible. However, the key to putting a better framework for agricultural development in place is the establishment of a stable macro-economic environment. This would stimulate demand, encourage investment, and provide a better environment for the introduction of more competition in the upstream and downstream sectors of the agricultural economy. Slovenia has been more successful in this respect than Bulgaria and Romania, although progress in the two countries has been significant in recent years.

#### 4. Concluding Remarks

The aim of this chapter is to explain the rationale and objectives behind the research which forms the basis of this volume, and to summarise and comment on the results. The subject of the research was an analysis of the operation of the agricultural price system under transition to a market economy in Slovenia, Bulgaria and Romania. The process and extent of agricultural price reforms has, from the beginning of the transition, been the most contentious issue in the discussion of transition strategies. However, the lack of previous experience and empirical evidence did not enable the debate to be founded on sustained empirical underpinning.

The research reported here aims to contribute to this objective by providing information and empirical evidence on the operation of the price system in the three countries. Its purpose was the acquisition of information concerning the operation of the agricultural price system under transition, the degree of adjustment of agricultural prices to equilibrium levels, the price responsiveness of agricultural supply, and also the responsiveness of food demand systems to changes in prices and incomes. Such research is of value for reasons of theory and policy. It is believed that the empirical results reported in this volume will enhance the growing body of literature on economic transition, as well as provide empirical evidence in support of policy decisions and choice of strategies for countries coming late to transition.

The research was conducted in three countries - Bulgaria, Romania and Slovenia - which exhibit significant differences with regard to their levels of development, the conditions which initially prevailed in them at the beginning of transition, and the reform policies followed. The results indicate that despite early measures for price liberalisation, the agricultural price system of the countries under study exhibited significant elements of the pre-reform economic organisation long after the introduction of market reforms. In particular, due to long delays in institutional reform non-competitive elements were retained in the market structure which did not allow the agricultural markets and the agricultural price system to function properly in Bulgaria and Romania.

In Slovenia, price responsiveness of agricultural supply is substantial, and price adjustment to equilibrium levels significant. However, price response of agricultural supply in Bulgaria is rather low with other factors having stronger impact on production than prices. Also, an increase of subsistence farming was observed in Bulgaria and Romania, where agriculture assumed the role of an employment buffer to widespread and increasing unemployment.

The decline observed in food consumption after the reform is attributed mainly to the collapse in incomes rather than to the increase in food prices. Rural poverty has increased in Romania and Bulgaria, but it is related mainly to the incomplete process of the reform rather than to agricultural price policy measures.

Finally, in explaining the difference in performance between the three countries, the importance of

<sup>13</sup> See also Mergos (1998) for a discussion of the agricultural dimensions of EU enlargement to the East. Baldwin (1994) also presents a much broader spectrum of the issues related to the creation of a new and more integrated Europe and to the various options for the integration and accession of the CEECs into EU.



institutional factors in Slovenia's relative success in agricultural transition should be emphasised. The wide spectrum of institutional changes that were required for the establishment of a market economy in Bulgaria and Romania led to political, and furthermore macro-economic instability that did not allow the price system to function properly. In contrast, the institutional changes that Slovenia had to undertake for the establishment of a market economy were limited, in comparison to those taken in Bulgaria and Romania; the private sector had played a much greater role in the pre-reform period in the former Yugoslavia where a "self-management" type of socialism was practiced with less strict central planning. Further research, however, is needed to allow generalisations to be made from these results and lead to specific policy recommendations.

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