

EMERGING  
ECONOMIES  
TRANSITION

# Review of Agricultural Policies

## BULGARIA

AGRICULTURE AND FOOD



OECD



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*Review of  
Agricultural Policies*

**BULGARIA**



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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## FOREWORD

Bulgaria is a significant exporter of agriculture and food products in central and eastern Europe. Agriculture is an important sector in the economy and accounts for almost one-fifth of GDP and about one-quarter of total employment. During the transition decade, the sector has undergone major structural changes with privatisation of all elements in the food chain almost completed. But productivity and investment have fallen sharply. The second phase of restructuring has begun with great efforts being made to modernise the sector and to improve efficiency and competitiveness in line with Bulgaria's comparative advantage. The overarching goal of agricultural policymakers in Bulgaria is to prepare the sector for integration into the EU and the global market.

In this first comprehensive review of Bulgarian agricultural policies during the transition decade, the OECD analyses the agro-food sector developments in close collaboration with Bulgarian experts. The Review draws conclusions and makes specific recommendations to help Bulgarian agricultural policy-makers design and implement effective and efficient policy reforms. While considerable progress has been made in stabilising the macroeconomic situation and implementing reforms since 1997, efforts need to be reinforced in several areas. In particular policies should aim to improve market infrastructure especially in rural areas, facilitate access to credit markets, and ameliorate the efficiency of the food-processing sector.

This *Review of Bulgaria's Agricultural Policies* was undertaken in the framework of the OECD's Centre for co-operation with Non-Members, and was made possible through a voluntary contribution from the Netherlands. Michael Ryan of the OECD's Directorate for Food, Agriculture and Fisheries led the study with contributions from Claude Nenert. Technical and secretarial assistance was provided by Anita Lari. Several Bulgarian experts, including Nedka Ivanova, Diana Kopeva, Plamen Mishev, Izide Petrova, Antoaneta Simova and Hrabrin Bachev from the Institute of Agricultural Economics and Miroslava Georgieva from the Ministry of Agriculture and Forestry provided substantial input. Siemen van Berkum from the Agricultural Economics Research Institute in The Hague also contributed to this *Review*. The study greatly benefited from being reviewed by Sophia Davidova, Wye College, as well as from comments by several Bulgarian experts from the Ministry of Agriculture and Forestry.

The draft study was reviewed in a roundtable with Bulgarian officials and experts in Sofia in July 2000. Subsequently, the draft report was examined by members of the Working Party on Agricultural Policies and Markets of the Committee for Agriculture, meeting in an informal session in September 2000 and involved policy-makers from Bulgaria and OECD Member countries. The Review is published under the responsibility of the Secretary-General of the OECD.

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## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The 40-year monopoly of the Bulgarian Communist Party ended in 1989, and Bulgaria started its journey to becoming a multiparty parliamentary republic and a market economy. During the early transition years Bulgaria endured much political instability. The first post-communist governments took a gradualist approach to economic and structural reforms and the whole process remained rather fragile. In the early transition period limited progress was made in developing a market-based system. In the mid-1990s, with the onset of the currency crisis, food shortages and rising unemployment led to an increase in social unrest. In 1997 a new government coalition came to power and introduced radical economic and structural reforms. With the support of international institutions a currency board was established, the exchange rate was fixed and tight fiscal policies were introduced. Implementation of the new programme of economic reform has resulted in a dramatic fall in the inflation rate, acceleration in the privatisation of state owned enterprises, and a return to modest economic growth over the past three years. The crisis in Kosovo in 1998, however, has dampened the economic recovery in Bulgaria through its adverse affect on trade and foreign investment flows.

While privatisation of the agro-food sector is largely completed, much restructuring remains to be done, especially in the upstream sector. Privatisation of agricultural land took place mainly via the restitution process, and this has resulted in severe fragmentation in land ownership, which is a cause of general concern. A dual farm structure is emerging in Bulgaria, similar to that in several other Central and Eastern European countries. Most of the agricultural land is farmed in large private commercial or co-operative units, while a smaller, but significant amount of land is operated as subsistence units. Further restructuring of the food processing sector is of utmost importance due to the low level of productivity arising from the excess processing capacity, outdated plant and equipment, and low levels of investment in the sector. Bulgaria, like Hungary, is a net exporter of agricultural and food products, albeit at a much reduced level compared to the pre-reform period. The composition of exports has also changed. With the exception of wine, the bulk of exports consists of lower value added commodity products, while imports are primarily higher value added food products.

Agriculture is an important sector in the Bulgarian economy as reflected in its high share of economic activity 17% of GDP and 26% of employment in 1999. During the transition decade the sector has played an important role as a social buffer to rising levels of unemployment. With the relatively low level of labour productivity in agriculture and the need for further restructuring, one of the high priorities of the Bulgarian government is to accelerate the pace of development of off-farm employment opportunities for those leaving agriculture. Another concern is the low level of foreign direct investment in Bulgaria in general, and in the agro-food sector in particular. The removal of the remaining price and trade restrictions on agricultural products in 1997 were an important move toward less distorted markets, and this should speed-up the pace of restructuring, improve efficiency, and encourage greater investment in the sector.

The level of support to agriculture over the period 1986-1999 indicates that Bulgarian agriculture was heavily supported in the pre-reform period, like in all other Central and Eastern European countries, but was taxed during the transition period, up to and including 1997. With the removal of the implicit tax on agriculture in 1997, the sector has been operating in a fairly neutral policy environmental in recent years, notwithstanding the inefficiencies of the downstream food processing sector and infrastructure deficiencies.

Bulgaria, along with several other CEECs, started EU accession negotiations in 1999. In preparation for accession, Bulgaria is in the process of implementing the SAPARD, which should help facilitate adjustment in agriculture and rural areas to the internal European market. Substantial benefits can be got from greater efforts and investment in improving general physical infrastructure and in human capital. With open trade and few price distorting policies, Bulgaria is well placed to improve efficiency and competitiveness in the agro-food sector in advance of accession.

## A. The economic and agricultural situation

### 1. Macroeconomic situation

*The gradualist approach to economic reforms led to delays in macroeconomic stabilisation and in implementing structural reforms*

Political instability during the first half of the 1990s hindered progress in macroeconomic adjustment and microeconomic restructuring. The lack of a consistent and coherent programme for domestic policy, and for structural and institutional reforms had an adverse effect on all branches of the economy, including the agro-food sector. Despite these difficulties, several attempts were made to introduce market reforms in the early 1990s. These involved some liberalisation of prices and foreign trade, the introduction of a floating exchange rate system and the partial convertibility of the Bulgarian Lev. However, fundamental structural reforms were rather timid and the overall economic situation continued to deteriorate with a severe contraction in output.

*Implementation of the currency board regime in 1997 led to economic stabilisation and modest growth*

Following the currency crisis in 1996/97, the new government adopted a radical programme of economic reforms. This included the creation of a currency board, tighter controls on public expenditures and an acceleration in the pace of privatisation. These measures have resulted in an improvement in the overall economic situation. After the decline in GDP in 1996 and 1997, GDP growth was modest in 1998 and 1999, at 3.5% and 2.4%, respectively. For 2000 and 2001 GDP is projected to rise by 4.5% and 5% respectively, driven by a recovery in exports and an increase in foreign investment. The currency board arrangements contributed to a dramatic reduction in the inflation rate from 579% in 1997 to less than 1% in 1998. A small increase in the inflation rate was recorded in 1999, and this upward trend is expected to continue in 2000. The collapse of the Russian market and the crisis in Kosovo have contributed to the slow pace of economic recovery and a rise in the trade deficit. Moreover, the high level of external debt payments will constrain economic growth in the medium term.

*Privatisation has been largely completed, but, a deeper restructuring of enterprises remains to be done*

Since the beginning of 1998 the pace of privatisation has picked-up, and by mid-2000 most of the former state owned enterprises were in private hands. In spite of the change in ownership, restructuring to-date has been rather limited: a deeper and more fundamental restructuring of the newly privatised enterprises will have to take place in order to improve the efficiency and competitiveness of the industrial and agro-food sectors. Furthermore, the lack of investment continues to impede the modernisation and development of the economy. Per capita foreign direct investment is one of the lowest of any Central and Eastern European country. High and rising unemployment levels are expected to continue to be one of the most pressing problems facing Bulgaria in the immediate future, especially in the light of the substantial enterprise restructuring that remains to be completed.

### 2. Agriculture in the economy

*Agriculture plays an important role in the Bulgarian economy*

Historically, agriculture has been the backbone of the Bulgarian economy. During the transition decade the share of agriculture and forestry in GDP has fluctuated widely, and more than doubled between 1993 and 1997 to reach 27% of GDP, before falling back to about 17% in 1999. Many factors have contributed to these gyrations including the large changes in other sectors of the economy, de-capitalisation of agricultural production, and wide fluctuations in output from year to year. During the transition period agricultural output has fallen to about

60% of the pre-reform level, with the livestock sector exhibiting a deeper fall than the crop sector. The rise in employment in agriculture (to 26% in 1999) together with a fall in agriculture's share of GDP, indicates a fall in labour productivity in the sector. Moreover, with the rise in subsistence farming, Bulgaria's agriculture has become more labour intensive. Agriculture has acted as an important social buffer to rising levels of unemployment during the transition decade. Nevertheless, the high level of hidden unemployment is contributing to the growing concerns of increased poverty in many rural areas.

Prices for most products, including agricultural inputs, were liberalised in 1991. This resulted in a substantial increase in input prices, while output price increases were restricted up until 1997. The resulting price-cost squeeze severely penalised agricultural producers over this period. This resulted in a substantial decline in output, as well as in the use of inputs such as fertilisers and agro-chemicals. The price-cost squeeze in Bulgaria was more severe and of longer duration than in many of the other Central and Eastern European countries. With the elimination of almost all price and trade restrictions in 1997 there has been a substantial improvement in the terms of trade for most agricultural products, and consequently some improvement in farm incomes over the last two years.

The volume of GAO has been very volatile during the 1990s, with much of the volatility due to wide fluctuations in crop production. The fall in output in the early transition years was similar to that in most of the other CEECs. However, the recovery has been slower due to several factors, including the agricultural policies applied, the slow pace of land restitution, the underdeveloped state of agricultural markets, as well as the difficulties encountered in obtaining working capital and getting access to export markets. While some changes have taken place in the structure of agricultural production during the 1990s, nevertheless, the shares of crop and livestock production in total output have remained fairly stable at about 50% each.

Crop production is dominated by grains and pulses, which together account for about 60% of the arable land, followed by industrial crops, tobacco, perennial crops and vegetables. Of the main crops, there have been substantial declines in the production of grains, tobacco, fruits, wine grapes and sugar beet, while production of potatoes, vegetables and sunflower has increased. Production of milk and meat products has also fallen sharply during the transition period. The fall in production during the 1990s can be attributed to the decline in demand for agricultural products, as well as the general disruptions arising from the implementation of the land reforms.

The agro-food-processing sector performed poorly during the 1990s. With the fall in agricultural output and the collapse of export markets, the large processing capacities that were inherited from the old regime resulted in severe over-capacity in the industry. In addition, a large number of small local processing enterprises were established, especially in the meat and milk industries during the transition period. Moreover, the lack of investment during the 1990s has resulted in a deterioration in plant and equipment, and many of the technologies have become outdated and are unsuitable to meet the challenges of a free market. A lack of marketing expertise and know-how in most enterprises has further complicated the process, and in many instances the quality and range of

*The price-cost squeeze severely penalised agricultural producers*

*Slow recovery in agricultural output*

*Wide fluctuations in crop production amplified by the reduced use of fertilisers and chemicals*

*Inefficiencies and lack of investment are a cause of concern in the food processing sector*

products produced are poorly suited to western markets. Inefficiencies in production and processing, and under-utilisation of capacities increase overall costs and reduce significantly the price competitiveness of Bulgarian food products. Like all other CEECs, consumption of food has fallen markedly in Bulgaria over the transition decade. The largest decline has been for meat and livestock products, while consumption of fruits and vegetables has remained fairly stable, and in some cases has increased.

## B. Agro-food foreign trade

### 1. Trade flows

*Bulgaria is a net food exporter, but...*

*... the net balance continues to shrink*

*Restrictions on prices and trade, as well as inconsistencies in the quantity and quality of production have impeded the development of export markets*

*Exports are confined to a narrow range of products*

*The EU is Bulgaria's most important trading partner*

Historically, Bulgaria has been a significant net exporter of agricultural and food products, and this trend continued during the 1990s, albeit at a much lower level. Of the CEECs, only Bulgaria and Hungary have remained net food exporters during the 1990s. With the sharp fall in agricultural exports, and to a lesser extent imports, the net balance on agro-food trade shrank from USD 1.4 billion in 1989 to about USD 287 million in 1999. This decline in the net balance on agricultural trade during the 1990s can be attributed to several factors including changes in trade relations, especially in the early transition years, frequent changes in macroeconomic, trade, and exchange rate policies, as well as wide fluctuations in agricultural output.

Prior to 1997 a plethora of domestic price controls and export restrictions such as licensing, export taxes, and bans depressed production and trade in some agricultural and food products. The lack of consistency in the quality and quantity of agricultural products, arising from the uncertainties associated with the privatisation and restructuring of agriculture has also been a barrier to developing export markets. Additional factors that have impeded exports of agro-food products include the lack of marketing infrastructure (market channels, market information, etc.), non-tariff barriers in the importing countries, bureaucratic barriers, as well as the financial crisis in Russia and the crisis in Kosovo.

Exports and imports of agricultural and food products in 1999 were only one-third to one-quarter of their levels in 1989. Nevertheless, their shares of total exports and imports have remained fairly stable at 16% and 6% respectively, reflecting the general decline in overall trade. The agricultural sector has specialised in the production and export of several products, especially wine, tobacco, fruits and vegetables, as well as wheat and sunflower seed in some years. Although Bulgaria is on balance a net exporter of grains, large quantities of wheat were imported in 1996 and 1997 in response to shortages of bread grains. Traditionally, Bulgaria had been an exporter of value added processed food products, but during the 1990s this trend has been reversed, and with the exception of wine, the bulk of exports now consist of commodity products.

Since the advent of reforms, there have been substantial changes in the direction of trade, with a reorientation of exports and imports away from Russia and the New Independent States and towards OECD countries. The European Union has become Bulgaria's most important trading partner in agricultural and food products, and in 1999 accounted for about one-third of Bulgaria's total agro-food trade. Although the EU's share of Bulgarian agro-food exports has increased

during the 1990s, the total value of exports has remained relatively stable since 1992.

## 2. Trade relations

Bulgaria's most important strategic goal is to become a full member of the European Union. In this context, one of the most important agreements is the Europe Agreement, which was signed in 1993. While the trade part of this Agreement has contributed to the increase in agro-food flows between Bulgaria and the European Union during the 1990s, in overall terms, this increase has been quite modest. Exports of agricultural and food products to the EU increased by less than one-fifth between 1990 and 1999. Most of the preferential product quotas for Bulgarian exports to the EU remain unfilled, and this is a cause of general concern in Bulgaria. On 1 July 2000, the "double-zero" trade agreement between the EU and Bulgaria came into force. In essence, this Agreement results in almost two-thirds of Bulgarian agricultural exports to the EU being duty free, while over half of EU agricultural exports to Bulgaria will take place free of import duties. It is expected that this Agreement will stimulate an increase in trade in agro-food products between Bulgaria and the EU.

*The impact on trade flows of the Europe Agreement with the EU has been disappointing*

Bulgaria became a full member of the WTO in December 1996. Currently, Bulgaria is in the process of implementing its commitments under the three pillars of the Uruguay Round Agreement on Agriculture. Concerning market access, tariff bindings were set well above the effective level of protection for the implementation period. At present, bound rates or rates close to the bound level are applied to a limited number of sensitive products, such as dairy and poultry. The simple average of the tariff bindings in Bulgaria's schedule is higher than those in the EU for all of the four main chapters for agriculture. However, for selected tariff lines (wheat, barley, refined sugar, butter, milk powder, etc.), the bound rates in the EU are substantially higher than Bulgaria's over the implementation period. Bulgaria has made its Aggregate Measure of Support (AMS) and export subsidy budgetary outlay commitments in euros. Effectively, bound commitments are due to fall from 635 million euros in 1997 to 520 euros in 2001. At this juncture, it is estimated that AMS support is well below the annual commitment.

*Implementation of its WTO commitments has not constrained policy developments in the agro-food sector*

## C. Agro-food privatisation and restructuring

### 1. Emerging farm structure

Farm restructuring in Bulgaria involved two steps: decollectivisation and privatisation. Decollectivisation consisted of restitution of land used by the collective farms within the Agro-Industrial Complexes (AIC) to previous owners or their heirs, reallocation of their non-land assets to eligible owners, and privatisation of state-owned land through sale or lease. The process of privatisation included the privatisation of the large state owned agricultural complexes and mechanisation services, as well as enterprises in the upstream and downstream sectors.

*Privatisation of agricultural land has been slow...*

The restitution of land ownership rights was launched in February 1991 with the adoption of the Law for Agricultural Land Ownership and Land Use. Effectively, this Law provided the legal framework for private sector development in agriculture. The main goals of the law were to reconstitute land ownership rights, and to distribute non-land assets. At a later stage the Law was amended and incorporated a goal to liquidate the old co-operative farms. The Law was designed on

*... and very complex in Bulgaria*



the basis of historic justice, *i.e.* to restore ownership and property rights to former (pre-communist era) owners and their heirs. Efficiency objectives have not played an important role in the transformation process.

**Although land restitution has been completed...**

**... the new private individual farmers face many difficulties**

The pace of land restitution was slow in the early 1990s, due to the complexities of the privatisation process. Several factors contributed to the slow pace of restitution, including complex, restrictive and ambiguous laws and regulations, poor management of the process, difficulties in the delineation of land, disputes, and an inadequate operating budget. With the amendments to the law in 1992 some of the restrictions causing delays were removed. However, the introduction of further amendments in the following years resulted in the pace of restitution remaining slow. The pace of land restitution slowed especially in 1997 due to the contradictory amendments to the law, which related to the approval of the re-allocation plans. Since 1998 the process has accelerated and by the end of 1999 practically all agricultural land, subject to restitution, was in private hands. Despite this progress, many difficulties remain, including the high-cost and time-consuming approach for the implementation of land ownership transactions. The process has resulted in an increase in land ownership fragmentation, and policies to speed up land consolidation through the development of an active land market are being considered.

#### *Transformation of collective farms*

**Many small private land owners, up-to 1999, allowed their land to be farmed as part of production co-operatives**

About one-quarter of the claimed land was restituted in old boundaries and the rest through land re-allocation plans. The principle of restitution of land to former owners and the risky economic environment have induced a significant increase in the number of newly established production co-operatives since the transformation process started. In 1998 there were over 3 200 new co-operatives registered and these accounted for over two-fifths of all arable land. In the absence of a well functioning land market many of the new landowners did not have any alternative, but to join co-operatives or to liquidate their holdings. The new co-operatives can be divided into two broad categories; member-oriented and market-oriented co-operatives. More than 40% of the new owners allow their land to be farmed by the newly established production co-operatives, and most are employed outside agriculture.

#### *Privatisation of state farms*

**Most of the agricultural land operated by State farms was never nationalised**

At the end of the 1980s state owned land accounted for almost one-fifth of all arable land. When restoration of land ownership started, it became clear that most of the agricultural land operated by state farms had never been nationalised. Therefore, individuals, municipalities and other legal entities claimed part of the land in state farms. In 1998 there were 264 state farms and these accounted for about 4% of the arable land. The majority of the state owned farms are machinery and tractor service stations, while the remainder are intensive pig and poultry units and have no agricultural land. Apart from a small amount of land, which will remain under state control for research, privatisation of the rest of the state owned land is nearing completion.

### *Development of private farming*

Agriculture has undergone a significant transformation in the 1990s. From a structure based on large-scale agro-industrial complexes, it has been transformed into one based on private co-operatives, private individual farms and farming companies. By the end of 1998, private farms accounted for 81% of agricultural land, 96% of arable land and 97% of permanent crops and 29% of pastures. Within the emerging farm structure there is extreme duality. Large farms (state, private co-operatives and private individual farms) farm almost 85% of agricultural land, while 1.8 million small-holders farm about 15% of the land. The large number of very small or subsistence farms have an important social function for the rural and urban population. Although their future viability as agricultural producers seems to be limited, nevertheless they play an important role as self-sufficient units that help to maintain stable rural communities.

*A dual farm structure is emerging...*

*... with a large number of small subsistence farms*

## **2. Land market**

Bulgaria attempted to combine the demand for full property rights from those who formally owned the land with equity considerations and this culminated in a fairly equitable distribution of land. While the initial reallocation of assets was politically driven, further restructuring of the farm sector and the achievement of economic efficiency depends on the functioning of the land market. The process of land restitution has resulted in a highly fragmented land ownership pattern.

*Highly fragmented land ownership structure is emerging*

The land use pattern, however, is much less fragmented, as much of the arable land is farmed in quite large units due to the proliferation of producer co-operatives, and both formal and informal leasing arrangements. While the legal framework for the functioning of a land market has been completed, an active agricultural land market does not yet exist. A number of obstacles continue to hinder the development of an active land market including low profitability in the sector, high transaction costs, as well as difficulties in finding collateral and credit for the purchase of land. In recent years the lease/rental market has developed quite rapidly and has played an important role in the emergence of private individual farms. While the first stage of restructuring and restitution has been completed, the next stage of farm ownership consolidation has just begun.

*There are a number of obstacles to the development of a well functioning land market*

## **3. Privatisation of upstream and downstream industries**

In the upstream and downstream sectors, the main objective of the privatisation process was the abolition of the state monopoly by changing the ownership of assets from state to private hands. The approach taken has been a combination of cash sales and mass (coupon) privatisation. Social justice objectives, such as protecting employment in the restructured enterprises, or distributing the “national wealth” over the population was an important concern, as was the economic objectives such as improving efficiency and attracting capital for modernisation. The restructuring and de-monopolisation of the state enterprises in the upstream and downstream industries started in 1992, but the process advanced rather slowly. In mid-1997 the government accelerated the pace of privatisation by simplifying the procedures and by setting specific targets. With the exception of electricity, irrigation water supplies and tobacco processing, almost all the enterprises in the upstream and downstream sectors have been privatised (or liquidated). Many small local and regional processing enterprises have been established, especially in the dairy and meat industries.

*The food processing industry is characterised by low capacity utilisation and obsolete technology...*

*... low FDI and poor market infrastructure...*

*... and some increase in vertical linkages*

*Agricultural policies in the pre-reform period revolved around meeting obligatory production quotas*

*Policies applied prior to 1997 relied on price controls and trade restrictions to ensure adequate supplies of food*

*All restrictions were abolished with the introduction of the new policy reforms in 1997*

Despite the significant fall in production, the large processing capacity established during the pre-reform period has been maintained. For many products, the capacity utilisation has been low in recent years, ranging from 10% to 25% for the canning, milk and meat processing industries. The food-processing sector faces many problems including the lack of investment, low productivity, over capacity, as well as obsolete plant and equipment. In an attempt to improve the marketing system and to increase competition in the food-processing sector, efforts have been made to develop wholesale markets in the larger cities and towns. Most of these wholesale markets are aimed at small-scale producers, especially of fruits and vegetables. In recent years there has been some growth in vertical linkages between agriculture and the downstream food-processing sector.

## **D. Agricultural policies**

### **1. Policies in the pre-reform period**

The main goals of agricultural policy in the pre-reform period were to ensure sufficient supplies of food to the urban population, as well as to the processing industry, and to meet Bulgaria's export obligations to CMEA countries. The main instrument for achieving these goals was the central plan, which was based on an obligatory system of production quotas. Agricultural and food prices, as well as the prices of all other products were centrally determined for all stages of the food chain. One of the main goals of agricultural policy in the 1980s was to provide production incentives, while at the same time maintaining the fundamentals of the centrally planned system. These changes were aimed at decentralising the decision making process, and allowing small-scale private activity based on private property and modification of the price setting mechanism.

### **2. Agricultural policy objectives in the reform period**

Since the start of the reforms in 1990, one of the major goals of agro-food policies in Bulgaria has been to secure an adequate supply of basic foodstuffs, at low prices, for domestic consumers. To achieve this goal, different measures, mainly in the form of price controls and trade restrictions, have been used. The priority of the government during the transition period was the revitalisation of the economy in general, and agriculture in particular, through the development of the private sector and the implementation of market principles. Agricultural policies and policy instruments have been changed frequently during the 1990s in response to the short term objectives of successive governments, as well as to offset temporary supply imbalances on the domestic market. As a result, on several occasions the policies implemented were not in line with the stated priorities and objectives. In general, policies tended to be more reactive to immediate problems than to follow a clear and consistent strategy for the development of the agro-food sector. This inconsistency between the policy goals and measures applied led to delays in reforming the agro-food sector, and contributed to the sharp decline in production in the first half of the 1990s. Since 1997 the policy measures implemented have been aimed at stabilising the economy and are more consistent with the stated longer term goals of developing an efficient and competitive export oriented agriculture; improving the incomes of those engaged in agriculture and forestry; and, preparing for EU accession.

### 3. New policy instruments

A wide range of policy instruments have been used to implement agro-food policies including minimum prices, ceiling prices, export bans, taxes and quotas, licensing, as well as credit subsidies. In mid-1995 the *Law for the Protection of Agricultural Producers* (LPAP) was adopted. This Law outlines the principles and policy instruments for supporting production and trade in agro-food products. The State Fund for Agriculture (SFA) was established as a specific institution for financing agricultural development. Since 1996 financial support has focused on two main areas, subsidised credits and advance payments for contracted production, mainly grains. However, in practice, priority was given to the second area. In 1998, the LPAP (1995) was abolished and a new Law was introduced. The new Law broadened the scope for support to farmers and included possibilities for support through structural measures, scientific and organisational services, as well as programmes aimed at improving education and training. Preferential credit facilities were also expanded to include collateral support. Market price support and market interventions have been excluded from the new Law.

#### *Price and market regulation measures*

Agricultural price liberalisation in Bulgaria was inconsistent and quite sporadic. In Bulgaria, as in several other CEECs, social goals played a large role in determining price policies. The design and implementation of price policies was more a reactive process to specific events than part of a well co-ordinated and coherent programme for the development of the agricultural sector. Price policy reform over the last decade can be divided into four distinct phases: 1989-1991, price and margin controls were maintained, while there was some freeing of prices for certain products; 1991-1995, almost full liberalisation of price and trade policies economy-wide, but continued control of consumer prices for basic food products, accompanied by macroeconomic instability; 1995-1997, guaranteed floor prices based on the LPAP and the Price Law, accompanied by severe macroeconomic instability, accelerating inflation rates and *ad hoc* changes in trade policies; and 1997-1999, complete liberalisation of all output prices and macroeconomic stability. The current commodity policies in Bulgaria are based on the liberal philosophy that direct intervention in input and output markets should be avoided. The general policy objective is to promote the development of market infrastructure and to proceed with government intervention only in the event of market failure.

#### *Trade measures*

At the beginning of 1991 the state monopoly on foreign trade was abolished, and all economic agents could become involved in foreign trade. A new import tariff system based on the Harmonised Commodity Description and Coding system was implemented in 1992. This new system consisted of two key elements: the Most Favoured Nation rates (MFN), and the Generalised System of Preferences (GSP).

*The State Fund for Agriculture has been established to provide support to farmers...*

*... but, direct intervention in agricultural markets has been abandoned*

*Liberalisation of prices has been inconsistent and often sporadic prior to 1997...*

*... however, the new policies achieved full liberalisation and are aimed at developing market infrastructure*

*The plethora of export restrictions used in the 1990s have been abolished...*

**... and trade in agro-food products is now subject to the commitments under various bilateral and multilateral agreements**

Like most CEECs, Bulgaria has used an array of administrative controls and border measures to regulate the markets for agricultural and food products during the 1990s. In the transition decade, trade in agro-food products has been subject to different regulations like temporary export bans, quantitative restrictions on exports and imports, exemptions from import duties or reduced import duties, export taxes, and up to 1994, for some products, minimum export or import prices. Prior to 1997, for most products, the foreign trade regime was characterised by short-term measures and inconsistencies, *e.g.* while exports have been prevented by export impediments, imports have at the same time been restricted by import duties.

In general, the short term management of domestic food balances has had a negative effect on farm output and prices. At the end of 1996, Bulgaria acceded to the WTO and this was accompanied by the introduction of a new customs tariff. In 1997, all restrictive border measures were abolished in line with the adoption of policies aimed at stabilising the economy and the implementation of a more open trade regime.

#### *Credit and investment policies*

**Difficult access to commercial credit continues to be a major constraint to agricultural development...**

Since the beginning of reforms the Bulgarian government has made several attempts to improve access to credit for agricultural producers. However, due to the lack of collateral, low profitability of agricultural production, and macroeconomic uncertainty, commercial banks consider lending to agriculture as high-risk. Moreover, access to credit has been further hampered during the transition decade by the underdeveloped banking sector, as well as the lack of credit resources.

**... some short term preferential credits are provided to grain producers**

The provision of subsidised credit and loan guarantees to farmers has been an important part of the overall agricultural policy framework. Most of the preferential credits have been in the form of short term credits for spring and autumn plantings and to facilitate harvesting. For many private farmers, the lack of access to credit for medium and long term investments has severely restricted the development of their farms. Over the last decade investment in rural infrastructure has fallen sharply. Despite the provision of some public funds for irrigation, the area under irrigation has continued to fall. Moreover, much of the irrigation system is inefficient and is severely damaged due to the lack of maintenance.

**Implementation of the warehouse receipts system should improve liquidity**

In an attempt to increase liquidity to grain growers, a warehouse receipt system was established in 1998 by adoption of the legislative base. This system is based on licensed public warehouses that are entitled to issue receipts to farmers for grain storage. The warehouse receipts can then be used as collateral for loans from commercial banks. In practice, this gives farmers the opportunity to use credits for working capital without being forced to sell their crops immediately after the harvest.

#### **4. General services**

##### *Research, education and training*

**Modernisation of agricultural research, education and training is a high priority...**

The extensive agricultural research, education and training system that was developed in the pre-reform period faces severe financial difficulties as a result of reduced state funding. There has been limited success in attempts to modernise agricultural research and to encourage greater private financing of research and education. Some restructuring of the former research and development institutions has taken place and the management and financial

responsibilities have been transferred to the Ministry of Agriculture and Forestry. So far, however, there is no coherent policy for the development of private agricultural research and education. The number of students fell sharply during the 1990s, and this has resulted in excess capacity in many agricultural schools. Many of the universities lack modern academic infrastructure, financial resources and staff to provide high quality education. Moreover, most of the programmes offered and specialisations are still limited to the conventional agronomic areas. Modernisation of the system of agricultural education is a high priority in Bulgaria, and efforts are on-going to restructure the system.

*... but, inadequate funding and co-ordination continue to impede the process*

#### *Extension service*

In the pre-reform period agricultural extension was an intricate part of the various development programmes and was carried out by research institutions and experimental stations of the Agricultural Academy, agricultural universities and producer organisations. Since the introduction of reforms, there has been a growing demand for a specialised extension service to provide advice in new farming methods to the rapidly increasing number of private farmers, many of whom lack experience in managing a business, as well as in using new technologies, machinery and chemicals. In 1995 the National Agricultural Advisory Service (NAAS) was formed as a joint project between MAF and the Academy. Four national centres and three specialised advisory services were established and nine regional advisory offices and 30 local offices were located in the regional departments of MAF. However, due to a lack of financial resources, the service has been experiencing severe difficulties in recent years. The current extension service provides assistance to only a small number of producers. So far, there has been little participation by farmers and farm organisations in the management and financing of the extension service. The role of the extension service is likely to increase in the future with the priority being given to the medium size market oriented farmers.

*The extension service provides assistance to only a small number of farmers...*

*... but, demand for the service is growing*

#### *Marketing systems*

In 1991 the large state monopolies in agricultural inputs and in marketing and distribution, were dismantled. The wholesale and retail market channels were privatised and this resulted in the emergence of a large number of new private traders. In many regions, new forms of marketing have evolved such as long term contracts, formal and informal wholesalers, trade with warehouse deposits, futures, etc. All these have intensified marketing transactions and increased the overall level of efficiency. Several municipalities have also been successful in modernising the marketing structures through privatisation of the trading facilities, the reconstruction of farmers markets and the organisation of promotions and fairs, etc. Traditional farmers markets have become more important in retail trade especially as regards fresh fruits and vegetables. Under the new legislation, the market authorities are obliged to provide daily information to customers about wholesale prices in the different regions. While small individual subsistence farms market only a small proportion of their products at street markets or to retail outlets, the large producers often engage in direct contracting to processors or to wholesalers. The majority of small and medium size farms face serious marketing problems because of their small size and consequently weak market position.

*A range of different marketing forms are emerging, and competition between the different forms...*

*... is resulting in closer and more efficient linkages between producers and consumers*

## 5. Environmental measures

*Implementation of environmental protection measures has been hampered by...*

*... the lack of financial and technical resources*

Although environmental protection is a priority issue in Bulgaria, the measures implemented have been *ad hoc* in nature and inconsistent. The implementation of measures to protect the environment has been severely hampered by the lack of resources. The prevailing form of environmental degradation is water erosion. It is estimated that 43% of the land area is affected by water erosion, while a further 16% is affected by wind erosion. The Ministry of the Environment and Water is responsible for implementing the national policy on environmental protection, as well as the policy on the sound ecologically use of the natural resources. The enforcement of the legislation on the conservation of agricultural and forestry land is the responsibility of MAF. Harmonisation of legislation with the EU is the responsibility of both Ministries. In essence, the environmental protection policy is directed towards solving current ecological problems, but, recently more attention is being paid to the adoption of preventative measures. One of the key elements in the National Agriculture and Rural Development Plan 2000-2006 is to promote environmentally friendly farming.

### E. Support to agriculture

*The level of support to Bulgarian agriculture as measured shows that...*

The level of support to Bulgarian agriculture has been estimated for the period 1986-1999 using the OECD methodology. The estimates of support are measured by the **Producer Support Estimate** (PSE) and the **Consumer Support Estimate** (CSE). The PSE measures the monetary value of gross transfers from consumers and taxpayers to producers arising from agricultural policies. The percentage PSE indicates the proportion of gross farm revenues that comes from support, whether that support is through differences in domestic and world market prices, or through budgetary allocations. The CSE is an indicator of the annual monetary value of gross transfers to (from) consumers of agricultural products arising from agricultural policies. The estimates should be interpreted with caution as the Market Price Support (MPS) element of the PSE captures the impact not only of agricultural policies as such, but also of macro-economic policies, and of inefficiencies in the downstream food processing sector. The PSEs and CSEs have been estimated for the main agricultural commodities in all OECD countries, as well as for several CEECs, and used in the monitoring of their progress towards a more market-oriented agriculture.

*... agricultural producers were implicitly taxed and consumers subsidised during the 1990s*

The aggregate level of support to agricultural producers has fluctuated widely over the period 1986 to 1999. Agricultural producers were heavily subsidised during the pre-reform period, and implicitly taxed during the 1990s, with the exception of 1998. Conversely, consumers were implicitly taxed during the pre-reform period and subsidised afterwards with the exception of 1998.

*In the pre-reform period the level of support to agriculture was high, and similar to that in other CEECs*

More specifically, in the pre-reform period the percentage PSE was high at an average level of 72%, mostly due to high market price support, arising from protection on trade in agricultural products. Effectively, this implied that domestic prices in Bulgaria were considerably higher than world reference prices for most agricultural products. In addition, the official exchange rate was strongly overvalued and this contributed to the large price gap between domestic prices and external reference prices. Domestic prices were centrally fixed and were isolated from changes in world market prices through the operation of the central

plan and the state monopoly on foreign trade. Budgetary support to agricultural producers was relatively low and included input and output subsidies, as well as support to general services and infrastructure such as irrigation.

During the 1990s changes in the level of measured support reflected the Bulgarian government's gradual approach to economic reforms, as well as the inconsistencies in macroeconomic and agricultural policies. More specifically, in the early 1990s, the PSE fell sharply and became negative in 1991 at minus 39%, before falling to minus 45% in 1992. While the strong depreciation of the currency was the major factor contributing to the sharp fall in the percentage PSE, the partial liberalisation of price and trade policies accelerated the fall. Export restrictions applied during this period also contributed to keeping the domestic prices low compared to world reference prices. Following a rise in the percentage PSE in 1993, due to the real appreciation of the currency and consequently an increase in domestic prices, the percentage PSE fell to minus 54% in 1996. This was primarily due to a further depreciation of the Lev.

In 1997, the implementation of the new economic reform programme led to further price liberalisation and the abolition of most of the remaining restrictions on trade. Combined with the real appreciation of the Lev, this led to a narrowing of the price gap and to a rise in the percentage PSE (to minus 10%). The percentage PSE increased again in 1998 to reach a positive level of 2%, for the first time since the transition. This was mainly due to the combined affect of the dramatic fall in world reference prices, while domestic prices fell less sharply, as well as the impact of eliminating export restrictions. In 1999, domestic prices fell more sharply than world reference prices for several of the major commodities and this resulted in support falling slightly to minus 1%.

The evolution of producer support in Bulgaria was similar to that observed in the other CEECs up to 1993. Support fell sharply at the beginning of the transition period and became negative for all countries reflecting a substantial depreciation of their currencies, as well as a general liberalisation of their economies. Subsequently support increased to positive levels in all CEECs due to the appreciation of their currencies, as well as the implementation of more protective agricultural policies. In Bulgaria, the slow pace of macroeconomic and structural reforms during the 1990s contributed to keeping the PSEs negative for a longer period of time. In 1999, the percentage PSE in Bulgaria (at minus 1%) was substantially lower than the OECD average of 40%, and lower than in other transition countries such as the Czech Republic (25%), Estonia (15%), Poland (25%), and Romania (20%).

The percentage CSE was negative during the pre-reform period and positive from 1991 to 1997. The negative CSEs can be interpreted as an implicit tax on consumers and basically mirror developments in MPS. Conversely from 1991 to 1997, the negative estimates of MPS result in an implicit subsidy to consumers. In 1998, the percentage CSE became marginally negative, when support to producers measured by the percentage PSE became positive. In 1999, consumers were subsidised again, with implicit support rising to about 3%.

*During the early transition period measured support fell sharply...*

*... mainly due to a depreciation of the currency, as well as export restrictions on several products*

*Since 1997 the stable macroeconomic environment and the removal of trade and price controls has resulted in...*

*... the removal of the implicit taxation of producers*

*In 1999, the level of support in Bulgaria was lower than in all other CEECs*

*The negative support to producers in the 1990s reflected an implicit subsidisation of consumers*



*The low TSE estimate for Bulgaria indicates that the cost of agricultural support to the economy is low*

*The design and implementation of regional policies was very controversial...*

*... but, with the growing disparities between the regions, rural and regional development policies have taken central stage*

*The current framework for the implementation of agricultural and rural development measures is set out in the NARDP...*

*... and is closely linked to the SAPARD programme...*

*... which, should stimulate investment in rural areas*

Support to agriculture has also been measured through **Total Support Estimate (TSE)**, which includes all transfers covered by the PSEs, general services and all budgetary payments. The percentage TSE relates the value of these transfers to the value of GDP. Changes in the TSE mainly reflect developments in the PSEs, as support to general services in Bulgaria remained very low during the period under review. In 1999, the TSE was slightly negative reflecting the relatively small budgetary transfers to producers and transfers to general services, as well as the low market price support. The percentage TSE (% of GDP), at minus 0.1%, was much lower than the average for transition countries (2.4%), the OECD and EU averages (1.4%).

## **F. Rural development policies and EU accession**

With the ongoing implementation of economic and structural reforms, local and regional development issues have been given a high priority in Bulgaria. In the early stages of developing regional policy, there was much controversy, as it was often perceived that an active regional policy could negatively affect macro-economic stabilisation, especially in view of the budget deficit. However, the profound economic changes during the 1990s have led to an exacerbation of disparities in incomes, living standards, employment and infrastructures across the different regions. The situation in some municipalities became critical and this led to the introduction of specific regional policy measures and instruments. Several international donors participated in the process and projects within the framework of sectoral and horizontal programmes were initiated.

In the Government programme 1997-2000 several regional objectives were explicitly specified including: overcoming regional disparities; reducing the number of municipalities that suffer from poverty, unemployment, depopulation, social and ethnic tension. Other objectives include the application of differentiated regional approaches to the structural reform process, and developing projects for regional development and trans-border co-operation, supported by EU funding.

In 1999, the Government adopted a new National Regional Development Plan (NRDP). This Plan sets out the principles, aims and priorities with respect to regional development, as well as the measures, instruments and resources required for their implementation over the period 2000-2006. The main purpose of the NRDP is to promote sustainable and balanced economic development in the different regions, as well as to improve general infrastructure across the regions. For implementing regional policy, the NRDP defines two types of regions; planning regions and areas for purposeful intervention.

The National Agriculture and Rural Development Plan (NARDP) sets out the framework for the implementation of all agricultural and rural development measures over the period 2000-2006. The NARDP has been prepared in line with the Special Accession Programme for Agriculture and Rural Development (SAPARD) of the European Union. The NARDP outlines the key objectives for the agricultural sector for financial assistance in preparation for full participation in the Common Agricultural Policy and the internal market. A wide range of projects for developing agriculture and rural areas are eligible for funding under SAPARD ranging from investment in farms to improvements of infrastructure in rural areas. In general, projects are co-financed with up to 75% of envisaged public expenditure coming from SAPARD and the remainder from Bulgaria's state bodies at national and local level. Under the NARDP four priority areas have been identi-

fied and include improving the production, processing and marketing of agricultural and forestry products; strengthening the rural economy; investing in human capital; and technical assistance. In 1999 a pilot project to prepare the SAPARD programme was carried out in the Dobrich region. The project involved developing methods to improve the quality and hygiene standards of milk sold to milk processors.

The Draft Commission Decision on the SAPARD rural development plan for **Bulgaria** was presented to the STAR management committee of the EU Commission for opinion on 13 September 2000. The Bulgarian National Agriculture and Rural Development Plan for the period 2000-2006 was one of the first approved programmes of the candidate countries by the EU Commission.

## G. Conclusions and recommendations

- In Bulgaria, one of the key priorities is to create an overall development strategy that will provide the proper enabling environment for establishing a competitive and sustainable agro-food sector. Such a strategy should include the reduction and elimination of any outstanding impediments in the labour and product markets. In addition, greater emphasis on investment in education, training and general infrastructure is required, so as to stimulate greater economic activity and employment opportunities in rural areas.
- Following the liberalisation in 1997, modest economic growth was recorded in recent years, but the recovery is still rather fragile. Continued adherence to prudent monetary and fiscal policies is essential to maintain a favourable macroeconomic environment for economic growth and prosperity. Stronger economic growth is essential in order to reduce the high and rising level of unemployment, as well as to enable the provision of an adequate social safety net for the lowest income groups. With appropriate social safety nets, landowners would be more inclined to sell their land, which in turn would help overcome the problem of excessive land ownership fragmentation in Bulgaria.
- A predictable and stable economic environment would allow for the enforcement of rules and regulations that are essential for the proper functioning of a market economy. Renewed efforts are needed to ensure that contract and bankruptcy laws are enforced, and that heavy bureaucratic and administrative procedures are reduced. One of the most pressing challenges relates to developing an appropriate institutional framework for the financial and banking sector. It is particularly important that credit is available, at competitive market rates, for the development of the sector.
- Privatisation of agricultural land, and the upstream and downstream sectors is practically completed; nevertheless, the process of real restructuring is on-going, especially in the food-processing sector. Although some changes in ownership structure have taken place, deeper restructuring of management to meet the needs of a market economy is required. The excess processing capacity and low level of efficiency is a major burden on the industry, and greater efforts need to be made to improve the overall level of productivity. Moreover, investment in modern plant and equip-

*An enabling macroeconomic environment is essential in order to facilitate adjustment in the agro-food sector,...*

*... and the provision of off-farm employment opportunities*

*Agricultural policies should aim at...*

ment is crucial in order to meet the competitive demands of the new market economy.

*... facilitating adjustment through the development of a land market,...*

- At this juncture, developing a land market is important in order to overcome the negative effects of excessive land ownership fragmentation. An efficient registration system would contribute to a well functioning land sale and lease market. Notwithstanding, improving the land titling system would help to reduce uncertainty, which in turn would improve the creditworthiness of farmers and access to investment capital. Investment in the farm sector is needed in order to speed up restructuring and improve productivity. With the proper market mechanism in place, an efficient and viable farm structure will emerge in Bulgaria.

*... improving physical market infrastructure and market information systems,...*

- In the 1997 reforms, the remaining domestic price controls and trade policy impediments to exports of agricultural and food products were removed, and this has provided further impetus to improving efficiency in the sector. Nevertheless, while substantial progress has been made, renewed efforts and effective policies are still required to improve physical market infrastructure and to improve the price and market information systems.

*... as well as improving product quality*

- A stable and predictable trade regime is an important prerequisite to enhance confidence and to facilitate structural adjustment in the sector. Since Bulgaria's accession to the WTO in 1996, trade in agro-food products is subject to Bulgaria's commitment under the three pillars of the Uruguay Round Agreement on Agriculture; namely, market access, export competition, and domestic support measures. As the EU is Bulgaria's most important trading partner, efforts should be enhanced to meet the requirements of EU consumers. Of crucial importance is the need to improve quality and veterinary standards, so that products can meet the export market certification requirements. Additional technical assistance could be given to trade associations and their members on how to improve quality and veterinary standards. This is particularly important in the dairy and meat processing industries.

*The removal of the implicit taxation on agricultural producers...*

*... should facilitate some improvement in the sector*

- Progress in developing a market-oriented agriculture can be gleaned from the trend in the Producer Support Estimate during the 1990s. The results indicate that policies applied (mainly trade policies) from 1991 to 1997 were highly distortive and taxed agricultural producers. In addition these policies slowed the pace of privatisation, structural and economic reforms in the agro-food sector. The implicit taxation of producers was removed in 1997, and the agricultural sector became exposed to a more level playing field and world market prices for most products. The slightly negative Total Support Estimate in 1999 indicates that the cost of support to agriculture relative to GDP is low.
- The objective of maintaining low consumer food prices was a high priority during the transition years. Between 1991 and 1997, the Consumer Support Estimate was positive, and indicates an implicit subsidy to consumers in this period. With the implementation of the 1997 reforms, the implicit subsidisation of food consumption has been removed and consumers now face international prices for the main food products. Greater emphasis

needs to be placed on implementing the legislation, which sets about to increase food safety and quality standards in-line with those in the EU.

- Although some changes have taken place in the education, research and extension service in Bulgaria, inadequate funding has tended to hamper the development of new structures needed to meet the demands of a market economy. The extension services should be carefully targeted to the small and medium sized producers to improve their farming and business skills.
- While the environmental situation is a cause for concern in Bulgaria, enforcement of the new environmental laws continues to be rather lax. Implementation of a system of penalties for environmental damage in accordance with the Polluter Pays Principle would ensure more sustainable development and use of natural resources.
- As EU accession is unlikely to occur until 2007, Bulgaria would probably benefit most from adopting an open trading system and minimum intervention in agricultural markets, as it would lead to a more efficient, competitive and sustainable agro-food sector. Moreover, a liberal economic environment would facilitate needed structural adjustment in the sector and lead to a more robust sector that is better placed to compete with producers in EU countries in the longer term. A carefully balanced step-by-step approach to adopting the policy instruments of the EU is probably the best strategy for the agro-food sector in Bulgaria.
- As part of Bulgaria's EU pre-accession strategy, the National Economic Development Plan 2000-2006 has been formulated. This Plan sets out the vision for economic development in Bulgaria based on achieving low-inflationary growth and consequently higher living standards. Such a policy aimed at creating off-farm employment opportunities and lowering the inter-sectoral mobility costs, should accelerate structural reforms in agriculture and reduce the human cost of the adjustment process in rural areas.
- The Special Accession Programme for Agriculture and Rural Development (SAPARD) provides financial assistance for structural projects in agriculture and rural development in Bulgaria. All projects will be co-financed with the domestic share of the financing either 25% or 50% of the project costs. This programme is aimed at preparing Bulgaria for full integration into the EU internal market. However, one of the most important challenges is the need to identify and prepare projects that will be able to make full use of the funding available under the SAPARD. In this respect, close co-operation with EU member states and accession countries that have a similar agricultural structure to Bulgaria's is important in identifying and resolving problems. Moreover, the provision of the domestic share of the funds for the co-funded projects is also likely to be a challenge.
- Reliable statistics are a mandatory pre-condition to monitor and assess reforms that have been undertaken in the transition to a market economy and to design appropriate policy responses. The land use pattern would appear to be much less fragmented than the land ownership pattern, but reliable statistics are not available to assess this situation. Moreover, inad-

*Efforts to improve education and training, as well as the extension service should continue*

*Bulgaria continues to follow liberal trade and market policies*

*The implementation of EU pre-accession policies and instruments...*

*... especially, rural and regional development policies are a high priority*

*Developing reliable and comparable statistics,...*

equating statistical information makes it difficult to assess the amount of agricultural land that is left uncultivated. The shortage of funds has resulted in the general agricultural census being postponed until 2003.

*... and improving  
policy dialogue  
with all stake  
holders,...*

- Improved policy dialogue with all the major stakeholders and non-governmental organisations in the economy is a crucial aspect in developing a market economy. Enhanced co-operation and co-ordination in the collection and compilation of statistical data and information with the relevant national producer and trade associations could be a pragmatic approach to improving the quality of statistical information.

*... as well as  
regular  
monitoring of the  
implementation  
process is crucial*

- An important part of the overall policy implementation process requires a regular review and monitoring of the progress in the implementation of the recommendations.

## THE ECONOMIC AND AGRICULTURAL SITUATION

### A. General aspects

#### 1. Background

Bulgaria is situated in the heart of southeast Europe and lies between 41° and 44° latitude in the eastern part of the Balkan Peninsula. Its maximum length is 520 kms and its maximum width is 330 kms. Bulgaria's borders are, in the north, the Danube River and Romania; in the west, Serbia and the Former Yugoslav Republic of Macedonia; in the south, Greece and Turkey; and in the east, the Black Sea. The territory of Bulgaria covers an area of 110 990 km<sup>2</sup> or approximately the same size as Greece. About one-third of the country is mountainous.

The climate ranges from continental in the north and west to Mediterranean in the east and south. The average annual temperature is 10 °C, but ranges from –2 °C in winter to 25 °C in summer. The average annual precipitation is 650 mm, but varies from 480 mm on the Black Sea coast to 1 800 mm in the mountains. Rainfall occurs mainly in summer in the North, in autumn-winter in the south and is evenly distributed throughout the year in the Black Sea coastal region.

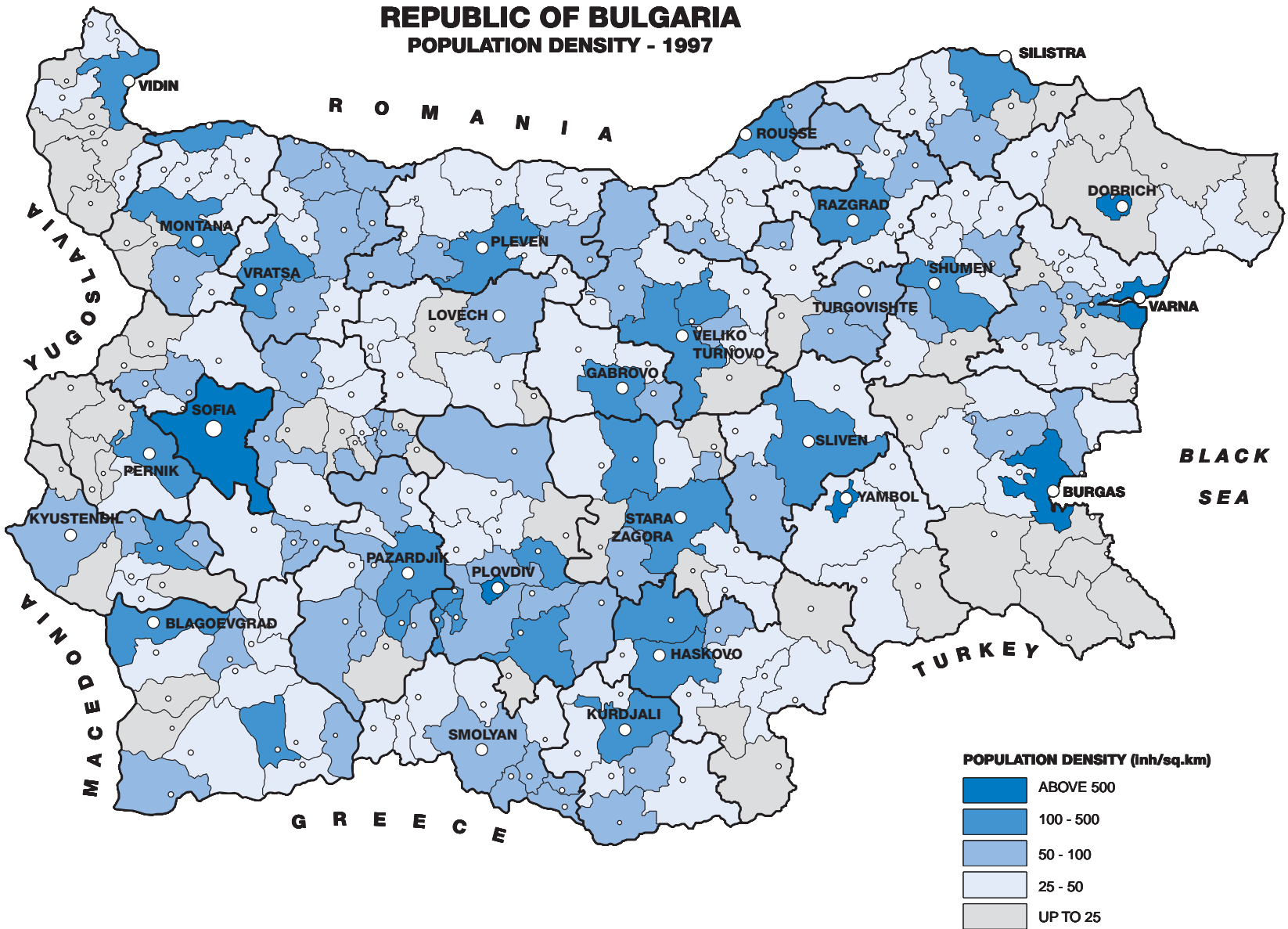
Bulgaria is well endowed with natural resources, especially as regards a range of soils conducive to a diversified agriculture and forestry. Almost 56% of the area is agricultural land; 35% is covered by forests; and about 5% is covered by water. Of the agricultural area, 69% is arable land, 27% is permanent pastures and meadows and about 4% is vineyards and orchards. In addition, Bulgaria is well endowed with other natural resources such as coal, lead and zinc, copper and oil, as well as non-ferrous minerals such as gypsum and marble.

Farming takes place across the country as the natural conditions are quite favourable for both crop and livestock production. Moderate to good quality soils account for about two-thirds of all arable land, most of which lies between the Danube and the Balkan Mountains, in the Maritsa valley and in the hinterland of the Black Sea. Poorer quality soils are mainly associated with marginal livestock farming in the foothills and mountains. About one-fifth of the agricultural land is mountainous or semi-mountainous. The Maritsa plain, in the central-southern region is one of the most fertile and productive regions of the country.

Bulgaria is heavily urbanised compared to other countries in southeastern Europe, with over two-thirds of the population living in towns and cities. This urbanisation has brought about a demographic distortion in the rural areas; a depopulation of villages and ageing of the rural population, leading to a reduction in social and cultural services resulting in further migration. Sofia is the capital city with a population of 1.2 million inhabitants or about 14% of the total. Other large cities include Plovdiv (0.4 million), Varna (0.3 million), Burgas (0.2 million) and Ruse (0.2 million). The country is relatively sparsely populated with a density of about 75 inhabitants per km<sup>2</sup>, but varies widely between regions. For example, in industrial regions such as Ruse, Plovdiv and Varna the density exceeds 150 inhabitants per km<sup>2</sup> compared to less than 50 inhabitants per km<sup>2</sup> in some rural areas.

During the 1990s the population declined mainly due to the high emigration of ethnic Turks and other groups who left for economic reasons. Since 1989 the population has contracted by about 750 000 due to emigration. According to the last census the population is comprised of the following ethnic

Graph 1.1. Map of Bulgaria



groups: Bulgarian (86%), Turks (9.3%), Roma community (3.5%) and others (1.2%). The largest religious group is Orthodox Christian (86%) with the other big community being Muslim (12.7%). The total population is currently estimated at about 8 million.

## 2. Historical overview and political developments<sup>1</sup>

The country of Bulgaria can be traced back to the 9th century when Christianity was introduced to the “Proto-bulgarians” who had migrated to the region from the Asian steppes. During the early-middle ages the Bulgarian empire developed economically and expanded to cover large parts of Albania, Serbia, FYROM, Greece, Turkey and Romania. However, the empire was destroyed when the Mongols invaded the region in 1242 and later by the Ottoman armies in 1386.

From the end of the 14th century, the Ottoman Turks ruled Bulgaria for almost five centuries. Following the Russian-Turkish war of 1876-78, Bulgaria regained independence under the Treaty of San Stefano in 1878. The Treaty of Berlin drastically reduced the large territories that had been granted to the new state after the end of the Turkish domination in 1878. A series of wars and disputes followed with several of its neighbouring countries. Bulgaria was allied to Germany in both world wars. The Soviet army entered Bulgaria in 1944 and encouraged the emergence of the Bulgarian Communist Party (BCP) as the dominant political force. The dominance of the BCP was consolidated in 1947 when Bulgaria was declared a Peoples' Republic. A Soviet style one-party system was established and lasted for more than four decades.<sup>2</sup>

The first communist leader of Bulgaria, Georgi Dimitrov promoted the idea of a Balkan federation including Bulgaria and Yugoslavia, but was rejected by Stalin. After the death of Stalin in 1953, Todor Zhivkov became undisputed leader in 1956 with the support of Nikita Krushchev. With the continued support of the Soviet Union he remained in power for 33 years. During this period Bulgarian foreign policy was strongly loyal to the Soviet Union and the Bulgarian communist regime was one of the most stable in the region. However, the mounting economic problems combined with the spillover effects of developments in the USSR undermined Mr. Zhivkov's position in the latter part of the 1980s. At the time of the fall of the Berlin Wall in 1989, his colleagues in government, led by the foreign minister Petar Mladenov, prompted a “coup” against him.

The 40 year political monopoly of the Bulgarian Communist Party ended in 1989 and the Party was renamed the Bulgarian Socialist Party (BSP). Several of the anti-Communist groups joined together to form the Union of Democratic Forces (UDF), and the Bulgarian Agrarian People's Union (BAPU) became independent of the BCP. The ethnic Turks founded a new party, the Movement for Rights and Freedom (MRF). During the early transition years, Bulgaria endured much political instability. For example, between 1990 and 1994 there were three parliamentary elections and four changes of government, alternating between the two main political parties, the BSP and the UDF. As a result, major difficulties were encountered in passing new legislation and the reform process was subject to substantial compromise, which partially explains the rather *ad hoc* nature of reform measures. One of the important goals in policy reform has been the desire for social justice, with less attention given to designing and implementing reforms based on economic efficiency criteria.

In the December 1994 elections, the BSP and its allies won an absolute majority with 125 seats in the 240 seat National Assembly. The main objectives envisaged in the new government's programme were to enhance the development of a parliamentary democracy, to focus on social issues, in particular a reduction in poverty, as well as to establish a modern social market economy. In February 1997, the BSP government was forced to resign following the collapse of the economy arising from poor economic management, lack of progress in restructuring and in privatisation, bank failures, corruption, as well as shortages of several basic foodstuffs and fuel. A caretaker government was installed and set about stabilising the economy until a new election could be held. Following the elections in April 1997, the UDF and its allies won an absolute majority in Parliament and formed the new government. The priorities of the new government were to establish a Currency Board and to stabilise the economy, to implement structural reforms, to speed up the privatisation of state owned enterprises and agricultural land, to eliminate corruption and to prepare for accession to the EU. The composition of the National Assembly at the end of 1999 is shown in Table I.1.



Table I.1. **Composition of the National Assembly**

National Assembly	240 seats
UDF	137
DL	58
MRF	19
Bulgarian Business Bloc	12
Euroleft	14

*Source:* Ministry of Agriculture and Forestry.

During the communist era the Bulgarian Agrarian People's Union was *de facto* subordinated to the BCP. After the start of reforms several agrarian parties emerged and started competing. Since none of the agrarian parties exceeded the 4% threshold, they are not independently represented in the National Assembly. Moreover, the UDF is represented in the National Assembly as a coalition called the United Democratic Forces, and includes the UDF, Democratic Party, Bulgarian Agrarian National Union and the Bulgarian Social Democratic Party. The Democratic Left (DL) is also a coalition and includes the BSP and the Ecoglasnost Political Club. In effect, the MRF is also represented in the National Assembly as a coalition called the Alliance for National Salvation and have 19 seats.

### 3. *Administrative structures and constitutional developments*

In July 1991, Bulgaria adopted a new post communist constitution, which provides for a parliamentary republic with a multiparty system, free elections, human and civil rights. The Parliament consists of a 240 seat National Assembly that is directly elected for a period of four years on the basis of proportional representation. To participate in Parliament, parties need a minimum of 4% of the popular vote. Only under specific conditions can elections be called before the end of a Parliamentary term.

The President is the head of state and is directly elected every five years for a maximum of two terms. The current president is Petur Stoyanov. The President is effectively the commander in chief of the armed forces and can make certain military and diplomatic appointments, as well as rule by decree in a state of emergency. The President also has a delaying veto over legislation. Under normal circumstances the President's role is largely confined to diplomacy, but he can also play an important role in resolving political crises.

Governments are created under strict rules with the largest group in Parliament being asked to form a government. If this fails the next largest group is then asked. A simple majority is needed to approve a government or Council of Ministers, which is headed by the Prime Minister. The Council of Ministers has the power to pass most legislation. However, a 75% majority of Parliament is normally required to make any changes to the constitution.

Bulgaria is a highly centralised state. While directly elected councils and mayors exist in towns and villages, they have little power to raise revenue and thus are heavily dependent on funds from central government. Up to 1998, the country, for administrative purposes, was divided into eight regions, excluding Sofia, and 259 municipalities. After 1998 the territory was divided into 28 regions, and there are 262 municipalities, each of them divided into mayoralties. Governors who are appointed by the central government run these regions. The administrative regions, which include the semi-mountainous and mountainous zones, cover more than half of the land area of Bulgaria.

## B. *Macroeconomic developments*<sup>3</sup>

### 1. *Main economic reforms*

Following the dramatic political changes at the end of the 1980s, Bulgaria, like other Central and Eastern European countries (CEECs) began its transition to a market economy. The 1980s reflected a

## Box I.1. Key events in the transition process

<b>Nov. 1989</b>	Mr. Zhivkov, leader of the Bulgarian Communist Party resigned and the party was renamed the Bulgarian Socialist Party.
<b>June 1990</b>	Parliamentary elections gave the BSP 48% of the vote and 52% of the seats.
<b>Dec. 1990</b>	A government of “experts” was formed and included ministers from the BSP, the UDF, and the BANU.
<b>Feb. 1991</b>	The exchange rate and prices were liberalised and new laws on investment and competition were introduced.
<b>July 1991</b>	A new Constitution was adopted and allows for a multiparty system and free elections.
<b>Oct. 1991</b>	New elections produced a hung parliament. The UDF and MRF formed a new government.
<b>Nov. 1992</b>	A new government of “experts” formed and was supported by the MRF, BSP, and part of the UDF.
<b>Dec. 1994</b>	Parliamentary elections gave the BSP and its allies an overall majority.
<b>1995-96</b>	Public confidence in the government waned amid the grain shortages of 1995 and with the banking crisis in 1996 the lev declined in value and the external debt grew.
<b>Feb. 1997</b>	The UDF mayor of Sofia Mr. S. Sofianski became caretaker Prime Minister and succeeded in stabilising the lev and dealing with fuel shortages.
<b>Apr. 1997</b>	The UDF and its allies won a majority in the parliamentary elections and formed a new government.
<b>July 1997</b>	The Currency Board was established.
<b>1997-99</b>	Significant progress has been made in economic stabilisation, passing legislation and in privatising and restructuring state owned enterprises.

decade of poor economic planning, in particular the legacy of a largely inefficient heavy industrial sector based on cheap imports of oil and coal from the Former Soviet Union (FSU). During this period the agricultural sector was largely neglected. Progress in introducing economic reforms during the 1990s has been slow and hindered by a combination of internal and external factors. The Bulgarian economy suffered a series of external shocks including the collapse of the Council for Mutual Economic Assistance (CMEA); the need to import energy at world prices to replace cheap Soviet supplies; the lack of access to commercial credit as a result of the unilateral moratorium on external debt declared in 1990; difficulties arising from the international embargo on trade as a consequence of the conflict in the Balkans and an exceptionally high external debt (estimated at 127% of GDP in 1990).

Political instability during the early transition years undermined public confidence in the economy and hindered progress in microeconomic restructuring and macroeconomic adjustment. The lack of a coherent programme for structural reforms and the protection of specific interest groups had an adverse effect on all branches of the Bulgarian economy, especially the agro-food sector. Despite these difficulties, some market reforms were introduced in 1991 and these included a liberalisation of prices and foreign trade. In addition, a floating exchange rate system was introduced and the currency was made convertible. However, real structural reforms were timid and the overall economic situation continued to deteriorate. The large and growing budget deficit was financed directly by the Central Bank, and contributed to the rising rate of inflation which in turn led to an exchange rate crisis in 1994.

The crisis was resolved through the introduction of a tight incomes policy and the implementation of a fiscal adjustment. Following these stabilisation measures confidence was restored and there was strong optimism that an economic recovery would take hold. The stability of the exchange rate helped considerably to reduce inflation. However, after two years of modest growth (1.8% in 1994, 2.1% in 1995), the economic recovery stalled and structural reforms halted. The debts of state owned enterprises

surged and in turn provoked a collapse in the banking and financial system. This resulted in a contraction in GDP by about 10% in 1996 and by 7% in 1997. With the depreciation of the lev, the inflation rate rose sharply, and increased to 311% in 1996 and 579% in 1997.

One of the positive outcomes of this crisis is that it reinforced awareness of the need for radical structural reforms in Bulgaria. In April 1997, the post-socialist government (UDF) adopted a new and radical economic programme, which revolved around:

- the creation of a Currency Board, and
- the implementation of tighter financial disciplines on state budget expenditures as well as on commercial banks and enterprises.

In essence, this programme set the basis for deeper structural reforms including further reforms in the financial sector, privatisation of state owned enterprises and additional measures to liberalise trade and prices. The programme was implemented in May 1997, and the currency board came into force in July 1997. Maintaining a fixed exchange rate with the Deutsche mark (BL 1 000 = 1 DM) was an important element in overcoming the crisis. The currency board has been extremely successful in stabilising the economy, and in reducing the inflation rate which fell to 1% in 1998. Moreover, confidence in the economy has started to return even though the productive capacity has been almost halved since the beginning of the transition. On the other hand, the strong restrictions have depressed activity in the real economy due to the lack of availability of credit, and slowed down the pace of economic recovery. Notwithstanding, several important challenges remain including the need to build institutional and administrative capacity, to reform public administration, to prepare for EU membership as well as to develop better information systems for the operation of a market economy.

## 2. Output<sup>4</sup>

With the collapse of the CMEA markets, Bulgaria experienced a larger trade shock and output decline in the first part of the 1990s than any other CEEC (Table I.2). For example, between 1990 and 1993, output fell by more than 33%. Delays in introducing structural and policy reforms, as well as inappropriate policies were largely responsible for Bulgaria's poor economic performance before 1997. Progress in structural reforms had been particularly slow relative to other transition CEECs. Little progress had been made in privatising and restructuring state owned enterprises while land restitution was at a standstill. In addition, prior to 1997, political and economic instability, corruption, and administrative inefficiency impeded both domestic and foreign investment. The bankruptcy law was not effectively implemented and loss-making state owned enterprises continued to operate, with the losses covered from the state budget. Between 1992 and 1996, administrative price controls were increased on many of the basic food products, resulting in additional market distortions.

After a short spurt in economic activity in 1994 and 1995, GDP fell by 10% in 1996 and 7% in 1997. Several measures were introduced to tighten price controls on basic food products and these resulted in supply shortages, which further added to the social discontent. However, policy reforms introduced in 1997 succeeded in stabilising the economy and GDP growth of 3.5% was recorded in 1998. Economic growth, estimated at 2.4% in 1999 was modest, and was due to a combination of factors including economic restructuring, the collapse of the Russian market and lack of investment. The crisis in Kosova also had an adverse impact on the Bulgarian economy in 1999 with the closure of export transit routes through Yugoslavia and the blockage of the shipping lanes on the Danube. The crisis not only added to the costs of exporting goods, but also resulted in the loss of external markets. According to the EBRD *Transition Report 1999* the closure of Serbia raised transport costs in some cases by up to 50% for exports from Bulgaria to the EU. The changes in economic output in Bulgaria and selected CEECs during the 1990s are shown in Table I.2.

The composition of GDP at current prices has changed substantially over the transition period (Table I.3). Between 1990 and 1994, the share of services in GDP increased while that of industry and agriculture declined. During the latter part of the 1990s, the share of services declined while agriculture's share increased up to 1997. In 1998 and 1999 the service sector grew, and services accounted for

Table I.2. **Main macroeconomic indicators, 1989-1999**

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
GDP growth rate, per cent	0.8	-9.1	-8.4	-7.3	-1.3	1.8	2.9	-10.1	-6.9	3.5	2.4
Private sector contribution, per cent	7.2	9.5	11.9	15.6	35.4	37.6	39.4	44.7	45.9	56.7	57.1
Inflation rate, per cent <sup>1</sup>	n.a.	50.6	473.7	79.5	64	122	33	311	579	1	6.2
Unemployment rate, per cent <sup>1</sup>	n.a.	1.7	10.5	15	16.4	12.9	10.8	12.5	13.6	12.2	16.0 <sup>2</sup>
Budget balance, per cent of GDP	n.a.	n.a.	n.a.	-7.0	-11.0	-5.8	-5.7	-11.0	-2.7	2.0	n.a.
Export, mill USD	13 672.9	13 366.5	3 433.2	3 923.4	3 720.7	4 137.7	5 354.5	4 890.2	4 939.7	4 292.9	3 934.6
Import, mill USD	12 795.8	13 056.8	2 700.9	4 469.8	4 756.7	4 344.7	5 657.5	5 073.9	4 932.0	4 995.2	5 426.0
Trade balance, bln. USD	0.9	0.3	0.7	-0.5	-1.0	-0.2	-0.3	-0.2	0.0	-0.7	-1.5
Gross foreign debt, bln. USD	n.a.	n.a.	12.3	13.9	13.9	11.4	10.2	9.6	9.7	n.a.	n.a.
Debt-export ratio, per cent	n.a.	n.a.	297	276	284	220	151	153	156	n.a.	n.a.

p Provisional.

n.a. Not available.

1. End of year.

2. The 1999 figure includes an estimate of non-registered unemployment.

Source: National Statistics Institute.

Table I.3. Structure of GDP at current prices, 1989-1999

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 <sup>p</sup>
Agriculture and forestry	11.0	17.7	15.4	12.0	10.6	12.4	14.1	15.4	26.6	21.1	17.3
Industry	59.3	51.3	48.0	40.5	35.0	32.5	34.8	30.2	28.2	28.7	26.8
Services	29.7	31.0	36.7	47.5	54.4	55.1	51.1	54.4	45.2	50.2	55.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

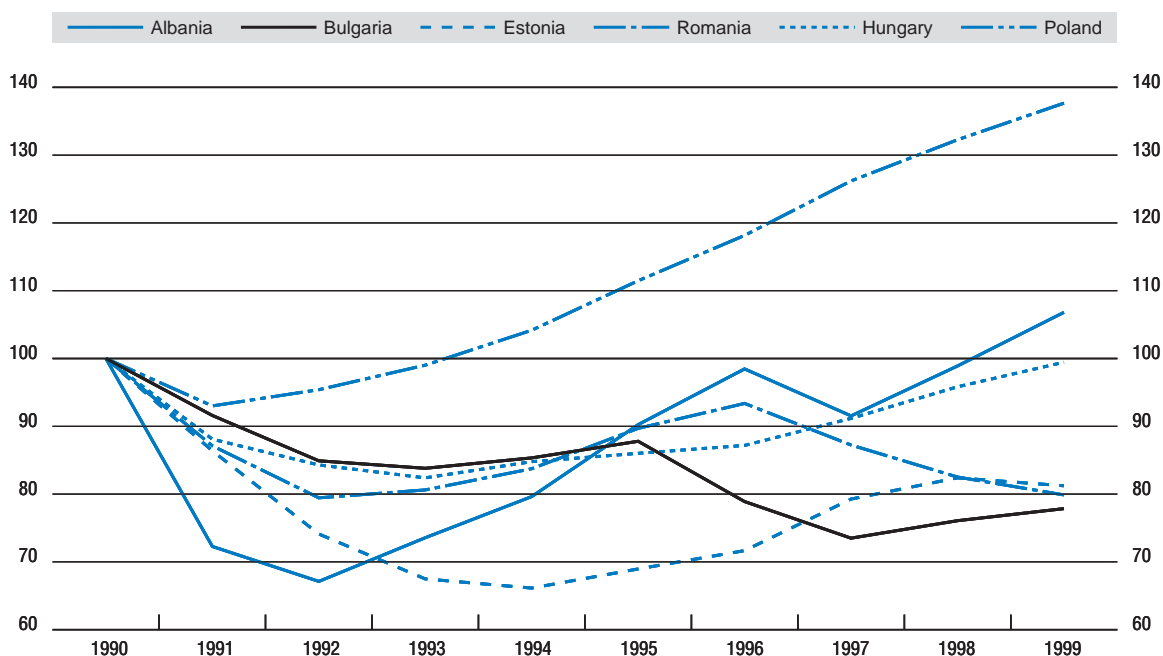
p Provisional.

Source: National Statistics Institute.

about 56% of GDP in 1999 compared to 45% in 1997. Government services account for a significant part of this figure. Recovery from the post-communist recession has been particularly slow in the case of industry, while agriculture and forestry has shown some recovery in the latter half of the 1990s and its share of GDP rose to almost 27% in 1997, before falling to 17% in 1999. The share of the private sector in GDP has increased dramatically since 1989. For example, in 1998 the private sector accounted for 57% of GDP; over three-fifths of the service sector and 99% of the agricultural component. However, its share of industry is only about 44%, largely reflecting the slow pace of privatisation of state assets.

The medium-term economic programme of the Bulgarian government projected GDP growth of 4.5% in 2000 rising to 5% in 2001. Following the modest rise in output in 1999, economic growth is expected to strengthen in 2000 driven by a recovery in exports and an increase in foreign investment. However, the continued difficulties encountered in privatising state owned enterprises, as well as the adverse spillover effects of the Kosovo crisis are likely to continue to dampen any economic recovery in the short-run.

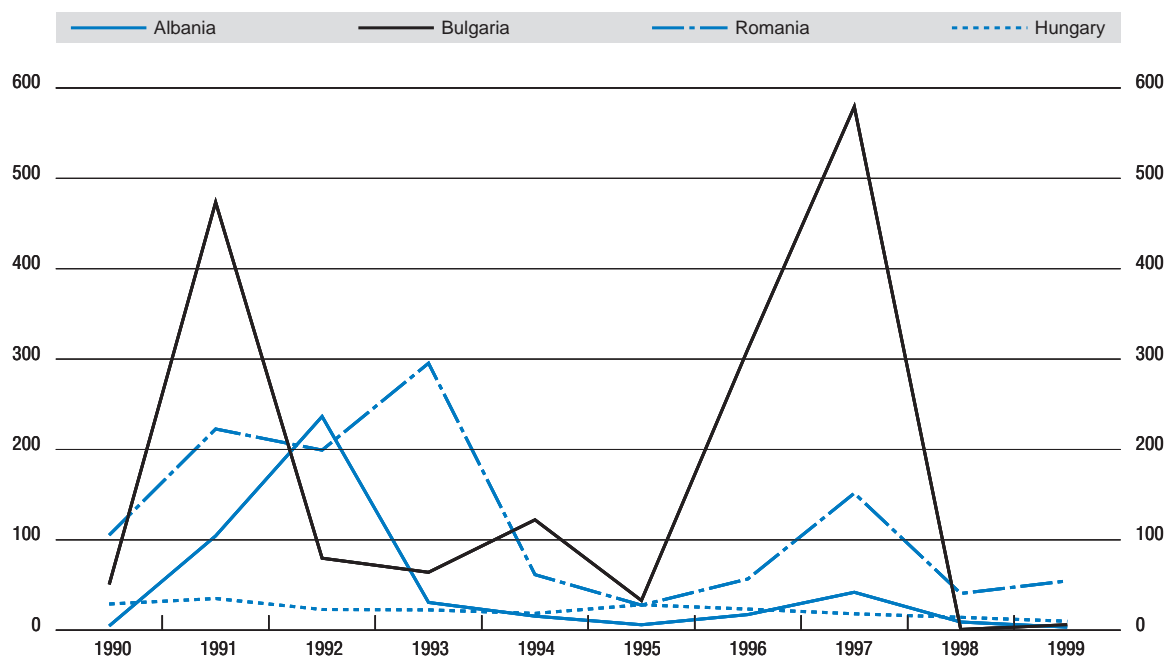
Graph I.1. GDP growth in Bulgaria and selected CEECs, 1990 = 100



### 3. Inflation

In the 1990s the rate of inflation has been more volatile in Bulgaria than in any of the other CEECs (Graph I.2). The rate of inflation fluctuated widely varying between double and triple digit inflation rates. Several years of political instability, delays in structural reforms, weak regulation of commercial banks, loose macroeconomic policies and corruption culminated in the economic crisis of 1996-97. Annual CPI inflation rose sharply to reach 311% in 1996, and hyperinflation took hold in 1997 when the inflation rate reached 579%. Moreover, the Lev depreciated from 71 to over 3 000 to the USD between the end of 1995 and the beginning of 1997. In the spring of 1997, the new government took immediate action to rectify the situation and tightened monetary and fiscal policies and introduced a currency board. The effect of these policies was a dramatic reduction in the rate of inflation which fell to 1% in 1998, the lowest rate of any central European country. However, in 1999 the inflation rate increased to reach 6.2%, and this upward trend is expected to continue in 2000. In the 1990s the rate of inflation has been more volatile in Bulgaria than in any of the other CEECs (Graph I.2).

Graph I.2. **Rate of inflation in Bulgaria and selected CEECs, 1990-1999**  
Per cent



Source: OECD.

### 4. Exchange rate policy

During the early 1990s the policy of a strong lev was achieved by maintaining high interest rates. However, speculation on the foreign-exchange market caused a sharp fall in the value of the currency, particularly in the early part of 1994. This was followed by a period of relative stability, supported by high interest rates and increased foreign borrowings. The lack of reforms in the banking sector together with the lack of progress in restructuring loss-making state owned enterprises contributed to a rapid deterioration in the value of the lev in 1996, culminating in a collapse of the currency. For example, the value of the lev declined sharply from 71 lev:1 USD (April 1996) to 487 lev:1 USD by the end of 1996. The fall continued in the early part of 1997 and by the end of February the value had fallen to

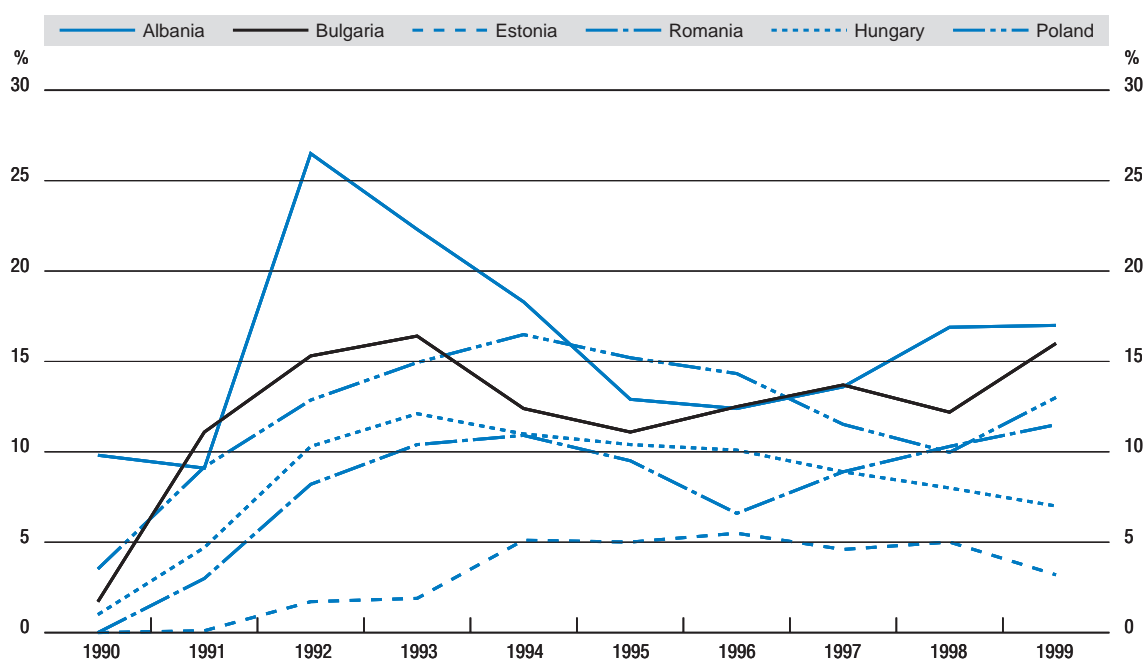
3 000 lev:1 USD. At this juncture, the main political parties agreed to radical reforms and the establishment of a currency board, which came into force in July 1997. The core of the reforms involved pegging the lev to the deutschemark at a rate of 1 000 lev:1 DM. The currency board arrangement also included controls on money supply and credit as well as bans on central bank lending to the government, refinancing commercial banks, pursuing an exchange rate policy or conducting open market operations. The currency board has been extremely successful in reducing inflation and in stabilising the currency and the whole financial system. In July 1999 the lev was redenominated so that the new rate is 1 BL: 1 DM.

## 5. Employment

At the end of the 1980s, the official rate of unemployment was estimated at less than 2%. However, the true rate of unemployment was considered to be substantially higher as official estimates did not take into account under-employment and hidden unemployment. In the early years of transition the rate of unemployment rose sharply to double-digit figures and reached a peak of 16.4% in 1993. Several factors have contributed to this rapid increase in unemployment including the downturn in economic output in the early transition years and the loss of markets in Russia and the NIS. Improvements in statistical collecting methods also had an effect by better capturing the true magnitude of the unemployment level. During the latter half of the 1990s, the rate of unemployment remained stubbornly high, with estimates for 1998 indicating the rate of unemployment at 12%. Since 1997, the increased pace of restructuring has produced a steady outflow of workers from state industries with job creation in the private sector insufficient to offset state sector job losses. After the fall in the rate of unemployment in 1998, the upward trend continued in 1999 with unemployment rising to about 16%. Preliminary estimates indicate that this upward trend in unemployment continued in the first half of 2000. Graph I.3 shows the trends in unemployment rates in Bulgaria and selected CEECs during the 1990s.

Graph I.3. Unemployment rate in Bulgaria and selected CEECs, 1990-1999

Per cent



Concerning the composition of employment, the share in industry fell, while the shares in agriculture and to a lesser extent services increased. More specifically, between 1990 and 1999 industrial employment fell by over one-quarter and the workers released from industry became unemployed, retired or were absorbed into the agricultural sector. As in Lithuania and Romania, the agricultural sector in Bulgaria has been an important social buffer during the 1990s, with its share in total employment rising to about 26% in 1999. Employment in services has also increased and in 1999 was estimated at about 56% of total employment. An interesting feature of the transition process in Bulgaria has been the high rates of exit from the official labour force. According to the OECD *Economic Survey 1999-2000*, this phenomenon has been due to the low benefits and limited eligibility which have reduced the incentive for the unemployed to register, as well as the rather large informal economy and generous early retirement benefits. Rising levels of unemployment are expected to continue to be one of the most pressing problems facing Bulgaria in the immediate future, especially in light of the substantial enterprise restructuring that remains to be completed.

## 6. Foreign trade and balance of payments

Despite the collapse of the CMEA markets, the Bulgarian economy continues to be geared toward a high volume of foreign trade, facilitated by rather liberal legislation. Foreign trade turnover represented about 50% of GDP at the end of the pre-reform period reaching 101% in 1996 then fell back to 76% in 1998. Growth in exports has played an important role in the revival of economic output, especially in 1994 to 1996, as well as in bolstering the current account. The sharp depreciation of the Lev in 1994 provided a spurt to export led growth, and resulted in an improvement in the trade balance. Since 1992, the average rate of import duties has been about 17%. On the export side, relatively few industrial goods are subject to restrictions, although export quotas have been used from time to time. However, restrictions on agricultural exports during this period were more substantial, with export bans and high export taxes on many agricultural products (cereals and livestock). In 1997 all these border measures were phased out. Under the Association Agreement with the EU (1993), Bulgaria has duty-free access to EU markets for industrial goods, but agricultural products are still subject to some restrictions.

Concerning the composition of exports, chemicals and plastic products, machinery, metals, ferrous metallurgy, electrical and electronic goods and wood products comprise the bulk of industrial exports, while food products, beverages and tobacco account for about one-fifth of total exports. During the late 1980s and early 1990s, Bulgarian trade concentrated on Russia and the NIS. However, during the latter half of the 1990s there has been a major reorientation of trade to OECD countries, in particular the EU, which now accounts for over 60% of both exports and imports. Nevertheless, Russia remains an important source of imports, especially for energy products. Trade with other CEECs has fallen sharply during the transition years and in 1999 the CEECs accounted for less than 10% of total trade. As regards neighbouring countries, the embargo on the Federal Republic of Yugoslavia possibly had a strong negative impact on overall trade during the period 1992-1995. Also, the Asian and Russian crises have had a dampening effect on demand for Bulgarian goods in these regions especially during 1998 and 1999. In recent years, the real appreciation of the lev has reduced the competitiveness of Bulgarian exports on the main export markets.

During the first years of transition the current account was in deficit and the negative trade balance contributed substantially to this situation (Table I.4). Between 1995 and 1997 the current account reversed to a positive situation, and in 1997 a substantial increase in the state reserves occurred. In 1998 the current account returned to deficit, estimated at 2.1% of GDP, and deteriorated further in 1999 to reach 5.7%. The growing current account deficit continues to be a general concern, and indicates the continued necessity of foreign capital inflows for maintaining overall macroeconomic balance.

## 7. Government budget

In the pre-reform period, the Bulgarian government's policy was to achieve a nominally balanced budget with deficits covered by means of various extrabudgetary accounts. Over the period 1990 to



Table I.4. **Consolidated balance of payments**  
Million USD

	1991	1992	1993	1994	1995	1996 <sup>1</sup>	1997	1998	1999p
Trade balance	732.3	-546.4	-1 036.0	-207.0	-302.9	-183.7	380.4	-380.7	-1 068.2
Exports	3 433.2	3 923.4	3 720.7	4 137.7	5 354.5	4 890.2	4 939.7	4 193.5	3 958.8
Imports	2 700.9	4 469.8	4 756.7	4 344.7	5 657.5	5 073.9	4 559.3	4 574.2	5 027.0
Services	-935.0	-95.4	-57.2	10.8	153.4	123.5	166.3	372.6	317.8
Income balance	56.0	-95.6	-192.3	-192.5	-432.0	-395.1	-356.8	-283.5	-212.7
Current transfers	69.0	42.9	36.9	166.7	132.0	104.4	236.8	230.1	299.7
Current account(sum of above)	-854.0	-360.5	-1 098.0	-31.9	-25.6	40.8	426.7	-61.5	-663.4
Capital account	-1 278.0	785.6	759.2	-75.2	-113.8	93.6	520.9	328.0	625.9
Errors and omissions	-58.0	-29.2	17.3	107.1	139.4	-134.4	258.0	-361.3	123.8
Loans for supporting the balance of payments <sup>1</sup>	203.0	0.0	32.0	-343.7	-233.7	751.2	-1 205.5	94.7	-86.4
Overall balance	-1 987.0	395.9	-289.5	-343.7	-233.7	751.2	-1 205.5	94.7	-86.4

p Provisional.

1. Since 1994 the loans for supporting the balance of payments are shown as a change in the BNB reserves (increase in reserves is shown by -).

Source: Statisticheski spravochnik, various years, Sofia, NSI.

1997, the central government budget was mainly in deficit, and reached double-digit figures in several years. The deficit was largely due to loans to loss-making state owned enterprises and the related debt spiral. With the establishment of the currency board in 1997, the central bank could no longer make direct loans to the government. The overall financial discipline imposed by the currency board regime supported fiscal consolidation, and a surplus of 2% of GDP was recorded in 1998. Sharp falls in state expenditures on debt servicing as well as improvements in the system of tax collection are the main factors responsible for achieving a budgetary balance. The currency board also prohibits "quasi fiscal" deficits, which arise when loans are made to loss making state enterprises by commercial banks which in turn are able to obtain low cost credit from the central bank. This form of support was the main mechanism of subsidy between 1990-1997. In overall terms, the government's policy would appear to be to maintain a balanced budget. Preliminary estimates indicate the consolidated budget deficit in 1999 at about 1%.

## **8. Foreign direct investment**

The attraction of foreign direct investment continues to be a major challenge for policy makers in Bulgaria. Foreign investment is critical to Bulgaria, not only because of the direct impact of foreign capital and business practices on restructuring and institutional change, but also for the alleviation of balance of payments constraints to ensure medium-term economic stability and growth. The cumulative foreign direct investment, defined as both gross inflows and re-investment by firms with dominant foreign participation, amounted to USD 1.9 billion for the period 1992-1998. One-third of all foreign investment came from Germany, followed by Belgium (USD 315 million) and the US (USD 282 million). Industry has attracted almost half of the total FDI, followed by trade, finance and tourism, while foreign investment in agriculture has been only about USD 6 million. With the privatisation of many large state owned enterprises, FDI is expected to increase substantially in 2000 and 2001. In terms of per capita foreign investment (cumulative), Bulgaria falls far behind most of the CEECs such as Hungary, Poland and Estonia, but is on a similar level to that in Romania and Albania.

## **9. Social policy issues**

The difficult economic conditions experienced during the transition period resulted in lower incomes and living standards compared to many of the other CEECs. The 1997 and 1999 OECD Economic Surveys of Bulgaria discuss in some depth the deterioration in living standards in Bulgaria compared to other CEECs. The combination of higher inflation, tighter fiscal policies and blocked access to household bank deposits in 1996 and 1997 had a negative effect on the welfare of many Bulgarian households. At the end of 1996 the average monthly wage rate in the state sector had fallen to USD 56, and food riots were reported in some areas in 1997.

Despite the partial recovery in incomes in 1998 and 1999, the decline in wages and income during the economic crisis has reinforced the position of Bulgaria as one of the poorest CEECs. According to household survey data, monthly average per capita money incomes in 1998 remained under USD 75. The real incomes of Bulgarian citizens may actually be higher than the above statistics indicate, as part of the household income comes from household plots, and this part, although amounting to 20% in 1998 could be underestimated. Moreover, the presence of high social security taxes gives a strong incentive to under-report wages or resort to forms of non-wage compensation.

## **C. Agricultural situation**

### **1. Agriculture and the food sector in the economy**

Historically, Bulgaria has had a vibrant agricultural sector. The country is well endowed with natural resources for agriculture and has some of the most productive lands in eastern Europe. Of its 11.1 million hectares, about 6.2 million hectares are used in agriculture, or 55% of the area of the country. Of the total utilisable agricultural land about 4.2 million hectares, or 69% is classified as arable land, 0.2 million hectares is permanent crops, and permanent grassland accounts for a further 1.7 million hectares. At the end of the socialist period agriculture provided 11-12% of the total GDP and employed

about 18% of the active labour force. Crop production was dominated by grains and pulses, which together accounted for about 60% of the arable land, followed by industrial crops and tobacco (10-12%), perennial crops (5%), and vegetables (3%). The main livestock enterprises were dairy, cattle, pig and poultry production.

During the centrally planned era, developments in the agricultural sector were subject to meeting specific targets similar to those pursued in other socialist countries. One of the most important policy goals was self-sufficiency in food production. With a surplus in food production, farm workers migrated to urban industries, import substitution increased, exports rose and this led to an improvement in the trade balance. These goals were pursued through centrally determined prices, indicative planning targets and physical quotas, and collectivisation. The central Government managed the whole food chain, leaving little decision-making responsibility to producers. Consumers also had little choice with most food products. In essence, developments in the agricultural sector during the communist era can be divided into two distinct periods, 1956-1983, and post 1983.

During the period 1956-1983 agricultural production more than doubled. The average annual growth rate over this period was in excess of 2.6%. In the mid-1980s, the growth rate of GAO dropped substantially to 1.5%, and a decrease was observed in 1987. To improve incentives in the system, the central government introduced certain measures (Decree 56 for economic activity, and Decree 922 for stimulating agricultural activity), which allowed for some small scale private activities, but did not change the fundamentals of the planned economy. Despite these measures, the decline in production of industrial crops, especially tobacco, and grapes, as well as a decline in the cultivated land area (sugar beet, cotton and permanent crops), and in the number of cattle, sheep and poultry continued. While there was some increase in productivity, particularly for livestock products, the overall production continued to shrink, resulting in the structure of agricultural production tending more towards crop production.

At the end of the 1980's it became clear that the whole economy, including agriculture, needed a radical transformation. The initial reforms in the field of agriculture started in 1991 and accelerated in 1992. During the transition period the share of agriculture and forestry in GDP varied substantially, ranging from a low of 13% in 1993 to almost 27% in 1997 and down to 21% in 1998, reflecting the large changes in activity in other sectors of the economy during this period. At the same time estimates indicate that 25-30% of arable land was left uncultivated in 1999. By the end of 1999 the relative share of agriculture in GDP was similar to its share at the beginning of the reforms, at about 17%, nevertheless these figures mask quite large gyrations during the 1990s (Annex Table I.1). Other factors that have also contributed to these wide swings include: the de-intensification of agricultural production (lower usage of fertilisers, pesticides, irrigation and quality seeds has made changes in crop output more sensitive to changes in weather conditions), the sporadic opening of the Russian market has caused substantial changes in demand for Bulgarian agriculture and food products. For 1999, the share of agriculture and forestry in GDP was estimated at 17%, higher than in all other CEECs, except Albania (Graph I.4).

#### Box I.2. **Some key features of the agro-food sector at the end of the centrally planned era**

Agriculture was organised in large scale units (after 40 years of collectivisation), and used technologies and machinery quite different from those used by individual private farmers.

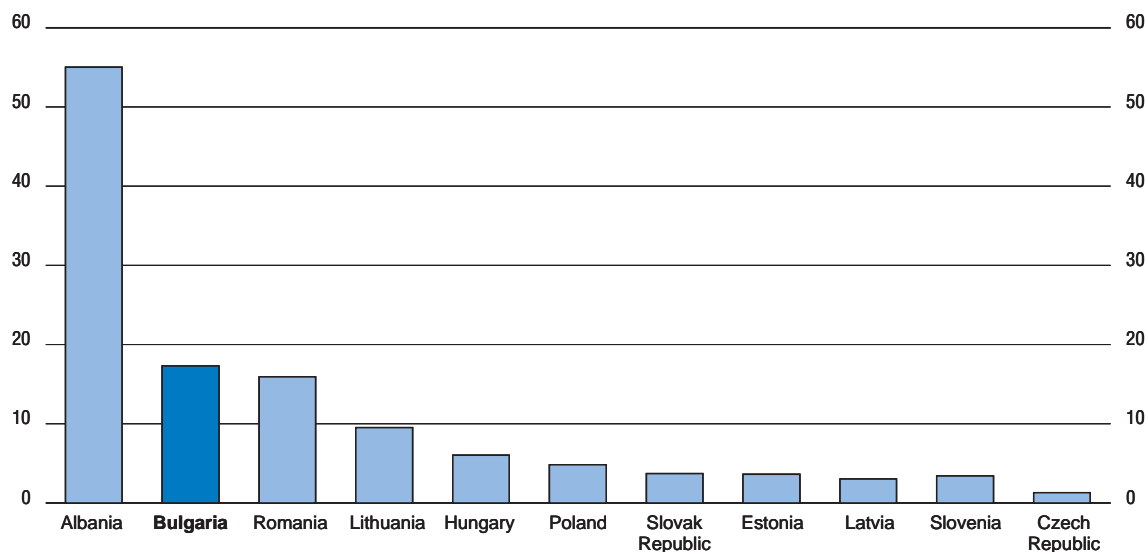
Some of the branches, notably pig, poultry and fruit production were large scale and overspecialised.

Agriculture and food processing industries were export oriented with large production capacities; however, the quality of the products was rather low and mainly suited CMEA markets. However, some specialised higher quality products were oriented towards hard currency markets; for example, wine export to the EU.

Many rural areas became depopulated and the age structure of those who remained made it difficult to adopt modern technologies and more efficient farming practices.

Graph I.4. Share of agriculture in GDP in Bulgaria and selected CEECs, 1999

Per cent



Note: Hungarian data is 1997 and Polish data is 1998.

Source: OECD.

The tendency toward a rising share of crops in gross agricultural output appeared in the mid-1980s and continued during the early transition years as farmers concentrated on cereals and industrial crops. However, more substantial changes were observed in the livestock sector. The number of animals decreased by more than 50% and output by more than 35%, at constant 1989 prices.<sup>5</sup> The importance of pork production increased by more than 10% during the transition period, largely on account of a decline in beef and veal, and sheep production.

Concerning employment in the sector, agriculture's share of total employment has steadily grown from 18% in 1990 to almost 26% in 1999. This has been largely due to a substantial decline in employment in the non-agricultural sectors, especially industry. However, investment in the sector has fallen by more than four-fifths between 1990 and 1999. These changes indicate that agricultural production in Bulgaria is becoming more labour intensive and less capital intensive (Annex Table I.1).

## 2. Evolution of market conditions: prices and costs

As part of the macroeconomic reforms prices were generally liberalised in February 1991, with a few exceptions namely electricity, coal and gasoline. Price liberalisation was implemented in all sectors including input prices for agriculture, farm gate prices, as well as for wholesale and retail food prices. The policy of price liberalisation resulted in the following developments; a sharp rise in nominal prices for all products, changed relative prices of the major agricultural products, a deterioration in the internal terms of trade, as well as a substantial change in marketing margins for most products. Between 1990 and 1999, the index of farm prices increased dramatically (Annex Table I.2). However, there were large differences in the price dynamics between crop and livestock products, with a significantly higher increase recorded for livestock products. The more dramatic rise in livestock prices after liberalisation was partly due to the fact that prices for livestock products were more depressed and the sector was more heavily subsidised in the pre-reform period.

As regards input prices, the increase in prices was substantially larger than the increase in output prices over the 1990s. In real terms prices of the main inputs increased substantially while farm output

prices were halved. This adverse movement in the input/output price ratios can be attributed to several factors:

- The Bulgarian government used various price measures (minimum prices, projected prices, ceiling prices, etc.) to keep retail food prices low so as to prevent social unrest. However, these measures penalised agricultural producers by keeping farm gate prices well below world prices. The process of liberalisation and dismantling of subsidies adversely affected the prices for most farm inputs. As most inputs were imported, even in the pre-reform period, after the start of economic reforms they quickly rose to reach international levels.
- Many of the new agricultural producers who have emerged during the transition period have limited marketing experience and little marketing know-how. On many occasions the prices that they can achieve are even lower than the prevailing market price. This can be partially attributed to the non-competitive downstream markets, as well as the delayed privatisation of the large processing enterprises, particularly in the cereal sector. On the other hand, importers and distributors of agricultural inputs are either agents of large multinational companies, or large traders and are generally in a much better position to achieve higher prices.

The relative prices of the major crop and livestock products have changed substantially since 1989 (Annex Table I.3). Since the pre-reform subsidy programmes were mainly oriented to livestock production, distortions were larger and the subsequent adjustment more difficult. The unstable situation in agricultural production and markets, as well as the implementation of inconsistent agricultural policies caused high volatility in prices between different products, especially for milk and pigmeat, over the transition years.

By keeping the retail prices in 1990 fixed, while farm prices were determined on a contractual basis, resulted in a substantial increase in the share of farm prices in retail prices. The sharp rise in retail food prices since 1997 has led to a dramatic fall in the share of farm prices in retail prices (Annex Table I.4). By the end of 1998 the share of farm prices in retail prices was lower than in the last pre-reform year. Several factors have contributed to this situation including inefficiencies in the marketing chain, price and trade policies over the period 1991-1997 which taxed producers and benefited intermediaries in the food chain, especially traders and in some years processors, as well as an increase in marketing costs.

### 3. Sector performance: output, incomes, and employment

#### Output

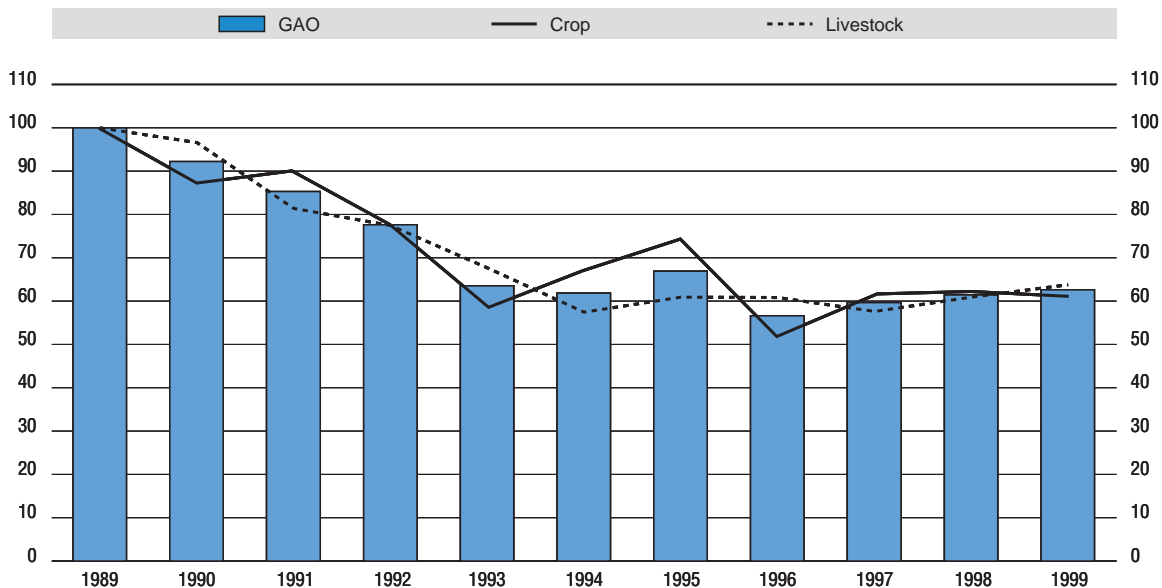
The volume of Gross Agricultural Output (GAO) has been very volatile in Bulgaria over the period 1990-1999. Output declined since 1990 with small spurts of growth recorded in 1995, 1997, 1998 and in 1999 (Graph I.5). The wide fluctuations in agricultural output have been largely due to fluctuations in crop production, while livestock production declined up to 1994, but remained relatively stable for the rest of the 1990s.

The large changes in GAO from year to year can be attributed to several factors including:

- the general economic, social and political instability;
- the radical structural changes in Bulgarian agriculture since 1991 (the attempt to liquidate all former production co-operatives and their assets, land reform, etc.);
- the frequent changes and unpredictability in agricultural policies;
- the changing conditions for access to foreign markets, and especially to the Russian market, (which largely explains the volatility in vegetable production); and,
- the variation in climatic conditions, which has had a large effect on grain production.

Despite the rise in GAO in recent years, output is still significantly (on average 38%<sup>6</sup>) below the level of production in 1989. The difference between the volume index of agricultural output, calculated at constant 1989 prices and GAO shows that the price effect on the changes in GAO is quite substantial.

Graph I.5. **Gross agricultural output, crops and livestock 1989-1999**  
1989=100



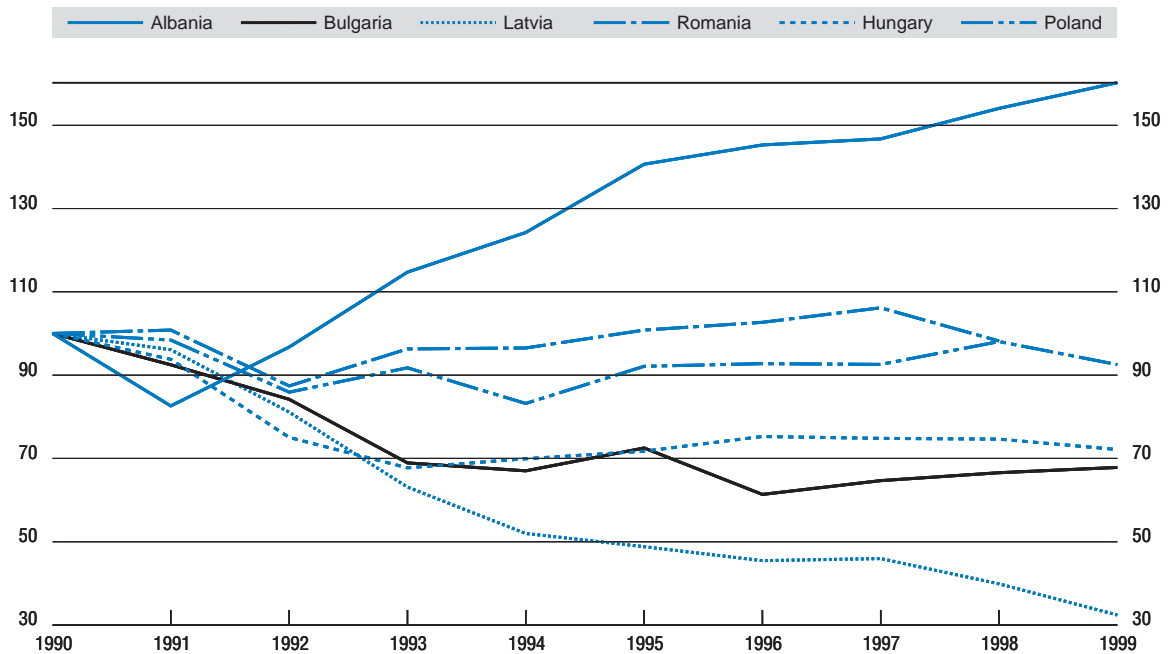
*Note:* The indexes are calculated on the basis of constant 1989 prices. Product coverage is 70% for crop products and 90% for livestock products.  
*Source:* NSI.

Compared to other CEECs, the fall in agricultural production in Bulgaria during the early transition period was similar to other transition countries (Graph I.6). However, the slower recovery in output can be attributed to several factors including, the slow pace of land restitution, the increase in subsistence farming, the lack of alternative employment opportunities outside agriculture and the lack of general income safety nets.

While significant changes have taken place in the structure of agricultural production during the transition years, nevertheless, the shares of crop and livestock production in the total value of agricultural production have remained relatively stable, at approximately 50% with a slight increase in the share of crop output and a decline in the share of animal products in the last years. However, within the crop sector substantial changes have occurred between the different crops. For example, there has been a significant decline in the areas and production of tobacco, fruits, wine grape, and sugar beet (Annex Tables I.6 and I.7). In effect, the decline in tobacco, orchards and wine grape severely limits Bulgaria's export possibilities in products in which it has an apparent comparative advantage. Also, there has been a steady fall in grain production over the transition period, while the areas sown to sunflower, potatoes and vegetables have increased (Graph I.7).

Several factors have contributed to the fall in production of fruits, wine grapes and sugar beet. The main one has been the drop in domestic and external demand, and the disruption created by the land reform and farm restructuring. The protracted process of land restitution and the lack of clear and enforceable property rights for several years after the start of the reforms led to hundreds of hectares of orchards and vineyards being neglected or liquidated. The situation was even more complicated by the small size of the new ownership entities, which did not facilitate the efficient use of the formerly created large orchards and vineyards under the changed circumstances.<sup>7</sup> In the case of tobacco, the decline was largely due to the loss of the Russian market for cigarettes and the depopulation of the traditional tobacco producing areas due to many ethnic Turks migrating to Turkey. The fall in grain production is

Graph I.6. **Gross Agricultural Output (GAO) in Bulgaria and selected CEECs, 1990-1999**  
1990 = 100



Source: OECD.

mainly due to the prolonged policy to depress farmers prices, as well as to lower yields, which in turn can be attributed to lower application of fertilisers, pesticides and lower quality seeds (Annex Table I.7).

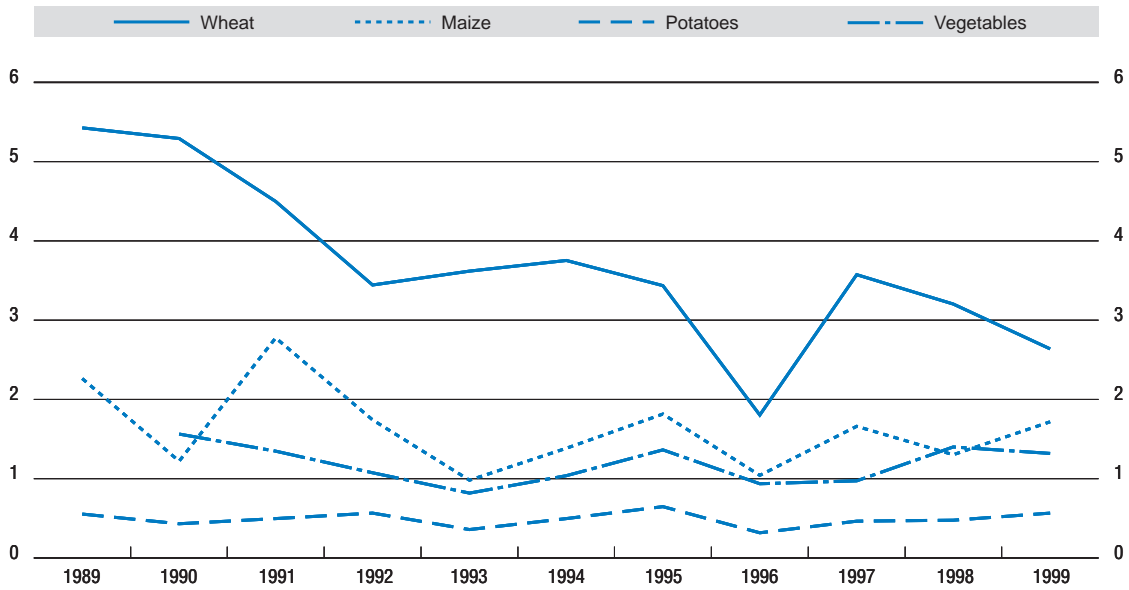
The increase in area under potatoes and vegetables is largely a reflection of the restitution and privatisation process, as well as the increase in the share of subsistence agriculture (Annex Table I.6). It also has to be mentioned that a more liberal agricultural policy has had a positive impact on the output of these products. The high profitability of sunflower seed production has largely contributed to the significant increase in area sown to sunflower. The fact that the area under grains declined in comparison to 1989 and the area under sunflower increased (more than doubled), shows that farmers are responding to market signals.

Concerning the livestock sector, there has been a sharp fall in cattle, pig, sheep and poultry numbers and output over the transition years (Graph I.8). More specifically, pigmeat production has fallen by 40%, and milk production by about one-third, while the fall in egg and wool production is 38% and 71% respectively (Annex Table I.9). Several factors have contributed to this decline including: transferring the animals to the eligible individual owners who did not have facilities for producing animals; a substantial decline in domestic consumption; the loss of foreign markets for Bulgarian exports of pork, poultry, eggs and dairy products, as well as increased competition on the domestic and foreign markets from the EU and other exporting Central and Eastern European countries.

#### *Labour force and employment in agriculture*

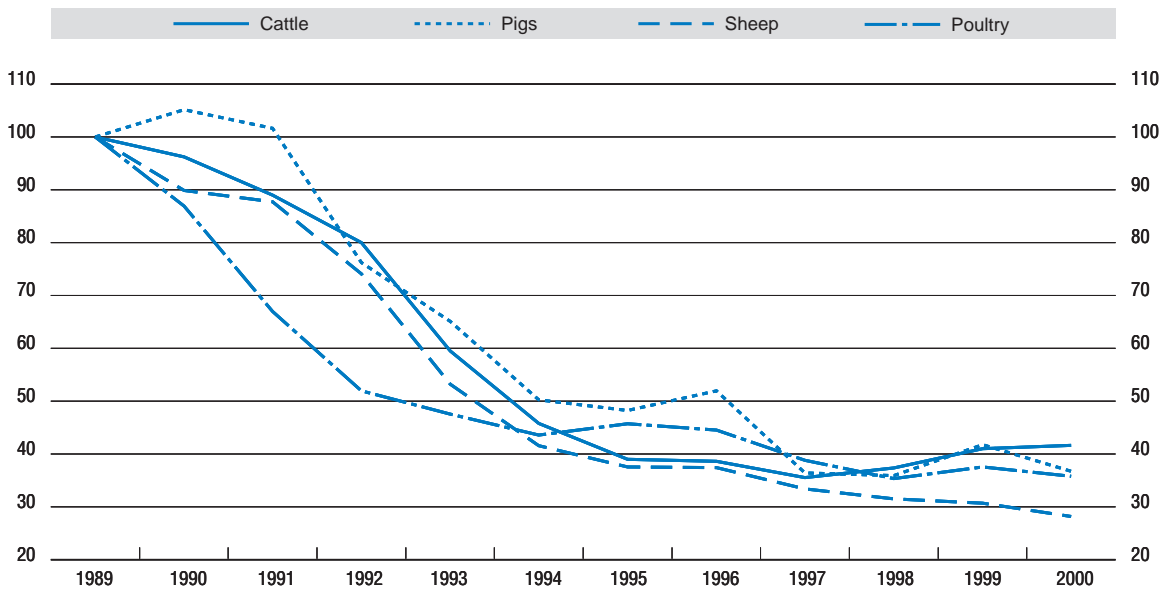
Trends in employment as well as other demographic changes in rural areas are closely linked to developments in the general economic situation. With the removal of the non-agricultural activities<sup>8</sup> of the former co-operatives, which provided about 10% of the value added in the sector, the surplus labour situation in rural areas became a cause for concern. However, with progress in the implementation of

Graph I.7. Production of the main crops in Bulgaria, 1989-1999  
Million tonnes



Source: NSI, Ministry of Agriculture and Forestry.

Graph I.8. Livestock numbers in Bulgaria, 1989-2000  
1989 = 100



Source: NSI.



Table I.5. Rural population and unemployment rate in Bulgaria for the period 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Rural population as % of total population	32.0	31.7	32.8	32.4	32.2	32.2	32.4	32.3	32.0	31.9
% of rural population over 60 years	33.0	33.5	34.0	34.3	34.6	34.8	35.2	35.3	35.2	35.0
Rural unemployment rate (%)	–	–	–	26.3	27.3	19.3	16.4	17.3	20.1	29.1

p Provisional.

Source: NSI (The NSI definition of rural areas only includes villages and surrounding areas).

agricultural reforms and land restitution, the “demand<sup>9</sup>” for labour in agriculture increased resulting in a substantial fall in the rate of unemployment in rural areas. The emergence of thousands of new individual private farmers after the liquidation of former state production co-operatives is the main reason for the fall in registered rural unemployment. For example, the official rate of unemployment fell from over 27% in 1994 to about 20% in 1998. In 1998 there were an additional 33 400 persons employed in agriculture compared to 1990. But despite this increase in employment in agriculture, the rate of unemployment in rural areas, in general, is much higher than in urban areas. The unemployment rate in rural areas is shown in Table I.5.

The difference in the labour markets in different regions is not always directly related to rural or urban characteristics of the regions. For example, in Sofia, the rate of unemployment is about 7%, while in the rural areas of Montana and Lovetch it is about 22% and 15% respectively. However, there is quite a difference in rates of unemployment between the different rural regions. In Plovdiv and Haskovo regions, which are typical of modern intensive agriculture, the unemployment rate is 10% and 13% respectively.

The demographic structure of the population differs between rural and urban areas. For example, in 1998 about 20% of the population in urban areas are older than 60 years compared to 35% in rural areas. In recent years net migration from urban to rural areas has been recorded. This can be attributed to the nature of land restitution and privatisation, as well as pensioners returning back to villages due to the higher cost of living in the towns. At the national level, there has also been a significant increase in out-migration from Bulgaria, with some estimates indicating that more than three-quarters of a million people left Bulgaria during the 1990s.

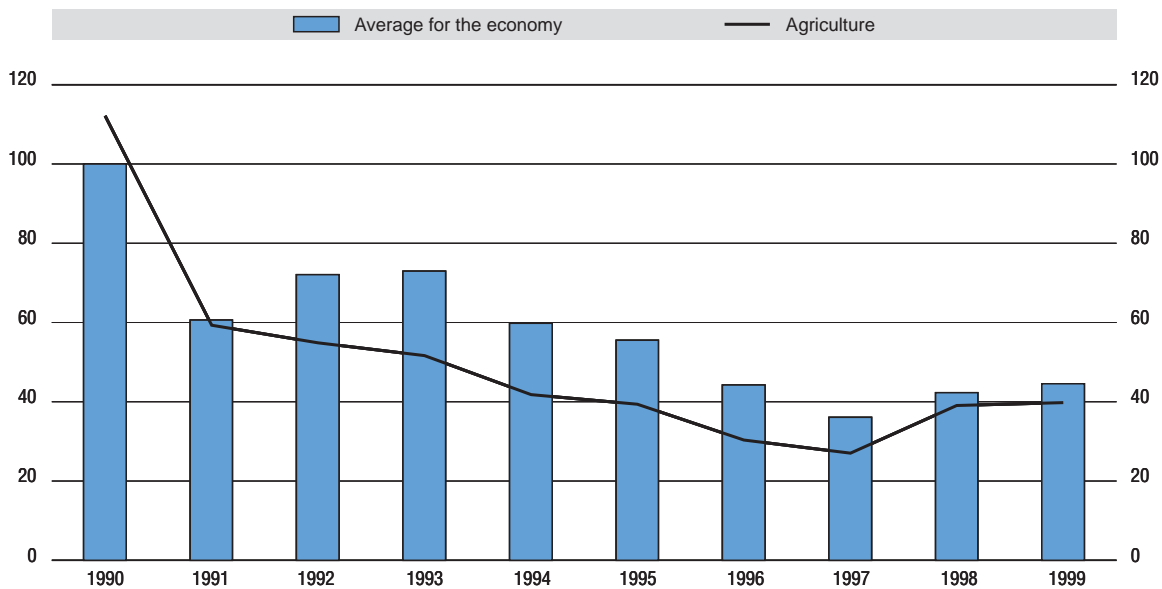
In the pre-reform period the overall income<sup>10</sup> of the population in Bulgaria, as well as the income within agriculture were quite stable, although agricultural income was about 10% lower than the national average. In the early transition years a drop in real incomes accompanied the fall in GDP. The lowest level was reached in 1997 and was estimated at only 36% of the 1990 income.<sup>11</sup> The initial sharp decline in income occurred in 1991 and was followed by a partial recovery in 1992 and 1993. Due to the incomplete indexation a further 30% decline in real incomes was recorded during the next four years. In more recent years the drop in real incomes stopped and by the end of 1999, incomes were estimated at about 50% of the 1990 level (Graph I.9).

As in the pre-reform period, during the 1990s farm salaries (incomes) remained much lower than the overall levels in the economy. In agriculture, the share of salaries in total income has decreased. The deviation of agricultural income from the average income increased during the first years of transition, and the largest deviation was observed in 1996 (31%). In 1997-98 the difference between farm and overall income decreased, and in 1999 returned to the pre-reform level of about 10%. The main reason for this high deviation of the farm income from the average income for the economy was the restrictive agricultural policies applied, and in particular, price and trade policies.

#### *Farm services and the upstream sector*

The dismantling of the pre-reform system of subsidies together with the radical structural changes during the 1990s have had a significant impact on the upstream farm service sector. Some of the most

Graph I.9. Average income for the economy and agriculture, 1990-1999



Source: NSI.

dramatic changes have taken place in the irrigation system, which had been well developed in Bulgaria. Before 1990 there were 1.2 million hectares of irrigated land, or 28% of the total arable land area. During the transition period, the area under irrigation fell sharply to about 100 000 hectares in 1993 and 42 000 hectares in 1998. Almost 40% of the national irrigation system is beyond repair, and 80% of the field irrigation system has been destroyed. This reduction has been due to several factors such as the unstable status of land ownership, the low and unstable prices for crops, as well as the rather low technical efficiency of the irrigation system and lack of administrative institutions such as water users associations to manage water usage.

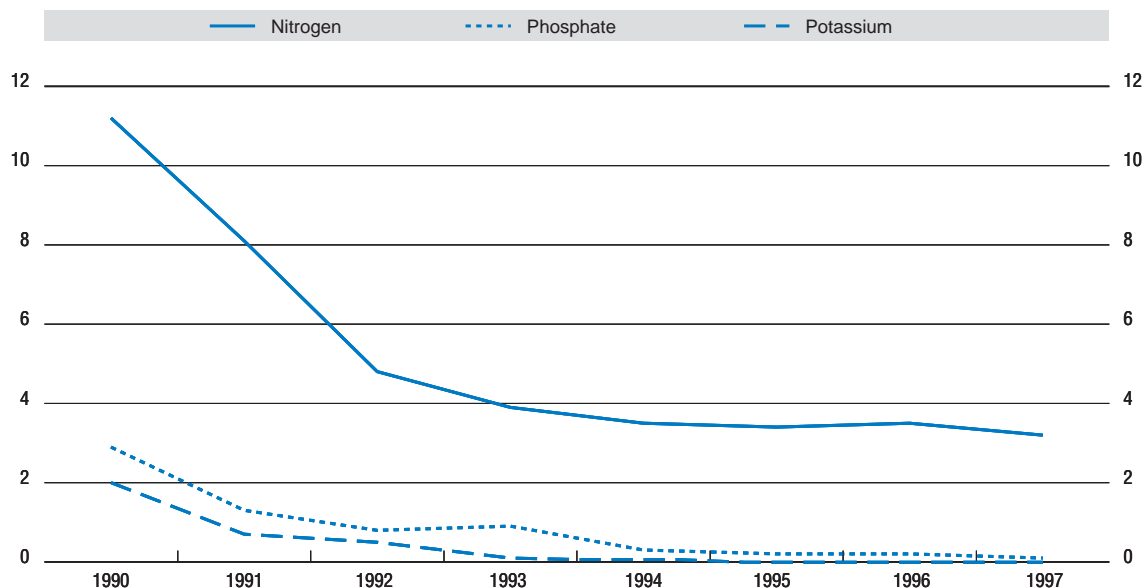
There has been a sharp reduction in the use of plant protection chemicals during the transition period. This drop can be largely attributed to the worsening terms of trade for agricultural products, as well as the restructuring of the National Agrochemical Centre, which regulated the use of agro-chemicals in the pre-reform period. In recent years, only 50-55% of the wheat acreage has been treated with agro-chemicals, and only 35-45% of the barley acreage and 40% of the area sown to maize. The switch to low-input low-output systems has been a rational response of farmers to the changes in relative prices. This is another signal that the necessary price responsiveness has been achieved.

Similar changes occurred in the use of chemical fertilisers, which has also declined sharply since 1990 (Graph I.10). By the end of the 1990s the total use of fertilisers declined by more than 80% compared to the mid-1980s. Of this, nitrogen use declined by about 70%, while phosphates and calcium fertiliser are practically no longer used. The sharp fall in the use of fertilisers has important implications for the crop sector, not only in terms of short-term profitability, but also with respect to the longer-term sustainability.

Changes in the transition period have also brought about major changes in the mechanisation of the agricultural sector. Between 1990 and 1999, the number of tractors declined by about 96%, while the number of sowing machines and combines fell by over 90%. Of even greater concern is that much of the machinery inherited from the previous system is not suitable for current small scale farming and in addition is obsolete. For example, only 2% of the combines and 45% of the tractors are less than

Graph I.10. Fertiliser use in Bulgaria, 1990-1997

Tonnes/100 ha



Source: NSI.

10 years old. Historically, Bulgaria had important machinery production and chemical manufacturing industries; however, production from these industries has fallen sharply during the 1990s (Annex Table I.10). In recent years, the credit subsidies received by farmers for purchasing new machinery together with the tax breaks arising from such purchases have resulted in a substantial increase in imports of new combines and tractors, which will undoubtedly assist in the modernisation of the sector.

The Bulgarian farming system has exhibited similar changes to those in other transition countries, namely, substituting labour for capital as the relative prices provide incentives for more labour intensive agriculture. Moreover, the available inputs have been much better used and the amount of wastage reduced. As a result, despite the drastic drop in input use, GAO is still about three-fifths of its pre-reform level.

#### *Performance of the food processing industry*

The food processing industry was built-up during the socialist period to absorb the surplus agricultural production, and to transform it into processed products, which could be consumed domestically or exported. Under this policy, state owned food-processing enterprises were established, usually close to the larger urban centres for processing local production. While the primary objective of the industry was to satisfy domestic demand, a substantial proportion of the production from these plants was exported to CMEA markets, in particular, the former USSR. The legacy of this policy has been the establishment of a large processing capacity for the main agricultural products, with a substantial number of relatively small, by international standards, enterprises distributed throughout the country.

During the transition period a large number of small processing enterprises have appeared, especially in the meat processing and dairy industries. Most of these new enterprises have difficulties meeting export standards, but their product range is well adapted to the low purchasing power in the local markets. The increased competition between the new enterprises and the old large companies inherited from the previous system puts the survival of several of the old enterprises into question. With the

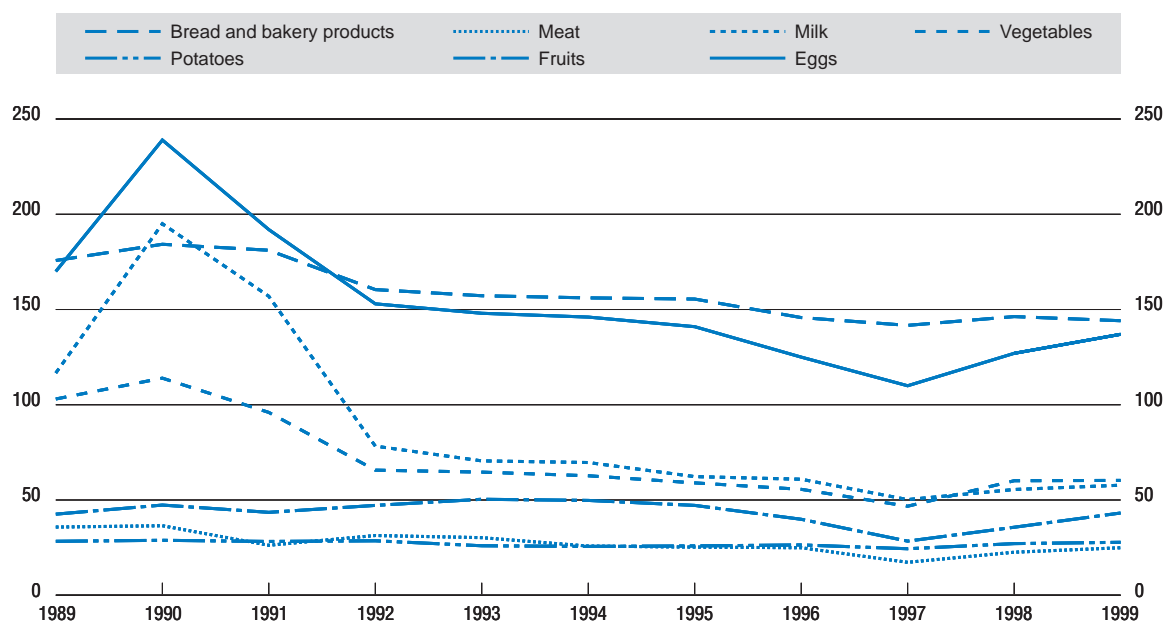
changes that have taken place since 1989, there is now substantial over-capacity in the sector in the light of the foreseeable domestic and export demand. In 1999 the overall capacity utilisation for the canning industry was only 15%, about 10% in the dairy industry, and 15%-20% in the meat processing industry.

Moreover, the lack of investment during the 1980s has left most of the former state owned plants with outdated technology and equipment, much of which is in a poor state of repair, and ill-suited to meet the challenges of a free market. The demise of the former state trading companies has resulted in enterprises having to compete with each other, for the first time, to find domestic and export markets for their products. A lack of marketing experience and know-how in most enterprises has further complicated the process. In many instances, the quality and range of products that the food processors are able to offer are poorly suited to western markets. While unit production costs may appear low compared to many other countries, nevertheless, large inefficiencies in production and processing and under-utilisation of capacities increase overall costs and reduce significantly the price competitiveness of Bulgarian food products. The impact of the factors discussed above has resulted in a sharp fall in output in almost all sectors of the food processing industry during the transition period (Annex Table I.11).

#### 4. Food consumption

An important development arising from the transition process has been the dramatic fall in food consumption in Bulgaria. Falls in household incomes and higher unemployment have changed significantly the level and structure of food consumption. Consumption of products with higher income elasticities such as livestock products has fallen substantially. The most substantial fall in food consumption was observed in 1997 (an average of 30% per annum), within which milk, meat and meat product consumption fell by more than 50% (Graph I.11). In 1998 and 1999 some improvement was observed and consumption of food increased by more than 10% on average. However, by the end of 1999 overall meat consumption had declined by about 30% and milk consumption by 50%.

Graph I.11. Annual per capita consumption of the main products, 1990-1999  
kg per head



Source: NSI.

Consumption of fruits has declined to a lesser extent, due to the fact that they are mainly produced on the self-sufficient family farms. In the pre-reform period, bread was heavily subsidised, and was used for both human consumption and animal feed. With the elimination of bread subsidies, consumption has gradually declined during the 1990s because it became more expensive to purchase, and the practice of using it as animal feed no longer exists.

Another interesting feature of the changing pattern of food consumption is the differentiation between different income groups. After 1990, income differentiation increased enormously. For example, the income of the top 10% of the population was 9.3 times higher than of the lowest income group in 1998. As regards food consumption the lowest income households spend 60% of their income on food compared to 41% for the high income households. However, the higher income households consume 89% more meat, 48% more meat products, and 64% more milk, than the low-income households.

The sharp fall in household incomes has also led to an increase in food self-sufficiency, especially for many rural households. As a result, households in rural areas consume about 7% more meat and 28% more milk than their counterparts in urban areas.

## Notes

1. This section draws on Bulgaria Almanac (1999), as well as the EIU 1999-2000 Country Profile Bulgaria.
2. Bulgaria had a second party, the Bulgarian Agrarian People's Union. This Party was formed to represent the agrarian interests, while the BCP represented the workers. In effect, the Agrarian Party was kept under the full control of the BCP and its membership was not allowed to increase. In the pre-reform period the main function of the Party was to participate in International Forums, where the presence of the BCP was not allowed.
3. The purpose of this section is to provide an overview of the macroeconomic and structural reforms that set the environment for changes in the agro-food sector. This section draws on the OECD Economic Surveys (1997, 1999), as well as the EIU – Bulgaria Country Profile 1999-2000 and the EU Working document on Bulgaria (1998).
4. Official estimates of GDP may underestimate the real level of economic activity due to the very vibrant grey economy which is not captured in the figures. Estimates of the size of the grey economy vary from 20% to 50% of GDP.
5. The size of the fall in output may be overestimated due to statistical difficulties in dealing with a very fragmented livestock sector.
6. Calculated as a percentage of total product at constant 1989 prices.
7. Before the change in the Land Law.
8. They were established for job creation in rural areas and were part of the activities of state and collective farms.
9. Bulgarian agriculture became more labour intensive and less capital intensive.
10. The main source of income during the pre-transition period was from salaries. It accounted for more than 70% of total income. Other sources included social payments (pensions, payments for children, stipend, etc.) (22%), and household plots (4%).
11. By the end of the period the income from salaries comprised only 40% of total income. Other sources of income are household plots (small family farms), as well as pensions and other social payments.

## AGRO-FOOD FOREIGN TRADE

### A. Trade flows

#### 1. *Pre-reform trade flows*

Before 1989, Bulgaria and Hungary were the leading exporters of agro-food products from Central and Eastern Europe. Due to Bulgaria's very favourable climatic soil conditions, government policy aimed at developing a vigorous agro-food sector. For a period of more than 40 years, Bulgarian agriculture specialised in the production of many products, most notably wine, tobacco, fruit and vegetables. Under the stable CMEA framework, export markets were guaranteed, and this provided a strong incentive to expand production and to achieve economies of scale.

Large agro-industrial enterprises were developed during the 1960s to produce agro-food products primarily for export markets, in particular, countries of the Former Soviet Union. During the 1970s, some estimates indicate that 30%-35% of agricultural production was exported, and this contributed substantially to the balance of payments. However, during the second half of the 1980s, agricultural production (in particular grapes and tobacco) started to decline and consequently exports of agro-food products fell sharply, especially to the former Soviet Union and other eastern markets. Moreover, exports to western European markets started to increase, albeit from a low base, reflecting the government's decision to reorient exports to hard currency countries.

Traditionally, more than two-thirds of Bulgarian agro-food exports consisted of wine, tobacco and crop products. In 1989 the value of agro-food exports amounted to almost USD 2.4 billion, or slightly more than 17% of total exports (Annex Table II.1). On the import side, the value of agro-food imports in 1989 amounted to USD 1 billion, or about 8% of total imports. The net balance on the agro-food trade account amounted to USD 1.4 billion in 1989. The most important agro-food imports included sugar and confectionery products, beverages, tobacco, and processed food products.

In the mid-1980s over 80% of exports were directed towards the CMEA member-countries. Trade relations with OECD countries were important for some products, like tobacco, wine, fresh and preserved fruit and vegetables, and live animals. Western countries did not play a large role in Bulgarian agricultural exports. In 1985, EU countries accounted for less than 4% of exports and EFTA countries for less than 2%. Prior to the reforms, another important destination for Bulgarian exports was the "dollar zone" countries, including some developing countries with which the government wanted to maintain good political relations.

As regards imports, the share of agricultural and food products imported from the ex-CMEA countries in the mid-1980s were about 45%, and the EU accounted for only about 18% of food imports.

#### 2. *Post-reform trade flows*

Since the advent of reforms in 1990, trade in agro-food products has been largely determined by developments in trade policies and by the reforms in the agro-food sector. In the first group the most important are:

- the collapse of markets in the former CMEA countries;
- the abolition of the state monopoly and liberalisation of foreign trade;

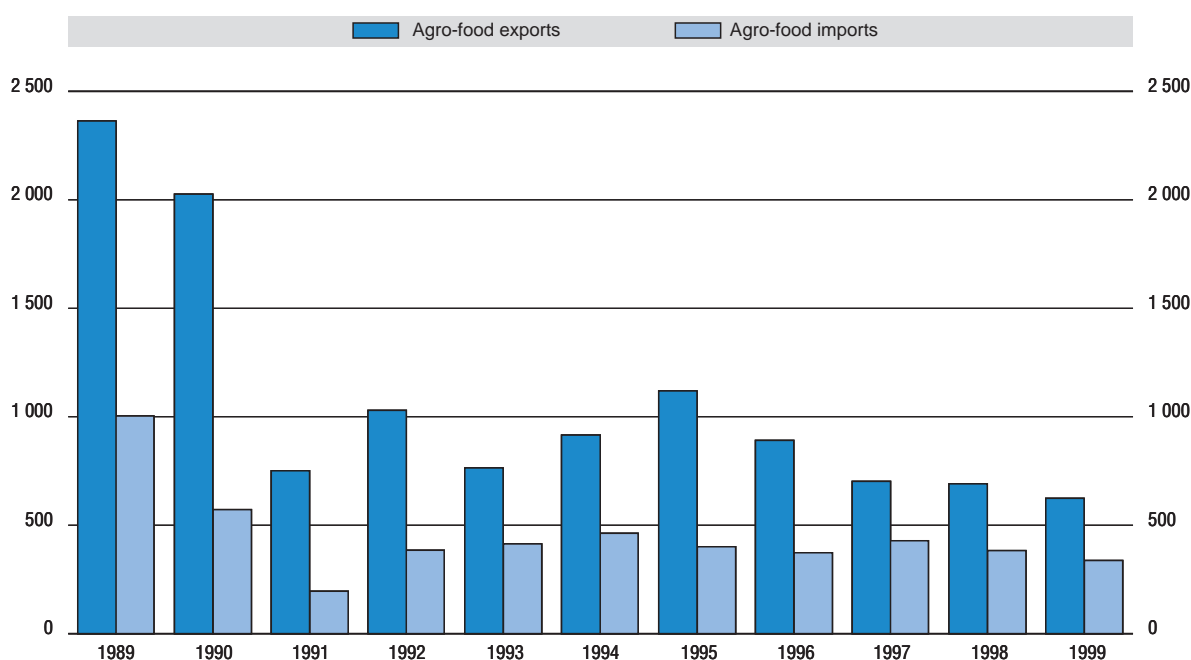
- the abolition of state credits and guarantees;
- applied trade policy;
- implementation of the Association Agreement with the EU, as well as CEFTA membership and the free trade agreement with Turkey; and,
- accession to the WTO and the implementation of the Uruguay Round Commitments.

Amongst the reform measures in the agro-food sector and the effects of their implementation, the most important for the agro-food trade are:

- privatisation and restructuring of the food industry;
- land restitution;
- fragmentation of production and trade;
- the lack of an enabling economic and agricultural environment (especially the underdeveloped rural financial system); and,
- the decline in food consumption on the domestic market.

During the 1990s the value of agro-food exports and imports have fallen dramatically, with exports declining from USD 2.4 billion in 1989 to USD 624 million in 1999, and imports declining from USD 1 billion in 1989 to USD 338 million in 1999 (Graph II.1). This has resulted in a sharp fall in the net balance on agro-food trade, which declined from USD 1.4 billion in 1989 to USD 274 million in 1997. The net balance increased marginally over the last two years to reach USD 287 million in 1999 (Annex Table II.1). The sharp decline in foreign trade between 1989 and 1991 can be attributed to three main factors. First, in the pre-reform period the exchange rate was centrally fixed and the national currency was highly overvalued. This substantially influenced the value of trade with ex-CMEA countries in dollar terms in the last pre-reform years. Second, export restrictions and price controls in the 1990s (especially

Graph II.1. **Bulgaria: Exports and imports of agricultural products, 1989-1999**  
Million USD





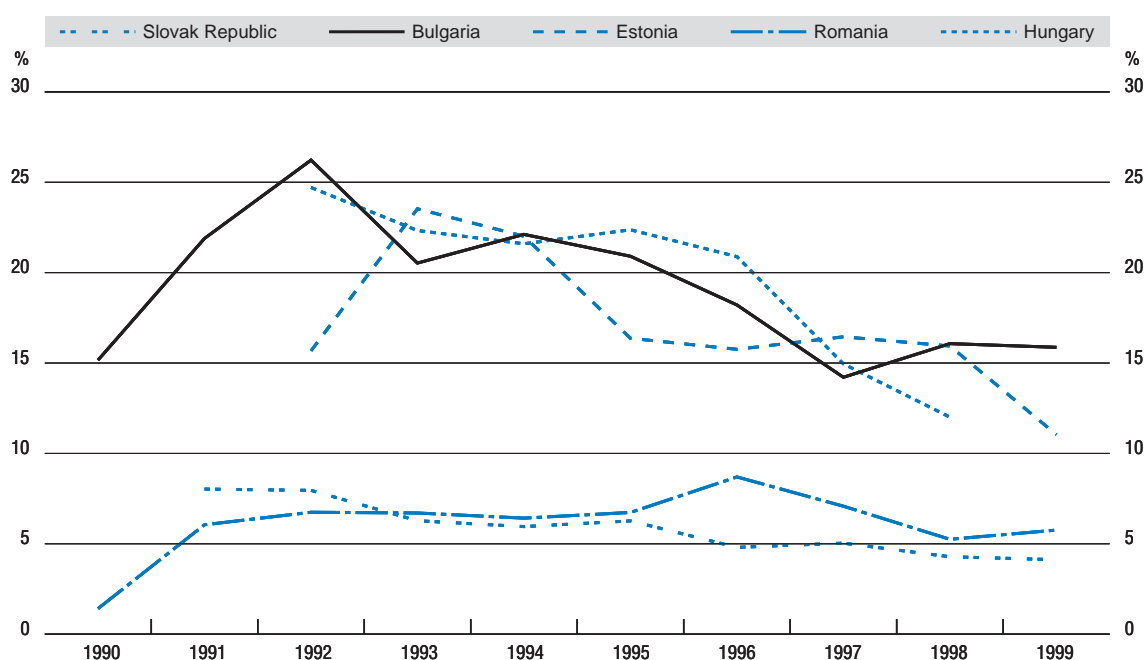
for agricultural products) had a negative effect on production and trade during the transition period, up to 1998. During this period, the main concern of the government was to keep consumer prices for basic food below the market level. A number of measures were taken to suppress the growth of domestic prices, such as export taxes and bans, control over prices in the whole chain from producer to retailer, and temporary reductions in import duties. Third, the lack of working and investment capital was another important factor, which had a negative impact on production and exports. The lack of consistency in the quality and quantity of the raw material together with the lack of operating capital were the main constraints to developing markets in OECD countries.

Of the CEECs, only Bulgaria and Hungary have remained net exporters of agricultural and food products during the 1990s. The shares of agricultural exports and imports in total exports and imports for several CEECs are shown in Graphs II.2 and II.3. While Bulgaria's overall shares of agricultural and food exports in total trade were similar in 1998 and in 1989, at about 16-17%, nevertheless, the share has fluctuated widely from a high of 26% in 1992 to a low of 14% in 1997. Imports of agro-food products have remained at about 7% of total imports during the transition period, apart from the drop in 1990 to about 4%, and the rise to 11% in 1994. Since 1997 the share has fallen steadily, and was estimated at about 6% in 1999. During the transition period the trade balance reached its highest levels in 1992 and 1995. The improved exports in 1992 were the immediate effect of the oversupply of cattle and sheep after the liquidation of the state and collective farms, and the fall in domestic consumption of meat. The increase in agricultural exports in 1995 can be largely attributed to the removal of the strong restrictions on exports of cereals (a ban on wheat exports) and sunflower, as well as the partial recovery in wine exports, and the reduction in imports of tobacco products.

#### *Composition of exports and imports*

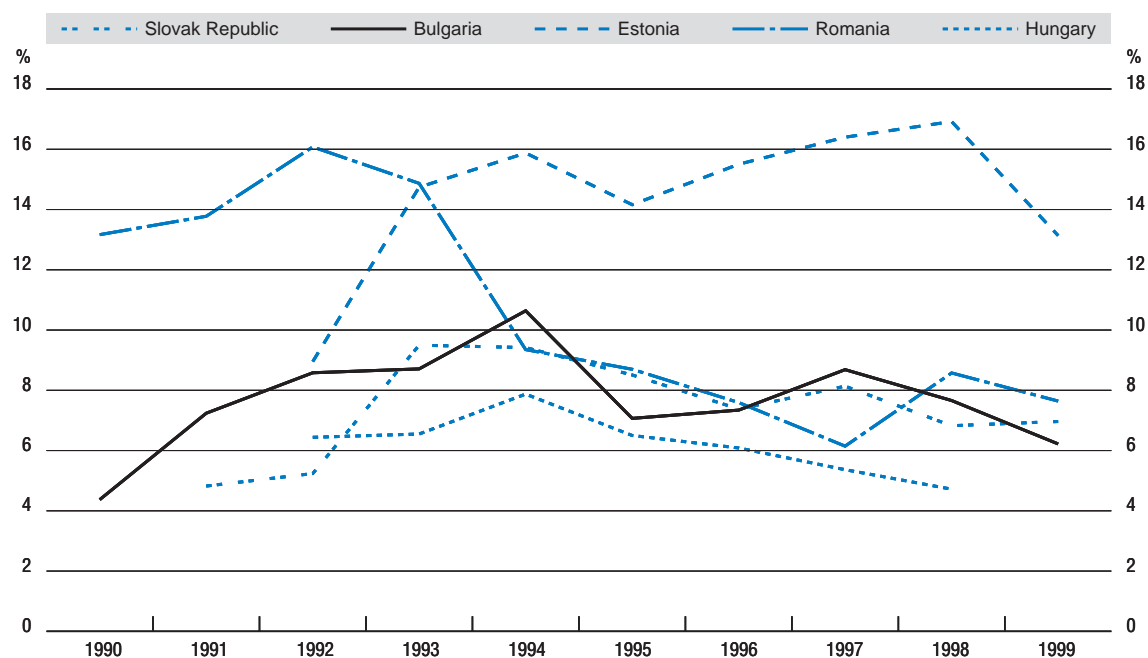
Bulgaria exports and imports a wide range of animal and crop products (Annex Tables II.2 and II.3). The most important export items are tobacco and tobacco products, wine, sheep meat, processed vege-

Graph II.2. **Share of agricultural exports in total exports for selected CEECs, 1990-1999**



Source: OECD.

Graph II.3. Share of agricultural imports in total imports for selected CEECs, 1990-1999



Source: OECD.

tables, as well as fresh fruits and vegetables. Their share in total export earnings from agriculture has ranged between 52% and 66% over the period. As regards the major export commodities, it should be mentioned that grains (particularly wheat) and sunflower have traditionally accounted for 12-15% of agricultural exports. However, due to the restrictive policies applied during the transition their share in exports has diminished. When the restrictions on export were removed in 1998 their share increased to over 20%.

Since 1989 Bulgaria has lost some of its traditional export markets due to increasing production costs, intensified competition on these markets, lower output of the main export products, poor quality control, as well as the lack of experience of some new producers and traders. As a result, exports of some of the most important export-oriented products have fallen sharply during the 1990s (Table II.1).

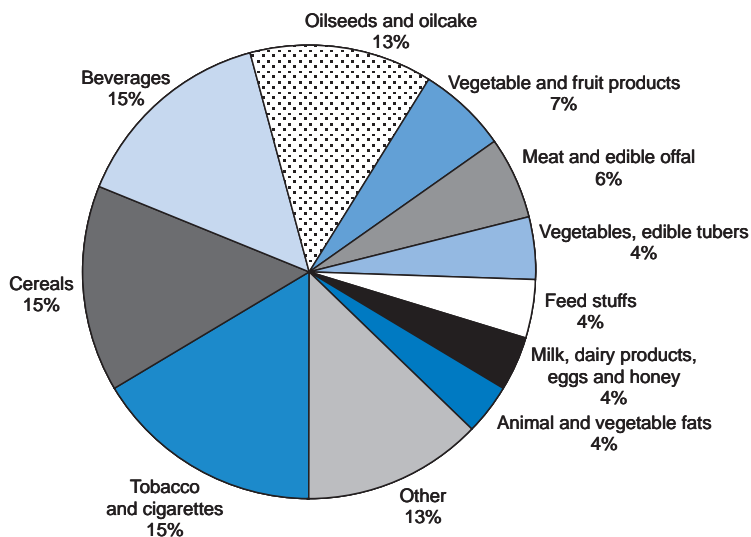
Table II.1. Exports of selected food and beverage products

	Thousand tonnes											
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Live sheep ('000 head)	1 273	355	740	480	1 477	693	936	259	379	20	0.2	n.a.
Grains	353	483	457	109	727	72	59	813	0	120	314	n.a.
Grapes	36	23	33	1.0	3.0	1.0	2.0	2.5	3.0	2.0	0.7	0.3
Apples	41	49	46	4.0	2.0	0.7	0.4	0.4	1.0	1.0	0.1	0.1
Preserved tomatoes	84	79	61	13	31	23	16	14	18	12	7	8
Other preserved vegetables			56	16	31	33	32	35	48	44	24	17
Wine	411	364	128	62	87	119	149	190	215	200	182	n.a.
Tobacco	55	40	34	28	30	15	22	29	21	13	20	25
Cigarettes	73	69	60	58	39	23	43	59	40	26	11	4

n.a. Not available.

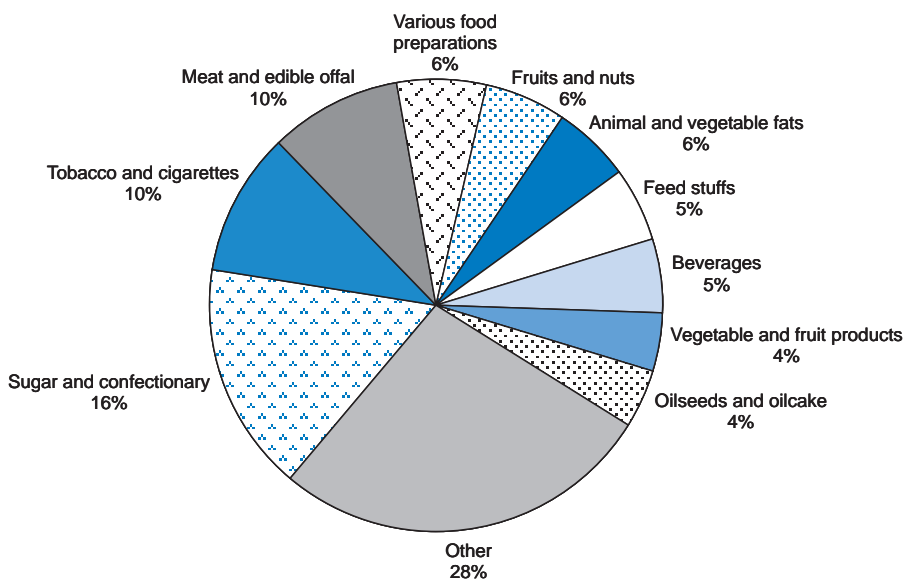
Source: NSI, Ministry of Agriculture and Forestry.

Graph II.4. Bulgaria's main agricultural exports in 1999



Source: NSI, Ministry of Agriculture and Forestry.

Graph II.5. Bulgaria's main agricultural imports in 1999



Source: NSI, Ministry of Agriculture and Forestry.

Over the period 1988-1999, the most important agricultural import has been raw cane sugar, which accounted for between 16% and 27% of the total value of agro-food imports in these years. The other important groups include tobacco and cigarettes (about 10%, except in 1992 and 1993), meats, in particular beef (its importance increased during the period to reach 15% in 1998), fruits, (share varied between 4-9%), as well as feeding stuffs (mainly soyameal) which constitutes 5-7% of imports. While

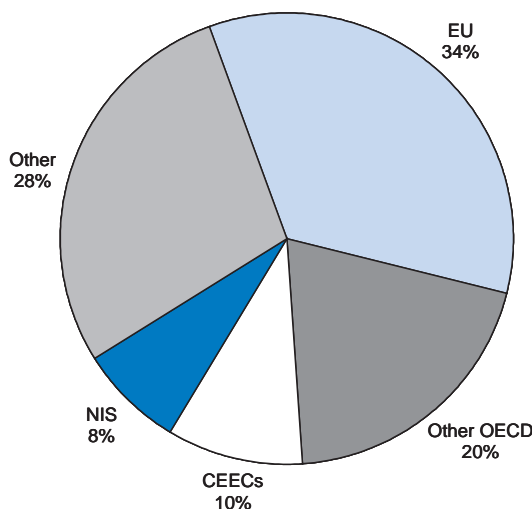
some imported products are non-competitive, such as cocoa or tropical fruits, other items (like meat, dairy products, fresh fruit and vegetables) can be produced in Bulgaria. Their visibility in the retail shops has resulted in an increase in farmers lobbying for additional trade measures to protect the domestic market against imports of products, some of which have been heavily subsidised. Although Bulgaria is, on average, a net exporter of grains, large quantities of food grains were imported in 1996 and 1997. This situation occurred as a result of bad weather conditions in 1996, as well as the strong increase in wheat exports caused by the large price gap between domestic and international prices, and the removal of the ban on exports, which had been in force for the previous three years. As a result of a sharp fall in output and large exports, substantial shortages occurred on the domestic market at the end of 1996 and in the first half of 1997. In order to alleviate the shortages a substantial quantity (0.5 million tonnes) of soft wheat was imported in 1997. The composition of Bulgaria's agricultural exports and imports in 1999 are shown in Graphs II.4 and II.5.

#### *Geographic orientation of agro-food trade flows*

The analysis of trade flows during the transition reveals significant changes in the volumes exported to different geographic markets. There was a rapid decline in exports to Russia and the New Independent States (NIS), while exports to the Central and Eastern European countries increased. In 1991 exports to Russia and the NIS fell to about half of total agricultural exports compared to more than three-fifths in the last pre-reform years (Annex Table II.4). This decline accelerated during the 1990s, and in 1999 agricultural exports to Russia and the NIS were estimated at less than 10% of total exports. With the liberalisation of foreign trade in these countries, competition grew and exports of Bulgarian products declined. However, with the stabilisation of the Bulgarian economy in 1994 and 1995, exports to the NIS increased in the period 1995-97 (although the volumes were several times lower than in the 1980s). This upward trend suddenly stopped with the onset of the financial crisis in Russia, which began in 1996-97.

Since 1990 the importance of the EU market has gradually increased for Bulgarian agricultural and food exports. Its share of Bulgarian agricultural exports rose from 6% in 1989 to 22% in 1992. In 1999 the EU accounted for about 34% of Bulgarian agricultural exports (Graph II.6). The sharp increase in the share of exports to the EU in recent years reflects the reorientation of trade due to the decline in market demand for Bulgarian products in eastern Europe, and especially in Russia. Moreover, it is interesting to

Graph II.6. **Bulgaria's agro-food exports by region in 1999**



note that the total value of exports to the EU has remained unchanged since 1992, which means that the increase in the share to the EU is due to a decrease in total agricultural exports instead of an increase in actual trade flows.

After 1989 exports to the “dollar zone” countries collapsed due to the abolition of the state monopoly on foreign trade, the decline in production and the removal of state subsidies. The third main geographic direction of Bulgarian agricultural exports in recent years has been to “other” countries. Included in this group are countries in the near and far East and South America. Because of the change in the composition of this group their share of exports is not fully comparable, nevertheless, the share of exports to this group of countries increased four fold between 1989 and 1994. Since the mid-1990s the share has declined and was estimated at only 8% in 1997, but increased in the last two years to reach 28% in 1999. The major factor responsible for the increased exports has been greater price competitiveness *vis-à-vis* other exporting countries. More specifically, the volume of exports dropped from about USD 160 million in 1989 to USD 55 million in 1991, then increased to USD 271 million in 1994, and continued to fall up to 1997. A substantial recovery occurred in 1998, but exports fell again in 1999 (Annex Table II.4).

Imports of agricultural and food products from Russia and the NIS have fallen significantly during the early years of transition, and accounted for less than 2% of total agricultural imports in 1998 (Annex Table II.5). Agricultural imports from the CEECs have varied substantially during the transition period, both in absolute, as well as in relative terms. After some revival of imports from these countries in the mid-1990s, imports fell sharply in 1996 and the downward trend has continued in recent years. The share of agricultural imports from the EU increased rapidly to 53% in the early years of the reforms. In absolute terms the volume of imports from the EU reached its highest level in 1992, and then fell sharply up to 1996. In 1997, imports increased markedly and the upward trend continued in 1998, but in 1999 imports fell sharply to USD 107 million (Table II.2). The net balance on agro-food trade with the EU rose substantially in 1999.

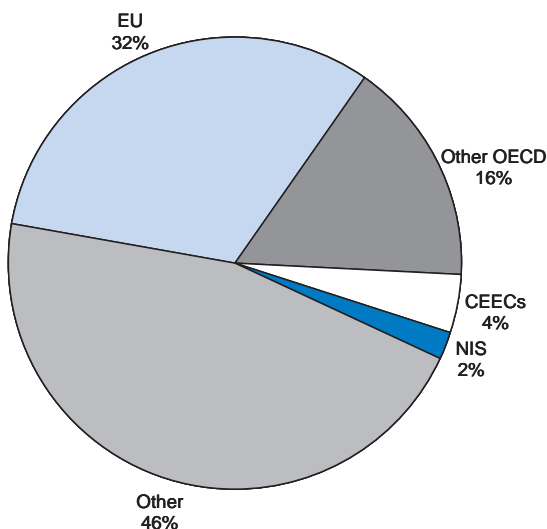
Bulgarian agro-food exports to, and imports from the EU over the period 1992-1999 have concentrated on a rather narrow range of products. The most important exports are meat products, vegetables, oilseeds, wine and beverages, while imports have been mainly feeding stuffs, animal and vegetable fats and meat products. Imports of agricultural and food products from “other” countries have fluctuated widely over the last 10 years, reached a peak in 1991, fell sharply in 1992, and during the remainder of the 1990s have tended to show an upward trend.

Table II.2. **Bulgarian agro-food trade with EU**  
Mn USD

	Export	Import	Balance
1989	145.6	178.8	-33.2
1990	170.5	110.6	59.9
1991	120.3	55.3	65.0
1992	221.5	204.1	17.4
1993	165.7	180.6	-14.9
1994	185.2	200.0	-14.8
1995	242.6	127.7	114.9
1996	203.9	77.1	126.8
1997	195.6	129.1	66.5
1998	231.3	146.3	84.7
1999	214.8	107.4	107.4

Source: NSI, Ministry of Agriculture and Forestry.

Graph II.7. Bulgaria's agro-food imports by region in 1999



Source: NSI, Ministry of Agriculture and Forestry.

## B. Trade relations

### 1. Former trading arrangements

Prior to the introduction of the economic reforms, Bulgaria's trade relations had the typical features of a centrally planned economy. All trade flows were determined by the plan and tightly controlled via centralised state owned foreign trade companies. In essence, agricultural production and trade were part of a vertical chain, with production at the bottom end of the chain, and the food-processing industry in the middle and at the top of a distribution network (domestic, wholesale and retail trade, and foreign trade). Trade relations under the Council for Mutual Economic Assistance (CMEA) were based on five-year plans, in which, the volumes of exports and imports were established for the whole period depending on the perceived needs and resources of each country. Payments in convertible roubles were arranged through the International Bank for Economic Co-operation, which played the role of a multilateral clearing centre. Under the CMEA arrangement, Bulgaria was assigned the role of supplying agricultural products to other regions (mainly wine, fruit, vegetables, and tobacco). In terms of the overall trade balance, Bulgaria has always been, during the Communist era, a net agro-food exporter.

In addition to the CMEA trade, Bulgaria also had bilateral agreements with several other countries in Western Europe, Asia and the Middle East. Since one of the main policy goals of the trade regime was self-sufficiency in agro-food products, the government used several policy instruments, such as intergovernmental barter agreements, import/export balancing arrangements, payments in kind agreements and clearing agreements in order to achieve this goal. The state monopoly on foreign trade strictly prohibited any spontaneous initiative of domestic or foreign firms, or individuals to be involved in importing to, or exporting goods and services from Bulgaria. Thus, the highly protected home and export markets of the CMEA countries sheltered local producers from competition of the leading world agricultural exporters. However, these artificial conditions had a strong negative impact on the efficiency of Bulgarian producers and traders. On the eve of the reforms, the different elements in the food chain had been functioning poorly, especially at the commercial end.

### 2. New trading arrangements

Following the collapse of the CMEA, the dismantling of monopolies in production, and the abolition of the State monopoly on foreign trade, each element of the chain regained its autonomy. The new

political environment facilitated the creation of new trading arrangements and openness towards new trading partners. Within this new context, Bulgaria signed a new bilateral agreement with the EU, free trade agreement with EFTA and became a full member of CEFTA, as well as a fully-fledged member of the WTO. A free trade agreement with Turkey came into force in 1999. Bulgaria does not have any preferential trade agreements with Russia, or the New Independent States.

#### *Relations with the European Union*

In March 1993, Bulgaria signed the Europe Agreement with the European Community. This Agreement provided for the establishment of a free-trade area over a ten-year period, by eliminating trade barriers for industrial goods and improving market access for agricultural products. The process of trade liberalisation was asymmetrical due to the economic disparities between Bulgaria and the EU. In December 1999, Bulgaria along with Latvia, Lithuania, Romania and Slovakia was invited to begin membership negotiations with the EU. The main priorities in Bulgaria continue to be the harmonisation of the legislation with the EU, and the development of institutions for the operation of a market economy.

On 1 July 2000, the “double-zero” agreements between the EU and nine CEECs, including Bulgaria, was implemented. These agreements further contribute to the liberalisation of trade in agricultural products between the CEECs and the EU. For Bulgaria, the Agreement results in almost two-thirds of Bulgarian agricultural exports to the EU being duty free, while over half of EU agricultural exports to Bulgaria will take place free of import duties. In general, import duties have been eliminated on trade in the less sensitive farm products, while negotiations are expected to continue for the more heavily supported agricultural products.

#### Concessions to Bulgarian export to the EU

In general, EU concessions to Bulgaria were based on trade relations in the three years preceding the Agreement. Trade concessions were agreed upon mainly for products, in which there had been a significant volume of trade, more than 100 tonnes, in the reference period. Fish products were excluded from the initial negotiations by mutual agreement. The concessions made by the EU covered 79% of Bulgarian agricultural exports (including wine, for which there has been a separate agreement). Preferential quotas granted for some fruits (plums, strawberries, cherries), vegetables (potatoes, tomatoes, sweet peppers, preserved cucumbers, prepared tomatoes, apple juice) were below the average annual export volumes in the reference period. The number of live sheep and goats eligible for a reduced levy was also below the numbers exported in the base period. The difference between 100% coverage and the real outcome was the result of exceptions to the general principle, and agreed to in the negotiations. These exceptions recognise that some agricultural products are very “sensitive” for the Union. This recognition was reinforced by the safeguard clause, which states that in the case of serious disturbances on the agricultural markets of the other party, both parties shall immediately carry out consultations to find a proper solution. Until such a solution is found, the party concerned may employ any measures it deems necessary.

With the implementation of the principle of asymmetry, the EU was supposed to open its markets faster than Bulgaria. Both parties also agreed to analyse the possibilities of granting each other further concessions according to the principle of reciprocity.

Concerning Bulgarian exports to the EU, the EU abolished, on entry into force of the Interim Agreement, all quantitative import restrictions which were applied by EU Member States to non-market economies. The commodities where Bulgaria had some existing preferences under the General System of Preferences (GSP) were incorporated into the Agreement.

The export concessions can be grouped into the following:

- For a few agricultural products (ducks and duckmeat, geese and goosemeat), variable levies were reduced by 50%. The Agreement provided for an annual increase of the relevant quotas of about 10% annually for five years. This represented a consolidation of previous GSP concessions.

- Preferential tariff rates were applied to a range of agricultural products, without any quantitative limitations. This also represented a consolidation of previous GSP concessions. The list includes natural honey, flowers and shrubs, some out-of-season vegetables and fruit, preserved fruit and vegetables, and apple juice. For some products (live horses, goose and duck liver, game meat) duty-free treatment was given.
- Variable levies were progressively reduced for a number of other products (20% in the first year, 40% in the second year, and 60% in the next three years within quotas, while quotas were expanded by 10% annually from the base quantity). This applied to all red and white meats; bovine, sheep, goat, pig and chicken, as well as white brined cheese and yellow cheese of cow's milk, dried whole eggs, common wheat and millet and animal fodder.
- For several products, including tomatoes, onions, sweet peppers, cucumbers, dried and frozen vegetables, apples, apricots, plums, cherries, various fruit or vegetable preparations, fruit juice and tobacco, tariffs were reduced by 20% each year for three years, subject to quotas growing by 10% annually.
- There was a special annex in the Agreement dealing with the regime of minimum import prices for certain soft fruits for processing namely; strawberries, blackcurrants, red currants and raspberries.
- As regards processed agricultural products, the EU provided progressive elimination over five years of the “non-agricultural component” of the duty on the products concerned, and a 20%-40%-60% and 10%-20%-30% reduction of the “agricultural component”, within tariff quotas. These concessions applied to such products as yoghurt, frozen and preserved vegetables, tomato ketchup and tomato sauce, margarine for consumption, sweets, chocolate, pastry, bakery products, pasta, yeast, ice-cream, water, beverages, beer, vermouth etc.
- Exports of sheep and sheepmeat were subject to the “voluntary export restraint” regime, under which a reduced import levy was applied (in practice, this was zero), provided the quotas were respected.
- Because of the sensitivity of wine and EU wine producers towards foreign competition, separate negotiations were held between the EU and Bulgaria. These negotiations were concluded in June 1993 with the signing of two agreements: one on the reciprocal protection of the names of wines and control of wine; and, the other establishing reciprocal trade concessions for wines. Under these agreements exports of Bulgarian wines benefited from tariff cuts, subject to quotas. The 10% annual increase was calculated over the whole volume, but covered quality wines as a priority. The preferential quantities were subject to a 20% duty reduction in the first year, a 40% duty reduction in the second year, and a 60% duty reduction in the third and subsequent years. Since the principle of asymmetry has been applied, the respective reductions were smaller (10%, 20% and 30%) for wines originating in the EU and exported to Bulgaria.

#### Concessions with respect to imports from the EU

Under the Europe Agreement, Bulgaria agreed to abolish all quantitative restrictions on imports of agricultural and food products. In essence, two types of concessions were granted on imports from the EU. Under the first scheme, duties were to be reduced by 10% in the first year of force of the Agreement, 20% in the second year and 30% in the third and successive years within the limits of annual quotas. Products covered under this scheme included coffee, tea, bananas, pepper and other spices, mandarins, lemons, as well as cheese, vegetable seeds, oils, potatoes, residues for feed, and unprocessed tobacco. The second scheme involved a smaller rate of duty reduction –5%, 10% and 15%, up to certain limits. Quotas were set for pure-bred bovine animals, live poultry, milk and cream, oranges, dried grapes, peaches, watermelons, rice, oils, sugar, tomatoes, olives, and fruit juices.

As regards processed agricultural products, Bulgaria agreed to gradually eliminate the variable tariff component by 1 January 1999. Since the division between agricultural and non-agricultural elements did not exist in the customs tariffs, Bulgaria had until 1996 to specify the agricultural element of the tariff for processed agricultural products imported from the EU, and to start reducing the tariffs. The products cov-



ered by this element of the Agreement included sugar confectionery, cocoa products, chocolate, malt extracts, baby foods, pasta, cereal and bread products, coffee and tea extracts, yeast, waters, beer, etc.

Bulgaria provided concessions on about 42% of agricultural imports (including wine) from the EU in 1994. These were mainly products, which had no close domestic substitutes in Bulgaria because of different climatic conditions or different production technologies.

With the adaptation of the Europe Agreement to the UR commitments on agriculture, Bulgaria agreed to maintain the “standstill” for traditional imports from the EU. As far as applied duties are equal or lower than the duties existing before the accession of Bulgaria to the WTO, this is not a concession to the EU. In the cases when the applied duties are increased and approach their bound levels, the “standstill” commitments represent a concession to the EU. These commitments refer to such products as onions, garlic, cucumbers, frozen potatoes, grapes, apricots, etc., and are limited by quotas on the basis of their traditional imports into Bulgaria before the accession to the WTO.

#### *Results of the implementation of the Europe Agreement*

Given that agricultural exports to the EU increased by about one-quarter over the period 1993-99, the EU concessions are considered to be quite modest. Bulgarian exporters managed to utilise fully, or exceed the preferential quotas for only a few products (wine, preserved cherries, apple juice concentrate). The reasons for the low utilisation rates of product quotas can be attributed to the following factors:

- The severe fall in agricultural output caused by the prolonged structural reforms and the transition to the market economy contributed to the low utilisation of quotas under the Europe Agreement.
- Bulgarian production and exports are rather fragmented, and in general cannot meet the requirements of the big supermarket chains. In addition, some of the exporters have insufficient knowledge of the requirements imposed by foreign buyers.
- The under-utilisation of the export possibilities arising from the Agreement may also be due to some extent to EU protectionism manifested through non-tariff barriers, such as sanitary and phyto-sanitary measures. The enforcement of embargoes on imports of live sheep, pork and dairy products caused substantial losses to Bulgarian producers and exporters. The existing gap between the Bulgarian and EU requirements, as well as veterinary and phyto-sanitary requirements limits exports of Bulgarian products to the EU.
- Inappropriate base period for setting the concessions. The exports in 1989-91 did not have a firm basis, as this was a period of rapid transition both politically and economically. For many products, the surpluses disappeared in 1993. On the other hand, exports of some products fell substantially below the actual export potential.
- Bulgarian exporters of most products, with the exception of live sheep and lambs gained modest benefits from the Europe Agreement (for live sheep and lambs quotas are administered in Bulgaria). This is partly due to the fact that the EU administers the preferential quotas, and this allows EU importers to gain most of the benefits from the Agreement. Due to the quota administration, importers are licensed, and this restricts competition for quota use. On the other hand, competition between Bulgarian exporters is not restricted and this undermines their bargaining position *vis-à-vis* EU importers.

A large number of the canning factories continue to be guided by the principles and methods for quality control inherited from the old centrally planned system (control of the critical points of production, periodic visual and physical sampling, etc. Since there is no internationally recognised certification agency, there is little interest in the introduction of quality control systems. In many developed countries, the implementation of these systems has an important economic effect, as characterised by the higher degree of mechanisation and automatisisation (tomato products, fruit pulp, fruit juices and juice concentrates).

In order to make fuller use of the trade concessions under the Europe agreement, Bulgarian producers and exporters need to increase productivity, to improve international competitiveness, and to

modernise the production and processing of agricultural and food products. This process will take a considerable amount of time and will require substantial investment in the sector. The Europe Agreement is seen as a major step towards membership of the EU, as accession to the Union is one of the most important political and economic goals for Bulgaria.

#### *Relations with EFTA countries*

Bulgaria concluded negotiations with the European Free Trade Association (EFTA) countries in February 1993, and a Free Trade Agreement was signed. The multilateral Agreement is similar in many respects to the trade part of the Europe Agreement. The Agreement with EFTA is also asymmetric in character, with EFTA countries agreeing to liberalise at a faster rate than Bulgaria. Since EFTA countries did not have a common policy for agriculture, the multilateral agreement was supplemented with bilateral ones relating to agriculture and food products.

Under the bilateral agricultural arrangements, the EFTA countries granted concessions of varying degrees, on a product by product basis, to Bulgaria. All of them gave trade preferences for natural honey. Fruit juices also enjoyed duty free access to EFTA countries, except Switzerland and Liechtenstein, where fruit juices are subject to a 50% reduction in duty. Austria restricted imports of apple juice concentrate to 5 000 tonnes annually, and agreed on duty reductions within the limits of quotas for selected products and duty free imports for others. Switzerland and Liechtenstein applied three schemes of concessions with free access, a 20% and 50% reduction in duties. Finland, Norway and Sweden also offered different schemes of duty free or duty reductions for selected agricultural products.

In compliance with the principle of asymmetry, most of the EFTA countries did not receive any major concessions on agricultural exports to Bulgaria. Only Austria, Finland and Norway enjoyed some trade preferences on the following products: live bovine animals, cheese, coffee, barley for brewing, sugar confectionery, fruit juices, mineral waters, vodka, and prepared or preserved meat.

With the entry of the three EFTA countries, Austria, Finland and Sweden into the EU, the bilateral preferential agreements with them were abrogated and the Europe Agreement was adapted to reflect the enlarged EU.

#### *Relations with CEFTA countries*

The Central European Free Trade Agreement (CEFTA) was founded in 1992 by the Czech Republic, Hungary, Poland, and the Slovak Republic, with the aim of free trade in goods between member countries. Romania and Slovenia became CEFTA members in 1997 and 1996 respectively. Bulgaria became a full member of CEFTA on 1 January 1999. Only those countries that have an Association Agreement with the EU, are members of the WTO and have bilateral agreements with all CEFTA members are eligible for membership. Membership of CEFTA is considered as a temporary arrangement in preparation for full integration into the EU.

In view of the specificity of agriculture, the CEFTA agreement was not expected to bring about total free trade in agricultural products, but rather a substantial liberalisation of trade in most agricultural and food products. The concessions on trade in agricultural products can be summarised into three groups:

- Products belonging to list A have zero tariffs without any quantitative limits (This group consists mainly of tropical products that cannot be produced in CEECs).
- Products belonging to list B are subject to common import tariffs without quantitative limits. (This group includes products such as live animals, meat products, sugar beet, confectionery, etc.).
- Products belonging to lists C and D are the more sensitive products and have been negotiated on a bilateral basis. On several occasions there have been some tariff reductions within quotas.

The products for which Bulgaria is supposed to have the biggest comparative advantage namely, wine and tobacco products, are classified as sensitive for CEFTA countries and are included in groups C and D. Thus, the concessions achieved for the export of these products has been very limited indeed.

In overall terms, the share of CEFTA country trade of total Bulgarian agricultural trade is relatively small. For example, in 1998 and 1999, their share in both exports and imports was less than 5%. During the period 1995-97, there was a substantial increase in imports of agricultural products from CEFTA countries. The share of CEFTA imports in total agricultural imports surged from 2% to 14%. However, this trend has not been very stable, and in 1998 imports from CEFTA countries declined sharply. Since the CEFTA countries produce more or less the same agricultural products, the prospects for a significant increase in trade, based on complementary agricultural items and systems are limited. (Even under the former CMEA system, Central and Eastern European countries traded intensively mainly with the Former Soviet Union, rather than with each other).

### *Bulgaria and the WTO*

Bulgaria gained full membership of the WTO on 1 December 1996 after many years of negotiations. Like all other WTO members, Bulgaria is in the process of implementing its commitments under the Uruguay Round Agreement on agriculture under the three pillars; market access, domestic support and export competition.

#### Market access\*

Tariff bindings for the period of the implementation of the UR commitments were, in general, set above the effective level of protection before accession. At present, the bound rates, or rates close to the bound ones, are applied to a limited number of sensitive products, like dairy and poultry. The high applied tariff on imports of raw sugar has had a very limited effect, because the domestic consumption is almost equal to the minimum access quota of 250 000 tonnes, which can be imported at a tariff rate of 5%. Concerning the commitments for minimum and current market access, the other significant tariff quotas compared to domestic consumption are those for beef and chocolate preparations (Table II.3). The Special Safeguard Clause can be applied to only 22 tariff items (poultry and turkey meat, milk powder, white cheese in brine, ice cream, wine, tobacco and cigarettes).

The simple average of the tariff bindings in Bulgaria's schedule is higher than those in the EU's schedule for all of the four main chapters of the agricultural part of the import tariff – animals and meat, plant products, vegetable and animal oils, and ready products. The tariff bound rates for selected tariff lines in the EU are, however, higher than those in Bulgaria over the whole implementation period of the UR commitments. This refers mainly to some cereals, refined sugar, butter, milk powder, etc. (Table II.4).

Table II.3. **Minimum market access volume for selected products during the period of implementation of the UR commitments**

	Volumes (tonnes)	Tariffs (in %)
Beef	31 000	Between 0 and 10
Frozen chicken parts and offal	1 300	55
Butter	1 500	30
Wheat	1 500 000	15
Maize for forage	100 000	5
Wheat flour	50 000	25
Raw cane sugar	250 000	5
Chocolate preparations	10 340	Between 35 and 40
Distilled spirits (hl)	5 100	40
American blends of tobacco	5 000	10

Source: GATT/WTO: Uruguay Round Schedule of the Republic of Bulgaria.

\* While most products have a five year implementation period, from the date of accession, several sensitive products have an implementation period of six years.

Table II.4. **Bulgaria and EU tariff bindings (%) for selected products during the period of implementation of the UR commitments**

	Bulgaria		EU	
	First year	Last year	First year	Last year
Wheat	50	50	78	54
Barley	127	109	152	114
Maize	212	119	101	77
Rapeseed	15	10	0	0
Sunflower seed	50	50	0	0
Refined sugar	127	84	200	140
Beef	171	95	177	103
Pig meat	120	120	81	47
Poultry meat	96	96	42	26
Butter	120	60	168	123
Milk powder	64	64	96	64
Cheese	135	65	145	74

Sources: GATT/WTO: Uruguay Round Schedule of the Republic of Bulgaria ; Agricultural situation and prospects in the Central and Eastern European Countries, Summary report, European Commission, DG VI, Working document, VI/1120/95. World Trade Organisation (1996). Protocol for the Accession of the Republic of Bulgaria to the Marrakesh Agreement Establishing the WTO, 2 October 1996, Geneva.

### Domestic support

Bulgaria made its Total Aggregate Measurement of Support (AMS) commitments in ecus (later converted to euros). The level varies from euros 650 million in the first year, falling to euros 520 million in the final year of implementation. The AMS commitments are based on the level of domestic support in Bulgaria in the pre-reform period. At this juncture, support amounts are far below the level of the bound commitments (Table II.5).

Table II.5. **Domestic support and total AMS commitments (1996-2001)**

	Mn euros						
	Units	1996	1997	1998	1999	2000	2001
Bound commitments levels	Euros	600	635	520	520	520	520
Current total AMS	%		25	13	–	–	–

Sources: GATT/WTO: Uruguay Round Schedule of the Republic of Bulgaria and Ministry of Agriculture.

### Export competition

So far, the export subsidy commitments have not had any constraining effect on Bulgarian exports of agriculture and food products. As in the case of the AMS, the commitments on export subsidies are also set in euros. Bulgaria succeeded in negotiating rather high bindings on export subsidies from the point of view of budgetary outlays and quantities: the value of allowed subsidies amounts to euros 149 million in the first year of implementation, falling to euros 102.6 million in the final year (Table II.6). At present, tight internal budget restrictions are the most limiting constraint for export subsidisation. The low level of domestic support and lack of export subsidies show that Bulgarian agricultural producers cannot avail of the high levels of support negotiated under the WTO schedule. Therefore, further agricultural development will be conditioned by the prospects of a general economic recovery and increased allocations to finance agriculture, rather than by its WTO Uruguay Round commitments.

Table II.6. **Budgetary outlays and quantity commitments on export subsidies for selected products (1995-2000)**

	Outlays (mn euros)		Quantities (1 000 t)	
	First year	Final year	First year	Final year
Wheat and wheat flour	3.44	2.39	144.00	116.80
Fruit and vegetable fresh	24.18	16.71	75.17	60.97
Fruit and vegetable preserved	31.34	21.66	66.53	53.96
Wine	1.86	1.26	107.52	87.21
Tobacco	16.74	11.50	17.28	14.02
White cheese	6.51	4.53	5.47	4.44
Yellow cheese	0.93	0.65	0.77	0.62
Live animals	6.23	4.28	5.76	4.67
Mutton and lamb	12.37	8.53	8.64	7.01
Poultry meat	18.60	12.79	7.68	6.23
Eggs	0.28	0.19	0.67	0.55
Incorporated products	23.53	16.80	–	–
Total subsidies	148.80	102.61	–	–

### *Relations with Turkey*

The free trade agreement with Turkey, which came into force on 1 January 1999, set an ambitious goal of complete liberalisation of agricultural trade between the countries. Bulgaria opened up its market for many traditional Turkish products such as early potatoes, fresh tomatoes, almonds, citrus fruit, as well as confectionery, chewing gum, pastry, etc. The reduction in tariffs for the majority of these products and product groups is limited to specific quantities. The concessions, granted by Turkey, on imports of Bulgarian products include frozen fruit, millet, sunflower seed, fresh fruit and vegetables. Some of these concessions have no quota limitations, while others are subject to specific quotas. Over the period 1994-97, Bulgaria had a positive balance on trade in agriculture and food products with Turkey, and reached a peak of USD 67 million in 1995. The main products exported to Turkey are cereals, sunflower seed and sunflower oil.

## PRIVATISATION AND STRUCTURAL CHANGE IN THE AGRO-FOOD SECTOR

### A. Land ownership in Bulgaria – Historical overview

#### 1. *Developments until 1945*

Before 1945, small scale private farming dominated agriculture in Bulgaria. A high degree of land fragmentation was due to restrictions on farm sizes included in successive laws in the late 19th and beginning of the 20th centuries. In this respect, the Russian-Turkish War (1878) was a turning point. Large farms previously belonging to the Turkish aristocracy were liquidated and land was distributed to peasants and landless rural dwellers. Changes in land ownership were regulated by the 1880 Law for Agrarian Reform, in which a maximum farm size of 16 hectares of arable land was permitted. Nevertheless, during the following decades, large farms cultivating three or four times more land than the set limits came into existence. In 1921, new restrictions on land ownership were proclaimed by law, and limited farms to 30 hectares (in some regions to 20 hectares) at the most.

In addition to legally determined limitations on land ownership, the tendency to increase land fragmentation were enforced by the nature of inheritance resulting in further subdivision of farms. Moreover, the rapid growth in population at a time of slow industrialisation forced agriculture to absorb an increasing share of the population, resulting in a further fragmentation of farms. According to the last pre-WWII agriculture survey (1934) there were 885 000 private farms with an average size of 4.9 hectares. Many of these farms were small, and only about 11% of all farms were larger than 10 hectares, but accounted for about one-third of all agricultural land (Buckwell and Davidova 1993).

#### 2. *Agricultural reforms from 1945 until 1989*

Dramatic changes in farm structures took place after the Communist Party came to dominate the government. They started off with the adoption of the Labour Land Ownership Law in 1945, according to which land holdings exceeding 20 hectares (30 hectares in the Dobrudja region) were expropriated and nationalised. This involved around 375 000 hectares of agricultural land. Part of this land was distributed among the 120 000 landless rural families. The remaining land was used for setting up state farms (DZSs). The nationalisation of a portion of the larger individual farming units and collectivisation went together. Collectivisation was carried out in so-called Labour Production Co-operatives (TKZS) under the Co-operative Law of 1945. Farmers were forced to bring in their land, livestock and other non-land assets for common use. The collectivisation process was complete by 1958 and about 3 290 co-operative farms were established.

### B. Farm structures before 1990

#### 1. *Types and characteristics of agricultural production structures*

The initial structures created at the beginning of the socialist period were collective farms (TKZSs), state farms (DZSs) and machine and tractor stations (MTS). The size of the co-operatives was rather small, on average slightly more than 100 hectares. In the 1950s, they were scaled up to

1 500-2 000 hectares. In the 1960s they were consolidated and 795 co-operatives were formed with an average size of 4 500 hectares of agricultural land. A further concentration took place at the end of the 1960s with the average size increasing to 6 000 hectares, but later scaled down to about 4 000 hectares.

State farms (DZS) were set up mainly on expropriated land. In the 1950s, the average size of state farms increased rapidly to reach 3 000-4 000 hectares. Throughout the socialist period, the number of state farms never exceeded 200. Machine and Tractor Stations (MTS) were established initially as joint state-co-operative enterprises, but later became entirely state-owned organisations. These services were included in the central plan.

At the beginning of the 1970s, the collective and state farms were regrouped into a small number of Agro-Industrial Complexes (AICs). The AICs were organised regionally and included food processing, agricultural services (mechanisation, marketing, etc.) and sometimes non-agricultural activities. AICs were the main organisational structure in the mid-1980s; there were almost 300 AICs with an average size of 12 600 hectares, and they cultivated almost 81% of all arable land (Table III.1). Within these AICs, there were about 680 TKZSs (average size of 4 000 hectares) and 200 state farms. Sub-units called “brigades” within AICs operated relatively independently of the other organisations in the AICs. Important characteristics of “brigades” were that they were generally specialised in a single intensive crop or livestock breeding, and they were supplied with the necessary machines and equipment. Machine and tractor stations were established to provide services to collective farms and had no land. In general, however, the state-owned food processing enterprises remained outside the AICs.

From the mid-1980s there was a tendency to de-concentrate and de-centralise the AICs, but the central plan remained the main mechanism of management (Box III.1; Cochrane, 1990). Prior to the 1989 reforms, all large agrarian structures were re-organised and their sub-units turned into so-called self-managing collective farms (CEC 1995:14). About 2 100 farms were re-established in similar locations and size to the village based’ TKZS and DZS of the mid-1960s.

In the communist era, as in most of the other centrally planned countries, private farming was systematically restricted except for the existence of household plots. Farmers in co-ops and employed in state farms were allowed to have up to 0.5 hectares of land and a couple of animals for self-sufficiency purposes. The surpluses were sold and served to increase the cash income of the rural population. In the 1980s this practice was extended to other citizens. It is estimated that the number of household plots was about 1.6 million. Private plots accounted for 13% of all cultivated land, but their share in the overall agricultural production was estimated at about one-third, as they were involved mainly in producing higher value added products.

Table III.1. Pre-reform agricultural structures in Bulgaria, 1985

Operational structure	Number of farms	Average arable land per farm (ha)	Total arable land (ha)	Share of total arable land (%)
AICs	298	12 600	3 754 800	80.7
TKZSs	678	4 000	2 712 000	58.3
DZSs	196	2 100	411 600	8.8
MTSs	99	0	0	0.0
Brigades	n.a.	n.a.	631 200	13.6
Household plots	1 600 000	0.4	609 000	13.1
Other organisations	238	1 215	289 200	6.2
Total	1 601 509	–	4 653 000	100.0

n.a. Not available.

AICs = Agro-industrial complexes.

TKZSs = Collective farms.

DZSs = State farms.

MTSs = Machine and tractors stations.

Source: National Statistics Institute.

### Box III.1. Organisation and management of collective and state farms

The collective farms (TKZS) were organised on the basis of private ownership of land and non-land assets. Members entering the co-operative supplied land, machines and livestock, and formally remained the owners of their assets. Yet, they could not withdraw their land nor did they receive any rent for the land since the 1950s. Co-operative members had the right to participate in the General Assembly and to exercise their right to vote (on the principal of one person one vote). Formally, the members were entitled to elect the management of the TKZS, which was headed by a president and a vice-president, but the local Communist Party authorities had to approve, first the candidates, and then the elections just as they appointed state farm directors. Typically, the decision-making process was top-down in all spheres. The management of the TKZS was totally subordinate to the state directives and had to satisfy the short-term (quarterly), annual and five-year plans according to the orders of the state authorities.

The management of state-owned farms, directors and managers, was appointed by the state. The state authorities drafted the quarterly, annual and five-year plans just as they did for collective farms. Employees of a state farm were full-time employees. They were paid from the state budget like employees in industry and enjoyed the same social security schemes.

At the beginning of the 1970s, the operating structures in agriculture were unified into a small number of Agro-Industrial Complexes (AICs). The administration of this farming structure was complex, and changed frequently over time, but the central plan remained the main mechanism of management. The central administration of this farm structure was in the hands of the National Agro-Industrial Union. This organisation replaced the Ministry of Agriculture and Food Industry in the early 1970s. The organisation was to have control over agriculture, food processing, agricultural research and services, and to some extent the production of agricultural equipment.

Other organisations included farms attached to research stations, schools and forest enterprises, and also auxiliary farms, which were part of industrial enterprises and the army. Parts of them were (and still are) research oriented, while the rest were farmed on a self-sufficiency basis.

The process of privatisation of agriculture and the food industry is part of the general transformation of the economy from a central planned system to a market oriented system. In agriculture, the process of privatisation includes land restitution, the reallocation of non-land assets, the privatisation of the large state owned complexes and mechanisation services, as well as the upstream and downstream industry.

## C. The process of land and agrarian reform since 1991

### 1. Purpose and objectives

In Bulgaria, the process of restitution of land ownership rights was launched in February 1991 with the Law for Agricultural Land Ownership and Land Use (LALOLU). The main goals of the Law were: to reconstitute land ownership rights, to distribute the non-land assets, as well as to liquidate the old co-operative farms. In essence, the Law provided the legal framework for private sector development in agriculture. Although there was consensus on the main goals, there have been many political debates on how this goal was to be reached. The main disagreements related to the method of achieving the restitution, whether restrictions should be placed on the restitution process, the purchase and lease of land, and the manner by which former co-operatives were to be transformed. Efficiency purposes did not play an important role at the start of the transformation process.

The land law was designed on the basis of historic justice: to restore ownership and property rights to former (pre-communist era) owners and their heirs, in particular, those small-scale individual farmers who had to give up land due to the collectivisation process. Once the restitution started, the structure of land ownership changed radically and different types of farm structures emerged. The private sector (individuals and private co-operatives) became dominant with around 1.8 million small landowners. At



this juncture, almost 95% of individual holdings are less than 2 hectares. Land fragmentation continues to be a serious problem in individual farms, which farm around 43% of agricultural land, including 52% of arable land. Land fragmentation is considered to be one of the major obstacles to the development of a vibrant agricultural sector. Laws and regulations have recently been amended to enhance the possibilities for leasing and/or selling arrangements with the aim to facilitate an increase in the size of individual farms.

## 2. Institutional and legal framework

The privatisation of agricultural state enterprises (livestock complexes, agro-technical services, greenhouses, etc.) was made subject to the Privatisation Law (general). However, since most agricultural land in Bulgaria had never been nationalised, it was agreed that the transformation of agricultural land and non-land assets ownership rights had to be carried out in a different way to industries, which were legally state owned. So, as a result of the specific inherited status of agriculture, the legal framework for transformation of the sector is subject to separate laws. The principal law on land restitution and distribution of non-land farm assets is the Law for Agricultural Land Ownership and Land Use initially drafted in 1991. In addition, there is the Law for Co-operatives (LC) which sets up provisions for the creation of co-operatives, and a Land Lease Law (LLL), which regulates relations between the owners and the users of land (Box III.2).

Initially, there was a provision in the LALOLU, which allowed the claimants to pool their lands in a group as shared ownership. This provision has been removed by a 1992 amendment. Restoration of the land is only possible in historic “real” (physically delineated) boundaries (if they exist or could be easily

### Box III.2. The main laws underpinning agricultural land restitution and land use

The **Law for Agricultural Land Ownership and Land Use** (LALOLU) was passed in February 1991. Since then, this Law has been amended more than 25 times. The Law re-establishes private land property rights and provides procedures for liquidation of old-style co-operatives. The Law states that agricultural land has to be restituted to the owners of the land at the time the 1946 Labour Land Ownership Law came into force, or to their heirs. Individuals as well as schools, the church and legal entities could claim (all their) land back. Those, whose land was expropriated in 1946 could not claim back their land. With the 1998 amendment of the Law foreign persons and legal entities with foreign capital are allowed to acquire agricultural land.

Initially the Law re-established the 1946 Labour Land Ownership Law upper limits of land that could be owned by a household (30 hectares in general and 20 hectares in regions with intensive crops) as well as the minimum size of land (0.3 hectares arable land or 0.1 hectares land under permanent crops). The upper limit was legally removed in 1997 to allow owners to be compensated for land above the upper limit. A 1995 law amendment provides for specific conditions for the restitution of land under permanent crops, rice fields and land with irrigation systems. In these cases new owners are not allowed to change land use within the period of depreciation. Owners are also obliged to maintain the irrigation equipment during that period. According to 1996 amendments of the law, owners have to prepare a separate land re-allocation and business (investment) plan in order to receive the full property rights on the land.

The **Law on Co-operatives** (LC) was set up in 1991 to provide for the creation of new “private” co-operatives. It takes at least 7 members to register as a new co-operative. An Assembly of Members (or their representatives) is the decision-making body. According to the new 1999 draft Law on Co-operatives (“PZK”) farmland can only be leased by the co-operative through written contract. The new Law specifies procedures for establishing co-operative associations and federations.

The **Land Lease Law** (LLL) regulates the relationship between the owner/lessor and the user/lessee of the farmland and non-land agrarian assets. Land tenure contracts are to be in written form and registered by notary and the Municipal Land Commission (OPK). According to the original version of the Law there was a 600 hectare limit for individuals to lease-in farmland, a 4-year minimum to 50-year maximum period. The 1999 amendment of the LLL rules out any size and time restrictions for the leasing of farmland.

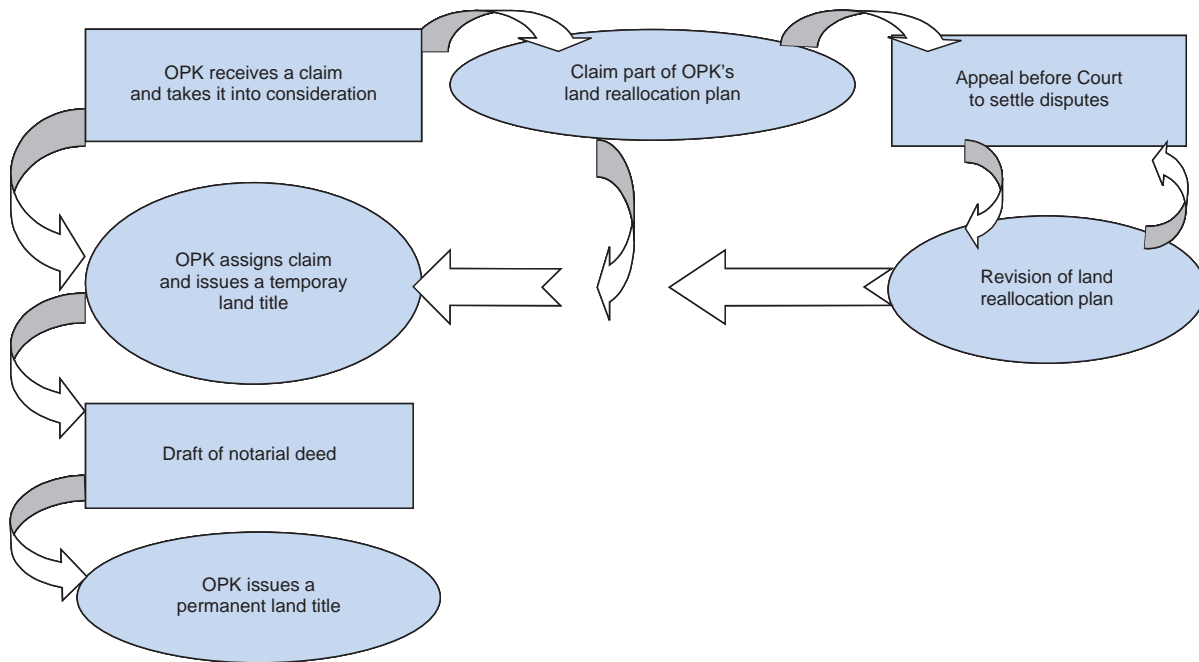
defined) or in new, comparable real boundaries. Landowners could get up to 90% of recognised, but not fully restituted land for temporary (one season) use. If agricultural land is not restorable because it is built up or otherwise transferred to non-agricultural uses, eligible owners are compensated with comparable municipality land or with compensatory bonds. These bonds are equal to securities and can be used for participation in all forms of privatisation as well as in auctions for agricultural and forestry lands (1998 amendment). According to the Law, state farms and municipal lands are to be allocated to smallholders and landless citizens. In practice, however, state land is mainly leased to those individuals and entities (including foreign) showing interest in it. The law exempts holders from paying taxes on land and farm income during five years from the date of full restitution.

*Land restoration mechanisms*

The National Land Council<sup>1</sup> and around 300 Municipal Land Commissions (OPKs – local administrative bodies of MoA) were set up to implement the Law regulating farmland restitution. The LALOLU stipulates that restitution procedures should follow a general order. As a first step, claimants submit applications to the OPK. The OPK decides on the recognition of ownership of rightful claimants, by checking the documents on which claims are based for authenticity and accuracy (Figure III.1).

The law stipulates that land may be restored according to two approaches. The first is restoration within the old boundaries of land where they exist. This is done if appropriate documents clearly stating the land property rights and boundaries can be shown. The second is under plans for re-allocation, within delineated boundaries of land of equivalent area and qualities, as per the recognised claim. In the latter case, the land should be consolidated after adjustment for differences in soil quality. The OPK prepares the land re-allocation plan. Owners and/or interested parties may appeal before the court if they disagree with the plan.

Figure III.1. Steps in the process of privatisation of agricultural land



Source: OECD.

Under plans for re-allocation of the land, land ownership claims are to be settled in several steps. Initially, each claimant is issued with a certificate indicating the quantity of land he/she is entitled to and the distribution of the land, based on the land quality. These certificates state the total amount of land and land quality that should be returned to the owners. As it does not specify the location of land, it cannot be used as a legal basis for issuing a title deed.

The next step is the implementation of the land re-allocation plans. Claimants may receive their land in one place instead of in several scattered pieces, or in a contiguous area with other people, so that it would be possible for them to create an association or co-operative and to cultivate their land collectively. These plans are subject to approval by owners within a one month term. If the term expires without any notice of appeal, the plan enters into force. Where an appeal is made, it is initially considered by the OPK and if the problem cannot be resolved it can then be sent to the courts.

If the plan is agreed on and/or the court decides on the case, a claimant gets possession of the land, certified by an OPK record and a map of the farm. The drafting of a fact finding notarised deed and its certification and recording at the district court record office concludes the whole procedure. In Spring 1999, it was decided that the OPK certificate is constitutive (legally acceptable) and does not require the additional fact finding notarised deed. In general, claimants are duly entitled to appeal in court against rulings of the OPK. The many court appeals against re-allocation plans and rulings of the OPK have slowed down the restitution process significantly.

#### *Privatisation of non-land assets*

The LALOLU also provides for the distribution of non-land assets of TKZS and other organisations into individual shares among eligible owners. The Law stipulates that existing or former members of the collective farms or their heirs have rights to shares in the farms' capital stock. The size of each individual share has been determined after updating the value of the collectively used and uncompensated inventory instalments. Initially, half of the asset values was distributed according to the size, quality and period of use of the land in the co-operative, and the other half was distributed according to the labour contribution of the members. However, following the 1992 amendments to the Law the distribution shifted in favour of land owners. At the beginning of the implementation process, the management of the existing co-operative farms was responsible for the distribution of the assets, but later Liquidation Councils were in charge. These councils, appointed by the regional Governor and since 1993 under direct control of the Ministry of Agriculture, were to manage the collective farms under liquidation and had to complete the distribution and transfer of non-land assets to eligible owners. Livestock were the first to be distributed to the beneficiaries. That was the starting point of the livestock de-capitalisation of the large production units. Following the 1995 amendment, Liquidation Councils were replaced by three -member eligible owners committees, appointed by the Minister of Agriculture, and were responsible for the completion of the asset distribution.

#### *Progress in land restitution*

The process of land restitution was supplemented by numerous changes in the early 1990s. Some of the amendments were in contradiction to others and this contributed to the complicated mechanism involved initially in the Law. As a result, the pace of restitution of land property rights was slow, particularly in the first years of the transition. At this juncture, the total amount of land restituted is about 5.6 million hectares. The progress in the restitution of agricultural land during the 1990s is shown in Table III.2.

The three most important reasons for the slow pace in land restitution, particularly during the first years were: complex, restrictive and ambiguous laws and regulations; poor management skills for implementing the process; and an inadequate operating budget (An Agricultural Strategy for Bulgaria, 1993). With the amendments to the law in the spring of 1992 some of the restrictions causing delays were removed. However, the introduction of further amendments in the next years resulted in a slow pace of restitution. The pace of land restitution slowed especially in 1997, and the main reason for this delay was the contradictory amendments to the law which related to the approval of the re-allocation plans (particularly the amendments voted in 1997). While the land restitution process is now practically

Table III.2. **Progress in land restitution 1992-2000**

As a % of total land for restitution

	1992	1993	1994	1995	1996	1997	1998 <sup>2</sup>	1999	2000 <sup>3</sup>
Land restored in existing or past boundaries	5.69	12.07	15.17	16.6	18.4	18.91	15.8	25.5	25.8
Land decisions issued on the basis of plans for re-allocation coming into force	0.5	2.1	17.2	31.8	39.9	48.1	58.1	70.9	72.3
Land for temporary use	5.3	21.7	34.8	35.3	33.3	31.6			
Total land restituted	6.2	14.2	32.4	48.4	58.3	67	73.9	96.4	98.1

2. The difference is due to changes in the methodology for reporting land restitution.

3. At 29.05.2000.

Source: *Annual Statistical Reports*, various years, NSI.

completed, nevertheless, many difficulties remain including the high cost and time consuming approach for the implementation of land reforms. The process of land restitution has resulted in a substantial increase in fragmentation in land ownership (the total number of claims is 1.7 million and the total area under these claims is 5.5 million hectares<sup>2</sup>). Policy measures to speed up land consolidation through the development of an active land market are being implemented. The problem of fragmentation has had a negative effect on the performance of the food processing sector due to the difficulties in supplying adequate quantities of high quality raw materials for processing, especially in the milk and canning industry. Even with some increase in land market transactions, the process of land consolidation will take much time, and will, in the short-run, be reflected in low efficiency in the sector.

### 3. Transformation of collective farms

According to LALOLU, former owners of land and their heirs were eligible for restituted land based on the situation of ownership prior to the 1946 Law. By the (first) deadline for submitting claims in 1992, the OPKs collected 1.7 million claims. The area claimed exceeded the available area for restitution by 20% due to a reduction of the farmland because of change in use (buildings, roads, etc.) or due to controversial claims.<sup>3</sup> The restitution process only slowly progressed as there were many technical difficulties in the identification and (re-)allocation of land, and a great number of disputes arose, for which the OPK and supporting services lacked funding, manpower and competence to deal with effectively and timely (CEC 1998:85-86). By the end of 1993, only 12.7% of the area claimed was restituted. This area increased to 67% of all land by the end of 1997. By 30 September 1999, MAF reported that 95% of all land subject to restitution (which totals 5.64 million hectares) had been restituted. One-quarter of the claimed land was restituted in old boundaries, and the rest through land re-allocation plans.

The principle of restitution of land to former owners, the rules and procedures for applying the law and the risky economic environment have induced a significant increase in the number of newly established production co-operatives since the transformation process started. In 1998 there were around 3 200 new co-operatives registered, accounting for 42% of the arable land and for 35% of all agricultural land. Many of the eligible land owners preferred to join a new co-operative than to start farming individually, as they lived in towns, had other businesses, were elderly and/or had no skills or capital to start their own farms. More than 2 million Bulgarians received individual stakes in the assets of liquidated former TKZS: many of these stakes were of little value (with a current value of less than 100 USD), and in indivisible assets (*e.g.* large machinery, buildings, processing or irrigation facilities, etc.). Therefore, many of the new owners did not have any alternative, but to liquidate (through sales or consumption), or to maintain joint (co-operative) ownership. In the absence of a land market (hindered by the slow process of issuing permanent ownership rights) and the highly uncertain economic environment, the preferable option for many owners has been to join co-operatives. Consequently, more than 40% of the new owners allow their land to be farmed by the newly established production co-operatives, whilst in most cases they do not contribute labour to the co-operative and are employed outside agriculture.

### Box III.3. An integrated Co-operative farm, Lesidren Village, Lovech Region

The farm is a so-called new co-operative. The co-operative was set-up by former managers of an old-style co-operative and uses (some) assets (buildings) of the former collective. The number of members is small, some are working in the co-operative, while other members live outside the region. The co-operative employs permanent and seasonal labour as well.

The co-operative has evolved into an enterprise that integrates input supply, production, storage and trade operations. At present, it includes a feed mill which has been modernised recently with Dutch financial and technical help, a pig farm (300 sows, around 2 300 fattening pigs), dairy cows, a meat processing unit, and several retail shops in the region and in Sofia. A dairy processing (cheese) unit is under construction. The feed mix production for pigs and cattle is being used for own purposes and for sale to other farmers, mainly in the neighbourhood. The co-operative also owns warehouse facilities in the region for storing feed. Farmers from the region buy their feed products from these warehouses.

A minor share of the inputs for the feed mill is produced on the farm (wheat, maize, etc.). Feed supplements and a substantial volume of cereals are bought-in. The feed mill has proven to be quite profitable, and the profits have been used for setting up the meat-processing unit. This latter unit produces several products (sausages, cut pieces, etc.). All meat production is sold on the domestic market, mainly in the co-operative's own shops. In this way, the value added remains in the co-operative.

Most often, new co-operative organisations have been set up with land for temporary use and/or with (a part of) individual shares in the assets of liquidated collective farms. Currently, the owners have little idea about the rate of return on their assets. A large proportion of the owners live in the cities and are not able to attend the meetings of the co-operative's General Assembly in which decisions on rent payment are made. To resolve the current situation the government has amended the Co-operative Law by including a provision stipulating that landowners may not join the co-operatives solely through land ownership. This amendment intends to encourage co-operatives to buy or lease the land, which thus may stimulate the land market and will assist the land consolidation process. Further, it may contribute to the stability of the co-operatives as production organisations, since agreements on leasing and buying legally formalise the entry and exit of members.

The new co-operatives can be broadly divided into two categories: member-oriented and market-oriented co-operatives. A large proportion of all newly established co-operatives is member-oriented. Their production structure is determined by the needs of members (provide produce for household consumption valued at production costs, feed for animals, mechanisation services for members' own plots, storage, bakery, etc.). Most of the members do not work for the co-operative, but joined by contributing their land and shares of non-land assets of the old co-operative. These new co-operatives lack clear specialisation and sell only a small proportion of their output on the market. Consequently, they rarely have income for investments or dividends, which seriously hinders their development outlook. Market oriented co-operatives, on the other hand, tune their production decisions with the market. In generating income from the market necessary for investing in technology and expansion, these farms may enlarge their future development perspectives. Some of these co-operatives have diversified their operations into marketing and processing. While considered atypical of agricultural production in Bulgaria, the number and importance of this type of farming are likely to increase. An example of an integrated farm is discussed in Box III.3.

#### 4. Privatisation of state farms

At the end of the 1980s state owned agricultural land made up 17% of all cultivated land. Privatisation of this land is the subject of the Privatisation Law, which regulates the privatisation of all state-owned enterprises and their land. However, when restoration of land ownership started, it became clear that due to the frequent changes in operating units under the AICs in the 1970s and 1980s, state farms were operating pieces

of agricultural land which were never nationalised. Therefore, part of the land in state farms was claimed by individuals, municipalities and legal entities under the Law for Agricultural Land Ownership and Land Use.

In 1998 there were still 264 state farms, almost half the 1995 number. Almost one-quarter of these state farms are cattle farms, pig and poultry production entities. The intensive pig and poultry farms have no agricultural land. The majority of the state-owned farms are farm machinery and tractor service stations, most of them are not only organisationally, but also technically obsolete. In 1998 state farms (mainly municipality lands) accounted for about 19% of total agricultural land, 4% of arable land and 71% of pastures. In May 1997 the Government announced the privatisation of all state farmland, except for land used by a number of research, education, and development farms which accounts for 1.6% of the total cultivated land. To date this target has not yet been reached.

## 5. Development of private farming

Agriculture has undergone significant structural transformation since 1989. From an organisation based on large-scale agro-industrial complexes, it has been transformed into one based on privately operated co-operatives and private individual farmers and farming companies. By the end of 1998, private farms accounted for 81% of agricultural land, 96% of arable land and 97% of permanent crops and 29% of pastures. This situation has not changed much since then according to the latest information from the NSI, and is almost the reverse of the one in 1985.

However, within individual private farms there is extreme duality. In 1996, around 3 500 farms operated 66% of all land cultivated by individual farmers, while at the other end of the spectrum, more than 1.5 million small farms cultivated only 14.6% of the land. Out of this large group of smallholders, almost 1.4 million farms (*i.e.* 72% of all individual farmers) have an area up to 0.5 hectares. Within this group there are more than 900 000 farms (51.5% of the total number) with less than 0.2 hectares. These figures are close to those of the household plots during the pre-1945 period, when there were about 1.6 million plots with an average size of 0.38 hectares. Under the hardship of transition, people preferred to preserve land area similar to their household plots for individual use, in order to ensure household food supplies and to derive additional cash income.

The average size of all individual farms nearly doubled to almost 1.5 hectares between 1993 and 1996. This increase is due to the rise in the average area of those (few) farmers in the category with more than 10 hectares, up to almost 500 hectares. The rapid concentration of individual land operations is shown by the decline in the number of large farms from over 20 000 in 1993 to 3 500 in 1996, while at the same time the area of land managed by this group increased more than three and a half times.<sup>4</sup>

The large numbers of very small farms with less than 1 hectare may be considered subsistence farms. Self-consumption leaves little production to be sold on the market. This implies that a large part of individual farms generate little or no cash income from their agricultural activities. In most cases they depend on non-agricultural income for both their day-to-day household and farming expenses as well as for investment in the farm. Against this background of subsistence orientation and low incomes generated by agricultural activities, the majority of individual farms have mainly a social function for the rural and, partly, the urban populations. Their future economic viability as agricultural producers seems to be rather limited, but their importance to satisfy priorities of rural families for consumption of own produce and for non-commercial (hobby) farming might be sustained, and therefore, they might continue constituting an important component of rural life.

In general, *small-scale farms* with holdings greater than 1 hectare sell part of their output on local markets. Largely, these farms are specialised in labour intensive production such as horticulture, fruits, tobacco and grapes, or in small-scale livestock-crop production. For these farms, a substantial portion of the household income comes from farming. *Middle-sized farms* (between 2-10 hectares) are specialised in cereal and industrial crops, or in a mix of livestock-crop operations. Most of these farms lease land and employ workers. In some instances, these farms are major providers of some services to small farmers (mechanisation, transportation, and marketing, etc.). Some of these farms generate income large enough to modernise production, and to extend farm operations, including marketing and processing. As a rule, they provide workers and landowners with higher wages and rents than in the producers' co-operatives.

Table III.3. Size distribution of individual farms in Bulgaria, 1993 and 1996

Groups by farmed area (ha)	Share of farmed land (% of total private farms)		Share of group in total (%)		Average size (ha)	
	1993	1996	1993	1996	1993	1996
Up to 0.2	n.a.	3.2	n.a.	51.5	n.a.	0.09
0.01- 0.5	n.a.	4.5	n.a.	20.4	n.a.	0.33
0.51-1.0	n.a.	6.9	n.a.	14.4	n.a.	0.7
Up to 1	28.8	14.6	78.8	86.4	0.26	0.21
1.1-2	23.7	8.2	14.6	8.8	1.15	1.37
2.1-5	19.1	7.8	4.7	3.9	2.87	3
5.1-10	7.1	3.4	0.8	0.8	6.45	6.72
Over 10	35.7	65.9	1.1	0.2	14.3	493
10.1-20	3.2	n.a.	0.15	n.a.	22.73	n.a.
20.1-30	0.9	n.a.	0.02	n.a.	33.8	n.a.
30.1-50	0.8	n.a.	0.01	n.a.	56.63	n.a.
50.1-100	1.4	n.a.	0.01	n.a.	114.74	n.a.
Over 100	16.6	n.a.	0.02	n.a.	1 086.13	n.a.
Total arable land (100 ha)	13 863	26 206			0.71	1.47
Share in total cultivated land (%)	27.5	51.9				
Total farms (000)			1 950	1 777		

n.a. Not available.

Note: Data on size distribution of farms in the separate categories over 10 hectares refer to 1994.

Source: National Statistics Institute.

The *large farms* (over 10 hectares) are highly specialised in cereals and industrial crops (*e.g.* sunflower seeds). They lease land and hire many workers. In many cases, they invest heavily in farming, employ up to date technology and mechanisation, with the aim of increasing efficiency. These farmers usually practice modern business management of their enterprises such as internal specialisation of functions, strategic planning, as well as managing the upward and downward vertical links.

Some farms with 2 or more hectares represent *registered agrofirms or partnerships*. These forms of agri-business organisations offer a number of advantages over non-registered farms for taking part in privatisation auctions, for gaining public image (*e.g.* developing brand names), and for overcoming some legal restrictions (renting large tracts of farmland, engaging in cereal trading). The size of private firms varies depending on the character of the industry. Some agrofirms have developed as large partnerships of former employees of privatised state companies. Other state companies have been taken over by other organisations, and *de facto* represent joint ventures with the investment of a large amount of outside capital. This integration has increased potential efficiency by exploiting existing business ties, marketing channels and investment capacity. Frequently, however, such external control over the management has been associated with profit outflows (through transfer pricing) and the worsening of the economic position of the agricultural production unit.

## 6. Land market

The process of land restitution resulted in a highly fragmented land ownership pattern. Bulgaria attempted to combine the strong demand for full property rights from those who formally owned the land (historic justice) with equity considerations. Efficiency considerations played a less important role. As a result, land reform in Bulgaria culminated in a fairly equitable distribution of land and welfare. However, if the initial re-allocation of assets was politically driven, the further restructuring of the Bulgarian farm sector and the achievement of economic efficiency depends on the functioning of factor markets.

At this juncture in the reform process, the excessive land ownership fragmentation can be gradually overcome through land sales and land leasing. Some laws and regulations have recently been amended

to enhance possibilities for leasing and/or selling arrangements. In 1999 the Land Lease Law was amended to rule out any size and time restrictions for the leasing of farmland set in the initial text of this Law. The Law on Co-operatives stipulates that the co-operative has to buy or lease land on written contracts. This rule encourages co-operatives to conclude formal arrangements with respect to farming the land. This change may also stimulate the land market.

Yet, there is currently no active land market. A sales market needs properly set ownership rights and this condition has been fulfilled only recently (although still not for all agricultural land). What may limit land market activity, is that the LALOLU stipulates that for a two-year period from the date of reinstatement of ownership the area of land owned and purchased through legal deals is limited to 20 hectares (30 hectares in Dobrudja region) per family per household. An additional obstacle to more active legal transactions is the high stamp duties and transfer taxes (11% of the value transacted) which represents a high transaction fee considering the existing economic situation in Bulgaria (FAO, 1999). On the other hand, the rental/lease market has developed into an important element in the emergence of private family farms and farm companies. Households and individuals are allowed to lease or rent land without limits. New owners of restituted land seem to prefer leasing their land to selling. Social and cultural reasons cause farmers who receive back their land after so many years to be unwilling to transfer their land to others for emotional reasons, and/or small holders to keep their land as a social security asset. With the escalating inflation rates at the beginning of 1997 fresh in mind, many people may prefer holding real tangible assets rather than liquid assets of (possibly) rapidly declining value.

State Land, which is under the responsibility of the Ministry of Agriculture, is an important element in the land market. Part of the state-owned land is used by schools, research institutions, experimental stations and so on; the rest is being leased either on a short-term (one year), or on a long-term (up to 10 years) basis. The formal lease policy of the Fund is that it gives priority to landless people and/or peasants and the average amount of land leased does not exceed 1 hectare. The rent is calculated by a formula, in which fertility, location, land use and some other elements are considered. Land owned by municipalities is administered by the Municipal Land Fund. This Fund also rents out land more or less under similar rent levels, but only for one year.

As Bulgaria's land restitution has been practically completed, it may be expected that the land lease market will develop further and lease contracts will be concluded for other than short-term (one-year) period. However, expectations for an active sales market to develop should not be pitched too high. In addition to the reasons already mentioned, it also depends heavily on loan funding available from banks and credit institutions. Due to low profitability of the sector the availability of credits to farming is still problematic.

## **D. Privatisation in the upstream and downstream sectors**

### **1. *Upstream and downstream sectors before 1990***

Before 1989 both upstream and downstream enterprises were organised into state monopolies or trusts. In each branch of the food sector these trusts were vertically structured (including input supply, processing, trading and research units), and regionally organised. On the national level, trusts were subordinated to a branch Ministry. The whole structure was strongly politicised with enterprise managers involved in bargaining processes with bureaucrats over input supplies, production plans and state support. In practice, branch ministries handled almost all functions performed by enterprises in a market economy. Competition between state plants was practically non-existent.

Until 1990, agricultural inputs (seeds, fertilisers, chemicals, agricultural mechanisation, energy, etc.) were supplied by specialised state enterprises. These enterprises were incorporated in state trusts under centralised control. The supply of investment goods to Bulgarian agriculture was organised directly from the production plants through the territorial enterprises for capital goods supply. Some parts of the Bulgarian input industries were significantly export-oriented. For instance, a large portion of fertiliser production was exported, and until 1989 about 50% of agricultural machinery was exported to countries of the former CMEA and to the Middle East.



While the state enterprises supplied almost exclusively all inputs to farmers, the state also purchased practically all harvested crops and animal products from the farms, excluding almost entirely wholesaling as a separate activity. The closest that Bulgaria had in the past to wholesalers were the state trusts, which controlled processing and distribution. Before the reforms the state trusts procured the output at prices determined by the state under the central plan, and in the last pre-reform years at prices fixed by the trusts, but within the limits determined centrally. The decisions taken by the trusts were compulsory for all its subdivisions. A minor part of the produce was bought by the Central Co-operative Union. This organisation controlled a substantial number of retail outlets, particularly in villages and operated open-air markets.

Most food stores were state-owned, or co-operative property. Yet, an estimated 30% of all food sold was supplied to local markets, in most cases, open-air markets by those cultivating their small plots. Before 1990, foreign trade was almost exclusively a state monopoly, with the Central Co-operative Union also engaged in some foreign trade. Specialised foreign trade companies were established by some of the trusts and by various foreign trade directories of the Ministries.

## **2. Objectives of privatisation**

The main objective of the privatisation process in Bulgaria is the abolition of the state monopoly by changing the ownership of the assets from state to private hands. The approach chosen to transfer the assets of state-owned and municipally owned enterprises into private hands has been a mixture of cash sales and mass (coupon) privatisation. In principle, every Bulgarian citizen was eligible to take part in the privatisation process on equal terms. The social justice objectives, for example to protect employment in the restructured enterprises, or to distribute the national wealth' over the population, predominated over economic objectives of privatisation, such as improving efficiency and attracting capital for the modernisation of Bulgarian industry.

Yet, the privatisation of the upstream and downstream industries related to the agricultural sector has been accelerating only since the Government adopted the Strategy for Accelerating Privatisation in May 1997. With this plan to privatise at least 80% of the assets of all state-owned enterprises in agriculture by 1999, the Government forced a speeding up in the privatisation process, which had been delayed for many years. The slow process of privatisation of industries was mainly due to political controversies, which led to the slow establishment of a clear and consistent legal framework. Technical difficulties in the legal identification of property rights (state- or municipality-owned, restitution claims, etc.) also explained the slow process of privatisation. In addition, obstacles of an economic nature also held back changes in market structures. The low efficiency of the sectors (due to over-capacity, obsolete machinery and equipment, etc.), the huge debts of a number of firms, the fall in agricultural production and declining domestic demand due to dwindling disposable incomes discouraged new entrants from investing in the sector.

## **3. Legal framework and methods**

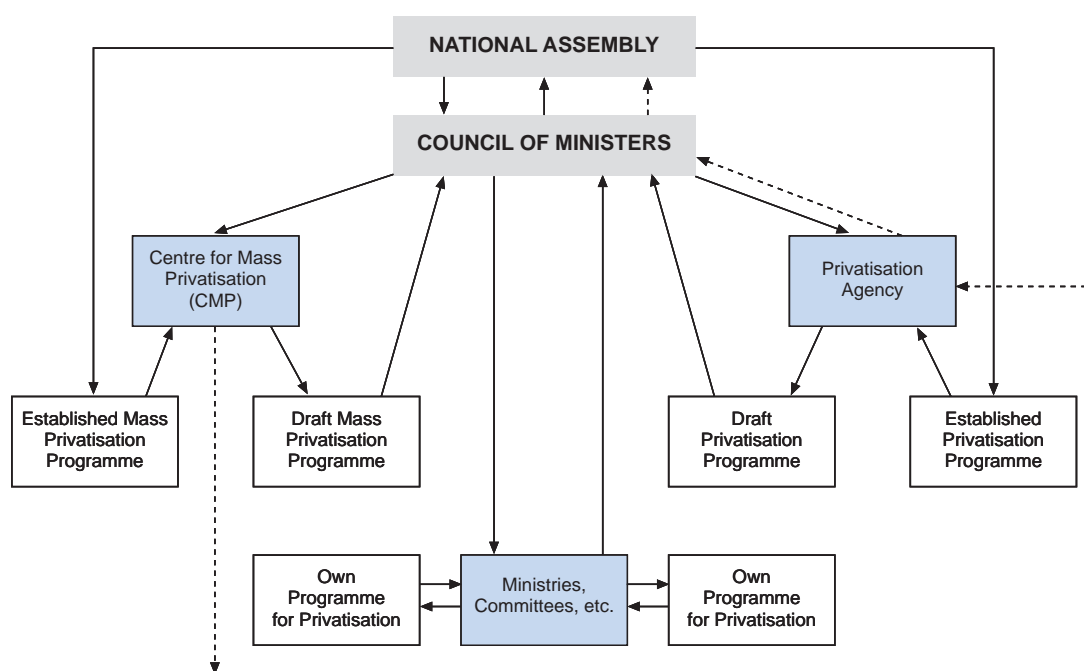
In November 1990, the government announced the first reform measures oriented to de-monopolisation. Following the passing of several decrees (especially, Decree No. 110), state trusts involved in purchasing, processing and trade of agricultural produce had to be broken up, as well as those large state enterprises involved in input supply. Implementation of this decree appeared very difficult because of strong opposition from the state trusts. The main result from this first step was the transformation of national monopolies into regional ones (Davidova, in Swinnen (ed.), 1994:64). The second, important step was the passing of the Law on Transformation and Privatisation of State and Municipal Enterprises in April 1992, which provides the basic legal framework for the privatisation of state owned enterprises in all sectors of the economy. This law, referred to as the Privatisation Law, regulates the terms and procedures for the transformation of state-owned enterprises into single-person commercial partnerships (firms of a limited liability or joint-stock company type), and for the privatisation of state-owned and municipal-owned enterprises. In addition, this law also specifies the institutions involved in the process, their responsibilities and privatisation methods. Like other legislation concerning privati-

sation of state assets, the Privatisation Law has been amended many times due to continuous debate and political struggles over this issue in Bulgaria. Consequently, the procedures of privatisation and the responsibilities of the institutions in charge have changed frequently, and the process of implementation of the privatisation process has been slow. The main lines of implementing the Privatisation Law currently in force are shown in Figure III.2 and described in Box III.4.

According to the Privatisation Law, any individual or legal entity is entitled to participate in privatisation on equal terms.<sup>5</sup> However, persons currently or formerly employed with the enterprise, which is in the process of privatisation, are entitled to participate on preferential terms. Preferences consist of selling shares to eligible persons at a price equal to 50% of the price of the shares formed according to a procedure established by the Council of Ministers. The shares purchased on preferential terms and the aggregate amount of the discount at which a single person may purchase shares are restricted. Managers and employees may indicate whether they are interested in taking over the firm under a Management-Employee-Buyout (MEBO) scheme. If they are, they receive preferential treatment in terms of prices and payment of shares (OECD, 1999:83). On the other hand, the government established a list of enterprises for which privatisation by MEBO's is excluded.

In the annual privatisation programme, the government indicates which companies are to be privatised and how. The government offers the sale of single enterprises or pools', which attempt to bundle together more and less attractive firms. Although the Privatisation Law allows several methods to privatise state-owned firms, there are mainly two methods applied: cash sale and mass privatisation.<sup>6</sup> Under cash sales, the prospective purchaser negotiates a purchase price for the shares of a particular enterprise, either by an open offering or by auction, by tendering or by direct negotiations with the PA or Ministry in charge. In about 15% of such sales the successful purchaser has been a combination of the

Figure III.2. The structures for implementing the privatisation programmes



Source: OECD.

#### Box III.4. Implementation of the privatisation law

The main bodies involved in the privatisation process in Bulgaria are the Council of Ministers (CM), the Privatisation Agency (PA), Centre for Mass Privatisation (CMP), and the branch ministries. The municipal and town councils are also involved in the process of privatisation. The hierarchy of the relations between the listed institutions and the distribution of power and responsibilities are as follows. According to the provisions of the Privatisation Law, the National Assembly (NA) determines the annual privatisation programme, based on the advice and recommendations of the CM. In this programme, the National Assembly states its objectives with respect to the number of enterprises to be privatised, their features, the expected size of the revenues, and so on. Based on this annual privatisation programme, the Privatisation Agency (PA) determines an operational programme. The PA is responsible for privatisation of the larger enterprises (long-term assets exceeding 1 million leva). Privatisation of smaller enterprises is the responsibility of the Ministries in charge (for agriculture and its related industries, these are mainly the Ministry of Agriculture and Forestry and the Ministry of Industry. Municipality enterprises and the municipalities' shares in the other companies are privatised by the Municipality Councils. The operational programmes for privatisation are to be approved by the CM, which sends the programme to the National Assembly for ratification. Then, the privatisation procedure may actually start with the CM delegating the execution of the privatisation to either the PA, to Ministries, to municipal councils or to the Centre for Mass Privatisation (CMP). The privatisation of all municipal enterprises is realised by the municipal councils, along the lines indicated in the annual programme for privatisation, and passed by the National Assembly. During the process, the Privatisation Agency gives municipalities only technical help. The CMP is a specialised institution of the CM, set up to organise and monitor privatisation by centralised public auction. The Executive Director of the CMP is appointed by the CM and is in charge of the overall activity of the Centre. The CMP reports to the Council of Ministers concerning the results from each privatisation stage through investment bonds.

previous management team and employees who have organised a management buy-out. By definition, if applied properly, cash sales increase budgetary revenue and are more efficiency oriented than the mass privatisation.

With mass privatisation, transfer of ownership is through the exchange of coupons, which were issued to all Bulgarian citizens of 18 years and older. The coupons are usually handled by an investment trust fund into which individuals deposit their coupons. These trust funds have holdings in several companies in various sectors of the economy, often with board representation. The funds, which are profit motivated, have also tended to be active in bringing about changes in the enterprises in which they have invested, in particular through introducing changes in management and putting emphasis on improving company performance. In some instances, the funds have also adjusted their investment portfolios, divesting holdings which do not fit in with their philosophy, or which are considered to have performed poorly, and purchasing shares in enterprises which are considered to be more suited, or attractive, to their portfolios (FAO, 1999). There is thus a nascent market emerging for the trading of shares.

Under the privatisation process the government has adopted an open policy towards foreign investment in enterprises. There are no significant restrictions on foreign companies wanting to invest in Bulgarian enterprises<sup>7</sup> and there is freedom to repatriate profits. Although the government has had this policy throughout the 1990s, relatively few foreign companies have, as yet, been attracted to invest in Bulgaria.<sup>8</sup> In the period from 1992 until the end of June 1998 foreign direct investment in the food processing industry was estimated at USD 286 million out of USD 2.3 billion of total foreign investment in Bulgaria (Foreign Investment Agency). The major branches in the food processing industry which have received foreign direct investment are the brewery, soft drink and milling industries (Table III.4). The FAO reports that around 20 of these investments involved more than USD 1 million investment, some in the form of take-overs of existing Bulgarian companies, *e.g.* Danone, Delta, and Luxcraft, while others have been green field investments. There have also been several investments of under USD 1 million made by foreign companies, many of which involve companies from Turkey and Greece (FAO, 1999).

Table III.4. Foreign direct investment in the food processing industry 1992-1999

000 USD

Branch Industry	1992-1997	1998	January-June 1999	Total 1992-1999 (30.06.99)
Brewery	55 807	1 325	112	57 244
Soft drink	51 049			51 049
Milling	48 344		195	48 539
Sugar	33 190	1 874	129	35 193
Canning	27 866	302	11	28 179
Dairy	17 578	8 298		25 876
Wine	2 885	15 660	3 200	21 745
Oil	6 800	3 292		10 092
Bread and baking	5 439	15		5 454
Tobacco	1 270	154	8	1 432
Meat	0	299		299
Others	684		93	777
Total	250 912	31 219	3 748	285 879

Source: Foreign Investment Agency, Sofia.

#### 4. Privatisation of supply and service enterprises

The upstream sector is already privatised to a large extent. At present, there is only a state monopoly with respect to electricity supply. To some extent, a state monopoly also exists with respect to the supply of irrigation and drinking water,<sup>9</sup> as the state has retained a majority stake holding in these companies.

At the end of 1999, two of the big fertiliser enterprises were privatised, while the privatisation of the other two is under way. The only enterprise in the country that produces plant protection chemicals is in private hands. Most of the state companies supplying energy and construction material have been privatised too, while the distribution and supply of fuel and lubricants is completely private. Until 1991, all the 15 plants producing agricultural mechanisation were united in the "Agromashina" Trust with headquarters in Sofia, together with a foreign trade enterprise and a research branch. In 1991, this trust was transformed into 17 independent trading enterprises. To date, eight of them (of which one is foreign-owned) are private. Four to five plants have actually ceased to produce due to lack of demand, while the rest of the plants are currently in the process of being privatised. The upgrading of machinery in agriculture is extremely important, but due to the low profitability in farming and the difficult conditions for borrowing money, the purchase of up-to-date equipment is almost impossible for most farmers.

#### 5. Privatisation of food processing enterprises

Under the communist regime the food processing industries were subordinated to the Ministry of Industry. In January 1995, the food processing industries were transferred from the Ministry of Industry to the Ministry of Agriculture.<sup>10</sup> The name of the latter was changed accordingly to the Ministry of Agriculture and Food Industries. With this change, the Ministry became responsible for the privatisation of both agricultural and food processing enterprises. However, with the change of the government in 1997 and its intention to speed up the privatisation process of all state-owned food processing companies, responsibilities with respect to privatisation of food industries were reallocated to several Ministries (Box III.5).

The process of restructuring and de-monopolisation of state enterprises in the upstream and downstream industries started in 1992, but the process of privatisation advanced only slowly. In the years up to 1997, only 83 enterprises were privatised, of which 31 were privatised in 1997 (Ivanova *et al.*,

Box III.5. **Responsibility for the privatisation of the various branches in the food sector**

**Ministry of Industry:** brewing industry, canning industry, dairy industry, fish processing, meat processing, sugar refining, vegetable oil processing, and wine industry.

**Ministry of Agriculture, Forestry and Agrarian Reform:** milling industry, animal feed industry.

**Ministry of Trade and Tourism:** tobacco industry.

**Municipalities:** bakery industry

Source: FAO 1999.

1999:12). The pace of privatisation accelerated in 1997 and 1998 and by the end of 1999 most enterprises in the agro-food sector were in private hands.

The degree of private ownership in the food sub-sectors varies, but the share of private enterprises in the total number of firms is on average 90% or more in each sub-sector. Both the dairy and the brewing industries are fully private. The main exception is the tobacco industry, where the state still dominates. Four of the thirteen sugar enterprises are still to be privatised. There is little investor interest in this sector as capacity utilisation has been very low in recent years. Also in the wine industry, the state owns more than 10% of all enterprises. In addition, 15% of enterprises in the food sector have been liquidated, or were declared bankrupt, this group includes mainly enterprises in the canning, fish and meat processing industries. Some of these enterprises, however, have been taken over (partly) by private investors who use the old assets to establish new companies.

The tobacco industry is very important economically and is largely export oriented. In addition, the industry contributes substantially to the state budget, mainly in the form of high excise duties. The industry is mainly located in the border and mountainous regions, and plays an important role in providing employment and incomes in these regions. Thus, because of its sensitivity in the economy, the Government has postponed the complete privatisation of this industry. Almost 25% of the shares of Bulgartabac has already been sold to the private sector through the process of mass privatisation. In essence, the State is seeking a big strategic investor to modernise and develop the industry in Bulgaria.

There are many new firms in the dairy and meat industry, despite the sharp decline in livestock numbers and production. Many of the new companies are small-scale, and process locally produced raw material into products for local markets. On average, the capacity utilisation in these industries is extremely low (approximately 15-20%). Under the privatisation programme two large foreign companies have invested in former state dairies, Danone of France and Delta of Greece. Danone produces a range of milk and yoghurts while Delta produces ice cream. While most dairies still tend to continue to serve their local area, some of the larger dairies, Danone in particular, have expanded their distribution to the national level. This trend is putting additional pressure on the weaker dairies whose future survival will depend on their ability to compete in the market. Large investments are needed to align sanitary, hygiene and quality standards to the EU in both the dairy and meat industries. Given the fact that the equipment of many enterprises is obsolete, a substantial restructuring in these sectors is to be expected.

## 6. *Development of wholesale trade sector*

At the initial stage of the restructuring, private intermediate firms took over the role previously performed by state companies. Some of the storehouses for fruit and vegetables have become commodity exchanges for wholesale and retail trade for a wide range of goods.<sup>11</sup> To date, the volumes traded at these places are rather small. Yet, these exchanges provide a location in which prices are set according to market conditions, and as such they may encourage market transparency. The greater part of volume traded at the commodity exchanges is in cereals, oilseeds, beans and sugar.

### Box III.6. Development of wholesale markets

An effective and well managed wholesale market for fresh produce has been established by the municipality in Sofia in the premises of the former fresh produce monopoly trading company (Bulgarplod). The market covers an area of some 55 000 m<sup>2</sup> and has about 6 000 m<sup>2</sup> of cold stores for holding frozen products. The market has a rail connection and is well served with other services such as banking and restaurants. The municipal authority ensures that market cleanliness and hygiene standards are maintained. Stalls are rented on a continuing basis to traders; currently 180, several of whom have installed some storage facilities in their stall area. The market essentially caters to the fresh fruit and vegetables needs of Sofia. Fresh produce is mostly supplied from domestic production during the summer months. Due to lack of domestic supply, most fresh produce is imported during the winter. It is understood that the market authorities have indicated that they intend to expand the market further with the addition of fish and meat areas. To finance these planned investments the market authorities have requested additional funding from the EBRD. Projects like this aim to encourage agricultural production by improving the marketing system.

The so-called commodity exchanges for fruit and vegetables are in fact wholesale markets and are not well developed. In most cases, they appeared spontaneously at random places, like at former refrigerator bases, near to important roads, and in spaces between settlements. The greater part of these bases is private, while others are municipal property (Box III.6). With the help of the European Bank for Reconstruction and Development (EBRD) attempts are being made to develop new, or expand existing wholesale markets in nine towns including Sofia, Sliven, Parvenac and Varna. In addition, five assembly markets (four for livestock and one for vegetables) were established with EU PHARE assistance.

Larger farms focus their attention on the production of field crops such as cereals and oilseeds. The marketing of these products is done either in direct negotiation between the producer and the processing plants or through an intermediary, who may also store the product prior to resale later in the marketing year. As yet, the practice of growing under contract does not appear to be widely used.

## 7. Restructuring of the retail trade

Soon after the privatisation process started, the privatisation of the retail sector began. Some of the stores were restituted and others were privatised. Since then, the number of food stores has rapidly increased to reach more than 40 000 stores in 1997 compared to 15 000 in 1988. This expansion is mainly due to the rapid development of new privately owned shops. The inadequate development of retail trading stores under the previous system and low start-up costs have contributed to this rapid growth. The share of the private sector in food retailing has grown from less than 50% in 1992 to over 90% in 1998 (Table III.5). The figures show that the involvement of the private sector in food retailing is higher than in the retailing of non-food products.

Table III.5. The share of the private sector in retail trade  
% of total sales

	Total	Food products	Non-food products
1992	45.8	48.8	43.1
1993	56.6	61.3	52.5
1994	68.9	73.1	65.2
1995	78.8	85.3	76.6
1996	79.8	86.0	75.8
1997	81.7	87.9	77.2
1998	82.7	90.0	77.2

Source: Statisticheski spravochnik, NSI, various years.

Only in the most recent years have modern supermarkets and hypermarkets been established, largely in the bigger cities. Some of these reflect direct foreign investment in the retail sector (*e.g.*, Metro (German) and Ena (Greek)), however, the bulk of investment in the retail sector is of Bulgarian origin. In the smaller towns and villages the stores of the Co-operative Union still operate.

#### **8. *Changes in foreign trade enterprises***

Foreign trade in the communist period was (almost) exclusively a state monopoly, conducted by specialised foreign trade companies. At the time of decentralisation, all foreign trade companies were transformed into separate trading entities. Some of them were privatised, while others are in the process of being privatised or under liquidation. There are also several newly established private enterprises that deal with foreign trade activities.

## Notes

1. The Council was transferred into a Division of the Ministry of Agriculture in 1999.
2. While the claims presented represent the number of ex-owners, most of the land is restituted to their heirs (as permitted in the land law), thus the actual number of land owners is much higher (some estimates indicate that the number of owners varies from 3.5 to 4 million). As the land is restituted not as a whole parcel, but in old boundaries where they exist, therefore the number of parcels of land is much higher than the number of land owners. This has led to even greater fragmentation than even before the socialist collectivisation.
3. Bulgaria has been divided into 5 000 territories belonging to a settlement (TBS). Where claims exceed the land available in a territory belonging to a settlement an adjustment is made. All the land claimed has to be reduced by a coefficient equal to the ratio of the loss of land to the total land in a TBS, except for the land restituted in old boundaries. The land on which there were no claims was pooled as municipal land reserve, and used to compensate owners for the difference between the area under rightful claim and the area restituted.
4. In 1996 around 500 state farms and 3 500 private co-operative farms cultivated 56% of all agricultural land, whereas 3 500 private farms operated two-third of the land farmed by individuals (44% of the total). This implies 7 500 large farm units, or 0.4% of all farming units, cultivated 85% of all agricultural land in Bulgaria.
5. All natural (older than 18 years) and juridical persons (with the exception of trade companies with more than 50% state participation) have the right to take part in the privatisation process. Certain limitations for participation are to be enforced on those occupying the managing positions in the institutions involved in the privatisation process, as well as all members of their families.
6. There is also the possibility of continuing both methods, by offering different packages of shares (20%, 35% or 70%) for mass privatisation and the rest of the shares for selling for cash.
7. The main requirement is that the company must be registered in Bulgaria.
8. Many of the multinational companies take a regional approach to markets rather than a national approach. This may also explain why investment in Bulgaria has been extremely low compared to most CEECs.
9. With World Bank technical assistance, the state-owned irrigation company is currently in a process of restructuring and privatisation. Privatisation is done through transfer of long term assets (like on-farm distribution systems, irrigation fields, canals and drains, small dam lakes, pumping stations) to registered Water Users Associations (WUA). This process follows special instructions, issued by the Ministry of Agriculture, describing procedures and a model contract for transfer to registered WUA for on -farm assets and other structures. The Draft Law for the Water User Associations is prepared and agreed by the Council of Ministers, and in the National Assembly for adoption.
10. During the transition period, responsibility for the food industry has been transferred several times between the Ministry of Agriculture and the Ministry of Industry.
11. In September 1997 a commodity exchange in Sofia became operational. Other operational commodity exchanges are in Plovdiv and Russe, and there is one planned for Dobrich.



## AGRO-FOOD POLICY OBJECTIVES AND MEASURES

### A. Agricultural policy framework

#### 1. *Agro-food policy in the pre-reform period*

The main goals of agricultural policy in the pre-reform period were to ensure sufficient supplies of food to the urban population, as well as to the processing industry, and to meet the export obligations to CMEA countries. The main instrument for achieving these goals was the central plan, which was based on an obligatory system of production quotas. The system of supplying inputs and purchasing agricultural products was also based on state planning and distribution. The purchasing (state procurement) organisations played a major role in the process of supplying food to both the domestic and export markets. These organisations formally operated on a contract basis with the agricultural production entities, but in fact the contract conditions (quantities and prices) were prescribed by the central plan.

In the centrally planned system, agricultural price policy was part of the broader objectives of economic development. Agricultural and food prices as well as the prices of all other products were centrally determined (fixed or within some margin) for all stages of the food chain. Trade policy was based on long term contracts mainly under the CMEA framework and foreign trade was carried out by the State monopoly. Foreign trade transactions involved two currencies: the convertible rouble and the US dollar. The official exchange rates used for both of them were overvalued, particularly in the last decade of the pre-reform period. There were no special financial policies in operation during that period. Funding for working capital and investment was on soft conditions, once it was included in the plan. As a result investment was tightly controlled by the central plan, and during the 1980s there was a sharp fall in investment in primary agriculture.

Before the start of reforms in 1989, two organisational forms of production existed in Bulgarian agriculture, the TKZS (collective farms) and the DZS (state farms). In the TKZS, land was privately owned and during the earlier years (1950s), part of the revenues from the activities of the TKZS was distributed as rent. The rental payments were gradually reduced and removed in the 1960s by a “voluntary” vote of the members of TKZS. By that time the TKZS started to resemble closely the Soviet Kolkhoz. As regards the DZS, all the land remained state owned. During the 1970s a political decision for amalgamation of the two forms was made, and resulted in the setting up of Agro-Industrial Complexes (AICs). However, the excessive concentration of agricultural production increased transaction costs and made the management rather ineffective.

Up until 1972 two different tax systems were applied to the TKZSs and the DZSs. Since the TKZSs were subject to tax based on revenue, this resulted in taxes being collected even from enterprises that had financial losses. Since 1972 a common approach was taken to the taxation of the state and the cooperative sectors. In response to the marked decline in agricultural production, one of the main goals of agricultural policy in the 1980s was to introduce production incentives, while at the same time maintaining the fundamentals of the centrally planned system. The changes were aimed at decentralising the decision making process, allowing small-scale private activity based on private property, and modification of the price setting mechanism. However, the introduction of land leasing, together with the increase in the share of land privately used by individuals for household purposes only resulted in a slight rise in agricultural production.

## 2. *Agricultural policy objectives in the reform period*

While political changes in Bulgaria started at the end of 1989, the real transformation of the economy was postponed until the beginning of 1991. During this period, the major goal of agricultural policy was to secure an adequate supply of food for the domestic market. To achieve this goal different measures mainly in the form of price and trade intervention were applied. Agricultural policy mechanisms have been frequently changed depending on the short term objectives of the governments, as well as to offset temporary supply imbalances on the domestic market. The implementation of real reforms started in 1991 and was marked by great strides towards the general liberalisation of the economy and fundamental changes to the system. The liberalisation of prices, trade and the exchange rate was followed by changes in the legislation allowing private property rights on production factors and private economic activities. State trusts were transformed into limited liability or joint stock companies, and the central planning was removed. Moreover, there were also some steps taken towards the creation of market institutions. The clear priority of all eight governments that were in power during the transition period was the revitalisation of the economy in general and agriculture in particular, through the development of the private sector and the implementation of market principles.

The main objectives of agricultural policy during the reform period were to:

- secure national food balances;
- establish and maintain favourable economic conditions for the development of a competitive and sustainable export oriented agriculture;
- liberalise domestic prices and trade;
- reduce State intervention and its role in economic activities;
- promote land restitution;
- restructure the old co-operative farms;
- privatise State owned agricultural and forestry enterprises and related services;
- abolish state monopolies and privatise the upstream and downstream sectors.

The fundamental changes in agricultural policies started with the liberalisation of prices and trade followed by the process of privatisation in agriculture. The latter includes land restitution; the reallocation of non-land assets, the privatisation of the large state owned complexes and mechanisation services. Compared to the other sectors in the economy, the process of privatisation in agriculture started much earlier and the changes were more radical.

During the transition period different approaches were taken to implement the new policy measures, depending on the political stance of the government and the macroeconomic situation. On several occasions, policies implemented were quite contradictory to the stated priorities and were often aimed at meeting short-term goals. Moreover, the agricultural policies tended to be more reactive to immediate problems, than to follow a clear and consistent strategy for the development of the sector. This contradiction between the policy goals and measures applied led to a delay in reforming the agro-food sector, and contributed to a sharp decline in production in the first half of the 1990s.

Since 1997 the policy measures implemented have been aimed at stabilising the economy and are more consistent with the long-term development goals for the agro-food sector. The policy framework agreed with the international financial organisations such as the IMF and World Bank, is based on the elimination of any remaining price controls, further trade liberalisation, the development of a land market and the privatisation or liquidation of state companies.

Within this framework the main policy objectives were re-defined as follows:

- to create and maintain favourable economic conditions for the development of an efficient and competitive export oriented agriculture;
- to improve the living and working conditions of people engaged in agriculture and forestry, as well as those living in rural areas; and
- to prepare for EU accession.

In order to achieve these long-term objectives the following short-term goals were identified:

- to complete the process of agricultural land restitution by the end of 1999 and to speed up the restitution of forests;
- to privatise at least 80% of the assets of all state owned enterprises in the agricultural and forestry sectors by the end of 1999;
- to improve the legal framework and institutions for land leasing and land markets;
- to encourage investment in agriculture through improving rural infrastructure and better targeting of state support;
- to improve the quality of agricultural products;
- to design a comprehensive programme for the development of rural areas;
- to speed up the process of harmonisation of Bulgarian legislation to that of the EU and to align administrative structures and procedures to the requirements of EU membership.

### 3. *Basic policy instruments*

After 1989, a wide range of policy instruments were used to implement agro-food policies including minimum prices, ceiling prices, export bans, taxes and quotas, import tariffs, licensing, as well as preferential credit subsidies. The "Law for the Protection of Agricultural Producers"(LPAP) was adopted in June 1995, and designed to regulate agricultural production and markets. The main goals of the Law were to:

- establish and maintain favourable economic conditions for the development of a competitive and sustainable agriculture;
- secure national food balances by regulating the production and trade of agricultural and processed products.

More specifically, the LPAP sets out the main principles and policy instruments for supporting production and trade in agricultural commodities. This initial Law passed in 1995 provided for production subsidies per area, export subsidies, subsidies for mountain and semi-mountain regions, subsidised long term credit facilities for technological renovation of farms or establishing new farms. Measures to support market prices included the provision of guaranteed floor prices for 9 of the most important agricultural products (wheat, maize, sugar beet, potatoes, beef, lamb, pork, cow and sheep milk), and projected prices for other products. Guaranteed prices were based on normative average production costs of individual commodities plus a normative profit margin and they had to be determined on the basis of the annual programme for agricultural developments. They could not exceed 85% of the national currency (leva) equivalent of the average export prices over the last 3 years. Many of these measures have never been applied. The reasons are complex, but the lack of budgetary resources and the priority of the Government to support consumers were the main constraints.

Under the LPAP, the State Fund for Agriculture (SFA) was established as a specific institution for financing agriculture. The resources of the Fund could come from several sources including the state budget, revenue from privatisation, export taxes on farm products, rents on public farm land and other sources. The Fund grants preferential credit to farmers, both short-term, for working capital and medium/long term, for investment. The amount of credit subsidies and other credit conditions are determined by the Fund. Since 1996 financial support under the SFA has focussed on two main areas, subsidised investment credits and advance payments for contracted production, mainly grains.

In 1998 the 1995 Law was abolished and a new "Law for the Support of Agricultural Producers" was introduced. In essence, the new Law substantially broadened the types of support to agricultural producers. Under the provisions of the new Law, the State supports agricultural producers through economic, structural and organisational measures, scientific and information services, as well as programmes aimed at improving education and training. An important element relates to supporting the creation of producers' organisations. Moreover, the scope for preferential credits has been expanded, as the new Law also provides for collateral support for investment credits. However, the sys-

tem of market price support and market intervention has been excluded from the new Law. The SFA has remained unchanged and has continued performing under the new Law. However, substantial changes are expected to the activities of the Fund in 2000. It was decided that the SFA should be transformed into a SAPARD Agency (Special Accession Programme for Agriculture and Rural Development) and as such could play the role of a paying agency.

New policy instruments are to be implemented within the framework of EU pre-accession programmes and the utilisation of the SAPARD funds.<sup>1</sup> The Rural Development Plan (2000-2006), prepared by MAF in accordance with the SAPARD regulations identifies several priority areas to be supported through subsidised investment schemes and includes:

- improvement in the production, processing and marketing of agricultural, forestry and fishery products in compliance with European standards;
- integrated development of rural areas with a view to protecting and strengthening their economies and communities and helping to reduce the process of depopulation of rural areas;
- development of environmentally friendly agriculture, as well as improvement of activities for environmental protection in agriculture and forestry;
- investment in human resources – qualifying and training the people engaged in primary and tertiary agriculture, forestry and fisheries.

#### **4. Institutional arrangements**

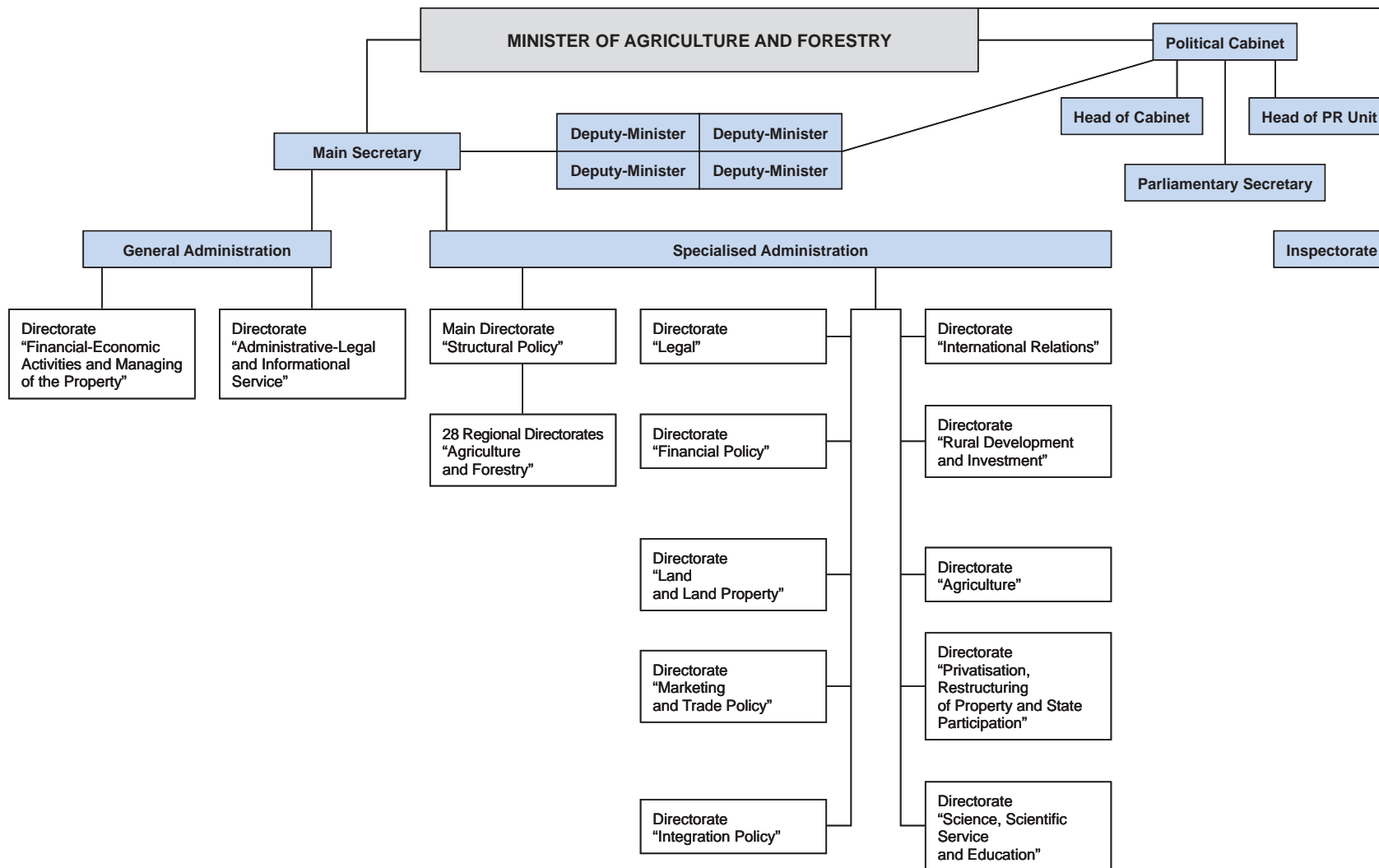
The Ministry of Agriculture and Forestry (MAF) conducts government policy in the area of Agriculture, Forestry and Fisheries. In 1998 the functions and the structure of the Ministry were modified in accordance with the new Government policy objectives. The main purpose of the changes was to accelerate land restitution and privatisation in agriculture and forestry. The most recent restructuring of the Ministry took place at the end of 1999 in accordance with the Law for State Administration, which was adopted in mid-1999. This is part of Bulgaria's EU pre-accession work involving harmonisation of administrative structures and procedures.

The current structure of MAF is defined by Decree No. 203 of the Council of Ministers. The overall structure and functions of the MAF are shown in Figure IV.1. The Ministry has 11 specialised directorates. The directorate for "Structural Policy" is responsible for the regional offices, which are located in the 28 administrative regions of the country (Figure IV.2).

Some of the functions of MAF are undertaken by institutions which are under the supervision of the Ministry, or other bodies acting on its behalf including the:

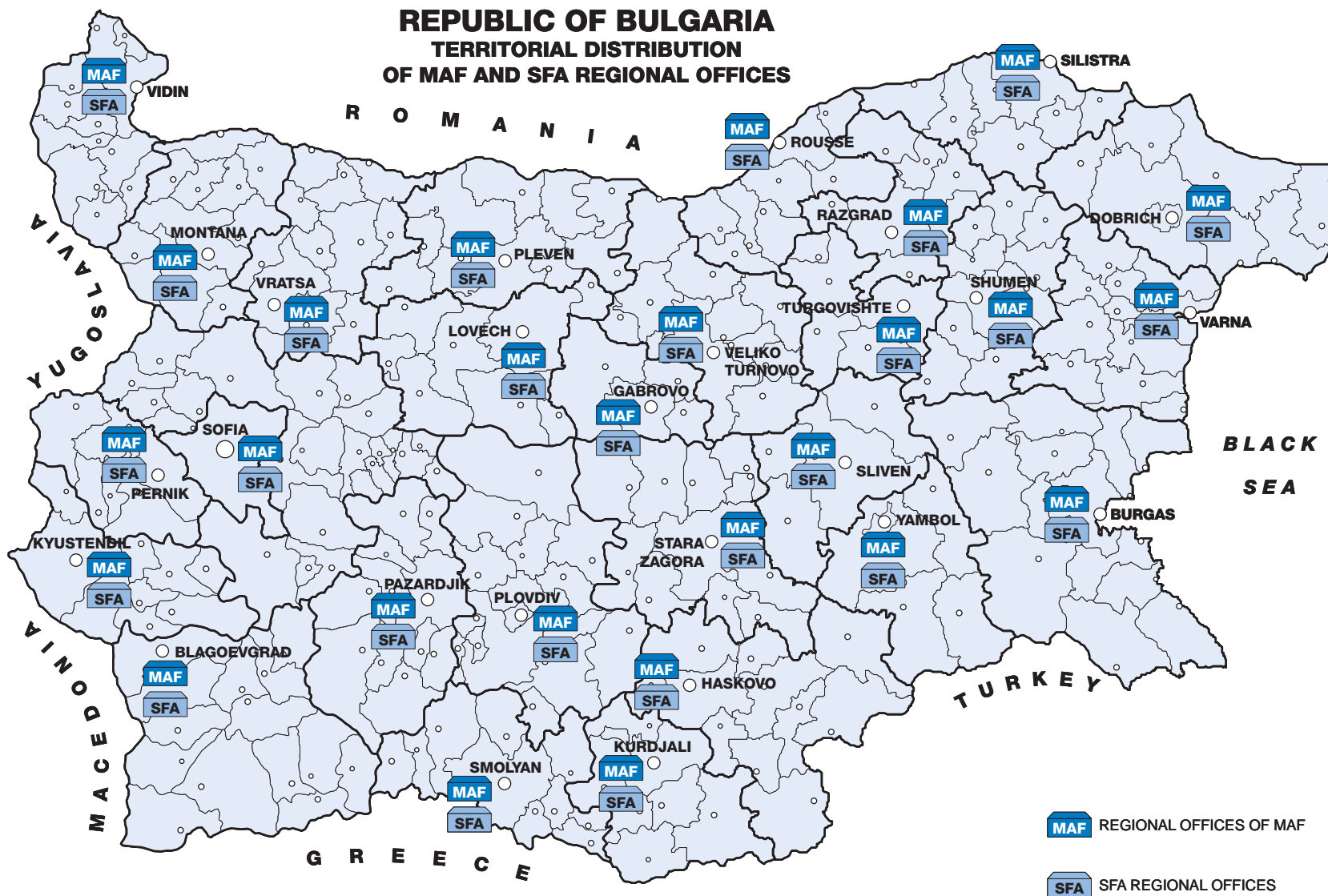
- National Forestry Board and its regional offices;
- National Veterinary Service and the 28 regional offices in the administrative regions of the Country;
- National Service of Plant Protection, Quarantine and Agrochemistry and the regional administrations;
- National Grain Service and its six regional offices;
- Vineyards and Wine Executive Agency;
- Fishery and Agriculture Executive Agency;
- Seed testing, Approbation and Seed-control Executive Agency;
- National Soil Service;
- "Hailstorm Combating" Executive Agency;
- Technical Control Inspection, Accredited Laboratories for testing of agriculture and forestry equipment (Rousse and Plovdiv);
- Centre for Agricultural Sciences; and, the National Agricultural Advisory System (NAAS).

Figure IV.1. Ministry of Agriculture and Forestry



Source: Ministry of Agriculture and Forestry.

Figure IV.2. Distribution of the MAF and the SFA regional offices



## B. Price and income support measures

### 1. Pre-reform period

Price policy in the pre-reform period was used as the main instrument for achieving the policy goals. In addition to centrally fixed prices, the policy measures included output subsidies and bonuses, subsidies on exports and input subsidies. In addition, special subsidies for production in unfavourable areas (mountainous and semi-mountainous regions) were also widely used. Subsidies to producers to keep input costs low were also widely used, as well as subsidies on retail prices (so called “red turnover tax”<sup>2</sup>).

In the pre-reform period food prices, as well as the prices of all other products, were centrally fixed for all stages of the food chain. They were established within the context of the five-year state plan for economic developments and were obligatory for all enterprises. In addition, they played a major role in the redistribution of income throughout the country, favouring industrial development. In addition to prices for inputs of non-agricultural origin, there were three basic price levels along the food chain:

- farm procurement prices (also referred to as “purchase prices”);
- processor prices (also referred to as “producer prices”); and,
- retail prices.

In order to keep the centrally fixed retail prices of the main food products low, the purchase price of milk, meat and bread were fixed well below the costs of production. Farmers were compensated for the losses incurred through a system of output subsidies and bonuses on prices (extra price subsidies). These bonuses on prices were in some ways similar to deficiency payments, and they helped to offset farmers’ losses due to low procurement prices without increasing retail prices. In the case of fresh fruit and vegetables, eggs and some other primary agricultural products small deviations from the centrally determined price system were permitted, but only for the produce sold at the “co operative markets”, *i.e.* open area markets, where produce from household plots was sold. In general, farm prices and prices for processed farm products were not linked to world prices.

Given the production structure of mountainous and semi-mountainous regions, the budget support for these regions went mainly to livestock producers and producers of feedgrains. Input subsidies were given at all three levels in the agro-food chain: farm, processing and retail. The export subsidies used during the pre-reform period were intended to cover the difference between domestic prices and the price at which agricultural and food products were exported to CMEA countries and also to the so called “currency area”. Export subsidies were necessary due to the distortions in the domestic and CMEA prices and the overvalued exchange rate.

In the last pre-reform year (1989), the traditional support programmes continued to operate. In addition, extra payments were provided as an incentive to increase livestock numbers. These payments ranged from 500 leva per cow and 60 leva per sheep in mountainous and semi-mountainous regions, to 350 leva per cow and 40 leva per sheep in all other regions. Producers who reduced the number of cows within a five-year period (three years for sheep) were liable to reimburse the State for all subsidies received under the scheme. In the following section, price reforms during the 1990s will be examined in detail.

### 2. Price and income support in the reform period

During the transition period, social goals played a large role in determining price policies in Bulgaria. The main objective of the various governments was to ensure supplies of food at low prices for the population. Price liberalisation was gradual and often sporadic. The design and implementation of price policies was more a reactive process to specific events than part of a well co-ordinated and coherent programme for the development of the agricultural sector.

Agricultural price policy reforms in Bulgaria over the last decade can be divided into four distinct phases:

- **1989-1991** price and margin controls maintained, but with some freeing of prices for certain products;

- **February 1991-1995** almost full liberalisation of price and trade policies economy wide, but sustained control on prices of basic food, accompanied by macroeconomic instability;
- **May 1995-1997** price policy based on the Law for Protection of Agricultural Producers and the Price Law, accompanied by severe macroeconomic instability, accelerating inflation rates and “ad hoc” changes in trade policies;
- **July 1997-1999** complete liberalisation of all output prices and macroeconomic stability.

1989-1991

Some changes in price settings started in 1989 and this process was the precursor to the general liberalisation of prices, which took place in February 1991. In 1990 fixed prices for some fruits and vegetables were replaced by ceiling prices and by minimum farm prices for some crops and livestock products. By the end of 1990 all farm prices were subject to negotiations between farmers and processors. In order to keep retail prices fixed, the difference between the minimum prices for the products (for which such prices were enforced), and the average negotiated prices was provided from the state budget. These price measures were supplemented by *ad hoc* changes in trade policy, and in particular, the imposition of restrictions on export and temporary free of duty, or lower duty imports. In order to stimulate production some credit and tax concessions were also introduced.

The main subsidies provided in the early transition years were subsidies to low “efficiency” producers (primarily livestock producers), for purchasing output in mountainous and semi-mountainous areas (meat, milk and feedgrains), input subsidies (red turnover tax) at the farm, processing and retail levels, and subsidies for increasing the number of animals (a programme introduced in 1989). Additional payments were given to compensate livestock producers for the increase in the price of combined feeds. Where the quantities sold exceeded the previous years level, additional payments were made to producers. This mainly applied to producers of feedgrains. Since 1990 the profit tax on farmers (co-ops or private farmers) was set at a lower level than for other industries. By and large the main measures for support to farmers during the early years of transition were similar to those applied in the second half of the 1980s.

February 1991-1995

Liberalisation of trade and prices took place in February 1991 as part of the general economic reform in Bulgaria. Soon after the price liberalisation a system of *projected prices* for the main food products was introduced and closely monitored. The system of projected prices applied to retail prices for some staple foods (bread, pork, veal, lamb, poultry, meat products, milk and yoghurt, butter, white and yellow cheeses, sugar, sunflower oil and macaroni). In the case of projected prices, the setting of profit margins was not product specific, except in the case of basic products such as bread, milk and some meat products. For these basic products, the profit margins were fixed at 20% for producers and at 6% for traders. For all other products the profit margins were set at 8%. During this period the list of monitored products was amended several times. For example, in mid-1991 farm prices of wheat, calves, pigs, weaned lambs, chicken and milk, as well as the wholesale price of flour was included in the list. However, in August 1991 these products were removed from the list and replaced by minimum prices.

The primary purpose of the new price system was to keep food retail prices below the market clearance price. Projected prices were estimated based on production costs plus normative profit margins at each stage of the food chain, and were publicised regularly. According to the regulations, the National Prices Commission and executive committees of the municipalities were obliged to closely monitor all food prices, as well as the market share of food processing enterprises in the region. Moreover, the Prices Commission and executive committees had the right to inspect all the documentation of the firms in order to ensure that the margins were within the established guidelines. In addition, they could impose penalties on firms that did not respect the established prices and margin regulations. All



receipts received from the imposition of penalties as well as any “illegal” profits were transferred to the state budget. Therefore, what was controlled, were the retail prices and the profit margins of different agents in the food chain.

In 1993 the system of *projected prices* was replaced by *ceiling prices*. Both systems had the common goal to maintain low consumer prices. The main difference between the two systems related to the determination of prices. Unlike projected prices, ceiling prices were determined on the basis of full production costs plus 12% profitability, for the food products that were subject to control. The list of commodities which were subject to ceiling prices included, bread, some cheaper meat cuts (of pork, veal, lamb and chicken), milk, yoghurt, white cheese and the wholesale price of flour. The range of monitored commodities was broadened in 1994 to include butter, refined sunflower oil, eggs, non-durable sausages, yellow cheese and sugar. In terms of implementation, there was effectively no difference between projected and ceiling prices.

In addition to influencing the price levels, the systems of projected and ceiling prices were also aimed at controlling the margins of the large state-owned food processing and trade enterprises, especially in the early 1990s, when the markets were far from competitive. While the rationale for fixing these figures was not completely clear, it was hoped that the high margins in production would help to stimulate production, while lower margins for traders would help to keep retail food prices low. This policy has also been “ideologically” burdened by the tradition of central planning, when only production *per se* and activities directly related to production had been considered as creating value added. As a result, in the early post-reform years the intermediaries along the food chain were often referred to as “speculators”.

*Minimum producer prices* were also introduced in 1991 for a short period and re-introduced in April 1992. This system covered several products including grains, meat (veal, pork and lamb) and milk. Effectively, the minimum prices were the floor prices below which the products could not be legally traded. While the system continued up until 1997, the minimum prices for meat and milk were not updated from their initial levels. In 1993 the system of minimum prices was extended to include tobacco and tobacco products. The minimum prices for wheat and tobacco were changed regularly over the period up to 1997. Prior to 1995 the minimum prices were established by Government decrees, and since that time under the Price Law and Tobacco Law for wheat and tobacco, respectively. In general, minimum prices were fixed well below world market prices, and since market intervention was not foreseen, they had little real effect on farm gate prices. Moreover, since the minimum prices were fixed at current (nominal) prices, they became less relevant over time because of the high rates of inflation during the period 1991-1996.

#### May 1995-1997

For the period 1995-1997 agricultural price policy was based on two laws: the Price Law and the Law for the Protection of Agricultural Producers. For tobacco, the prices were regulated on the basis of a specific Tobacco Law.

Under the Price Law adopted in May 1995 and the code for its implementation, three types of *intervention prices* were established: fixed prices for electricity and fuel; minimum prices for wheat; and projected retail prices for some main food and non-food products (replacing ceiling prices). The list of products subject to the new projected prices consisted of the same 21 products as the ceiling prices. The mechanism for determining the prices was production costs plus fixed profit margins (7% for heating, 12% for agricultural and food products). Moreover, there was no mechanism for intervention on the market, except for changes to the trade regime.

Under the Law for the Protection of Agricultural Producers, *guaranteed prices* were introduced for 8 commodities. These guaranteed prices were applied at the farm level, unlike the projected price system that was applied at the retail level. In addition, special measures were introduced that allowed, for the first time, government intervention in agricultural markets. Intervention occurred if current market prices fell below 95% of the established guaranteed floor price for the product, or if current prices exceeded the guaranteed price by more than 20%. The SFA was obliged to buy the quantities supplied to the market in order to maintain prices within a certain range. However, due to the lack of resources in

the “Fund”, a guaranteed price for only one commodity, namely sugar beet, was established for the 1996 harvest. Sugar beet was chosen as the commodity to test the new intervention mechanism since production was low, consequently limiting potential expenditures. Because of the significant depreciation of the national currency, the guaranteed price became unattractive to producers and no contracts were signed. In 1997 no guaranteed prices were established for any products.

#### *Since July 1997*

With the establishment of the Currency Board in July 1997, there were some additional changes in the regulations concerning the implementation of the Price Law. All the controls on profit margins were abolished and a new system of *contract prices* was adopted. The list of commodities subject to contract prices was reduced to 15 basic food products compared to 28 commodities that were subject to margin controls, of which, 21 were agricultural and food products. Under this new system producers and traders agreed to fix retail prices for the main food products. Retailers were legally obliged to display a copy of the price contracts in their shops.

Under the modified Price Law, the minimum price system continued to operate until 1998, although minimum prices were no longer announced after 1997. Effectively, the control mechanisms remained the same as those that operated before the Law was modified. For example, in 1997 a minimum farm price for wheat of 230 000 leva per tonne was introduced for wheat harvested in 1997. At the end of August 1997, minimum prices for the three basic groups of wheat were introduced, and ranged from 190 000 leva per tonne to 230 000 leva per tonne, depending on the quality (see Section 3 below for a detailed discussion on the evolution of wheat prices in the 1990s). Both the contracted price system and the system of minimum prices were abolished in mid-1998.

In summary, the main objective of the various price policy mechanisms was to keep the retail prices of the major food products low. However, since the controls imposed were more administrative in nature, their impact on retail prices was rather limited, but more substantial on farm and processor prices. This was due to two main factors: first, the rate of inflation during the period was very high and there was no mechanism for adjusting the costs for inflation; and, second due to the lack of resources for market intervention. With the establishment of the currency board in 1997, accompanied by tight monetary and fiscal policies, inflation fell dramatically, price and margin controls on food products were abolished, and agricultural trade policies became more consistent, transparent and open.

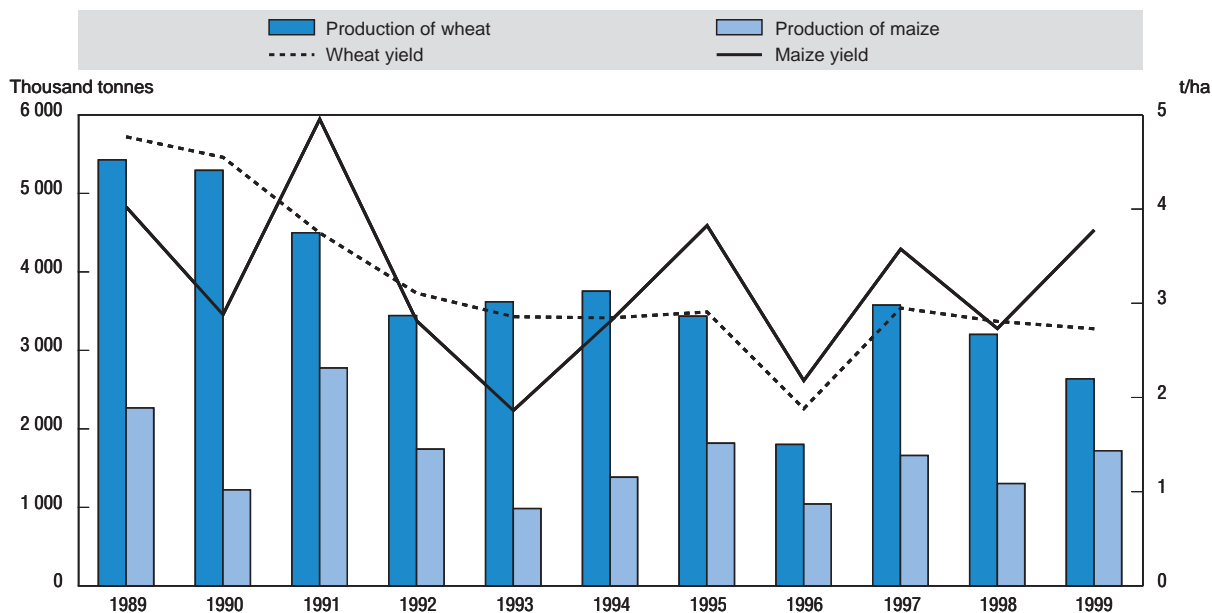
### **3. Price regulations for the major agricultural and food products**

The current commodity policies in Bulgaria are based on the liberal philosophy that direct intervention in input and output markets should be avoided. The general policy objective is to promote the development of market infrastructure, and to proceed with Government intervention only in the event of a market failure.

#### *Grains*

**Wheat** and **maize** are the two most important grains in Bulgaria, and together accounted for 80-85% of total grain output in the 1990s. Of the grains, wheat is the most dominant, and accounts for more than half of total grain output in recent years. Over the last decade, wheat production has fluctuated dramatically, falling from 5.4 million tonnes in 1989 to about 3.4 million tonnes in 1992 and then remained at, or above this level, except in 1996 when production fell to 1.8 million tonnes. Production exceeded three million tonnes in 1997 and in 1998, but fell to 2.6 million tonnes in 1999 due to a combination of lower sown area and poor weather conditions (Graph IV.1). Despite the dramatic decline in output (a 51% decline between 1989 and 1999) the area sown to wheat remained fairly stable with some deviations in 1996 and 1999. This indicates a decline in wheat yields since 1989, and can be largely attributed to lower usage of fertilisers, pesticides, herbicides, etc. Traditionally, Bulgaria has been a net exporter

Graph IV.1. Production and yield of wheat and maize, 1989-1999



Source: NSI.

of wheat, however, with the low harvest in the mid-1990s, Bulgaria imported substantial quantities of wheat in response to shortages on the domestic market.

The **wheat** market is the most regulated agricultural market in Bulgaria. Government intervention in this market has taken two forms: price controls through minimum and projected/ceiling prices and border measures. Following the general price liberalisation at the beginning of 1991, the price of wheat was freed, but flour and bread were included in the list of products with projected prices. In order to keep the retail prices of wheat products within the established range; strong restrictions were imposed on wheat exports.<sup>3</sup> In mid-1991 a minimum farm price for wheat, amounting to 1 100 leva per tonne (USD 65 per tonne) was introduced. An additional price subsidy of 20-70 leva per tonne was also introduced, depending on the region. In August 1991 the minimum farm price for wheat was removed and replaced by projected prices for wheat at the farm gate, and wheat flour at the processing level. An additional payment of 400 leva per tonne was introduced in November 1991 for wheat sold to state owned limited liability companies. These price control measures were accomplished by strong restrictions on exports of wheat; for example, a 30% export tax on bread wheat was replaced by a ban on exports in mid-year, and feed wheat exports were banned for the full year.

Minimum farm prices were reintroduced in April 1992 and fixed at 1 500 leva per tonne, while projected prices for wheat were abolished. In addition, 127 million leva was provided from the state budget to mills in the form of a credit subsidy for purchasing wheat within the overall quota of 1.1 million tonnes. Later in the year, some additional credit concessions were provided for mills. Projected prices remained in place for flour at the point of processing, as well as for bread at retail level. In 1993 the minimum farm price for wheat was updated and fixed at 1 900 leva per tonne (USD 68 per tonne). Credit concessions for mills, which were introduced the previous year, were renewed. A special storage subsidy of 27 leva per tonne per month was also introduced. The projected prices for flour and bread were replaced by ceiling prices in February 1993. In both years the ban on export of wheat remained, except for the period July-September 1992, when exports were allowed within a specified quota, and for the period October 1992-February 1993, and July-August 1993, when the quota regime was replaced by an

export tax of 25%. At the end of 1993 duty free imports of bread wheat were allowed, up to a certain quantity limit, in order to prevent a further rise in bread prices on the domestic market.

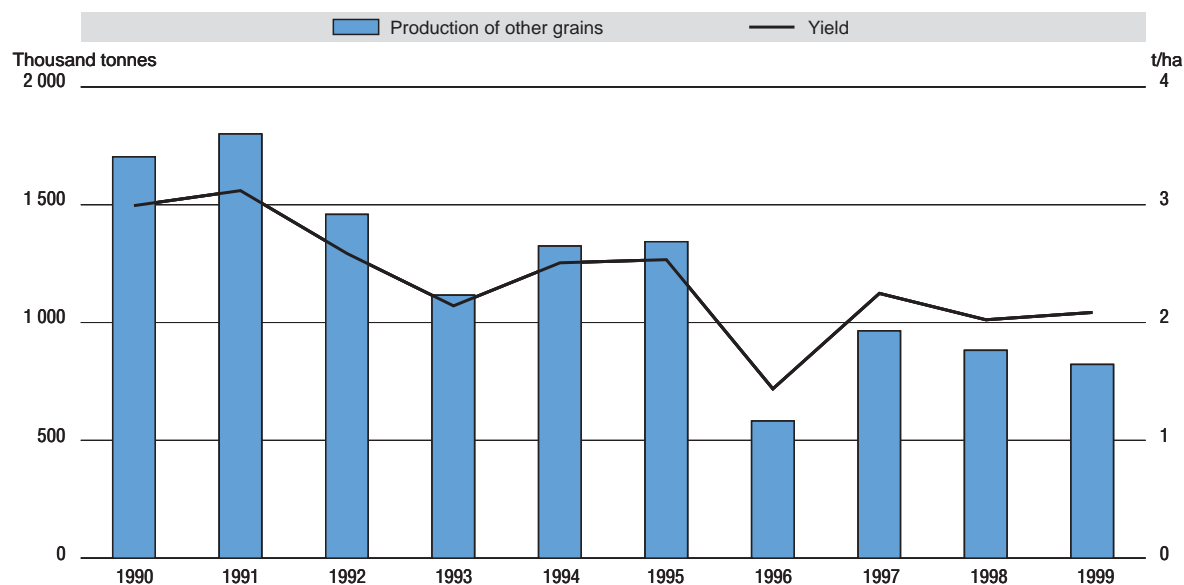
Implementation of minimum farm prices continued in 1994 and the wheat price was raised to 3 100 leva per tonne (USD 57 per tonne). Credit concessions for the purchase of wheat, established in 1992, were also renewed, but storage payments were abolished. Ceiling prices for flour and bread were continued, as well as the ban on exports of wheat. In 1995 the minimum price of wheat was increased again to 5 100 leva per tonne (USD 75 per tonne), 4 600 leva per tonne, and 4 200 leva per tonne for the three main quality groups. The credit concessions were renewed, and in addition a subsidy on fuel inputs was introduced (to cover 30% of the higher fuel costs in harvesting). The storage subsidy was also reintroduced, this time amounting to 145 million leva. The export ban from the previous year was removed and exports were allowed within a specified quota, but subject to an export tax of USD 25 per tonne. In April 1995 the export tax was reduced to USD 5 per tonne, but increased again to USD 35 per tonne in July, as the export quota was removed, and to USD 55 per tonne in August. At the end of September, the export tax was replaced by a ban on all exports. In both years, wheat imports were free of duty within quota, which amounted to 200 000 tonnes.

In 1996 minimum farm prices for wheat under the Price Law were updated to 7 400 leva per tonne (USD 42 per tonne), 6 800 leva per tonne and 6 200 leva per tonne depending on the quality. Due to a combination of factors including the large devaluation of the currency and the low forecasts for the grains harvest, in June 1996 minimum farm prices for wheat were sharply raised to 17 000 leva per tonne (USD 96 per tonne), 15 000 leva per tonne and 14 000 leva per tonne. The ceiling prices for wheat flour and bread remained, as well as the ban on exports of wheat and wheat flour. In March 1997 about 100 000 tonnes of wheat were imported from Poland at USD 150 per tonne. With the monthly inflation rates surging ahead and the recent experience of bread grain shortages, minimum farm prices for 1997 harvest were increased to 230 000 leva per tonne (USD 134 per tonne), 210 000 leva per tonne and 190 000 leva per tonne, respectively, for the three quality levels. In June 1997 ceiling prices for wheat flour and bread were replaced by contracted prices. All remaining price controls on wheat and wheat products were removed in August 1998. The ban on exports of wheat was removed in mid-1997, and exports were allowed subject to a small export tax (initially 15%, but later reduced to 10%). As a result of the bread wheat crisis, unlimited imports of wheat were allowed duty free.

**Maize** is the second most important grain crop in Bulgaria and accounted for one-quarter to 30% of total grain output during the 1990s. During this period production of maize varied substantially from year to year, with the lowest output recorded in 1993 (less than one million tonnes), and the highest output recorded in 1991 (2.8 million tonnes). In 1999, maize production amounted to 1.7 million tonnes, an increase of 32% compared to 1998. Over the ten year period, production was 24% lower in 1999 compared to 1989 (Graph IV.1).

The big fall in output was due to a combination of factors: low farm gate prices resulting from strong restrictions on exports, a drop in demand due to contraction in the intensive livestock sub-sectors, as well as adverse climatic conditions in the maize growing regions. As regards the area sown to maize, after falling by 25% between 1989 and 1990, the maize acreage increased during the following two years to reach a higher level than at the beginning of the period, but then declined up to 1995. In recent years the area sown to maize has remained rather stable at about 475 000 hectares, but fell sharply in 1999 to about 255 000 hectares. The downward trend in barley production continued in 1999, with output estimated at 822 000 tonnes, a 7% decline on 1998. Between 1990 and 1999, barley production has more than halved (Graph IV.2).

For maize, barley and other coarse grains the price regime was more liberal than for wheat during the 1990s. Minimum farm prices were introduced for maize in July 1991, but were removed in August 1991. In February 1996 barley and maize were included in the list of goods with ceiling prices, however, they were removed in April 1997. There were no other direct price controls on maize, barley or other coarse grains during the 1990s. As in the case of wheat, all coarse grains were subject to export restrictions similar to those in operation for wheat. During the transition period, imports of maize were free of all duties as the quotas were never filled.

Graph IV.2. Production and yield of other grains,<sup>1</sup> 1990-1999

1. Other grains mainly refers to barley.

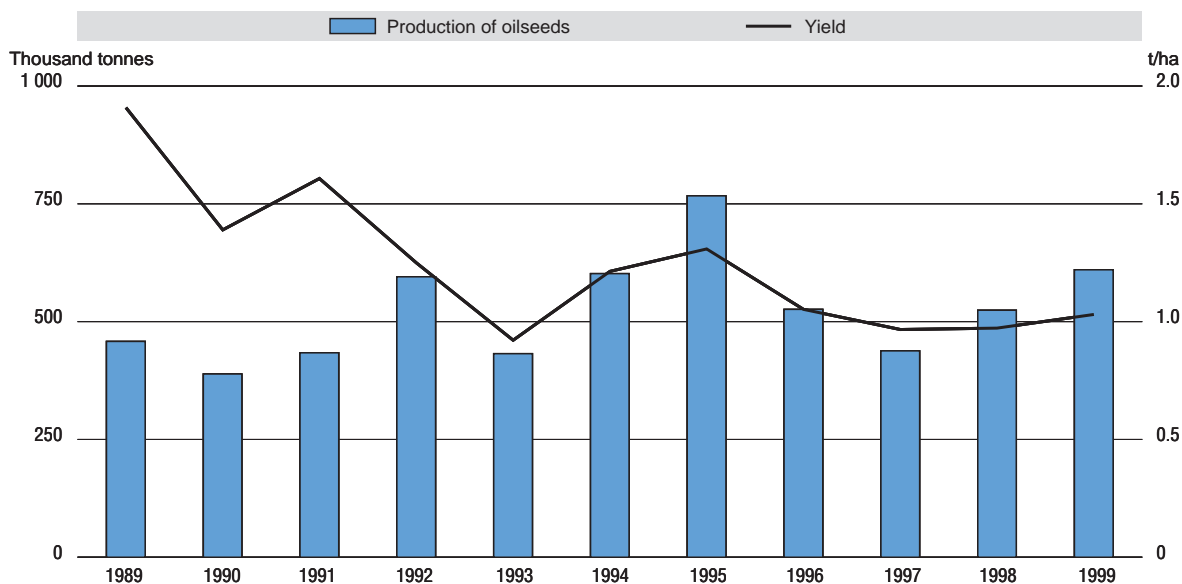
Source: NSI.

### Oilseeds

**Sunflower** is by far the most important oilseed crop in Bulgaria. Unlike most other crops, the area sown to sunflowers more than doubled in the first half of the 1990s, fell sharply in 1996 and 1997, but increased to almost 600 000 hectares in 1999. The big increase in acreage can be attributed to its relatively higher level of profitability compared to grains. With the decline in crop rotation practices and the intensity of input use, the production of sunflower seed increased to a lesser extent compared to the increase in sown area (the area sown to sunflower increased by 125%, while output increased by only 15%). Since the mid-1990s, production has fallen, but rose sharply in 1999 to 610 000 tonnes (Graph IV.3).

After the general price liberalisation at the beginning of 1991, prices of sunflower seeds and oil were freed, and projected prices were introduced for sunflower oil. The projected prices remained in force for 2 years and were removed at the beginning of 1993 and replaced by ceiling prices. Since April 1994 sunflower oil has been re-included in the list of monitored goods (with ceiling prices). In order to prevent further price increases for sunflower oil, fixed wholesale and retail prices were introduced in August 1994. This was accomplished by imposing a high export tax on exports of sunflower seeds and oil (amounting to USD 200 per tonne and USD 300 per 1 000 litres, respectively), and duty free imports of sunflower oil within quota (which has not been fully utilised). Fixed prices and ceiling price were later removed under the Price Law in 1995. However, the farm price of sunflower seeds was once again included in the list of goods with ceiling prices in February 1996, but removed in April 1997. Price controls during this period were accompanied by a ban on exports and replaced by an export tax in mid-1997 (USD 90 per tonne reduced to USD 80 per tonne at the end of the year). At the time the ban was removed, ceiling prices for sunflower oil were replaced by contracted retail prices. Between mid-1997 and the end of the year all imports were duty free. In mid-1998 all price controls on sunflower oil were abolished.

Graph IV.3. Production and yield of oilseeds, 1989-1999



Note: Oilseeds refers to sunflower.

Source: NSI.

### *Sugar beet and sugar*

Sugar beet production has never been very important in Bulgaria. Even in the pre-reform period, imports amounted to about 70% of domestic consumption. Over the last 10 years the production of sugar beet has collapsed, with output shrinking from 966 000 tonnes in 1989 to only 53 000 tonnes in 1999. The dramatic fall in production has been related to several factors including the process of land restitution, the lack of mechanisation on the new private farms, as well as the weak financial situation in the newly privatised sugar processing factories. Moreover, many of the sugar processing factories have reverted to processing only imported raw cane sugar, as it is more profitable. The lack of any price or income support for sugar beet producers during the 1990s has resulted in many producers switching to the production of wheat and other crops, as they have been much more profitable. The sown area has shrunk from 49 000 hectares in 1989 to about 3 000 hectares in 1999.

During the transition period there were no controls on farm prices for sugar beet or any specific border measures. In 1996 an attempt was made to introduce guaranteed farm gate prices under the Law for the Protection of Agricultural Producers. However, this approach failed due to lack of interest by producers in the programme and high inflation, which eroded the real value of the fixed prices. Furthermore, sugar has been included in the list of monitored products (with projected, ceiling or contracted prices), except for the periods from February 1993 to April 1994, and from April 1997 to June 1997. In mid-1998 any remaining price controls on sugar were abolished.

### *Potatoes*

Potatoes are not an important crop in Bulgarian agriculture and represent only about 2% of the total crop area. Unlike many of the other crops, the area sown to potatoes has actually increased during the transition period, with the sown area 30% higher in 1999 compared to 1989. However, the production of potatoes fell in the early and mid-1990s to a low of 319 000 tonnes in 1996, but increased in each of the

last three years to reach 566 000 tonnes in 1999. This fall in output can be largely attributed to the sharp fall in the usage of fertilisers, herbicides and pesticides that caused yields to drop by more than 30%.

Following the general liberalisation of prices in 1991, all price controls for potatoes were completely abolished. However, in 1994 a ceiling price was introduced at retail level, and potatoes were included in the list of monitored products. Price controls continued until April 1997, when they were abolished. Since 1997, demand and supply on the domestic market have largely determined potato prices. Unlike most of the other agricultural commodities, border measures have not been used to influence potato prices in Bulgaria during the transition period.

#### *Tobacco*

Traditionally, tobacco has been very important in terms of production, as well as in generating export revenues. Over the last decade, tobacco production has fallen sharply from 65 000 tonnes in 1989 to 12 000 tonnes in 1995. While there was some recovery in the following years, production fell again in 1999 and by the end of the period amounted to only 26 000 tonnes. The area sown has also shown a downward trend declining from 73 000 hectares in 1989 to only 8 000 hectares in 1995, then increased to 33 000 hectares in 1997 before falling back to 19 000 hectares in 1999. Tobacco is the only product which has shown an increase in yield during the transition period (a 30% increase in yield was observed in 1998 compared to 1989). Tobacco production has always been highly labour intensive and the better incentives under private farming seem to be an important factor for the improvement in yields.

Due to its social sensitivity, tobacco is the only sector for which the Government still allows price setting and imposes some restrictions on production. All Government actions in this sector are based on the provisions of the Law for Tobacco.

#### *Fruits and vegetables*

Fruit and vegetable production plays an important role in agricultural output and in agro-food exports. During the 1990s, the overall output of fruits more than halved, mainly due to the dramatic fall in the production of perennial fruits arising from the slow pace of land restitution and consequently the lack of maintenance of orchards. Another factor responsible for the fall in output has been the drop in export demand for fresh and processed fruit. Vegetable production also fluctuated widely during the 1990s, and by 1999 output had recovered to a similar level to that in 1991. While the area of orchards has fallen by about 30% during the transition period, the area sown to vegetables has more than doubled. This can be attributed to the nature of land restitution, which culminated in the establishment of many small subsistence farms that concentrate on the production of vegetables and other labour intensive crops.

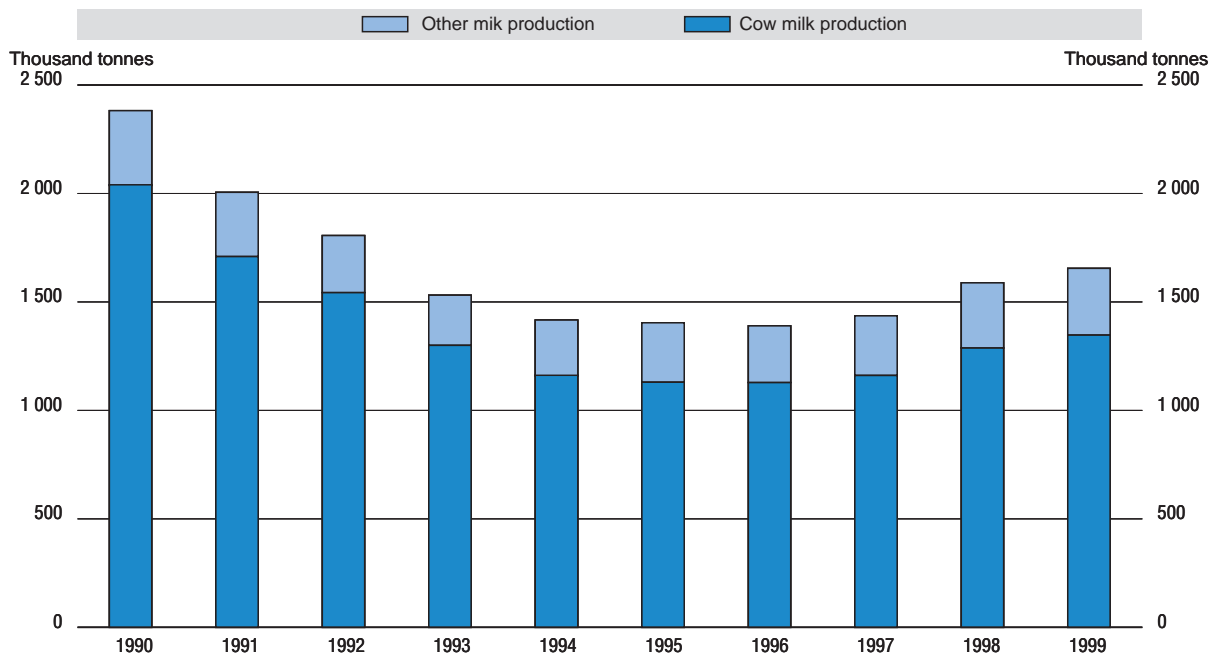
As regards price policies, there have been no price or export controls on fruits and vegetables during the transition period. While the bulk of production is consumed in the farm households, the part of production that reaches the market is subject to normal supply and demand forces.

Concerning border measures, producers have been protected by import tariffs and at some stages by minimum prices and seasonally differentiated tariffs. Currently, the main form of border restrictions consists of import tariffs.

#### *Milk*

Milk is the most important livestock product and accounted for 10-15% of total agricultural output in the 1990s. Milk output showed a steady decline during the transition period, falling from 2.4 million tonnes in 1989 to less than 1.4 million tonnes in 1996. The decline in production is largely due to a fall in cow numbers and to a lesser extent a decline in productivity in the sector. Moreover, the contraction in the Bulgarian herd size is partly attributed to the uncertainties arising from the process of land restitution and the difficulties encountered in privatising non-land assets. However, the downward trend in milk output would appear to have levelled out and production has increased over the last three years to reach 1.7 million tonnes in 1999 (Graph IV.4). This turn-around is mainly due to an increase in the cow herd, which rose in 1998 and 1999, for the first time, since the beginning of reforms.

Graph IV.4. Total milk production, 1990-1999



Source: NSI.

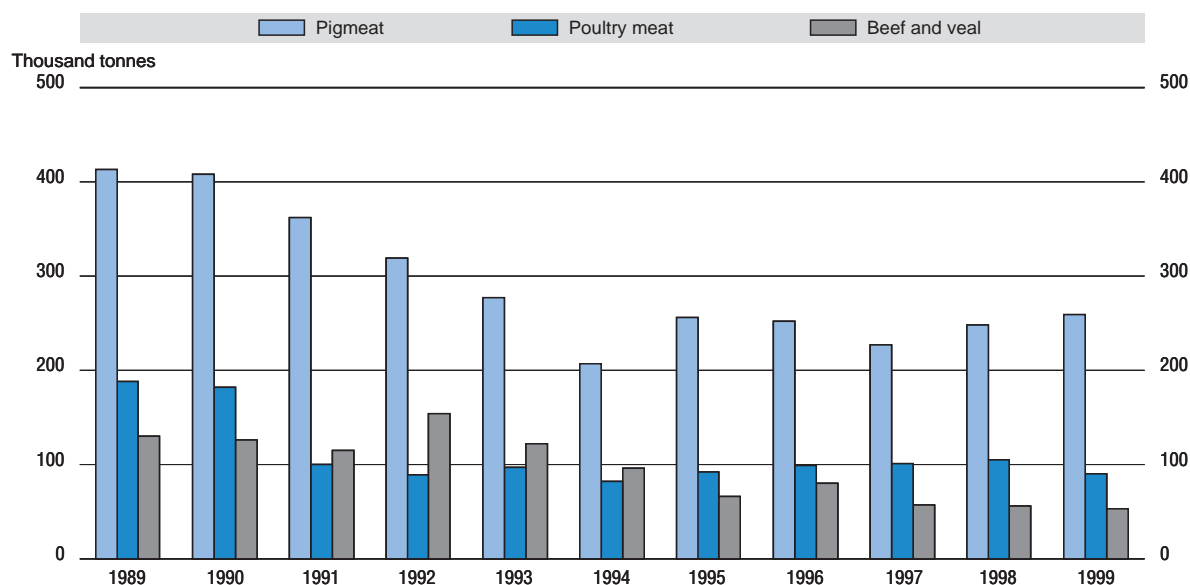
With the overall price liberalisation in 1991, milk prices were also freed from all price controls at the farm and processing levels, however, projected retail prices for milk and some dairy products were introduced. In 1993 projected prices were replaced by ceiling prices. Since 1995 ceiling prices for milk continued under the Price Law up until mid-1998, when all retail price controls were abolished. In addition to the price control at retail level, for short periods minimum farm prices were established for milk (July 1991-August 1991, April 1992-February 1993), and projected farm prices for the period August 1991-April 1992. After 1993 no price regulations or controls were used at farm level. Furthermore, there have been no export restrictions during the period, while the average import tariff for dairy products is 38.3% (simple average), but ranges from about 15% to 120%<sup>4</sup> depending on the type of dairy product. Minimum import prices were also used in the early 1990s, but were replaced in 1994 by specific duties.

#### *Beef and veal*

Production of beef and veal has fallen steadily since 1989, with production in 1999 only 41% of the level in 1989 (Graph IV.5). The lack of demand for beef on the home market due to the fall in consumer purchasing power together with the loss of profitability relative to other farm enterprises were mainly responsible for the overall decline in output. In addition, export markets, in particular the EU, were inaccessible due to the difficulties in meeting the hygiene and quality standards. As of December 1999, there were no EU approved licensed slaughterhouses in Bulgaria.

Beef prices were freed in 1991 as part of the general price liberalisation, and projected retail prices for some meat cuts were introduced. In 1993 projected prices for beef were replaced by ceiling prices. Since 1995 ceiling prices for meat continued under the Price Law, but were replaced by contracted prices in 1997. All retail price controls were removed in mid-1998. Moreover, for short periods minimum farm prices were set up for beef (July 1991 – August 1991, April 1992-February 1993), and projected farm prices were introduced for the period from August 1991 to April 1992. After 1993 all price controls at farm level were removed. The price controls initially applied were accompanied by strong restrictions



Graph IV.5. Total meat production,<sup>1</sup> 1989-1999

1. Thousand tonnes carcass weight, including by-products.

Source: NSI.

on exports of live animals (ban on export, in 1990 the export tax was set at 30%, but was reduced to 20% in mid-year, and later replaced by minimum export prices in 1991). A quota regime and minimum export prices also restricted livestock exports, while cattle and beef imports were duty free over the period. Between 1995 and the autumn of 1998 exports were allowed subject to an export tax of USD 500 per tonne. At the end of 1998 the remaining restrictions on live exports were removed.

### *Pigmeat*

Pigmeat accounts for almost two-thirds of total meat production in Bulgaria. Between 1989 and 1994, total production fell by over 50% to 207 000 tonnes. The large fall in production was largely due to the fall in output from the state pig complexes resulting from delayed privatisation, restructuring and/or liquidation of these enterprises, management inefficiencies and adverse development of input/output price ratio. While production recovered to some extent in 1995, the downward trend in output continued in 1996 and 1997. In 1998 and 1999, the downward trend has been reversed with output increasing in both years (Graph IV.5). The low prices on both the domestic and export markets have tended to slow down any recovery in the sector. Between 1989 and 1995, pig numbers more than halved, increased slightly in 1996, but fell sharply again in 1997 and 1998. A strong recovery in the national herd was observed in 1999.

As in the case of beef, pigmeat prices at farm level were liberalised in 1991 and projected prices were introduced at the retail level for some cuts. In 1993 ceiling prices were introduced and all price controls at the farm gate were abolished. In 1995 contracted prices were introduced and replaced ceiling prices. All price controls at retail level were eliminated in 1998. There were no strong restrictions on exports during the 1990s. As regards imports, for a substantial part of the period pigmeat imports were subject to a lower rate of duty than the MFN or were duty free.

### *Poultry meat and eggs*

After pigmeat, poultry meat is the second most important meat in terms of production and consumption. Production of poultry meat fell by about 55% between 1989 and 1994. Since 1995, output has

shown some upward movement, albeit marginal, to reach 105 000 tonnes in 1998, but fell sharply in 1999 (Graph IV.5). Egg production also fell sharply in the first half of the 1990s, but a gradual improvement has occurred since the mid-1990s. The dramatic fall in poultry and egg production can be attributed to the liquidation, privatisation and restructuring of the agro-industrial complexes, which accounted for over 90% of production at the beginning of the transition period.

Fixed prices of eggs and poultry meat were removed in 1991 with the general price liberalisation. Since the beginning of the transition period until April 1994, the price of eggs was largely determined by market forces. In April 1994 eggs were included in the list of monitored goods and retail prices of eggs remained in the list until April 1997. With the introduction of contracted prices for some of the major consumer foods, eggs were included in the list of monitored goods again. In mid-1998 the price controls on eggs were abolished. During the 1990s there were no controls on egg prices at farm and processing levels. Similar to other products, chicken production was also subject to the projected and ceiling price systems in the early part of the 1990s. While there were no major impediments to exporting poultry meat and eggs during the transition period, imports were subject to tariffs.

## C. Foreign trade measures

### 1. Pre-reform period

Prior to 1989 Bulgaria's foreign trade policy was completely determined by the central planning system and participation in the CMEA. All trade was centrally controlled and carried out by the state owned foreign trade companies. The exchange rate was centrally fixed and had little impact on foreign trade transactions. In effect, the system totally isolated domestic producers and consumers from developments on world markets. The planned export and import flows were broken down in two categories, CMEA and convertible currency countries. In the initial stages of the central planning, there were no incentives for producers and foreign trade enterprises to export, as they had to surrender all the currency earnings. During the 1980s some degree of flexibility was introduced into the foreign trade regime, and producers and foreign trade enterprises could keep some of the convertible currency earnings. However, the incentives were not strong enough to improve the export performance.

### 2. During reform

#### *General measures*

At the beginning of 1991 the state monopoly on foreign trade was abolished. All economic agents, state or private were allowed to be involved in foreign trade. Generally, the only requirement is a customs declaration. However, in the annual foreign trade regimes, there were multiple exceptions from this general case and additional requirements were introduced for particular customs items.

A new import tariff system based on the Harmonised Commodity Description and Coding System came into force in July 1992. The new tariff system contains two elements: the first element specifies the Most Favoured Nation rates (MFN), while the second specifies rates under Bulgaria's Generalised System of Preferences (GSP). Tariffs on imports from countries that are not subject to MFN treatment are 200% of the MFN rate.

Like most CEECs, Bulgaria has used an array of administrative controls and border measures to regulate the markets for agricultural and food products during the transition period. While some of the Visegrad countries have progressively introduced CAP like intervention measures in the form of intervention buying and export subsidies, the successive Bulgarian governments have relied mainly on administrative controls and on border measures for the protection of domestic producers and consumers.

During the transition period agricultural and food products have been subject to different regulations, like temporary export bans, quantitative restrictions on exports and imports, exemptions from import duties or reduced import duties, export taxes, and up to 1994 in some cases minimum export or import prices. Until 1997 one of the priorities of all Bulgarian governments has been the protection of

urban consumers. While export restrictions have kept domestic prices for selected primary products low, they have also isolated Bulgarian producers from international prices and competition. For most products, foreign trade policy has been characterised by short-term measures and inconsistencies. For example, while exports have been prevented by export impediments (export taxes or bans), imports have, at the same time, been restricted by import duties. In general, the short-term management of domestic food balances has had a negative effect on farm output and prices.

At the beginning of 1997, Bulgaria acceded to the WTO, and this was accompanied by the introduction of a new customs tariff (which in fact was an amendment of the previous one, approved at the end of 1995). Under the new tariff system, the arithmetic *ad valorem* tariff average varies between 27% and 33%.<sup>5</sup> The introduction of the currency board, as well as agreements with the World Bank and the International Monetary Fund have resulted in further liberalisation of the foreign trade regime in 1998 and 1999. This has occurred through the reduction in duties on some products, which are not typical for Bulgarian producers, and through the abolition of other trade barriers like export bans, export taxes, automatic licensing, etc.

The trade regime in force since January 1999 provides non-automatic licensing for exports of wheat, barley, maize and sunflower seeds. Exports of unprocessed tobacco are banned in compliance with the Law on Tobacco. Tobacco is the only agricultural product that is subject to a special regulation.

#### *Export measures*

The export regime changed frequently for agricultural and food products during the 1990s, with most of the changes related to exports of cereals, sunflower and associated products. In general, the export regime was much more restrictive for crops than for livestock products. During the reform period export measures on agro-food products can be divided into two stages: 1990-mid-1997, and 1997-2000.

- 1990 – mid-1997

Between 1990 and mid-1997 exports of grains, flour and oilseeds were severely restricted by various policy instruments including registration, licensing, export bans and export taxes (Annex Table IV.1). These instruments were used extensively during the early 1990s to control exports of wheat, maize, sunflower, sunflower oil and wheat flour. The border measures were applied in a rather *ad hoc* manner in response to short term fluctuations in supplies on the domestic market. As regards livestock and livestock products, export taxes and bans, licensing and automatic registration were also widely used during this period to restrict exports of cattle, pigs, beef and veal, while for dairy products only registration was used. Moreover, a ban on cattle exports was imposed on all types of cattle for most of 1994. In overall terms the range of restrictions became prohibitive for livestock exports, while licenses were used to a maximum for meat and dairy exports.

- 1997 – 2000

In the second half of 1997, the most restrictive border measures on exports of agricultural and food products were abolished in line with the adoption of policies aimed at stabilising the economy and the implementation of a more open trade regime. For wheat, maize, sunflower, wheat flour and sunflower oil, the system of licensing and export bans were removed, while an export tax of 10-15% remained in operation for exports of wheat and maize until the end of 1997 (Annex Table IV.1). Also, reduced export taxes were levied on exports of sunflower, sunflower oil and wheat flour until December 1997. Automatic registration of exports of wheat, maize, beef and veal, pork and chicken continued until the end of 1997. For other products, the export tax of USD 500 per tonne for live cattle, USD 50 per tonne for sheep and goats, and USD 250 per tonne for sunflower oil remained in operation until the end of 1998. Since the beginning of 1999 exports of grains, cereal products, livestock and livestock products are free of any substantial restrictions.

*Import measures*

- 1990 – mid-1997

During this period import measures were much more stable and consistent. Wheat and maize imports were subject to a duty of 25% and 20%, respectively, while sunflower had a duty of 15-20%, wheat flour 25% and sunflower oil 15% (Annex Table IV.2). On several occasions between 1990 and 1997, duty free imports of wheat, maize and wheat flour were allowed in order to prevent a shortage of bread on the domestic market. Duty free imports within quota were used quite regularly to supplement the ban on exports. In 1996 and 1997 imports of wheat, maize, sunflower and their products were also subject to automatic registration. Concerning livestock and livestock products, restrictions were much more comprehensive over the period 1990-1997. More specifically, imports of live cattle were subject to duties ranging from 5 to 15%, pigs 40% and poultry 15-40%. In addition, all three products were subject to automatic registration in 1996 and 1997. As regards livestock products, import duties were substantially higher and ranged from 5-20% on beef, 25-40% on pork, and 45-74% on poultry products. While the average duty on dairy products was about 38%, the duties ranged from 15% on milk and cream to 120% on butter imports. Practically all livestock and livestock products were also subject to minimum import prices and replaced by specific duties in 1994. In 1995 automatic registration was introduced for beef and veal, pork and poultry imports.

- 1997 – 2000

The import duties and registration which applied to the major grains, livestock, and livestock products during the first half of 1997 remained in place until December 1997 (Annex Table IV.2). Since the beginning of 1998, imports of all agricultural and food products take place under the terms set out in the Bulgarian schedule to the WTO on agriculture.

## **D. Reduction of input costs**

### **1. Credit policies**

Since the beginning of the reforms the Bulgarian government has made several attempts to improve access to credits for agricultural producers. However, due to the lack of collateral, low profitability of agricultural production and macroeconomic uncertainty commercial banks consider lending to agriculture as high-risk. Moreover, access to credits has been further hampered during the transition period by the underdeveloped banking sector, as well as the lack of credit resources.

Preferential credits given to farmers during the transition period have been an important part of the overall agricultural policy framework. With the unstable macroeconomic situation and difficult economic conditions facing agriculture, as well as the process of land restitution and farm restructuring, subsidised credits were the main form of farmers' support in the 1990s. Despite the interest rate subsidies, the downward trend in agricultural production has continued unabated.

*Pre-reform period*

In the centrally planned system the allocation of funding was highly centralised. Decisions on capital investments to expand production were made centrally and were included in the plans. The Central Bank, while having as its main function balancing the State's budget, was also a *de facto* monopolist as regards the allocation of funds. In practice, the bank served merely as distributor of funds allocated from the central planning authorities and monitored the use of funds according to the plan. The difference between disbursements and incomes was labelled as "credits" in the balance sheet of the Central Bank. The Bulgarian Central Bank (BNB) and its regional branches were directly under the authority of the Government. Until 1980, in addition to the BNB there were only two other banks; the State Savings Bank and the Foreign Trade Bank. In 1986 the changes introduced in the banking system resulted in a two tier banking system with the creation of "commercial" banks. These banks were subordinated to dif-

ferent branch Ministries and did not pursue credit policy based on commercial considerations. Despite all the changes, the conditions for operating an independent credit policy by the Central Bank, or by the “commercial’ banks were still lacking up until 1990.

In the agricultural sector the modernization of production was supported from centralized funds. Since 1972 the agro-industrial complexes (APKs) paid a percentage of their turnover directly to the centralized funds at the National Agro-Industrial Union (NAPS) level. The centralized funds then allocated resources to the APKs, which in turn reallocated funds to the separate TKZS’s. The centralization of financial resources deprived the separate enterprises from pursuing their own investment policy. Some further changes were introduced in the agricultural credit system in 1973. These changes resulted in an increase in the period for credit refunds and lowered the interest rates on loans utilized for capital investment. However, interest rate and credit repayment schedules did not play an economic role under central planning and frequently the Government wrote off the bad debts of farms by decrees.

#### *Reform period*

During the 1990s the macroeconomic environment was extremely unfavourable and volatile with high inflation and high nominal interest rates. Since 1991 the basic instruments for supporting agriculture have been credit and tax concessions mainly to increase liquidity for funding the working capital during the spring and autumn crop plantings. In order to improve liquidity in the agricultural sector, the Government intervened in the credit markets by providing loan guarantees and interest rate subsidies to producers. Preferential short term credits were granted mainly to grains and oilseed producers over the period 1991-1998 prior to the beginning of the autumn and spring sowings. In addition, short-term credits were also provided to wheat producers for harvesting. In 1998 bank guarantees were introduced in order to help farmers with the problem of collateral. For livestock producers credit subsidies were mainly for medium and long term credits.

In 1991 and 1992 preferential credit schemes were established by Government decrees and in 1993 and 1994 were administered under the laws on financial support to spring and autumn seasonal work. In 1995 the administration of credits became part of the new Law for Protection of Agricultural Producers. Credits given under the various Government decrees and laws for financial support to seasonal work were invariably short -term credits and supported farmers cash flow. In 1992 320 million leva was allocated from the state budget to subsidise interest rates on short-term working capital credits provided to agricultural producers. Between 50% – 70% of the interest rate was covered by the state budget. In 1994 and 1995, the subsidies covered about 50% of the market interest rates on loans for autumn and spring sowings. The credit subsidies were paid from an extra-budgetary account of the Ministry of Agriculture. In general, the commercial banks were more inclined to provide loans to farmers where credit subsidies were approved. While the credit concessions varied widely from year to year, they reached 1.8 billion leva in 1996, but fell sharply the following year. In the early 1990s the uptake of subsidised credits by producers was limited and a large part of the allocated credits was not used.<sup>6</sup> The incomplete use of the available credits in the early years was due to several factors including the poor financial situation on many farms, lack of information about the credits, difficulties in liquidating the co-operative production units, the lack of collateral, as well as high nominal interest rates.

- The banking sector and collateral in agriculture

In general, agricultural land has not been accepted as collateral for bank loans during the 1990s due to problems of establishing clear ownership rights. Even when property rights were fully restored, banks often refused to accept agricultural land as collateral because of the absence of a functioning land market. Moreover, the continuous reorganisation of agricultural enterprise structures and the high transaction costs in monitoring the use of credits make agriculture an unattractive sector for investment for most commercial banks. Typically, banks require residential property in urban areas, and accept about 50% of the market value of fixed assets in urban areas and 30% in rural areas as collateral. The requested collateral may range from 150% to 200% of the value of the loan.

In 1998 a new instrument for increasing the access of cereal producers to commercial bank credit was envisaged with the adoption of the Storage and Trade in Cereals Law and its Regulations. The Law includes regulations on the licensing of public warehouses, on the indemnity funds, and on the activities and organisation of the national grain service. This set of regulations creates the basic framework for the functioning of the warehouse receipts system. The main purpose of the warehouse receipts system is to increase liquidity to cereal growers at a reasonable price. This system is based on licensed public warehouses that are entitled to issue receipts for grain storage. The warehouse receipts can be used as collateral on loans from the commercial banks. In practice, this gives agricultural producers the opportunity to use credits for working capital without being forced to sell their crops immediately after harvest.

The European Bank for Reconstruction and Development (EBRD) supports the development of the warehouse receipts system. An agreement was signed between the Bulgarian Government and EBRD in July 1999 for a DM 50 million loan to the Bulgarian Express Bank, which is to be used for granting short-term loans to agricultural producers using the warehouse receipts as collateral. The purpose of this is to give impetus to the new system, and at the end of 1999, the National Grain Service licensed four public warehouses. The state has provided a DM 5 million interest free loan to the State Fund for Agriculture for the setting up of the first Indemnity Fund of the Licensed Public Warehouses.

- Agricultural Capital Fund Scheme (credit co-operatives)

In 1995 the PHARE Programme and the Bulgarian Government through the Ministry of Agriculture, Forestry and Agrarian Reform set up an instrument for supporting private farmers. Since the start of the Scheme in September 1995 its major purpose has been to establish a network of credit co-operatives of private farmers which provide financial support for production and processing of agricultural produce as well as the purchase of agricultural machinery. More specifically the objectives of these co-operatives are to:

- support the formation of a nation-wide network of Private Mutual Rural Credit Associations (PMRCAs) and their representative organisations at national level – the Federation of PMRCAs;
- provide grants to the PMRCAs members to encourage production and agro-processing, as well as for strengthening the PMRCAs' equity;
- encourage the participation of private farmers with their own financial resources, and the disbursement of loans to PMRCAs' shareholders.

At the end of 1995 the Ministry of Agriculture, Forestry and Agrarian Reform formally announced the terms and conditions for participation in the Agricultural Capital Fund Scheme. In early 1996 some groups of farmers established credit co-operatives. Participation in the Scheme requires that all new co-operatives must register and implement the statutes of the Scheme, have a minimum of 100 members (at least half should be private farmers), and have a share capital of at least 500 000 leva.<sup>7</sup>

To achieve this objective, the European Commission and the Bulgarian government provided seed funding of 7 million and 3 million euros, respectively. These funds were given to the co-operatives as capital grants. In order to qualify for part of this aid, farmers must co-finance the scheme. In effect, farmers' share capital amounted to about one million euros. Following several amendments to the Law for Support of Agricultural Producers, almost 4 billion leva were allocated to the Scheme in the form of a non-repayable grant. Of this, about 2 billion leva had already been used to finance the autumn grain sowings. In 1997 further changes have been made in the requirements for establishing credit co-operatives including an increase in share capital to at least 34 million leva and number of members to a minimum of 200 people. Effectively, these changes were made so as to develop more stable PMRCAs.

In summary, there are about 33 PMRCAs in Bulgaria with a total membership of about 10 000 people. The total amount of deposited share capital is almost 2 billion leva and the minimum personal share capital is 100 000 leva. Each of these co-operatives has at least 200 members. The PMRCAs have achieved a loan repayment rate of 99.3% and have gained the reputation of a very reliable source of financing.

Table IV.1. The composition of investment credits on 30 December 1999

Type of investment	Refinanced projects	Total credit (000 leva)
Agricultural machinery	138	8 456
Livestock	67	2 548
Livestock and crop buildings	3	264
Perennial crops	27	1 443
Agricultural land	5	192
Bee keeping	7	119
Greenhouses	1	610
Other	12	956
Total	256	14 586

Source: Ministry of Agriculture and Forestry.

- The State Fund for Agriculture and investment credits

In order to support capital investment by agricultural producers, 547 projects had been approved up to the end of 1999. Of these, 256 projects amounting to almost 15 million leva were accepted and received credit from commercial banks. Most of these projects related to investment in agricultural machinery and livestock. The composition of the investment credits up to the end of 1999 are shown in Table IV.1.

In 1999, 75 million leva was allocated to support investment in agriculture. The number of projects approved was 338, of which, 149 were refinanced by commercial banks.

## 2. Input subsidies

### *Pre-reform period*

During the late 1980s there was a sharp increase in input subsidies to the agricultural sector. In overall terms input subsidies almost tripled between 1988 and 1990, increasing from 87 million leva in 1988 to 240 million leva in 1990. These subsidies covered a range of areas including plant protection, land reclamation, the purchase of high quality seeds, pasture improvement, animal breeding, fertilisers and pesticides. When agriculture and food processing are taken together, the total value of the input subsidies rose substantially to 303 million leva in 1988, and 443 million leva in 1990. In addition to these input subsidies, substantial funds were also allocated to the maintenance and extension of the irrigation system. In practice, the irrigation system was mainly used in the production of fruits and vegetables, and to a lesser extent maize. The subsidies to the irrigation system increased from 145 million leva in 1988 to about 350 million leva in 1990.

### *During the reform period*

The sharp increase in input costs and decline in output prices in the early reform period led the government to introduce additional support measures to offset some of the negative effects of the deteriorated internal terms of trade and to support production. While some of the input subsidies that existed in the pre-reform period were maintained, additional measures were introduced such as storage subsidies and subsidies to crop and livestock producers.

Direct subsidies to wheat, maize and sunflower growers were introduced in the mid-1990s and increased rapidly up to 1997. Following the implementation of the new economic measures in 1998 most of these subsidies were eliminated. A new subsidy for the storage of wheat was introduced in 1998 amounting to 6.5 million leva. Concerning the livestock sector, subsidies were introduced in 1996 and

rose sharply to 730 million leva in 1998. These subsidies were mainly given to livestock producers; in particular, cattle, pork and poultry producers to reduce the cost of combined feedstuffs.

### 3. Tax policy

#### *Pre-reform period*

During the pre-reform period, all goods were subject to a turnover tax. However there were many exceptions from this tax, including the buying or selling of land, forests, perennial plants, buildings (excluding residences), machinery and equipment, transport vehicles (excluding motor cars), as well as raw materials and services directly linked to the production process and the servicing of commercial activities. In effect, only those involved in trading agricultural products were liable to the tax. Agricultural producers and the upstream sector were exempt from paying the tax. While several changes were made to the turnover tax after 1989, nevertheless, it remained in existence until 1994.

#### *During the reform period*

During the early years of reform the turnover tax continued, but was replaced by several new taxes introduced in 1994. The taxes relevant to agricultural producers are described in the major post reform laws concerning taxes, Law for Corporate Taxation (LCT), the Law on Taxation of Physical Persons (LTPP), the Law on Value Added Tax (LVAT) and the Law on Local Fees and Taxes (LLFT).

In 1990 the rate of profit tax on farm incomes declined to 10% and debt repayments were allowed as a cost before the calculation of profit for taxation purposes. In 1991 farm incomes were exempt from income tax under the LALOLU, initially for a five-year period. In 1995 the term for tax exemptions was extended by the new LPAP and the tax exemptions were continued. Also in 1990 farm debts on investment credits taken up to the end of 1987, and on short term credits taken up in 1988 were written off (The latter were mainly used for paying salaries to co-op workers). In 1991 the turnover tax on meat processors and traders was reduced to 12%.

Profits of agricultural producers, including beekeepers, silkworm keepers, artificial reservoir fishery operators, greenhouse producers is exempt from corporate profit tax if the profits are reinvested in the enterprises. All of the above categories of agricultural producers are also subject to special preferences under the LTPP and are exempt from income tax.

Under the VAT system, all entities with a taxable turnover in excess of 75 million leva over a 12-month period must be registered for VAT. While VAT on agricultural production has remained at 20%, in practice, most entities are entitled to VAT reimbursements. Furthermore, all enterprises, which do not meet the above requirements, but have exports equal to or exceeding 50 million leva in the previous year, are also eligible for VAT reimbursements. The following agricultural activities are exempt from VAT:

- change of ownership of agricultural land, excluding the leasing of non-removable equipment, machinery and buildings;
- land leases;
- provision of land cultivation services by co-operatives to members of the co-operative, as well as the growing and collection of produce by co-operatives from the same land;
- change of ownership of bread and feed grains provided as an "in kind" payment instead of rent or part of the rent.

Under the LLFT, agricultural lands and forests are not liable to property taxes. However, when land is sold, a 2% tax is levied on the market price of the estate. Agricultural entities are liable for the payment of the following fees according to the Law on State Fees: irrigation fees, veterinary control fees, seed testing fees, license fees and plant protection fees. All entities involved in the production of non-manufactured agricultural goods are exempt from corporate tax.



## E. Infrastructural measures

### 1. Research and development

#### *Pre-reform period*

The Bulgarian agricultural research network has a long history, which reflects the importance of agriculture in the national economy. Prior to World War II there were 5 research institutes and 6 specialised experimental stations in agriculture governed and financed by the MAF. In the early 1950s the management of agrarian research was transferred to the Bulgarian Academy of Sciences. In the late 1950s and early 1960s a system of new specialised institutions and regional experimental stations were developed. Following the Soviet model in organisation of research in 1961 the Academy of Agricultural Sciences was established as an organisation which integrated, managed and financed agricultural research in all institutions and stations. In 1971 the Academy was transformed into the Agricultural Academy with a strong research/education mandate. Some commodity research units were also integrated into MAF. In the mid-1970s the Agricultural Academy was closed down and all research institutions and experimental stations were placed under the authority of MAF.

In 1982 the Agricultural Academy was re-established as an autonomous organisation for agricultural education, research and development. It included two agricultural universities and most of the research institutions and experimental stations. Research establishments that were integrated into the production organisations were under the control of the Academy. The Agricultural Academy co-ordinated all programmes for agricultural research and development in the country. It distributed funds for research and innovations among its units, agricultural universities and non-academic research organisations. Large scale development programmes and new agricultural techniques were centrally managed and financed by MAF. A national system of specialised organisations in livestock breeding, plant protection and agrochemical services, irrigation systems, erosion protection, agricultural equipment and buildings design was also formed.

#### *During the reform period*

At the beginning of transition there were more than 100 institutes and experimental stations involved in agricultural research in Bulgaria (Table IV.2). The Agricultural Academy was the biggest organisation for fundamental and applied research in the crop, livestock, veterinary, rural economy and the food sectors. In the post-reform period all public funds for agricultural research have to be approved by Parliament. The Academy distributes funds among its units and projects and has full autonomy in the management of its programmes. The General Assembly consisting of 200 elected members that represent all units sets up the overall research policy of the Academy.

Table IV.2. **Agricultural research organisations in Bulgaria, 1999**

Type of organisation	Agricultural Academy	Bulgarian Academy of Sciences	Ministry of Industry	Enterprises	Universities	Total
Research institutes	39	3	8	1	10	61
Functional	14	3	1	0	7 <sup>4</sup>	25
Specialised	25	0	7	1	3 <sup>5</sup>	36
Experimental stations	40	0	0	4	0	44
Complex	18	0	0	0	0	18
Specialised	22	0	0	4	0	26
Total	79	3	8	5	10	105

4. Number of non agrarian universities.

5. Number of agrarian universities.

Source: Ministry of Agriculture and Forestry.

The agricultural institutes of the Bulgarian Academy of Sciences (BAS) are mainly involved in basic and fundamental genetic, plant physiology, and livestock immunology research. The model of management of BAS is quite similar to the Academy. While some of the institutes receive a small subsidy from the Ministry, most rely on self-financing through service contracts with industry. Since 1990 the number of researchers has fallen by about 15% and the age structure has continued to deteriorate.

Some restructuring of the former agrarian research and development system has taken place since 1990. For example, specialised design and development organisations were accorded a self-financing status in the structure of MAF, and later a number of these organisations were privatised. Following the liquidation of the old science complexes, most of the commodity institutes were integrated into the system of the Academy. In 1992 the veterinary institutes and stations were transferred from the Ministry of Agriculture to the Academy. Since 1995 many specialised (apricot, peach, grape, rice, plum, potato) stations of the Academy have been transformed into experimental stations. However, the Academy has lost its authority and has no financial means to co-ordinate the programmes of the independent universities and non-academic research stations. A division for research, education and development was established in MAF in 1992, and its main efforts have been to developing of a National Agricultural Advisory System (NAAS). Since 1995 the Academy started to relocate staff to extension activities and to set up joint advisory centres with MAF.

However, the old system of self-assessment of research programmes has continued in the Academy, excluding any participation by consumers, farmers, the extension service, etc. This has resulted in little change in the research programmes to meet the emerging needs of the agricultural sector, and has contributed to duplication of activities in the Academy and other research organisations. An effective evaluation and incentive system for agricultural research has not yet been introduced in Bulgaria. Moreover, there has been no coherent policy for the development of private agricultural research and development, the privatisation of research units, the introduction of intellectual property rights, or the provision of tax and other preferences for private investments in research.

The 1999 draft Law for a National Centre for Agricultural Research (NCAR) effectively rules out the transformation of the Academy into a National Centre for Agricultural Research in MAF. However, the Academy and all its research institutes have been given the status of independent entities. The management board of the Centre is to include representatives from the Bulgarian Academy of Sciences, the three main agricultural universities, the advisory system, and Ministries of Agriculture, Education, Finance, Environment and Industry. The Law also allows for the separation of NAAS from the Academy.

## 2. Education and training

### Education

At the end of 1999, there were about 100 high schools specialising in agriculture under the authority of MAF (Table IV.3), financed by the Ministry and managed by the division for research, education and

Table IV.3. Number of specialised high schools under MAF

Type of school	Number
Agriculture	70
Forestry	14
Food industry	10
Veterinary	3
Wine and wine production	1
Milk industry	1
Cereal processing	1
Total	100

Source: Ministry of Agriculture and Forestry.

development. The number of enrolled students is around 22 000. More than 40 qualifications are conferred including those for agricultural technicians farm economics, food technology and mechanisation. In the general high schools almost 10 000 students take courses in agriculture related areas. The most popular specialisations are the maintenance of agricultural machinery, agricultural production and new technologies in the food processing industry. Since 1990 there has been a sharp reduction in the number of students both in specialised and general high schools.

At university level, agrarian education is carried out at 12 specialised and general universities, and institutes offering diplomas in agronomy, veterinary medicine, zootechnics, engineering and agricultural economics. After 1990 the high level agricultural institutes and the Trakian University have extended their agricultural and livestock-veterinary programmes and become general agricultural educational centres. Moreover, a number of non-agricultural universities, as well as some newly established private universities (Burgas Free University) have diversified their programmes to include agriculture in order to attract more students. In 1999 the total number of students studying agriculture was estimated at 4 600, a 20% decline since 1990.

Modernisation of the university system is an ongoing process in Bulgaria. In practice, there are too many agricultural related universities, and many of them lack modern academic infrastructure, financial resources and staff to provide high quality education. In general, the scope of the programmes offered and specialisation's are limited to the conventional areas (agronomy, agricultural economics, etc.). Experimental study is restricted to the State required minimum and there is little involvement of students and university teachers in agricultural research. In 1999, there was an unsuccessful Government attempt to reorganise the current system of 42 State universities into 4-5 large general universities. Since the autumn of 1999 state universities lost their financial autonomy and all universities are now required to transfer their revenue to the state budget. Funding is then distributed to all universities based on the number of students.

#### *Extension Service*

In the pre-reform period agricultural extension was an intricate part of the various development programmes and was carried out by research institutes and experimental stations of the Academy, agricultural universities and producer organisations. Since the introduction of reforms there has been a growing demand for a specialised extension service to provide advice in new farming methods to the rapidly increasing number of private farmers many of whom lack experience in managing a private business, as well as in new technologies, machinery and chemicals.

In the early 1990s several attempts were made to establish a national extension service, and many extension staff were trained, nine regional consultancy services were set up and 32 demonstration farms established (with the support of the EU Phare programme). However, the projects failed due to the lack of adequate funds after the end of the external assistance. Since the end of 1995, the National Agricultural Advisory Service (NAAS) was formed as a joint project between MAF and the Academy. The Ministry manages the Service, and the Academy provides staff and offices, while the PHARE programme covers operating equipment and training expenses. Four national centres and three specialised advisory services were established, and nine regional advisory offices were located in the regional departments of MAF. Local advisory offices were set up in the Trakian University, and in 12 institutes and 16 stations of the Agricultural Academy. Each regional advisory office and local advisory office are run by a team leader and includes an agronomist, a zooengineer, a mechanical specialist and an economist. The advisory service organises open days, demonstration farms, training seminars and distributes publications, as well as giving professional advice and consultations on new technologies.

The new advisory system has a dual management structure consisting of both MAF and the Academy. The legal status of the new regional and local advisory offices remains unclear and needs further clarification. Some of the researchers in the Academy have been directed to extension activities without having the qualification for the new positions. Moreover, the extension service has been experiencing serious financial problems due to inadequate funding and irregular assistance from the EU. The present system of extension officers provide assistance to only a small number of producers. So far, there has

been little participation by farmers and farm organisations in the management and financing of the extension service.

At this juncture, the Bulgarian Agricultural Academy is under transformation. Following a Decree of the Council of Ministers (adopted on 28 December 1999), the Academy will be transformed into the National Centre for Agricultural Research, and the National Agricultural Advisory System will become the National Agricultural Advisory Service with its own budget.

The statute of the advisory system has been changed as well as its structure. The main changes are as follows:

- the Service is now a legal entity (with its own budget), with head office in Sofia and regional offices;
- the Service performs subsidiary services in the agriculture and foods sectors;
- the structure of the Service consists of two Directorates that assist the Executive Director;
- the general administration is organised as the Finances and Property Management Directorate;
- the specialised administration is organised as the Agricultural Advisory Directorate with 28 local advisory offices in the regional administrative centres.

More specifically, the major functions of the Agricultural Advisory Directorate are to:

- provide support in the application of scientific methods in the agro-food industry;
- provide support in the training of advisory specialists and farmers;
- provide advice in the organisation of farmers groups by product, function and region;
- establish and maintain contacts with other organisations in the agro-food sector;
- organise demonstration farms;
- analyse soil, water, plants and fodder for producers; and
- clarify activities under the National SAPARD Plan, as well as to give advice in developing business plans for SAPARD funding.

The local advisory offices implement policies at the regional level in co-operation with the regional Agriculture and Forestry Departments and the local government bodies. It is envisaged that councils will be created at regional and national level to include farmers, local administrators and associations involved in rural development. The Service will continue to offer advice to farmers free of charge. The role of the extension services is likely to increase in the future with the priority being given to the medium sized market-oriented farmers

### 3. *Quality and sanitary control*<sup>8</sup>

The Ministries of Agriculture, Health, Environment and Waters, as well as Trade and Tourism are responsible for different aspects of quality control and food safety policy in Bulgaria. Monitoring takes place at various stages of the food chain including production, processing, storage and transportation of agricultural and food products. There are several laws, and government regulations, as well as a system of Bulgarian state standards that set quality and safety requirements for agricultural and food products, seeds and planting materials, fodder, breeding animals, agricultural chemicals, machinery and technologies, etc. The national and regional state inspection offices, test stations, control commissions, specialised laboratories, etc., monitor adherence to these standards and issue quality certificates. In food processing and the wholesale trade, a system of licensing is used once they meet the quality, sanitary and other standards for production, storage and trade. There are also a number of food processing companies that are developing their own brand names and quality control systems.

Most of the organisations for quality and sanitary control in the agro-food sector are under the authority of MAF. Trade in seeds and plant materials without the proper control certificates is strictly prohibited. All new varieties of plants are tested and approved for mass introduction by the state variety testing commission, while the state seed-control commissions control authenticity and quality of seeds and planting materials. The specialised research institutes of the Academy and the state breed-

ing farms monitor the quality of breeding animals. The state farms negotiate import contracts for breeding animals and are responsible for quality control and the distribution of these animals. All suppliers of breeding animals are obliged to provide certificates of origin, productivity and health status of the animals. Veterinary and sanitary control on farms and in processing plants is carried out by the national veterinary service and by the regional veterinary stations of the Academy. Newly developed or imported farm machinery and equipment are tested and approved by the state machinery testing stations. Fertilisers and pesticides are tested and approved by the Laboratories of the National Service for Plant Protection, Quarantine and Agro-Chemistry.

Control over the quality of industrial fodder is the responsibility of the state fodder and grain inspectors. Fresh vegetables can only be sold after receipt of safety certificates from the laboratories for the control of pesticides and nitrates. The National Institute for Wine Research and Control of the Academy is responsible for monitoring the quality of wines. Special inspectors employed by the Ministry of the Environment carry out monitoring of soil, water, and air pollution. A specialised group of veterinary, sanitary and phytosanitary border inspectors monitor trade in all agro-food products.

There are a number of Government regulations for the harmonisation of the national quality and sanitary standards with those of the EU. In addition, the Law for the Protection of Consumers and the Law for Plant Protection provide a new framework for the protection of consumers. Some of the MAF laboratories for food tasting have staff that is specially trained in EU requirements and procedures. However, in many instances, public information on new requirements and sanitary control, as well as enforcement of quality standards are not effective due to the poor testing equipment, irregular financing, lack of co-ordination between various agencies, corruption and a weak system of sanctions. Moreover, many of the normative regulations and quality requirements, as well as the monitoring organisations were established in the pre-reform period. In many respects, they are substantially behind those in other European countries. For instance, only two milk processing firms in the country meet the quality and hygiene standards of the EU. As far as food tests are concerned there are more than 80 directives that must be met in the process of harmonising Bulgarian requirements with those of the EU.

In 1999 several new draft laws were prepared with the objective to regulate various agricultural activities, including quality and safety control issues (Law for Fodder, Law for Veterinarian Activities, Law for Livestock Production, Law for Wine and Alcoholic Drinks, Food Law, Amendment of the Law for Tobacco and Tobacco Products, Law for Fish Production and Aquaculture, Law for Medical Plants, Law for Seeds and Planting Materials, Law for Technical Requirements of Products, etc.). In addition, these laws aim at harmonising the national quality, sanitary, and safety standards with those of the EU, modernising the state control institutions, replacing the licensing system with a system of registration, as well as improving co-operation between State institutions and professional organisations in quality development and control.

#### **4. Agricultural infrastructure**

In the pre-reform period agricultural infrastructure was relatively well developed. All agro-companies and farms were supplied with electricity, water, telephones, common storage and packing facilities, roads, and in a few cases railways. The major restructuring of the farming system has severely affected the infrastructure in rural areas. Some of the infrastructure has been severely damaged, or completely destroyed due to lack of maintenance (*e.g.* irrigation facilities, buildings and equipment of the livestock complexes, etc.), while other parts are obsolete (*e.g.* airports of APK, large storage or processing plants, etc.). Some of the agricultural infrastructure facilities have also changed their use, for example, administrative buildings and commercial facilities of the APK.

Before 1989 the APK was a major investor in production infrastructure (roads, irrigation, etc.) and in general rural infrastructure (kindergartens, sport and other facilities). The new emerging farms have little capacity or incentive to invest in infrastructural projects. There is inadequate production infrastructure for new private farms (such as access to individual land plots, on-farm storage, etc.). Many of the

farms also lack adequate waste management and pollution prevention facilities, and consequently there are increasing environmental problems in many villages and small towns.

Other contributors to rural infrastructure have also reduced their rural activities. For example, many non-agricultural enterprises have reduced or abandoned their activities in rural areas. As a result, many rural municipalities have experienced a sharp drop in revenues and consequently less funds for infrastructural projects. Many of the efforts of the municipalities have been directed toward maintaining the existing facilities and improving the undeveloped marketing infrastructure.

Since the beginning of the transition period there has been little State investment in developing infrastructure in agriculture. Investment in agriculture accounts for only 3% of the total investments of MAF. These investments are mainly for building roads and providing water supplies. There is a major lack of resources to deal with some of the inherited infrastructural problems (for example the storage and disposal of 2 700 tonnes of pesticides from the old APK), that could have serious environmental consequences.

A special "Melioration Fund" has been set up with funding from the State budget to expand the area under irrigation. In practice, the Fund has been almost entirely used for the reconstruction and maintenance of existing facilities and for the completion of unfinished irrigation projects. The State company that manages the irrigation system has been only partially restructured and farmers continue to face monopoly pricing for water.

Few resources from the National Fund for the "Protection and Improvement of Productive Quality of Agricultural Lands" have been directed to the prevention of soil erosion and pollution, the reclamation of new lands and the maintenance and improvement of arable land. The programmes of the Regional Erosion Protection Centres and for hail protection have almost ceased their activities. The Institute for Plant Resources of the Agricultural Academy, as well as the National Service for Livestock Selection and Reproduction, are responsible for the preservation of the national genetic base. These organisations have also been experiencing severe financial constraints and lack modern testing facilities and equipment.

There have been many problems concerning the agriculture information infrastructure such as the lack of information, inconsistency in information from the different public agencies, as well as duplication in the distribution of information. Some modernisation of the information infrastructure has been initiated in order to meet the rising demand from the private sector, the Government and International Organisations. A unified information system has been developed in MAF and includes information on the land system, agricultural advisory system, and on agricultural markets. European standards for collecting data and analysis (*e.g.* Eurostat) are being gradually adopted and modern communication networks are being established.

## 5. Marketing and promotion

During the communist period the prices of agricultural products was centrally determined and specialised state-owned purchasing, processing, and foreign trade organisations carried out marketing. In the last pre-reform years there was a move toward limited liberalisation and agricultural organisations were allowed to market part of their production directly. However, the freedom of agricultural producers was limited by the central and regional plans. Moreover, they were usually confronted by the national monopolies in inputs, processing and trade.

In 1991 prices and trade were substantially liberalised. The large State monopolies in agricultural inputs, and in marketing and distribution were dismantled. Privatisation of the wholesale and retail trade was implemented, resulting in the emergence of a large number of new private agents (producers, suppliers, processors, intermediaries, etc.). Local producers and traders started to face international competition on the domestic market. In many agricultural regions wholesale and retail markets were transformed into private, or semi-private organisations. In the larger cities, agricultural commodity exchanges have appeared and trade in agricultural and food products. New forms of marketing have evolved such as long term contracts, formal and informal wholesalers, trade with warehouse deposits, futures, etc. All these have intensified marketing transactions and increased the overall level of efficiency.

The early reforms were characterised by a high degree of economic uncertainty, large information asymmetry among trading partners and a weak contract enforcement system. This culminated in several new marketing approaches being introduced such as interlined contracting (*e.g.* input supply or capital supply against future crops), and various forms of vertical integration into downstream food processing. In order to overcome transitional uncertainty less effective forms of marketing have been broadly used such as cash and carry deals and advance payments. Traditional forms of direct selling by producers (street and farmers markets) have also become widespread. In some instances farm marketing has been entirely replaced by inputs or service supply transactions (*e.g.* processing of farm produce in the hired facilities of the processing industries), and by marketing of final (processed) products. Since most of the new agricultural agents have no business management skills and marketing experience, this has restricted open market transactions and limited the development of futures markets for agricultural products.

In order to improve transparency and market efficiency SAPI (a system that provides information on agricultural input and output markets), which was initiated by EU Phare funds, was set up in 1994 as a joint venture by MAF and the Institute of Agricultural Economics. It collects and provides regular information on: wholesale and retail prices of fruits, vegetables, and livestock in the main regions; prices of agricultural inputs and services; selected prices in neighbouring countries and on international markets. Other Government agencies (Commission for Wholesale Markets and Commodity Exchanges) and private organisations also collect and provide price information for the major agricultural products. However, the main customers of this information are still the large co-operative farms and professional organisations. The individual private farmers rely on informal channels for market price information.

There have been significant changes in the legislation associated with various aspects of marketing of agricultural products. For example, the Law on Competition has put a 35% limit on market share by any one economic entity. Moreover, the Ministry has instituted price security for wheat producers and preferential operating credit for producers who sell on the open market. For tobacco, the Law for Tobacco has introduced a system of marketing at fixed prices. The Law for Wholesale Markets and Commodity Exchanges (1997) has set up the requirements for the wholesale trade, and mechanisms for State control. The Law for Storage and Trade of Grain (1997) sets conditions for the marketing of grains and trade with warehouse deposits. A number of additional draft laws relate to quality requirements and mechanisms for organisation of trade with various agricultural and food products (*e.g.* tobacco, wine grapes, etc.).

Since 1997 a project for the development of 10 wholesale markets for fresh fruits and vegetables has been on-going. The project is managed by the MAF and financed by an international loan and the respective municipalities. The aim of the project is to extend the existing assembly and retail markets, and to create a suitable environment for developing modern wholesale trade in agricultural products. Several municipalities have also been successful in modernising the marketing structures through privatisation of the trading facilities, the reconstruction of farmers markets and the organisation of promotions and fairs, etc. Traditional farmers' markets have become more important in retail trade especially as regards fresh fruits and vegetables. Under the new regulations, the market authorities are obliged to provide daily information to customers about wholesale prices in the different regions.

The small individual subsistence farms market only a tiny proportion of their products at street markets or to retail outlets. Large producers often engage in direct contracting to large consumers (restaurants, shops, processors, trade partners), or other forms of wholesale trade. The majority of small and medium-size farms face serious marketing problems because of their small size and consequently weak market position. Moreover, marketing to major wholesale buyers (processors, middlemen) is usually associated with delays in payments (or refusal to pay). This form of "hidden subsidisation" of the downstream sector appears to have been widespread during the 1990s. Some farmers trading with processors are associated with a new type of marketing problem such as the marketing of final products (when processors compensate farmers with processed products instead of cash). On the other hand, many processors face increasing problems in obtaining the quantity and quality of required products from farmers.

## F. Social measures

In the pre-reform period agricultural policy had a clearly defined social dimension. The state-controlled co-operatives and state farms provided a range of social services including financial support to kindergartens and cultural activities, as well as resort houses for their workers.

In the post reform period there was no special social policy related to employment in the agricultural sector. The high budget deficits led to a sharp contraction in the financing of social measures. People employed in agriculture, like those employed in other sectors of the economy are entitled to the benefits from the general social security system. Some categories of employees are also entitled to additional benefits, for example, early retirement allowances (due to be abolished in 2000). The required contributions to the social security system are:

- Social Security Fund. Until 1 July 1999 employers were liable to pay 37%-52% of the employees income depending on the category of labour, while the employee paid 2%. Since 1 July 1999 the required contributions from both employers and employees have been reduced and now range from 34.7% – 49.7% for employers and 1% for employees.
- Professional Qualification and Unemployment Fund. For this Fund, until 1 July 1999, the employers' contribution was fixed at 5% of the employee's salary, while employees were liable to pay only 0.9%. Since July 1999 the required contribution from employers was reduced to 4%, and for employees to 0.5%.
- National Health Insurance Fund. This is a new Fund, which came into operation in July 1999. To participate in this programme employees must contribute 6% of their gross income.

## G. Environmental concerns and protection measures

### 1. Pre-reform period

Many of the emerging environmental problems were regarded as being "classified" and were never discussed publicly during the period of the centrally planned economy. Intensive plant production with extensive use of artificial fertilisers and herbicides was strongly encouraged along with the construction of large animal breeding "complexes", and no consideration was given to the potential environmental impacts arising from such intensive production systems. As a result, the pollution of soils and water near big production centres was widespread.

### 2. Reform period

Although environmental protection was declared to be a priority in some of the government programmes in recent years, the measures implemented were rather *ad hoc* in nature and quite inconsistent. Implementation of activities related to protection of the environment has been severely hampered by the lack of resources. The prevailing form of soil erosion in Bulgaria is water erosion. It is estimated that approximately 4.8 million hectares, or 43% of Bulgaria's territory is adversely affected by water erosion, while a further 1.8 million hectares or 16% is affected by wind erosion.

In recent years the area subject to soil erosion has increased substantially. This is mainly resulting from the decline in afforestation, which had traditionally prevented erosion in sensitive areas. Moreover, soil acidity is becoming a serious problem in Bulgaria. Natural acid soils comprise 56% of Bulgaria's land area (including forest soils). Of the total arable land, acid soils (pH $\leq$ 5.6) make up 1.5 million hectares. Technically, acid soils can be divided into the following categories:

- slightly acidified soils (pH 5.1-5.6) about 630 000 hectares;
- moderately acidified soils (pH 4.6-5.0) about 460 000 hectares;
- strongly acidified soils (pH 4.0-4.5) about 310 000 hectares;
- very strongly acidified soils (pH $\leq$ 4.0) about 110 000 hectares.



Due to the difficult economic conditions liming of arable land is no longer practised. Therefore, a further increase in acid soils is likely to occur and to contribute to declining crop yields in the medium term. In addition, soil acidity causes changes in the soil microbiological properties, soil structure deterioration, an increase in the nutrient loss associated with the lower soil buffering capacity, and, finally, a loss of soil fertility.

Salinisation is also a serious problem in Bulgaria and is mainly associated with irrigated land. Soils that are classified as salinised account for more than 3 million hectares (excluding slightly salinised soils). Much of the secondary salinised soils cover the most fertile flat lands, which are suitable for mechanised cultivation and are situated close to natural water courses and can thus be easily and efficiently irrigated.

A further problem relates to large tracts of land that are damaged from other pollutants. This includes soils that are contaminated by heavy and toxic elements, soils polluted by overuse of fertilisers and pesticides, soils located in the vicinity of mines or industrial emissions of gasses and dusts, soils along the main roads and junctions, polluted by transport emissions like lead and hydrocarbons, as well as soils polluted by oils. There are an estimated 137 000 hectares contaminated by oils, most of which are situated close to plants, refineries, and along oil conduits. The total area of soils in Bulgaria polluted by heavy metals covers approximately 4 300 hectares or 0.9% of the agricultural land. The pollutants that are currently being monitored include lead, arsenic, and cadmium.

Since 1985 the application of artificial fertilisers has fallen dramatically. For example, in 1985 nitrogen application was estimated at 180 kg per hectare, while in 1994 nitrogen use had fallen to 60 kg per hectare. The use of phosphates and potassium fertilisers has also fallen, from 60 kg per hectare to 9 kg per hectare and from 20 kg per hectare to 3 kg per hectare. The main reason for the sharp decline in fertiliser use has been the relatively high price of all forms of fertilisers during the transition period.

According to the data of the World Meteorological Organisation in recent years the emission of “greenhouse” gases has shown a general decline in Bulgaria. In agriculture livestock production and rice growing are the main reasons for methane release, while nitric and carbon oxides are released from crop production.

The strategy for developing a sustainable agriculture is also related to problems of protecting the Danube River and the Black Sea from pollution with agro-chemicals. At present ratification of the Convention for co-operation in Protection and Promoting the Sustainable Use of the Danube River, signed by 8 states in 1994, is ongoing.

### **3. Implementation of environmental protection measures**

The management, control and the protection of the natural resources, biological diversity, and general environment issues are the responsibility of the Ministry of Environment and Water. The Ministry implements the national policy on environmental protection, as well as the ecologically sound utilisation of the natural resources. The Executive Agency on Environment sets and organises the activities on the development and the refinement of the National Automated System for Ecological Monitoring, which is the basic source of information regarding the quality of environment in Bulgaria. In order to provide environmental monitoring consistent with the national and the European standards, monitoring and control networks have been established in the countryside. Those that monitor and control the quality of air and water are an integral part of the European Network for monitoring air and water (EUROWATERNET). A national strategy for the protection of biological diversity was adopted in 1998 in close correspondence with the Common European Strategy for Biological and Natural Diversification. The CORINE – biotopes project has been finalised and 141 sites with peculiar ecosystems of European significance have been identified, along with the habitats of endangered plant and animal species.

The “Fund for Protecting the Mountains and Nature” supports two main groups of measures that encourage farming methods that protect and improve the environment and maintain the rural landscape. The Ministry of Agriculture and Forestry has the responsibility to ensure the enforcement of the legislation on the conservation of agricultural and forest land. A special Department in MAF and the

working group on structural funds and ecology deal with environmental problems in agriculture. Both structures work on the harmonisation of Bulgarian legislation with that of the EU. The environmental protection policy is directed towards solving existing ecological problems, and little attention is paid to the adoption of preventative measures.

At the end of 1998 representatives from MAFAR (at present MAF), the Ministry of the Environment and Water, as well as NGOs, agreed on a strategy for the promotion of sustainable agriculture in Bulgaria. The goal has been formulated in accordance with the FAO strategy on sustainable development of agriculture and rural development.

The National Agriculture and Rural Development Plan 2000-2006 also envisages financial support to pilot projects under the measure "Development of agricultural activities aimed at protecting the environment." Its basic goal is to encourage agricultural producers to use production methods, which protect the environment. A wide range of projects is eligible for support including those in the following areas:

- organic plant and animal production;
- extensive use of pastures;
- preservation of endangered local varieties and breeds;
- preservation and improvement of the landscape;
- transforming the cultivated land on highly eroding territories into pastures of protected territories;
- management of abandoned agricultural lands; and,
- management of abandoned forests.

#### **H. Consumer measures**

Measures for the protection of consumers' interests are mainly focused on controlling the quality of food. Responsibility for quality control remains under the auspices of the State authorities. A substantial number of small and medium sized enterprises which were privatised, as well as the newly established ones, lack any established systems for quality control. In many cases the testing equipment is obsolete and this is a major cause of concern for ensuring hygiene and food safety standards. The new system of quality control introduced in 1998 is based on the premise that quality control in the production process is the responsibility of producers, while the functions of the State control authorities are to monitor the enterprises' internal quality control systems.

In September 1999 the Bulgarian Parliament adopted a new Law on Food Control for producers, traders and importers of food products that are hazardous to consumers health. The new Law is in line with EU standards, and under the Law all producers and traders of food products must be licensed. In cases where hygiene standards are not maintained, the enterprise can be banned by the Hygiene and Epidemiology Inspectors, or the State Veterinary and Control Office. Moreover, there is also some provision under the Law for self-regulation by producers and traders. The Consumer Protection Law adopted in 1999 sets out as its main priorities: greater consumer protection, improvements in the trade regulations on food products, and better co-operation and co-ordination between State authorities, consumer associations/groups and branch organisations.

#### **I. Overall budgetary outlays on agro-food policies**

Prior to 1991, there were substantial budgetary transfers from central funds to agro-industrial complexes and the food-processing sector. Transfers from local budgets were mainly used to fund investment in general infrastructure. In the latter half of the 1980s, budgetary transfers to the agro-food sector rose sharply and included a range of input subsidies, direct payments and irrigation subsidies (Table IV.4).

In 1988 and 1989 the main support programmes included market price support (subsidies for low efficient and loss making products, export subsidies and temporary export payments, additional payments, bonuses on prices, etc.), input subsidies and some direct payments. Some consumer subsidies

Table IV.4. **The main support programmes and budget allocations 1988-1990**

Programme	Product coverage	Total Budget support (m. leva)		
		1988	1989	1990
Subsidies to low-efficient producers	All farm products	24.9	41.2	1 400.0
Input subsidies (fertilisers, pesticides)	All farm products	86.7	89.0	240.1
Retail price subsidies (red turnover tax)	Mainly meat and milk products, bread and bread products and sunflower oil	25.9	32.0	84.0
Export subsidies and temporary export payments	All farm and processed products	174.3	141.3	1 100.0
Other payments	All farm products	6.0	4.8	–
Payments under Decree 58 (1987)	63 products	757.6	779.3	–
Bonuses for poultry meat, fruit and vegetables	Poultry meat, fruits and vegetables	55.4	6.5	–
Payments in mountain and semi- mountainous regions	Feed grains and livestock products	185.8	186.5	294.0
Irrigation subsidies	Fruits, vegetables and maize	144.7	254.2	350.0
Payments for increasing land productivity		40.0	41.0	–
Increasing number of animals		–	–	520.0
Education, training, etc.		70.2	80.8	110.7
Tax concessions		–	–	374.0
<b>Total budget</b>		<b>1 508.5</b>	<b>1 656.6</b>	<b>4 472.8</b>

Source: Ministry of Finance (up to 1995), 1996-1999 State Fund Agriculture.

Table IV.5. **Budgetary transfers to the agro-food sector 1991-1999**  
(Mi leva)

Support programmes	1991	1992	1993	1994	1995	1996	1997	1998	1999
Subsidies for low efficiency products (grains, milk and meat)	316	–	–	–	–	–	–	–	–
Subsidies for mountain and semi-mountainous regions	330	–	–	–	–	–	–	–	–
Subsidies for purchasing wheat	240	187	127	127	660	–	–	–	–
Subsidies for wheat producers	–	–	–	–	123	2 704	2 785	–	–
Subsidies for maize and sunflower growers	–	–	–	–	–	–	15 980	–	–
Subsidies for chicken, cattle and pig producers	–	–	–	–	–	148	318	730	–
Subsidies for the purchase of tobacco	–	–	500	600	–	–	–	–	–
Storage of bread wheat	–	–	–	–	–	–	–	6 500	–
Wheat Futures	–	–	–	–	–	–	–	19 179	3 907
Input subsidies (fertilisers, pesticides)	–	–	–	–	–	–	–	–	9 000
Credit subsidies (grains, sunflower, potatoes, meat and milk)	612	60	700	1 000	568	1 850	369	632	12 675
Investment credits	–	–	–	–	–	–	–	10 127	10 000
Credit subsidies canning enterprises	–	667	–	–	–	–	–	–	–
Tax concessions	1 200	900	1 000	1 000	–	–	–	–	–
Maintenance of the irrigation system	560	450	750	400	966	1 765	8 220	6 240	10 243
Veterinary services, plant protection services, etc.	310	180	705	1 318	428	610	2 130	–	–
Land reform	–	200	1 118	868	519	608	11 000	–	–
<b>Total</b>	<b>3 568</b>	<b>2 644</b>	<b>4 900</b>	<b>5 313</b>	<b>3 264</b>	<b>7 684</b>	<b>40 802</b>	<b>43 408</b>	<b>45 825</b>

Source: Ministry of Finance (up to 1995), 1996-1999 State Fund Agriculture.

were also used in the form of retail price subsidies. Some minor changes were made to the support programmes in 1989. For example, some tax concessions were introduced for cattle and sheep breeding, and bonuses on prices for poultry meat, fruit and vegetables were abolished. Notwithstanding these changes total support to agriculture increased substantially in nominal terms.

Since 1992 the state budget has provided some support for land reform. The funds were mainly used for the preparation of the plans for the re-allocation of land, as well as for the activities of the land commissions. There were no special domestic support instruments and farmers received no financial support under this programme. Total budget support in nominal terms increased throughout the transition period. However, if support is measured in real terms (in 1991 prices) then the budget support to farming has fallen by about 95% over the period 1991-1998. Apart from some credit subsidies, there is practically no government support to agricultural producers. In the next section (Part V), support to agriculture during the 1990s is discussed in some detail, and mainly arises from changes in the exchange rate, market imperfections (price transmission) and some import protection measures.

## Notes

1. A more detailed description and analysis of the new Rural Development Plan and EU accession process are provided in Part VI of this report.
2. The turnover tax was paid from the State budget so as to keep retail prices low for the major consumer food products.
3. Bulgaria was traditionally a net exporter of wheat.
4. The exception is butter, for which the *ad valorem* tariff is 120%.
5. Agricultural Situation and Prospects in the Central and Eastern European Countries: Bulgaria, European Commission, DGVI, Working Document, April 1998.
6. For example in 1992, 400 million leva were allocated in the budget for credit subsidies but only 60.2 million leva were used.
7. Approximately 10 000 euros at the moment of their foundation.
8. A comprehensive discussion of quality and sanitary control measures in Bulgaria is presented in the "Strategy for Agricultural Development and Food Security in Bulgaria" Ministry of Agriculture and the FAO, Sofia, July 1999.

## EVALUATION OF SUPPORT TO AGRICULTURE

In accordance with the latest OECD classification, support to Bulgarian agriculture presented in this report has been measured by the PSE, CSE, TSE and GSSE (Box V.1).

PSEs and CSEs have been estimated for the main agricultural commodities in all OECD countries, as well as for several CEECs, and used in the monitoring of their progress towards a more market-oriented agriculture. The description of the methodology, including the new OECD classification and the series used as world reference prices in the OECD calculations for all countries, as well as detailed tables of PSE/CSE calculations and results are presented in the Annex.

Although one of the objectives of the new OECD classification is to make the indicators more consistent and more comparable between countries, the results presented in this study should be interpreted with care. In any use of PSE and CSE indicators, such as for comparison between countries, it is important to bear in mind the **limitations** of these indicators with respect to policy coverage, commodity coverage and data availability. Moreover, the macroeconomic and institutional framework in which agricultural policy measures have

### Box V.1. OECD indicators of support: Definitions

**Producer Support Estimate (PSE):** an indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers, measured at the farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on farm production or income. The PSE can be expressed in monetary terms; as a ratio to the value of gross farm receipts valued at farm gate prices, including budgetary support (percentage PSE); or as a ratio to the value of gross farm receipts valued at world market prices, without budgetary support (producer Nominal Assistance Coefficient, NAC).

**Consumer Support Estimate (CSE):** an indicator of the annual monetary value of gross transfers to (from) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on consumption of farm products. The CSE can be expressed in monetary terms; as a ratio to the value of consumption expenditure valued at farm gate prices, including budgetary support to consumers (percentage CSE); or as a ratio to the value of consumption expenditure valued at world market prices, without budgetary support to consumers (consumer NAC).

**General Services Support Estimate (GSSE):** an indicator of the annual monetary value of gross transfers to general services provided to agriculture collectively, arising from policy measures which support agriculture, regardless of their nature, objectives and impacts on farm production, income, or consumption of farm products. The GSSE can be expressed in monetary terms or as a percentage of the total support to agriculture (percentage GSSE).

**Total Support Estimate (TSE):** an indicator of the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures which support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products. The TSE can be expressed in monetary terms or as a percentage of the Gross Domestic Product (Percentage TSE).

been applied has a strong impact on the results. Thus, the market price support (MPS) element, measured as a price gap between domestic and world reference prices, captures the impact not only of agricultural policies as such, but also of macroeconomic policies (through the exchange rate), and of inefficiencies in the downstream sector which separate agricultural producers from developments on world markets. This qualification is particularly important when the PSE/CSE method is used for countries in transition where dramatic macroeconomic and structural reforms have been taking place, the downstream sector is inefficient and the data collection systems lag behind changes in the economy. While recognising its limitations, it should be underlined however, that the PSE/CSE method is a very useful tool in analysing agricultural policy reforms and the level of support to agricultural producers, as well as their progress toward market orientation.

## A. Aggregate results

### 1. PSE/CSE

The development of aggregate support to agricultural producers in Bulgaria as measured by the Producer Support Estimate is shown in Table V.1. While the estimates fluctuate widely, they indicate that agricultural producers were heavily subsidised during the pre-reform period, and implicitly taxed from 1991 to 1997. In 1998, support to producers became positive for the first time since the introduction of economic reforms in 1991. In 1999, producers were slightly taxed again. Conversely, consumers were implicitly taxed during the pre-reform period and subsidised afterwards with the exception of 1998.<sup>1</sup>

The percentage PSE was high during the *pre-reform period* at an average level of 72% (ranging from 68% to 76%), mostly due to high Market Price Support (MPS) arising from the strict border measures on trade in agricultural products. This reflected the fact that domestic prices in Bulgaria were considerably higher than world reference prices for most products. Also, the official exchange rate was strongly overvalued and this contributed to the larger price gap between reference prices and domestic prices. Domestic prices were centrally fixed and did not reflect domestic market conditions; in addition they were isolated from world market prices through the operation of the central plan and the state monopoly on foreign trade. The budgetary support<sup>2</sup> to the agro-food sector was low compared to MPS and included mainly output subsidies and bonuses, subsidies for production in unfavourable areas, input subsidies as well as support to general services and infrastructure (irrigation and increasing land productivity).

In the *early 1990s*, the strong depreciation of the currency was the major factor determining the sharp fall in the percentage PSE, from 72% in 1990 to minus 39% in 1991, and minus 45% in 1992. The partial liberalisation of price and trade policies and the introduction of substantial restrictions accelerated the fall in this period. These restrictions included export bans, taxes, quotas and automatic and non-automatic licensing. The export restrictions applied during the transition period contributed to keeping the domestic prices low compared to world reference prices.

In 1993, the percentage PSE rose again following the real appreciation of the currency and the increase in domestic prices. Between 1993 and 1996, the percentage PSE fell sharply from minus 4% in 1993 to minus 54% in 1996, reflecting the strong depreciation of the Lev in 1994 and at the end of 1996. Moreover, the budgetary and quasi-budgetary transfers did not offset the strongly negative Market Price Support.

In 1997, the implementation of the new economic reform measures and the further liberalisation of all prices, as well as the abolition of most of the trade restrictions together with the real appreciation of

Table V.1. Aggregate percentage PSEs and CSEs for Bulgaria, 1986-1999

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
Percentage PSE	76	74	72	68	72	-39	-45	-4	-27	-25	-54	-10	2	-1
Percentage CSE	-70	-68	-65	-63	-72	48	49	8	31	26	54	11	-1	3

e Estimate;  
p Provisional.  
Source: OECD.



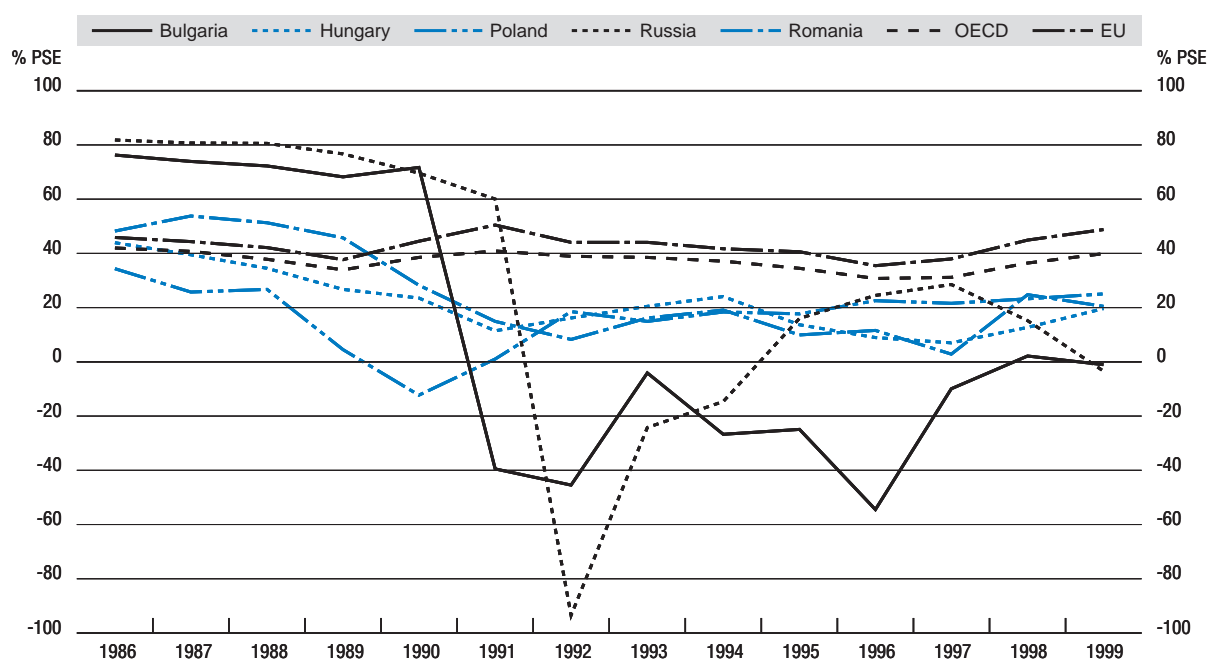
the Lev led to a narrowing of the price gap and to a rise in the percentage PSE (to minus 10%). Moreover, some subsidies given to grain and livestock producers contributed to an increase in the budgetary support to agriculture.

The percentage PSE increased again in **1998** to reach a positive level of 2% for the first time since the transition. This was mainly due to the combined effect of the dramatic fall in world reference prices while domestic prices fell less sharply, together with the abolition of the remaining restrictions on exports. In addition, a further appreciation of the Lev contributed to the positive price gap. In **1999**, the decline in domestic prices, stronger than in world reference prices for some of the most important crops, led to a support becoming slightly negative at minus 1%.

During the pre-reform period, the level of support in Bulgaria was substantially higher than the average in OECD countries (which declined from 42% in 1986 to 34% in 1989). The percentage PSE was also higher than in some of the other transition countries for which the OECD has calculated PSEs (the Czech Republic, Hungary, Poland, Romania and the Slovak Republic). However in Russia and the three Baltic countries the level of support exceeded that in Bulgaria (Annex Table V.1.3).

During the transition period, changes in the level of measured support reflected the Bulgarian government's gradual approach to reforms, the highly restrictive measures on exports and the unstable macroeconomic situation. To a certain extent, the pattern of support to Bulgarian agriculture followed that observed in several other transition countries, but diverged significantly after 1993. In Bulgaria, the lack of macroeconomic and structural reforms until the second half of the 1990s contributed to keeping the PSEs negative for a longer period of time, whereas in most other countries in transition the appreciation of the currencies, but also more protective policies for producers allowed measured support to increase to positive levels earlier than in Bulgaria (Graph V.1). In 1999, the percentage PSE in Bulgaria (minus 1%) was substantially lower than the OECD average of 40%, and lower than in other transition countries: Poland<sup>3</sup> (25%), Slovakia (25%), Estonia (15%), Lithuania (21%), Czech Republic<sup>3</sup> (25%), Hungary<sup>3</sup> (20%), Romania (20%). Only in Russia was the level of support lower, at minus 3%.

Graph V.1. PSEs by country and OECD average, 1986-1999



Source: OECD.

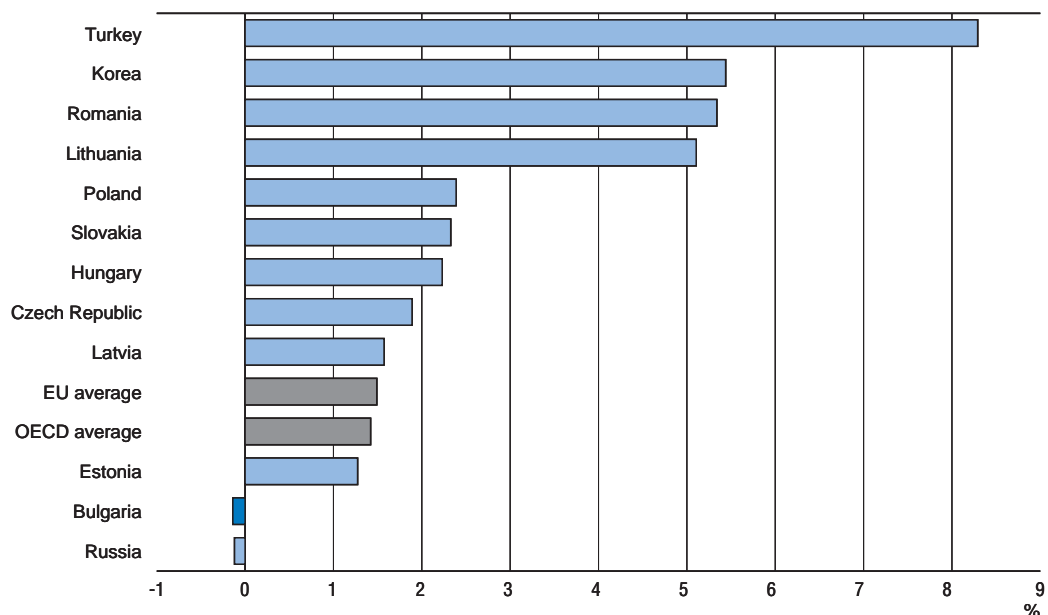
The percentage CSE was negative during the pre-reform period and positive from 1991 to 1997.<sup>4</sup> In 1998, the CSE became negative due to the rise in MPS. In the *pre-reform period*, consumer subsidies<sup>5</sup> partially offset the market transfers from consumers to producers. The negative CSEs can be interpreted as an implicit tax on consumers that mirror developments in MPS. Conversely **from 1991 to 1997**, the negative estimates of MPS result in an implicit subsidy to consumers. In addition, consumer subsidies were also given for the purchase of bread wheat. Between 1992 and 1995 the positive percentage CSE has closely reflected changes in MPS, with implicit support reaching 54% in 1996. In **1998**, the percentage CSE was minus 1% when the support to producers measured by the percentage PSE became positive at 2%. In 1999 consumers were subsidised again, with implicit support estimated at 3%.

## 2. TSE and General Services

Support to general services to agriculture (GSSE) remained very low during the period under review, with its share in total support estimated at 3% during the pre-reform period, when total support was positive, and at 2% of total support in 1998, compared to the OECD average of 16% between 1997 and 1999. The GSSE more than offset the slightly negative PSE in 1993, resulting in a low positive TSE. The main components of GSSE were infrastructure support such as subsidies for the irrigation system, payments for increasing land productivity during the pre-reform period and payments for land reform from 1992 to 1997. Therefore, changes in the overall transfers from taxpayers and consumers associated with agricultural policies, as measured by the TSE, mainly reflect developments in the PSEs. The TSE is positive when the PSE is positive and *vice versa* (with the exception of 1993).

The TSE was negative in 1999, reflecting the relatively small budgetary transfers to producers and transfers to general services, as well as the low market price support. The percentage TSE (Total Support Estimate in per cent of GDP) was also slightly negative (minus 0.1%), much lower than the average level of 2.4% for transition countries for which OECD has measured the level of support (excluding Romania) and the OECD and EU averages, but close to the level in Russia (Graph V.2). In general, a high TSE is more costly to a country like Bulgaria than to an OECD country because of the higher share of agriculture in economic activity.

Graph V.2. Total support estimate by country, EU and OECD average 1999  
(per cent of GDP)



## B. Exchange rate sensitivity

Market Price Support is the most important component of support to agriculture in Bulgaria. Thus, PSE estimates are highly sensitive to changes in exchange rate. The calculations of PSEs/CSEs in this study are made at the official exchange rate, on the assumption that this rate reflects the actual economic conditions in which the government and all economic agents make their decisions. However, a second set of PSEs/CSEs was calculated using an adjusted exchange rate.<sup>6</sup> The ratios of the adjusted rate to the official exchange rate are presented in Table V.2 and show that the Lev was strongly overvalued in the pre-reform period (up to 64% in 1990). The devaluation of the Lev in the early 1990s resulted in the Lev being undervalued in 1991 by 43% and in 1992 by 21%. Thereafter the difference between the official and adjusted exchange rates was marginal in 1994 and 1997, and no adjustment was made to the exchange rate in these years.

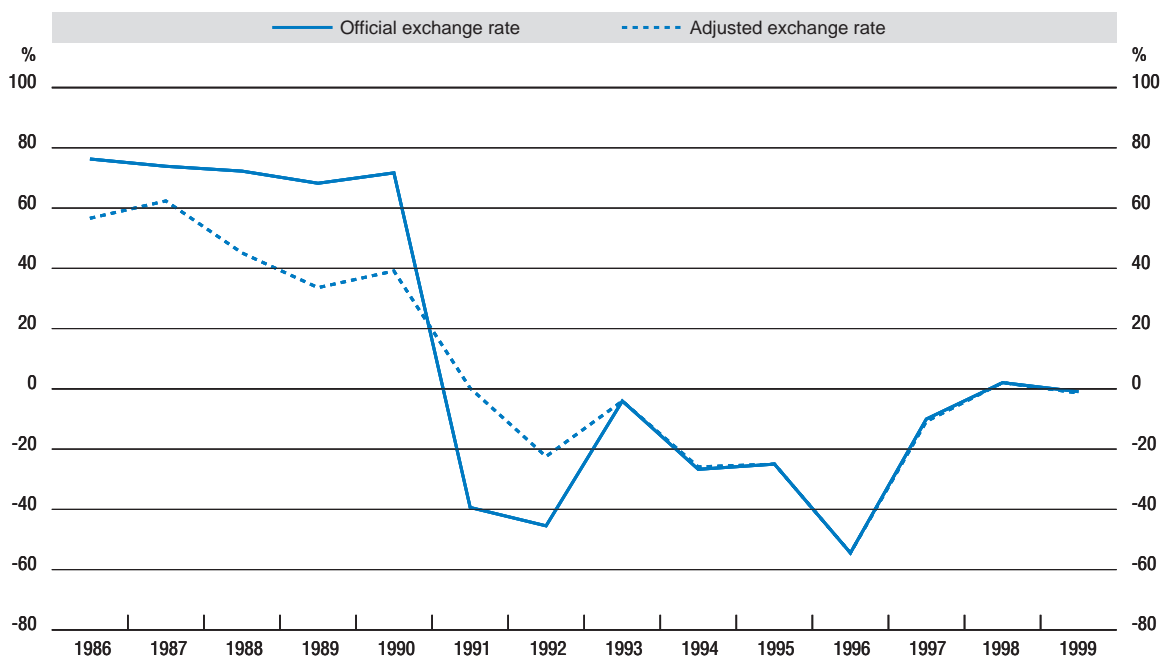
The results of these adjustments are relatively important in the pre-reform period, when the Lev was overvalued (Graph V.3). Between 1986 and 1990, the percentage PSE at the adjusted exchange rate was about 35% lower on average. During the reform period an important disparity is observed in 1991, when the Lev depreciated strongly by more than 2 000% in nominal terms, while the annual inflation rate was only

Table V.2. Official and adjusted exchange rates  
Leva/US\$

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Official rate	0.9	0.9	0.8	0.8	0.8	17.8	23.3	27.6	54.1	67.2	177.9	1 681.9	1 760.4	1 820.6
Adjusted exchange rate	1.7	1.3	1.7	1.8	2.2	12.4	19.4	27.6	53.7	67.2	177.9	1 696.0	1 760.4	1 830.1
Ratio Official/Adjusted	0.55	0.68	0.50	0.46	0.36	1.43	1.21	1.00	1.01	1.00	1.00	0.99	1.00	0.99

Source: OECD.

Graph V.3. PSEs for Bulgaria at adjusted and official exchange rates



Source: OECD.

338%. As a result, the percentage PSE at the adjusted exchange rate fell to 0% compared to minus 39% at the official rate. In 1992, the percentage PSE at the adjusted exchange rate was about 51% higher at minus 22% (instead of minus 45% at the official exchange rate). Thereafter, the effects of the adjustment were negligible.

### C. Composition of support

#### 1. Producer and Total support to agriculture

The shares of the different components of support in the Total Support Estimate are presented in Table V.3. All the results are calculated on the basis of the nominal exchange rate over the period.

During the *pre-reform period*, the MPS was by far the most important component of total support, reaching on average 83%. The share of MPS was over 100% in 1991-1997 and in 1999. A share greater than

Table V.3. **Composition of total support to Bulgarian agriculture between 1986 and 1999**  
Per cent

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Total Support Estimate (TSE)<sup>1</sup></b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Producer Support Estimate (PSE)	96.9	96.7	96.5	95.6	96.1	103.4	103.7	454.1	105.6	105.5	101.3	104.0	94.4	132.6
<i>of which:</i>														
Market Price Support	84.0	82.8	82.2	83.3	83.0	121.7	108.8	880.9	119.1	108.3	104.2	108.9	78.0	233.9
Budgetary support	12.9	13.9	14.4	12.3	13.1	-18.3	-5.1	-426.8	-13.4	-2.8	-2.9	-4.9	16.5	-101.3
General Services (GSSE)	2.9	3.2	3.3	4.2	3.5	-3.4	-2.9	-331.5	-5.1	-3.8	-1.3	-4.0	5.6	-32.6
Transfers to consumers from taxpayers	0.2	0.2	0.2	0.2	0.3	0.0	-0.8	-22.5	-0.5	-1.7	0.0	0.0	0.0	0.0

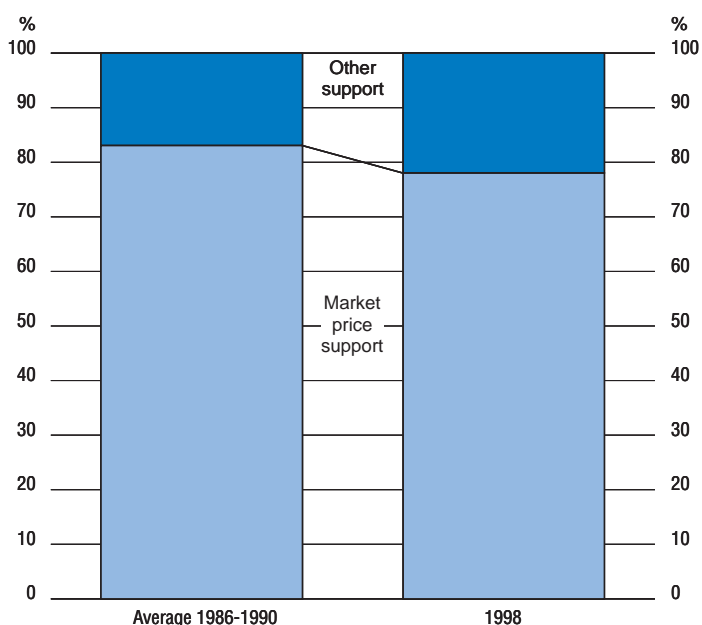
e Estimate.

p Provisional.

1. A share greater than 100 per cent was possible because the strong negative values of MPS were partly compensated by budget expenditures.

Source: OECD.

Graph V.4. **Composition of total support estimate, average 1986-1990 and 1998**



Source: OECD.

100% was possible because the strong negative values of MPS was partly compensated by budget expenditures and support to general services. In 1998, the percentage PSE increased to 2%, mainly due to positive MPS, which accounted for 78% of total support. Budgetary support was not an important component of total support; it represented 13% of the total support on average in the pre-reform period and was mainly composed of output subsidies, subsidies for production in unfavourable areas, input subsidies, as well as subsidies to general services. It remained low during the whole period under review and it accounted only for 16.5% of total support in 1998 when only input subsidies were applied. The support to general services was also very low and accounted for 3.4% on average in the pre-reform period, and 5.6% in 1998 when only irrigation subsidies were used. In 1999, the budgetary transfers, mainly composed of credit subsidies, were not sufficient to offset the negative MPS component.

## 2. Composition of consumer support

Table V.4 shows the composition of the CSE over the period 1986-1999. The most important component was market transfers (transfers to producers and other transfers from consumers), which are the corollary on the consumer side of market price support for producers. Consumer subsidies (transfers to consumers from taxpayers) compensated for a negligible part of the negative market transfers during the pre-reform period and were additional to positive market transfers from 1992 to 1995. The ratio of consumer subsidies related to market transfers shows the relative importance of the former in offsetting the tax on consumers due to supported producer prices. This ratio indicates that budgetary expenditures offset less than 1% of the negative consumer market transfers during the pre-reform period. Moreover, consumer subsidies accounted for less than 4% of the consumer support between 1992 and 1995.

Table V.4. **Composition of food consumer support in Bulgaria**

	Per cent														
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sup>p</sup>	1999 <sup>e</sup>	
<b>Consumer Support Estimate (CSE)<sup>1</sup></b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Transfers to producers from consumers (-)	102.4	100.0	99.0	102.1	99.2	103.2	109.0	81.6	106.7	119.3	98.3	97.9	114.5	129.7	
Other transfers from consumers	0.9	4.1	3.9	1.7	10.0	2.2	0.2	9.1	5.1	3.7	7.0	4.7	-59.8	25.1	
Transfers to consumers from taxpayers	-0.2	-0.2	-0.2	-0.2	-0.4	0.0	0.8	2.7	0.4	1.6	0.0	0.0	0.0	0.0	
Excess feed cost <sup>2</sup>	-3.2	-3.9	-2.7	-3.5	-8.8	-5.5	-9.9	6.6	-12.2	-24.7	-5.3	-2.5	45.3	-54.8	

e Estimate.

p Provisional.

1. A share greater than 100 per cent was possible because the strong negative transfers from consumers to producers were partly compensated by direct subsidies and feed cost adjustment.

2. A supplementary cost resulting from Market Price Support on quantities of crops domestically produced and consumed as feed by livestock producers. It is deducted from the PSE for livestock and the CSE for crops. This avoids double-counting when aggregating the PSE and CSE for crops and livestock.

Source: OECD.

## 3. Commodity composition of producer support

The PSE/CSE calculations do not cover all agricultural products<sup>7</sup> in Bulgaria. During the period under review, the products covered by the PSE estimates accounted for on average 56% of the total value of agricultural production. The share of livestock products is about 78% compared to 39% for crops. This lower coverage for crop products arises from the fact that the production of fruits and vegetables is important in Bulgaria and these products are not covered by the calculations of commodity-specific PSE/CSEs. In OECD countries, the coverage varies from 40% of total production in Turkey to 94% in Finland.

The distribution of support between the different commodities as measured by the total PSE is shown in Table V.5. In the pre-reform period support to livestock dominated, and ranged from 58% to

Table V.5. **Distribution of the total value of PSE by commodity**

	Per cent														
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sup>p</sup>	1999 <sup>e</sup>	
Wheat	8	8	8	13	21	23	30	7	44	66	11	-1	-140	269	
Maize	10	8	6	8	12	6	8	-41	11	15	7	6	-25	283	
Other grains	2	3	2	4	4	4	7	-22	6	17	2	-2	16	70	
Oilseeds	3	3	2	4	3	6	11	69	25	25	9	22	-92	330	
Sugar	2	2	1	2	2	-1	0	0	0	0	0	0	2	-7	
<b>Crops</b>	<b>24</b>	<b>23</b>	<b>19</b>	<b>30</b>	<b>42</b>	<b>38</b>	<b>56</b>	<b>13</b>	<b>86</b>	<b>123</b>	<b>28</b>	<b>24</b>	<b>-239</b>	<b>945</b>	
Milk	27	28	26	21	24	2	-3	-167	-19	-28	8	-7	380	-431	
Beef and Veal	13	11	11	9	4	12	12	165	18	-1	16	35	-47	237	
Pigmeat	24	26	29	29	21	41	35	66	15	16	42	53	-100	48	
Poultry	6	6	8	6	5	5	3	18	1	-2	5	-4	66	-437	
Eggs	7	7	7	5	4	3	-3	5	-1	-8	1	-2	40	-262	
<b>Livestock</b>	<b>76</b>	<b>77</b>	<b>81</b>	<b>70</b>	<b>58</b>	<b>62</b>	<b>44</b>	<b>87</b>	<b>14</b>	<b>-23</b>	<b>72</b>	<b>76</b>	<b>339</b>	<b>-845</b>	
<b>All commodities</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	

e Estimate.

p Provisional.

Source: OECD.

81% of the total PSE. This was mainly due to the larger share of livestock products in the total value of agricultural production in Bulgaria. In 1990, the share of support to livestock products fell to 58% when PSEs for crop products reached 78%, while PSEs for livestock products were lower at 65% (Table V.6). In 1991, 62% of the total (negative) PSE were attributable to livestock products, whereas in 1992 the share declined to 44% when PSEs for crop products dropped to minus 61%. The percentage PSE was closer to zero in 1993 mainly due to a rise in the percentage PSE for crop products to minus 1% and for livestock to minus 5%. In 1994, the estimated percentage PSE was again strongly negative for crop products, following the depreciation of the currency. The percentage PSE continued to drop for crop products in 1995 (especially for wheat, barley and sunflower) to minus 77%, while it rose to 9% for livestock products. High taxation of crop producers (Graph V.5) had the effect of supporting livestock producers through adjustments made in feed costs. Indeed, when feed crops are taxed by higher world reference prices than domestic prices, this is taken into account in the calculations of support to livestock products, so the MPS for livestock increased. Conversely, the MPS for livestock is lower when the price differential for feed crops is positive.

In 1996, a further devaluation caused the percentage PSE to fall to minus 54%; 72% of this decline was due to livestock products (in particular pigmeat, and beef and veal). The percentage PSE remained negative for livestock products in 1997 at minus 12%, while PSEs for crop products rose to a minus 5%. In 1998, the percentage PSE rose to 2% arising from an increase in the percentage PSE for livestock products (in particular milk). The estimated level of support became negative again in 1999 at minus 1%, mainly due to the decline in the percentage PSE for crops to minus 22% (Graph V.6).

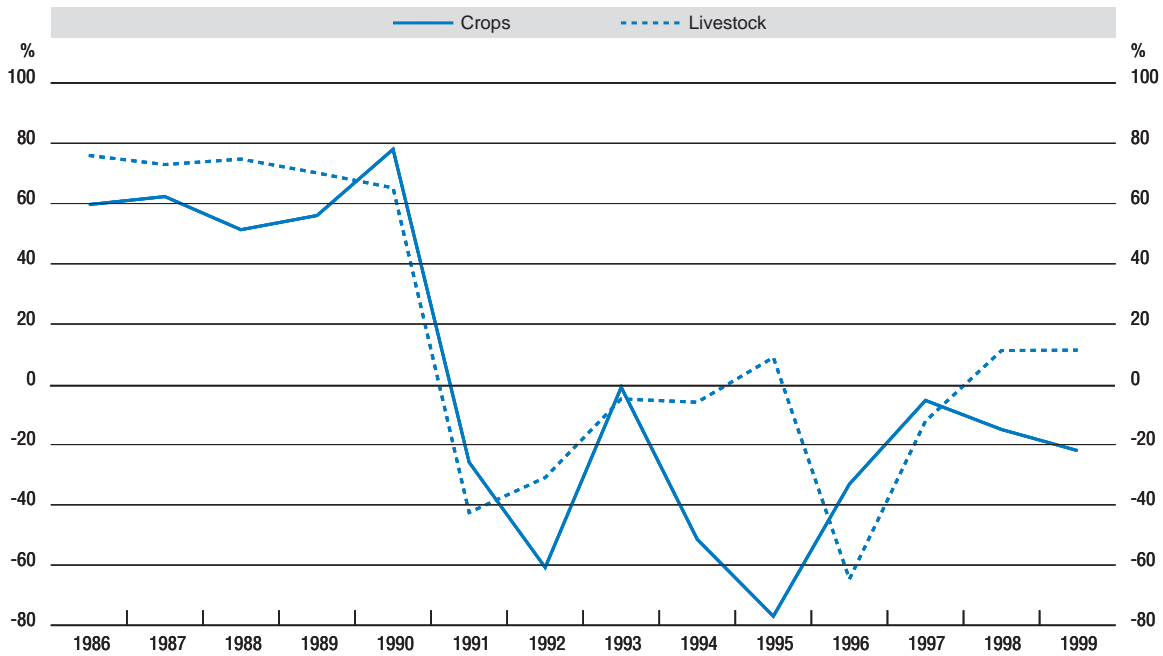
#### D. Analysis of support by commodity

Detailed PSE results, on a product by product basis, are given in Tables V.6 and V.7 below and in Annex Tables V.2 and V.3.

##### 1. Wheat

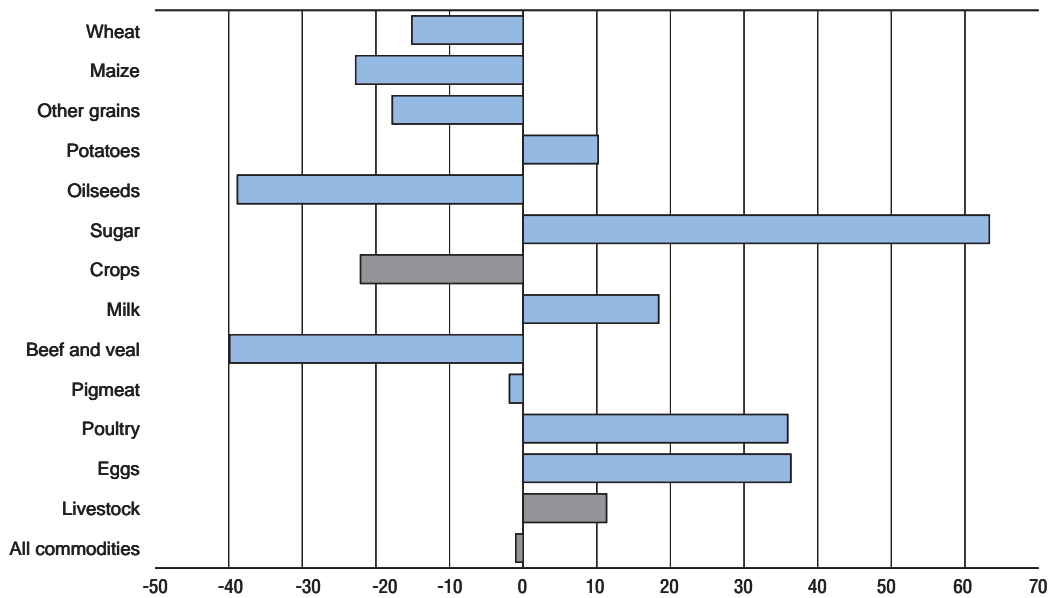
Wheat is by far the most important crop in Bulgaria, representing about 10% of the total value of agricultural production and 18% of the total value of crop production. Wheat was supported during the pre-reform period and taxed during the transition period with some important fluctuations. The average percentage PSE was high at about 54% during the pre-reform period, due to the fact that domestic prices were substantially higher than EU reference prices at official exchange rates. The decline in reference

Graph V.5. Percentage PSE for crops and livestock, 1986-1999



Source: OECD.

Graph V.6. Percentage PSE by commodity in 1999



Source: OECD.

Table V.6. Percentage PSE by commodity, 1986-1999

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
Wheat	51	53	46	48	74	-41	-74	-1	-55	-101	-25	0	-19	-15
Maize	64	71	61	62	89	-11	-31	18	-29	-31	-30	-5	-7	-23
Other grains	58	66	44	52	72	-17	-55	14	-26	-93	-20	4	10	-18
Potatoes	76	71	71	86	91	26	21	67	4	-62	37	68	55	10
Oilseeds	60	63	51	71	73	-47	-86	-54	-94	-89	-77	-51	-29	-39
Sugar	92	89	87	87	92	21	6	1	20	16	18	46	56	63
<b>Crops</b>	<b>60</b>	<b>62</b>	<b>51</b>	<b>56</b>	<b>78</b>	<b>-26</b>	<b>-61</b>	<b>-1</b>	<b>-51</b>	<b>-77</b>	<b>-33</b>	<b>-5</b>	<b>-15</b>	<b>-22</b>
Milk	85	80	76	73	78	-5	7	31	26	39	-26	5	40	18
Beef and Veal	76	71	72	67	42	-81	-54	-67	-51	3	-132	-55	-18	-40
Pigmeat	74	75	78	73	68	-69	-63	-10	-20	-16	-107	-19	-9	-2
Poultry	57	58	67	59	49	-29	-25	-9	-3	8	-37	5	17	36
Eggs	71	62	70	65	53	-18	20	-3	4	30	-4	3	16	36
<b>Livestock</b>	<b>76</b>	<b>73</b>	<b>75</b>	<b>70</b>	<b>65</b>	<b>-43</b>	<b>-31</b>	<b>-5</b>	<b>-6</b>	<b>9</b>	<b>-65</b>	<b>-12</b>	<b>11</b>	<b>11</b>
<b>All commodities</b>	<b>76</b>	<b>74</b>	<b>72</b>	<b>68</b>	<b>72</b>	<b>-39</b>	<b>-45</b>	<b>-4</b>	<b>-27</b>	<b>-25</b>	<b>-54</b>	<b>-10</b>	<b>2</b>	<b>-1</b>

e Estimate.

p Provisional.

Source: OECD.

Table V.7. Percentage CSE by commodity, 1986-1999

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
Wheat	-41	-41	-35	-39	-60	54	67	9	56	80	34	0	17	14
Maize	-30	-30	-31	-30	-40	17	7	-1	3	3	9	2	0	-2
Other grains	-39	-42	-25	-29	-39	14	19	-6	12	38	8	-2	-4	9
Potatoes	-63	-65	-65	-81	-82	-23	-19	-66	-1	61	-36	-67	-54	-8
Oilseeds	-51	-54	-45	-67	-69	59	85	62	98	77	66	49	22	30
Sugar	-91	-88	-85	-85	-92	-18	-4	1	-18	-15	-18	-46	-55	-63
<b>Crops</b>	<b>-42</b>	<b>-43</b>	<b>-38</b>	<b>-45</b>	<b>-55</b>	<b>26</b>	<b>38</b>	<b>2</b>	<b>38</b>	<b>53</b>	<b>20</b>	<b>-5</b>	<b>-3</b>	<b>9</b>
Milk	-87	-82	-76	-75	-86	26	13	-29	-14	-18	34	-4	-38	-15
Beef and Veal	-82	-79	-77	-76	-73	116	81	68	70	33	153	56	22	54
Pigmeat	-75	-76	-77	-73	-75	84	70	11	27	21	113	20	9	5
Poultry	-63	-65	-69	-66	-75	46	45	6	18	8	55	-3	-15	-30
Eggs	-77	-68	-74	-73	-79	35	0	0	8	-11	16	-2	-16	-29
<b>Livestock</b>	<b>-79</b>	<b>-77</b>	<b>-76</b>	<b>-73</b>	<b>-79</b>	<b>61</b>	<b>46</b>	<b>6</b>	<b>19</b>	<b>8</b>	<b>75</b>	<b>14</b>	<b>-8</b>	<b>-5</b>
<b>All commodities</b>	<b>-70</b>	<b>-68</b>	<b>-65</b>	<b>-63</b>	<b>-72</b>	<b>48</b>	<b>49</b>	<b>8</b>	<b>31</b>	<b>26</b>	<b>54</b>	<b>11</b>	<b>-1</b>	<b>3</b>

e Estimate.

p Provisional.

Source: OECD.

prices together with the increase in domestic price led to a rise in the wheat PSEs to 74% in 1990 compared to 48% in 1989. The strong depreciation of the currency in 1991 caused a drastic fall in support for wheat to minus 41%, worsened in 1992 by the increased reference price resulting in a percentage PSE for wheat of minus 74%. The price differential remained negative up to 1999 and the rather low budget transfers helped to move the percentage PSE for wheat close to zero only in 1993 and 1997 when the Lev appreciated in real terms. Between 1994 and 1996 the percentage PSE was very low (minus 101% in 1995), due to export restrictions on wheat combined with the effects of a further depreciation of the Lev and some increase in the external reference price. In 1998 and 1999, the input subsidies (consisting of short-term credit for wheat) were not sufficient to compensate for the decline in MPS following the decrease in domestic price, and the percentage PSE remained negative at 19% and 15% respectively.

The CSE for wheat, mirroring to some extent the development of MPS on the PSE side, that is, the CSE was negative in the pre-reform period and positive afterwards. The consumer subsidies applied between 1986 and 1990 for all products compensated for a marginal part of the negative market



transfers. Some consumer subsidies were also given for the purchase of wheat between 1992 and 1995. They contributed to an increase in consumer protection.

## 2. Maize

Maize is the second most important grain in Bulgaria, accounting on average for 10% of total crop production value and about 6% of total value of agricultural production during the period under review. The average level of support to maize in the pre-reform period amounted to 69% and was higher (in percentage terms) than for wheat and other grains. In 1990, the sharp increase in the domestic producer price for maize and the decline in the EU reference price brought the percentage PSE to 89%, compared to 62% in 1989. In 1991 and 1992, the PSE fell to negative levels of 11% and 31% respectively, reflecting the fall in the MPS due to the strong depreciation of the currency. The appreciation of the Lev in 1993 together with the increase in domestic producer price led to a positive MPS and consequently to a positive percentage PSE of 18%. Then the percentage PSE was negative during the following years. Between 1994 and 1996, the percentage PSE was estimated at minus 30% on average despite some small budget transfers consisting of input subsidies, when the Lev depreciated and some restrictions (bans) were imposed on maize exports. While the implicit taxation decreased in 1997 and 1998, the estimated PSE remained slightly negative at 5% and 7% respectively. The decrease in taxation was due to some output subsidies, short-term preferential credit to maize producers and to the real appreciation of the currency. In 1999, the sharp decline in domestic price for maize led to a negative MPS, and consequently to a negative percentage PSE estimate of minus 23%.

Market transfers mostly influenced the CSE for maize and the feed cost adjustment, as very small consumer subsidies were applied from 1986 to 1990. Maize consumers were implicitly taxed during the pre-reform period, then protected during the transition period with the exception of 1993 when Market Price Support was positive.

## 3. Other grains

Other grains included in the PSE calculations for Bulgaria refer to barley. Barley accounts for about 5% of crop production value and 3% of total value of agricultural production. The support to barley was high in the pre-reform period at about 58% on average and, as for wheat and maize, the PSE increased from 52% in 1989 to 72% in 1990 when the price differential widened. The support to barley producers followed the same pattern as that for maize up to 1997 and 1998 when the percentage PSE became positive at 4% and 10% respectively, reflecting the real appreciation of the Lev and the decline in EU reference price. In 1999, the percentage PSE turned negative at minus 18%, due to a fall in the domestic price and an increase in EU price.

Market transfers influenced the CSE for barley and the feed cost adjustment, as very small consumer subsidies were applied for barley only from 1986 to 1990. For some important feed crops like maize and barley, the feed cost adjustment can play a major role in the calculation of the support, which explains most of the difference in the absolute values of PSE and CSE. Consumers of barley were implicitly taxed in the pre-reform period and supported afterwards with the exception of 1993, 1997 and 1998 when Market Price Support was negative.

## 4. Potatoes

Potatoes are not a very important crop in Bulgaria with an average share in the total value of crop production at about 5%. Their share in the total value of agricultural production was 3% for the period 1986-1999. Individual results of PSE estimates for potatoes are presented in Statistical Annex (Tables V.2.i. and V.3.i.), but due to methodological problems related to reference prices and the relatively small amounts of potatoes traded internationally, potatoes are not included in the calculation of aggregate PSEs. However, an attempt has been made to estimate the level of commodity specific support by using the standard PSE methodology.

The level of support to potato producers was positive during the whole period except in 1995. It was very high during the pre-reform period at an average level of 79%. Changes in percentage PSEs for potatoes reflected mainly fluctuations in MPS, as budget transfers were low as it was the case for other commodities. Variations in the level of MPS are mainly attributed to wide fluctuations in the external reference price (German producer price) and in the exchange rate. In particular, the decline in the percentage PSE in 1994 reflects the increase in the reference price and the depreciation of the currency. The MPS became negative in 1995 following the large rise in the German reference price, resulting in a strongly negative percentage PSE of minus 62%. Percentage PSEs increased again to 37% in 1996 and to the respective levels of 68% and 55% in 1997 and 1998 with the increase in the domestic producer price and the real appreciation of the Lev. In 1999, the sharp fall in domestic prices, but still above the German price, led to a decrease in the estimated level of support to about 10%.

Potato consumers were implicitly taxed during the whole period 1986-1998 except in 1995 when the Market Price Support was negative. High negative CSEs for most of the period under review reflected the high negative consumer market transfers, as only negligible amounts of consumer subsidy were applied from 1986 to 1990, and changes in CSEs mirrored the developments of market price support on the PSE side.

## 5. Oilseeds

Sunflower is the major oilseed crop product in Bulgaria and accounts for 3% of the value of agricultural production, and about 5% of crop production value. The level of support was positive in the pre-reform period at 64% on average, reflecting higher domestic producer prices than EU reference price and overvalued official exchange rate. As of 1991, the domestic price for sunflower was kept below the reference price, due to the successive depreciations and some restrictions imposed on sunflower exports. The percentage PSE was therefore highly negative and ranged from minus 29% in 1998 to minus 94% in 1994. In 1999, the estimated level of support was minus 39%.

The CSEs mirrored the MPS component of the PSE, as only small amounts of consumer subsidies were given to sunflower consumers from 1986 to 1990. The percentage CSE for oilseeds was negative before 1991 and positive thereafter.

## 6. Sugar

Sugar beet accounts for only about 1% of the total value of crop production in Bulgaria. Therefore, support for sugar producers represents a minor part of the total support to agricultural producers. Sugar producers were protected during the whole period under review. The support was very high in percentage terms in the pre-reform period at an average level of 89%, and is the highest amongst the PSE commodities. The high PSEs reflect the higher domestic producer price compared with the EU reference price. The price differential was kept positive during the whole period with the exception of 1993, when the slightly negative MPS was compensated by small input subsidies to arrive at a positive PSE of 1%. The percentage PSE in 1998 and 1999 was high at 56% and 63% respectively. This can be attributed to the real appreciation of the Lev and the fall in reference prices.

The CSEs were the corollary on the consumer side of the MPS. Sugar consumers were highly taxed during the period under review, and consumer subsidies applied only between 1986 and 1990 were negligible. Only in 1993 were consumers slightly protected when the negative MPS was compensated by budget transfers. In 1999, the percentage CSE was minus 63%, clearly reflecting highly positive market price support.

## 7. Milk

Milk is the livestock product with the highest positive PSE in Bulgaria. It represents 25% of the total value of livestock production and about 11% of the total value of agricultural production. Market Price Support was by far the most important component of support during the whole period under review, and domestic producer prices were constantly kept above the New Zealand (world) reference price,

except for 1991 and 1996. During the pre-reform period, the level of support was very high at 78% on average, and high MPS was supplemented by output payments for unfavourable areas and for increasing cattle numbers in 1990. The strong depreciation of the currency resulted in the percentage PSE falling below zero, at minus 5% in 1991 and minus 26% in 1996. Between 1992 and 1995, the MPS was kept positive by an increase in domestic producer price, low restrictions on exports and a positive feed crop adjustment resulting from the strongly negative MPS for feed crop products (in particular in 1992, 1994 and 1995). In 1997 and 1998, the drop in the New Zealand price together with the increase in domestic producer price and the real appreciation of the Lev, resulted in the PSEs rising to 5% and 40% respectively. Conversely in 1999, the estimated level of support fell to 18%, following the decline in the domestic price and the rise in the New Zealand reference price.

Consumer subsidies, allocated to all consumers from 1986 to 1990, compensated for a very small part of the large negative consumer market transfers, and the percentage CSEs were strongly negative during this period. Milk consumers were supported when MPS was negative and implicitly taxed when MPS was positive. However, in 1992 the percentage PSE and CSE were both positive, as the negative price differential was more than offset by high feed cost adjustments resulting from the strong implicit taxation of grain producers.

## 8. *Beef and veal*

Beef and veal account for 7.5% of the total value of livestock production and about 3% of total value of agricultural production. As for all other commodities in Bulgaria, MPS was by far the most important component of the beef PSEs during the whole period under review. The percentage PSE was high in the pre-reform period at about 66%. However, it declined in 1990 to 42% (compared to 67% in 1989) despite direct payments for increasing cattle numbers. This was due to the reference price increase and negative feed crop adjustments resulting from high MPS for feed crop commodities. Then the level of support became strongly negative during the whole period under review, except in 1995. The depreciation of the Lev led the PSEs to fall to minus 81% in 1991, and support remained negative up to 1994, at around minus 57%. In 1995, the percentage PSE reached 3%, following a rise in the domestic producer price, and the effect on feed cost of the fall in negative MPS for feed crop products. In 1996, the depreciation of the Lev caused a drastic fall in the percentage PSE to minus 132%. In 1997 and 1998, the level of support rose to minus 55% and minus 18% respectively, in line with the real appreciation of the currency and a decline in reference prices. In 1999, the drop in the domestic price was stronger than in world price, which resulted in a fall in the percentage PSE to minus 40%.

The CSEs for beef and veal in general reflected market transfers, as low consumer subsidies were only applied from 1986 to 1990. Implicit taxation of beef consumers during the pre-reform period was high, ranging from minus 73% to minus 82%. The percentage CSE was positive at very high levels for the whole transition period, reflecting negative MPS and indicating implicit support for consumers. Nevertheless, as for milk in 1992, both PSEs and CSEs were positive in 1995 when the negative price differential was compensated by high feed cost adjustments resulting from the strong taxation of grain producers.

## 9. *Pigmeat*

Pigmeat is the most important livestock product in Bulgaria, representing about 30% of the total value of livestock production and 13% of the total value of agricultural production. The percentage PSE was high during the pre-reform period at an average level of 74%. The successive depreciations of the Lev together with the price changes and the trade barriers imposed on pigmeat contributed to keeping the domestic producer price below the world reference price up to 1998. In 1991, the depreciation caused the percentage PSE to fall to minus 69%, and the high level of taxation for pigmeat producers was maintained in 1992. The PSEs increased to minus 10% in 1993 with the real appreciation of the Lev and the drop in world reference prices (Hungarian price), they declined again to minus 20% with a further depreciation in 1994, and dropped to minus 107% in 1996, in line with the depreciation of the currency. In 1997, the percentage PSE began to rise with the increase in domestic producer price and the

real appreciation of the Lev, and reached minus 9% in 1998 and minus 2% in 1999, when world reference prices dropped and additional input subsidies were allocated to pigmeat producers.

CSEs responded to the developments of market transfers, and pigmeat consumers were implicitly taxed between 1986 and 1990, and supported from 1991 to 1998. Consumer subsidies allocated to all commodities in the pre-reform period were very small and did not compensate for the negative market transfers.

## 10. Poultry

Poultry represents only 8% of the value of livestock production and about 4% of total value of agricultural production. Support to poultry producers in Bulgaria was highly positive during the pre-reform period, with the percentage PSE averaging 58%. Estimated support fell to minus 29% in 1991 following the depreciation of the Lev and the rise in the EU reference price. The level of support as measured by PSEs increased from minus 25% in 1992 to 8% in 1995 and dropped again to minus 37% when the Lev depreciated in 1996. In 1997, the rise in domestic producer price and the real appreciation of the currency permitted the recovery of the percentage PSE to 5%. The fall in the EU reference price in 1998 and 1999 confirmed this trend, and the percentage PSE reached 17% and 36% respectively.

Poultry consumers were implicitly taxed during the pre-reform period, as consumer subsidies applied from 1986 to 1990 did not compensate for the negative consumer transfers. Changes in CSEs closely mirrored changes in Market Price Support. Nevertheless, as for milk and beef, both PSEs and CSEs were positive in 1995 at 8% when the negative price differential was compensated by high feed cost adjustments resulting from the strong taxation of grain producers.

## 11. Eggs

Eggs account for 7.6% of the value of livestock production and 3% of total value of agricultural production. The level of support to egg production was highly positive during the pre-reform period at an average level of 64%. In 1991, the MPS decreased due to the movement in world prices together with the Lev depreciation, driving the PSE down to minus 18%. The price differential remained negative up to 1994, but in 1992 and 1994 it was compensated by high feed cost adjustment resulting from strongly negative MPS for grains, and the percentage PSE was therefore positive at 20% and 4% respectively. The PSEs increased to 30% in 1995 with the decline in the world reference price; it fell again to minus 4% in 1996 following the depreciation of the Lev. It rose in 1997, 1998 and 1999 to 3%, 16% and 36%, respectively, due to the combined effects of the real appreciation of the currency, and the fall in world reference prices.

The CSEs closely reflected the developments in market price support and changes in the feed adjustment, as limited amounts of consumer subsidies were applied in the pre-reform period, as for other commodities. In 1992 and 1994, both egg producers and consumers were protected due to the fact that the negative price differential was compensated by high feed cost adjustments resulting from the strong taxation of grain producers.

## Notes

1. Despite the stated policy of maintaining low consumer prices, state subsidies to consumers were completely offset by the high MPS to producers.
2. Budgetary support in this chapter includes all non-price support to producers, *i.e.* not only budgetary payments, but also quasi-fiscal transfers arising from preferential credits, etc.
3. The Czech Republic became a full member of OECD in 1995, followed by Hungary and Poland in 1996.
4. In the OECD PSE/CSE methodology, the consumer is assumed to be the immediate buyer of agricultural products. This is why consumer and producer prices are identical in both the CSE and PSE calculations.
5. By consumer subsidy we mean budgetary transfers to processors to compensate for processing costs and to traders to offset the difference between the higher prices of processed products and the administratively set retail prices.
6. The adjusted exchange rate used is based on the “Atlas Conversion Factor” calculated by the World Bank (see definition in Annex).
7. The standard OECD approach in PSE/CSE calculations is to cover all products whose share in the total value of agricultural production exceeds 1%. Following this approach, the products covered in the PSE/CSE calculations for Bulgaria are: wheat, maize, other grains (barley), oilseeds (sunflower), sugar beet, milk, beef and veal, pig-meat, poultrymeat and eggs. PSEs/CSEs are also calculated for potatoes, but results are not included in the overall estimate of support in Bulgaria for the reasons explained in the section on potatoes.

## RURAL DEVELOPMENT POLICIES AND EU ACCESSION

### A. Rural development policy in the pre-reform period and in the 1990s

#### 1. *Pre-reform period*

In the 1980s, in order to prevent the depopulation of some rural areas, as well as to mitigate emerging regional income disparities, the Government initiated several programmes for the development of rural areas. These programmes were mainly focused on developing infrastructure and alternative employment opportunities in the less developed peripheral municipalities (so called regions of the 4th and 5th functional type), as well as programmes for the development of some mountainous regions in border areas. The economic and social measures included the promotion of in-migration to target areas, the creation of subsidiaries of large state enterprises, subsidies to newly married couples for housing, subsidies for development of towns and villages, and price premiums for agricultural production. Most of these measures failed to achieve any long-term results.

With the start up of the reforms these measures were gradually abandoned, but were not substituted by a more consistent rural development policy. Some of the sector related policy instruments (*e.g.* tobacco sector) aimed to prevent the deterioration in the economic situation in rural areas, and especially in the mountainous border regions.

The issue of supporting less developed rural areas was explicitly stated as a goal of government policy for the first time in Article 2 of the Law for support of agricultural producers: “the development of agricultural production in regions with deteriorating social and economic characteristics or unfavourable natural conditions”. In fact the first definition of less-developed rural areas and their geographical coverage was elaborated later in accordance with the requirements of the Regional Development Law.

However, as a result of different natural conditions, as well as the inherited social, economic and territorial structures, past policies, as well as the dynamics of development over several decades, significant disparities have emerged in the general economic and employment situation, incomes, and quality of life amongst the different regions in Bulgaria.

#### 2. *Regional development policy in the 1990s*

With the introduction of economic and structural reforms in Bulgaria the issues related to local and regional development were gradually put in the forefront. In the initial stage of development of a regional policy (beginning of the 1990s), most politicians believed that an active regional policy might negatively affect the process of macroeconomic stabilisation, especially in view of the budgetary deficit. The profound economic changes led to an exacerbation of the regional disparities in living standards, employment, infrastructure, etc. The situation in some municipalities became critical and this led to the introduction of additional regional policy measures and instruments. At this second stage of development of regional policy, international donors participated in the process and projects with many local/regional aspects were implemented. These projects and measures were within the framework of sectoral and horizontal programmes. Some acts related to the regional development were adopted: Law on Administrative and Spatial Structures (1995, amended in 1999), and the Law on Local Self-government and Local administration (amended in 1999).

In the Government Programme 1997-2000 several regional objectives were outlined including: overcoming regional disparities; reducing the number of municipalities that suffer from poverty, unemployment, depopulation, social and ethnic tension; the application of differentiated regional approaches to the structural reform process; and, developing projects within the EU programmes related to regional development and trans-border co-operation.

## B. Definition of rural areas

There is no commonly accepted definition of rural areas in Bulgaria. Traditionally, the division of the country by type of residence; rural or urban, has been based on the formal categorisation of settlements as either villages or towns. While a large number of small towns are rural, based on their general characteristics, they are nevertheless, classified as part of the urban areas. The municipal centres are usually towns, while other settlements in the same municipality fall in the category of villages. Therefore, the statistics on the village-town division of the country provides little insight into the development of rural areas and the degree of urbanisation. Some of the problems encountered in classification and measurement are discussed in Box VI.1.

### Box VI.1. The problem of definition and statistical information on rural areas in Bulgaria

The National Statistical Institute (NSI) collects information on some indicators at the level of the municipality, however, no data is available on some of the key indicators that could be used for the definition of rural economy, mainly employment and GDP. GDP is not calculated at the level of municipality. As far as employment data are concerned, there are two major sources of data on employment in Bulgaria: statistics on enterprises based on the annual reports of registered enterprises, and representative sample surveys.

However, both methods fail to provide a reliable base for describing employment in rural areas. The statistics of enterprises greatly underestimate the number employed in agriculture as can be seen in Box Table VI.1. The reason is that the majority of those employed in agriculture work in entities, which are not registered according to the Commercial Act or are self-employed. As a result, all estimates of the structure of the rural economy based on the enterprise statistics significantly underestimate the role of agriculture in rural areas. On the other hand, in the sample surveys, there is no satisfactory division by location – data is representative by town/village residence and is methodologically very difficult to regroup.

Box Table VI.1. Employment by sector and source of information

Sector	1998 Enterprise statistics <sup>1</sup>		1998 Sample surveys	
	Total	%	Total	%
Agriculture, hunting and fishing	134 896	8.0	796 813	26.3
Mining and quarrying	55 239	3.3	56 188	1.9
Manufacturing	704 296	41.8	706 470	23.3
Electricity gas and water supply	54 411	3.2	58 216	1.9
Construction	111 250	6.6	137 028	4.5
Trade and repairing activities	294 188	17.5	325 984	10.8
Hotels and restaurants	59 114	3.5	75 825	2.5
Transport and communication	164 670	9.8	223 864	7.4
Financial intermediation	5 030	0.3	40 808	1.3
Real estate, renting and business activities	72 914	4.3	96 749	3.2
Education	3 285	0.2	233 049	7.7
Health and social work	2 269	0.1	170 026	5.6
Other services	23 921	1.4	105 039	3.5

1. Employment in Government administration is excluded.

Source: NSI.

In the National Agriculture and Rural Development Plan 2000-2006, a “working definition” of rural areas has been adopted. It defines rural areas as municipalities with a population of less than 30 000 people, and a population density below 150 people per km<sup>2</sup>. This definition is used in the discussion and analysis of rural areas in this chapter.<sup>1</sup>

## C. General characteristics of rural areas

### 1. Population

Rural areas have traditionally played an important role in the Bulgarian economy and in maintaining social stability. The rural areas cover 90 371 km<sup>2</sup>, or about 81% of the country. The rural population is estimated at 3.6 million, and accounts for over two-fifths of the total population. The density of population in rural areas is estimated at 40 people per km<sup>2</sup> compared to the country's average of 74.6 people per km<sup>2</sup>.

Of the 262 municipalities in Bulgaria, about 229 are located in rural areas. The number of settlements in rural areas is estimated at 5 307. Rural areas depend primarily on farming as the major form of economic activity, and to a lesser extent on forestry, crafts and rural tourism. The average density of rural settlements in Bulgaria is 3.75 villages per 100 km<sup>2</sup>.

Table VI.1. Population and territory of rural areas

	Population		Municipalities	Land area		Population density
	'000s	%		km <sup>2</sup>	%	Persons/km <sup>2</sup>
Bulgaria	8 230.40	100	262	110 910	100	74.2
Rural areas	3 612.80	43.6	229	90 371	81.4	40.0
Less-developed rural areas	1 008.90	12.2	77	27 000	24.3	37.4

Source: NARDP; NSI data.

The working age population in rural areas is estimated at 1.9 million or 51.6% of the total rural population. About 28% of the rural population are above the working age category. The natural growth in the rural population is negative and was estimated at -9.6% in the mid-1990s, due to a combination of higher death rates and lower birth rates compared to the national average. Over the 1994-1997 period, there was a substantial out-migration from towns to villages arising from expectations of improved living conditions in the villages. This development offset to some extent the deteriorating demographic situation that had occurred in many villages. While this trend was not sustained in 1998, some estimates have suggested that completion of land restitution and the development of land markets have increased migration to the villages in 1999. As regards the level of education and training, data from the 1992 census indicates that the share of people with higher level education, such as a university degree, college, technical schools and secondary education was significantly below the national average in rural areas.

### 2. Technical infrastructure

The road transport network is generally well developed in Bulgaria and is the principal form of transport in most rural areas. The railway and water transport systems in the less developed rural areas provide a complementary system of transport, but are much more limited in terms of coverage. The density of the rural road network is similar to the national average of 0.3 km per km<sup>2</sup>. However, due to the high number of relatively lower-class roads, the quality of transport is rather inconsistent and slow.



The current fourth-class road network is located predominantly in rural areas and covers a distance of 23 614 km, or about 63% of the total road network. In general, the road system in rural areas is in poor condition due to the lack of proper maintenance. It is of considerably lower quality than the international transport corridors and transit roads. The road network in many rural areas needs substantial investment in order to repair and upgrade the system, in particular significant investment is needed for the renovation and further development of the fourth class road network (agricultural roads and inter-settlement roads).

It should be noted, however, that there are significant disparities in the quality of the road system in rural areas. Some rural areas enjoy a more favourable location over others and are better integrated into the national transport network. In other areas, especially the mountainous and peripheral rural areas, the inadequate road infrastructure remains a significant barrier to economic development.

Table VI.2. **Fourth class and agricultural road network in rural areas (1996)**

Type	Length in km	Relative share of total network in %
Fourth class roads	23 614	63.3
Agricultural roads (dirt-roads)	2 965	7.95

Source: NSI data.

All rural areas are covered by the country's national electricity supply system and receive 110 kV of electric power from the regional electricity distribution sub-stations. The main electricity supply network that distributes electricity to rural areas is a medium voltage (MV) one, covering all municipalities in Bulgaria. In some remote rural areas (South and Northwest Bulgaria), the electricity supply network is serviced by longer lines, which often result in unstable supply and substantial losses in the transmission of electricity.

The public water supply network provides water to about 98% of the country's population. The number of settlements with a water supply network is estimated at 4 529, and accounts for 85% of all settlements. About 81% of all villages have a central water supply system. There is a centralised sewage system in about 277 settlements in total, of which, 167 are towns. More than 40% of the network was built in the period 1960-1965, much of which suffers from lack of maintenance and needs substantial renovation and upgrading. As regards waste disposal, there are 1 172 settlements in Bulgaria covering 78% of the population, where a public state waste disposal system is in operation. However, in many of the smaller towns and villages general waste is deposited at disposal centres in a rather chaotic manner.

Concerning the telephone and postal systems, the infrastructure for these services is, in general, well developed in all regions. However, the establishment of a functioning network in some sparsely populated regions such as Montana, Haskovo and Russe, as well as in some border regions is lagging.

### 3. *Social infrastructure and economic development*

As regards the social infrastructure, the system of education is well developed, with nurseries, kindergartens and schools in almost every rural settlement that has the minimum required number of children. There is also a well-developed health care system that relies on primary and pre-hospital care units as the main form of health care. In addition, there is an array of cultural and public facilities such as community centres, public libraries, clubs, etc.

The rural social care services are responsible for a large number of public facilities that have been under-utilised, or abandoned, as a result of the drastic decline in the number of young people living in

Table VI.3. **Social infrastructure in rural areas (1996)**

Type	Total (No.)	Rural areas (No.)	% of settlements in rural areas
Kindergartens	3 713	2 274	43
Small community centers, public facilities	4 223	3 296	62

Source: NSI.

rural areas. While the social infrastructure in most rural areas is fairly well developed, substantial investment is needed for proper maintenance and renovation.

Rural natural resources and climate are an important pre-condition for the promotion of multiple economic activity in rural areas: agriculture, forestry, industry, tourism, etc. In general, much of the industry in rural areas is of the multi-purpose type. Almost all industries were developed prior to the outset of the economic reforms (food processing, timber, textiles and knitwear, electronics, machine building located in small to medium-sized enterprises). The collapse of the command economy and the implementation of economic reforms culminated in the liquidation of many enterprises, which in turn resulted in a dramatic reduction in rural non-agricultural employment. With the completion of land restitution, many of the small private farms, which have emerged, are essentially subsistence in nature.

#### 4. *Characteristics of Less Developed Rural Areas*

For the purposes of the regional policy objectives some of the rural areas are identified as Less Developed Rural Areas (LDRA). The LDRA include municipalities or groups of municipalities that have a predominantly rural way of life and specialise in farming and forestry. They are characterised by a rather low level of economic development, technical infrastructure and labour skills, and suffer acute social problems such as rampant unemployment, low income and depopulation (Box VI.2).

##### Box VI.2. **Development of small and medium sized enterprises in rural areas**

A recent survey on the development of SMEs shows substantial disparities between regions. Impediments to development and growth of SMEs in two less-developed rural areas, covering 11 municipalities in the Northwest part of Bulgaria with a total population amounting to 156 000 people, were identified. The three main impediments are; declining population and ageing of the population, falling rates of employment, and low efficiency of companies in the region. In the 1996-1998 period, the population in the surveyed regions declined by 3.3% compared to the national average of 1.3%. As regards the structure of employment, about 40% of employment is in agriculture (when added to the data for non-registered producers in the region, this suggests that more than 50% of the employment is in agriculture). Industry and trade account for about 24% each.

The company density in the region is significantly lower (12 companies per 1 000 people) compared to the national average of 25. Moreover, labour productivity in these companies is also lower, estimated at about half the national average level of productivity. According to the survey, profitability of all companies in the region is negative, and declining, and amongst the lowest in the country in the period for 1996-1998.

The share of agriculture in the gross value added of companies in the region is higher than its share in employment at 51%. This suggests that productivity in agriculture is higher than in other sectors. The SMEs produce largely for the local market, with 80% of their turnover arising from sales in the region.

The main impediment to growth of SMEs in the region is the sharply declining income of the population arising from rising unemployment and a switch to subsistence activities. Poor infrastructure and lack of access to finance also impede the development of SMEs in the region.

The official criteria for the identification of less developed rural areas are as follows:<sup>2</sup>

- The absence of a big or medium-sized town in the area. The population of the biggest town in the area should be less than 30 000 people.
- The income per capita in two of the last three years should not exceed 30% of the national average in the preceding year.
- The average unemployment rate in two of the last three years should exceed the national average in the previous year by 50%.
- The population density should be less than 75% of the national average.
- The share of farm or forest land should exceed the national average by 20%; and,
- The relative share of those employed in farming and forestry should be greater than the national average in the previous by 20%.

Less developed rural area municipalities must meet the first three requirements, as well as at least one of the other requirements to satisfy the criteria. In accordance with the above criteria, 34 areas have been classified as LDRA in Bulgaria (Figure VI.1). In essence, municipalities are the core unit of less developed rural areas, and some areas may include up to 8 municipalities. The population of the LDRA is estimated at about one million people, or 12% of the total population, while the total area amounts to 27 000 km<sup>2</sup> or 24.3% of the area of Bulgaria. The amount of farmland is estimated at 16 000 km<sup>2</sup>, or 25% of the total area of farmland in the country.

The less developed rural areas face a variety of problems including:

- An underdeveloped infrastructure.
- A declining population and out-migration of young people. The demographic trends are quite unfavourable, during the mid-1990s the fall in the population was 1.5-2 times higher than the national average, while the share of young people in the population declined even more rapidly.
- A low company density and lower than average company performance.
- A high and rising rate of unemployment. The unemployment rate in these areas is reported at 27% in 1998 compared to the national average rural unemployment rate of about 20%.

## **D. Rural development in the regional policy context**

### **1. Regional development policy in 1998-1999**

The third stage in the development of regional policy started in 1998-1999 and led to the adoption of the Regional Development Law (March 1999). The regional policy is regarded as an element of the national structural policy and the regional development is described as “a process for achieving sustainable and balanced development through targeting of resources, building infrastructure and the promotion of economic activities in different regions”. The current National Regional Development Plan covers the period 2000–2006.

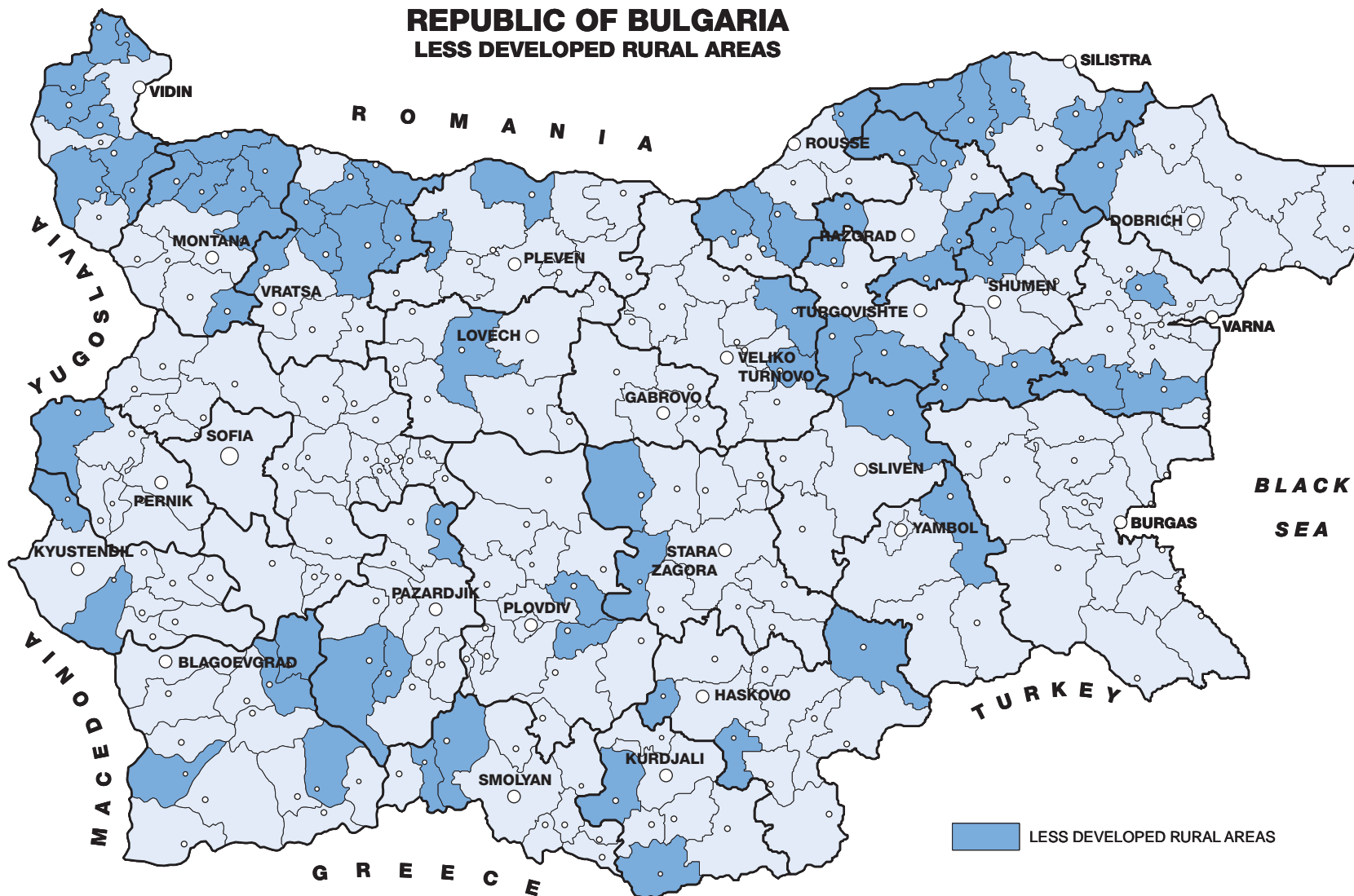
However, there are still many problems related to the design and implementation of regional development policy in Bulgaria including:

- The lack of a consistent and long-term policy approach. Regional development has been subject to *ad hoc* reactive policy inputs aimed at overcoming individual challenges at the expense of developing overall solutions and sustainable results.
- The lack of experience at all levels in programme planning, implementation, monitoring and control. This problem was aggravated in 1999 with the local government reform and the restructuring of the administrations in the regions.
- The weak and inexperienced regional administration and underdeveloped administrative structures on a regional level.

Figure VI.1. Less developed rural areas

# REPUBLIC OF BULGARIA

## LESS DEVELOPED RURAL AREAS



- Poor co-ordination at all levels and mostly at regional and local levels. The absence of an integrated (rather than sectoral) approach resulted in ineffective resource spending to the detriment of regional policy implementation; and,
- Shortage of up-to-date and reliable regional statistics which hampers objective setting and timely identification of regional development problems and processes. In practice, there are no effectively functioning information systems to allow the monitoring of regional development activities.

#### *National Regional Development Plan*

The first National Regional Development Plan (NRDP) was adopted by the Council of Ministers in October 1999. The NRDP identifies the principles, aims and priorities with respect to regional development, as well as the measures, instruments and resources required for their implementation. The main principles of the regional development policy are as follows:

- *Concentration and prioritisation*: more effective use of resources by concentrating them on a limited set of priority tasks and areas.
- *An integrated approach*: considering all regional development factors and striking a balance between economic, social and environmental objectives.
- *Commitment and mutual complementarity*: national policy measures and resources to be designed to complement the local ones. The same applies to financial resources from external sources, including those from EU Structural Funds.
- *Integrating sectoral policies*: regional development to be achieved by co-ordination of regional and sectoral measures.
- *Planning* as a constant process: regional development to be regarded as a planning and programming process, with initiatives subject to updating and revision as they progress.
- *Decentralisation*: efforts to be made to resolve problems at the level on which they arise. Broadening the local/regional authorities' responsibilities to include not just planning but also programme implementation and management.
- *Partnership*: working in dialogue and jointly with all major regional development players (central and local government, NGOs and business organisations).
- *Competing for resources*<sup>3</sup>: The planning regions and municipalities have to compete for project funding on the basis of clearly defined project criteria, and compliance with the national priorities in a transparent way.
- *Information backup*: ensuring the flow of timely, reliable and regionally differentiated data for use in the formulation of the plan and in monitoring the progress.

The National Regional Development plan defines two types of regions for implementing regional policy: *planning regions* and *areas for purposeful intervention*. The planning regions are the main unit for developing and implementing regional development plans. They will be the main regional unit for targeting the pre-accession funds. There are six in number; Northwestern Region, North-central Region, North-eastern Region, Southeastern Region, South-central Region, Southwestern Region. The *areas for purposeful intervention* are defined on the basis of either their special functions related to the regional economic development of the country or to their specific problems. The territorial unit for their formation is the municipality. The specific criteria for these areas in the National Development Plan are: areas for growth; areas for development; areas for trans-border co-operation and development; and, areas with specific problems, such as declining industries or less developed rural areas.

#### *National Economic Development Plan (2000-2006)*

The National Economic Development Plan (NEDP) for the period 2000-2006 was formulated under the National Strategy for accession to the European Union.<sup>3</sup> The legal basis of the NEDP is set out in the Bulgarian Regional Development Act. This defines the NEDP as "a unity of sectoral and regional pro-

grammes based on an analysis of the country's entire development and a general development strategy." The Plan was drawn up based on the methodology set out by the Council of Ministers in agreement with the European Union, and linked with the Special Preparatory Programme for EU Structural Funds. The NEDP 2000-2006 was prepared as part of Bulgaria's EU pre-accession strategy.

The main objective of the National Economic Development Plan is to achieve sustainable low-inflationary economic growth as a major precondition for the generation of higher income, and improvement of living conditions with a view to Bulgaria's future integration into the EU. The social and economic policies of the government are based on the following long-term priorities:

- completing the transition to a market economy and establishing the institutional system in line with the EU *acquis*;
- improving the competitiveness of the Bulgarian economy;
- improving the quality of infrastructure and the ecological system;
- improving the living conditions in rural areas and adapting the human resources to the new economic and Euro-integration environment;
- promoting a well-balanced and sustainable development in all regions.

The NEDP was developed in co-ordination with the National Regional Development Plan and the National Agriculture and Rural Development Plan under SAPARD. Both of these documents cover the same seven-year period. In essence, the NEDP is predominantly a strategic document that sets out a vision of economic development in Bulgarian as well as identifying national priorities. The other two Plans have a more practical character. Apart from this, the NEDP takes a broader sectoral overview. The NARD mainly covers agricultural policy, while the Regional Development Plan establishes appropriate measures and programmes for sustainable and balanced regional development.

## **E. Rural development strategy and SAPARD**

### **1. *Special Accession Programme for Agriculture and Rural Development (SAPARD)***

The SAPARD offers structural assistance to all Central and Eastern European EU applicant countries. For the period 2000-2006 it is envisaged that the ten applicant countries will receive approximately ECU 7 billion (ECU 1 billion per year) under the Instrument for Structural Policies for Pre-Accession (ISPA); and 3.5 billion euros (0.520 billion euros per year) for the Special Accession Programme for Agriculture and Rural Development (SAPARD).

The preparation for utilising these rural development funds will be done through a Special Preparatory Programme (SPP) under the PHARE, and the SAPARD programme will provide the funds. As stated in Regulation 1268/1999 of the European Council (also in other documents of the EU Commission), the SAPARD is a seven-year programme, which starts in 2000. The European Commission allocates funds for pre-accession assistance for agriculture and rural development in the ten applicant CEECs in accordance with the Council Regulation of 21 June 1999 (SAPARD). The Regulation provides for an allocation based on the following objective criteria:

- the size of the farming population;
- the agricultural area;
- GDP per capita and specificities of the region.

With the adoption of the Financial Perspective for 2000-2006, the European Council in Berlin decided to allocate a maximum annual amount of 520 million euros, under SAPARD to the ten applicant countries over the seven-year period. Bulgaria could receive up to 52 million euros per year.

The Commission's decision on the allocation of funds will allow the applicant countries concerned to prepare their plans for supporting agriculture and rural development as required by the SAPARD regulation. On the basis of these plans, the Commission will approve a programme for agriculture and rural

development for each of the applicant countries, which has the main objective to assist in preparing their agricultural sectors for full participation in the Common Agricultural Policy and the internal market.

The SAPARD assistance for investment schemes amounts to 75% of the total envisaged public expenditures. For investments the public assistance might amount to 50% of the total expenditures, of which, 75% would be covered by FEOGA. A large range of projects for developing agriculture and rural areas are eligible for financing ranging from investments in farms to development and improvement of infrastructure in rural areas. Bulgaria's state bodies at national and local level are responsible for ensuring the remainder of the project co-financing, taking into account the funding from the EU. Most of the proposed measures are directed towards agricultural development.

In 1999 an additional one million euros was provided to carry out a pilot project aimed at testing Bulgaria's ability to utilise the structural funds (for a separate region and/or sub sector of the agriculture and food industry). The purpose of the pilot project was to acquire experience in the application of measures under the SAPARD. The pilot project covered the Dobrich region and involved developing better methods to improving the quality and hygiene standards of milk sold to milk processors.

New policy instruments are to be implemented in the framework of preparing Bulgarian agriculture for the utilisation of SAPARD funds. In the Rural Development Plan (2000-2006), prepared by MAF, in accordance with the SAPARD regulation, priority areas to be supported through subsidised investment schemes are defined and include:

- improving the production, processing and marketing of agricultural, forestry and fishery products in compliance with European standards;
- integrating developments in rural areas aimed at protecting and strengthening their economies and communities and helping to reduce the process of depopulation;
- developing a more environmentally friendly agriculture, as well as improving measures for environmental protection in agriculture and forestry;
- investing in human resources, in particular training people engaged in primary and tertiary agriculture, forestry and fisheries;
- technical assistance.

## 2. National Agriculture and Rural Development Plan 2000-2006

The 2000-2006 National Agriculture and Rural Development Plan (NARDP) for Bulgaria has been prepared in compliance with the requirements of EU Council Regulations in June 1999, under the EU Special Accession Programme for Agriculture and Rural Development. This Plan extends EU financial aid for the implementation of agricultural and rural development measures in CEECs in the pre-accession period. The Plan was adopted by the Council of Ministers on 22 November 1999.

The preparation of the NARDP was co-ordinated by an intragovernmental Working Group under the Ministry of Agriculture and Forestry, and included representatives from the Ministries of Industry, Environment and Water Resources, as well as the Ministry of Regional Development and Public Works. Members of farmer associations, producer organisations in the food industry as well as regional development agencies and NGOs, supported the Working Group. The agricultural and rural development strategy has been discussed at a meeting of the Central Co-ordination Unit of the SPP. Two rounds of public discussions on the Plan's priorities and measures have been held to achieve greater transparency in the drafting process. The Plan was prepared in close co-ordination with the representatives of the EU Commission.

The country's priorities in agriculture and fisheries cover a number of areas as laid down by the updated National Programme for Adoption of the Acquis (NPAA):

- to build a modern and competitive agricultural sector to meet EU economic criteria, *i.e.* a sector able to operate under the pressure of EU market forces by implementing a strategic investment policy that mobilises all financial resources in an appropriate mix aimed at the implementation of the acquis in agricultural production, trade, forestry and fisheries;

- to sustain agricultural and rural development in compliance with environmental protection requirements on the basis of maintaining stable rural communities, alternative employment, economic diversification, and large-scale infrastructure;
- to ensure that the legal framework for agriculture (including veterinary and phyto-sanitary controls) is aligned with the EU Acquis, and appropriate to the implementation of CAP mechanisms by sector and commodity groups;
- to bring the existing administrative capacity and procedures into line with EU membership requirements, and properly target them at the enhancement of the organisational structure for the implementation and enforcement of the Acquis, as well as for undertaking other functions and responsibilities related to EU membership.

In essence, the key elements of the Programme are designed to build the administrative capacity needed for the implementation and enforcement of the already harmonised legislation. Harmonisation to the EU is one of the key agricultural policy goals pre-accession. It involves alignment of Bulgarian agricultural legislation with the EU Acquis; bringing administrative capacity and procedures into line with EU requirements; implementation of the internal market mechanisms, CAP and EU structural policy in its agricultural aspects; implementation of the EU agri-statistical methodologies. The EU PHARE Programme actively supports institution building, while the economic priorities are supported by SAPARD.

#### *Objectives of the Plan*

The objectives of the National Agriculture and Rural Development Plan have been defined based on the general economic priorities as set out in the NPAA, the requirements of the Council Regulation 1268/99 on SAPARD, and the socio-economic conditions prevailing in rural areas. More specifically the objectives are:

- the development of an efficient and sustainable agriculture, as well as a competitive food-processing sector, through improved market and technological infrastructure and strategic investment policies, ultimately aimed at reaching EU standards;
- sustainable rural development, consistent with the best international environmental practices by providing alternative employment opportunities, economic diversification, development and rehabilitation of infrastructure.

Both objectives aim at improving the economic and social conditions in rural areas, and are complementary to, and consistent with, the overall goal of the National Agriculture and Development Plan. They are clearly targeted at improving agricultural structures and market efficiency while creating employment opportunities and raising living standards in rural areas.

#### *Priorities and measures in the NARDP*

To avoid the allocation of SAPARD funds into rather small amounts across a wide range of measures, assistance is focusing only on those measures directly related to the achievement of the strategic goals. Four priority areas have been identified and include: improving the production processing and marketing of agricultural and forestry products, strengthening the rural economy, investing in human capital, and technical assistance. A wide array of measures has been outlined to deal with these priorities. These measures are presented in Box VI.3.

### **3. Institutional arrangements**

#### *Regional development co-ordination*

Regional development is not simply a policy per se, but a system for co-ordinating sectoral institutions' policies and policy actions at different levels. This implies constant contact and communications with a wide range of participants. The creation of a mechanism for supplying information by Ministries



### Box VI.3. **Priorities and Measures in the National Agriculture and Rural Development Plan (NARDP)**

**Priority area 1.** Improvement of the production, processing and marketing of agricultural and forestry products as well as the processing and marketing of fishery products in compliance with EU Acquis; promotion of environmentally friendly farming and environmental protection. This priority area contributes to the improvement of the competitiveness of farms and food processing establishments and encompasses five measures:

Measure 1.1 – Investment in agricultural holdings.

Measure 1.2 – Improving the processing and marketing of agricultural and fishery products.

Measure 1.3 – Promotion of environmentally-friendly agricultural practices and activities.

Measure 1.4 – Forestry, afforestation, investment, processing and marketing.

Measure 1.5 – Setting up Producer Groups.

Measure 1.6 – Water Resources Management – Irrigation.

**Priority area 2.** Integrated rural development aimed at protecting and strengthening the rural economy and community.

Measure 2.1 – Development and diversification of economic activities providing for multiple activities and alternative income.

Measure 2.2 – Renovation and development of villages; protection and conservation of rural heritage and cultural traditions.

Measure 2.3 – Development and improvement of the rural infrastructure.

**Priority area 3.** Investment in Human Resources – vocational training for agricultural producers and other persons involved in agricultural production, forestry and diversification of activities in the rural areas.

Measure 3.1 – Improvement in Vocational Training.

**Priority area 4.** Technical Assistance.

and institutions about their actions, programmes, forecasts and regional administrations' intentions are particularly important. The main tools for co-ordinating sectoral policy is:

- The Central Co-ordination Unit for Special Preparatory Programme for the EU Structural Funds (CCU of SPP), especially with respect to measures funded by the EU Pre Accession Funds, which was established by the Council of Ministers in October 1998.
- The Council of Ministers' Regional Development Council. Its main functions are to co-ordinate sectoral policy (including extra-budgetary funds), and to liaise between Government, the planning regions and regions for purposeful intervention.
- The Region Development Councils. These Councils co-ordinate Regional offices of the Central Government and Municipalities, and also act as a conduit to the non-governmental sector, business associations and other participants involved in regional development.

#### *Rural development administration*

In October 1998 a special unit for SAPARD (SAPARD Task Force) was established in the Ministry of Agriculture and Forestry. In November 1998 a "Rural Development" directorate was established in MAF, and the SAPARD Task Force became part of this directorate. The main tasks of the Directorate are:

- to determine the areas to be covered by SAPARD;
- to co-ordinate and prepare the National Agriculture and Rural Development Plan;
- to ensure the establishment of an appropriate legal basis for implementing the programme;

- to ensure adequate co-financing by the MAF, other ministries and agencies of municipal authorities;
- to identify or set-up a paying agency;
- to provide guidance on establishing appropriate project selection criteria and appraisal procedures;
- to ensure adequate publicity about the Programme;
- to establish a network of “facilitators”, *i.e.* trained staff operating at regional level to assist potential applicants prepare project plans and applications for grants;
- to arrange for the monitoring and evaluation procedures;
- to provide a secretariat to the programme monitoring committee;
- to prepare annual progress reports for the European Commission;
- to liaise with European Commission officials; and,
- to take responsibility for the SPP, organisation of the budget for the preparation of projects and the development of the pilot project in the Dobrich region.

According to the requirements of the EU regulations for the implementation and financing of the NARDP, the Government decided that the State Fund Agriculture should be transformed into a SAPARD Agency with two parts: an implementing body; and, a paying agency.

The process of establishing the SAPARD Agency is under way. According to the current timetable, the SAPARD Agency should receive accreditation from the Competent Authority and should be approved by the EU Commission by September 2000. The selection of projects will be organised through the Regional Offices of the State Fund Agriculture. The evaluation of the projects and final decisions will be taken at central level. Preparation for the utilisation of the EU pre-accession funds includes the adoption of the following legal measures:

- A draft amendment to the Law for Support of Agricultural Producers under which SFA shall co-finance projects under the measures and priorities set out in the National Agricultural and Rural Development Plan. The amendments were adopted by the Parliament (SG24/2000).
- An ordinance of the Council of Ministers on the establishment of a Paying Agency under SAPARD 2000-2006 whereby the functions of the Paying Agency, Competent Authority (Ministry of Finance and Minister of Agriculture and Forestry) and Certifying Body (State Financial Control) was approved by the Council of Ministers in July 2000.
- A draft ordinance on SAPARD implementation to be issued by the Agriculture Minister.

Since July 1999 the SFA has begun the implementation of the accreditation programme. In addition, selection committees for the SAPARD investment schemes are to be established. The selection of applicants will depend on the type of measures implemented. The committees shall include representatives of the SFA, measure-related MAF department or unit, measure-related MAF services, National Veterinary Service, Ministry of Regional Development and Public Works, EU Delegation, Ministry of Finance, Ministry of Economy, Ministry of Environment and Water, Ministry of Labour and Social Policy, Representatives of the Commercial Banks, and Social Partners.

The Draft Commission Decision on the SAPARD rural development plan for **Bulgaria** was presented to the STAR management committee of the EU Commission for opinion on 13 September 2000. The Bulgarian National Agriculture and Rural Development Plan for the period 2000-2006 was one of the first approved programmes of the candidate countries by the EU Commission.

## Notes

1. For this reason there may be some discrepancies with the information provided in Part I.
2. Government Ordinance No. 105/02.06.1999.
3. The basic framework of the country's relations with the EU is the "Accession Partnership" laid down in Agenda 2000 of the European Commission. The objectives of the "Accession Partnership" are: to unify the various forms of EU assistance into a single framework based on a clearly defined programme for the candidate country (including the commitment of the applicant country to fulfil certain priorities within a specified time period); to help the applicant country to become familiar with the policies and procedures of the EU. In Bulgaria, the following two programmes were prepared on this basis; the National Programme for the Adoption of the Acquis, and the National Programme for Institution Building in Agriculture.

## ANNEX TABLES

### A. Annex Tables to Part I

Annex Table I.1. **Share of agro-food sector in the economy, 1986-1999**

Per cent

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 <sup>p</sup>
Share of agriculture and forestry in GDP	13	12	11	11	17.7	15.4	12	10.6	12.4	14.1	15.4	26.6	21.1	17.3
Share of agriculture in employment					17.9	19.5	20.7	21.7	22.8	23.4	24.3	24.3	24.7	25.9
Share of capital investments in agriculture as % of total investments					9.8	7.3	4.5	2.7	2.7	2.3	2.6	2.8	2.5	2.5

p Provisional.

Source: NSI.

Annex Table I.2. Price indexes in the period 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Combined fodder	100	271	422	779	1 207	1 648	5 238	40 539	39 907	n.a.
Nitrogenous fertilisers	100	1 193	1 721	1 727	3 750	5 321	14 396	183 545	275 873	612 121
Phosphate fertilisers	100	1 127	1 658	1 877	3 542	5 077	12 962	165 260	211 285	187 384
Herbicides	100	1 308	2 118	4 284	8 621	13 909	14 913	190 138	215 035	205 965
Fungicides	100	1 168	3 344	3 188	6 867	6 983	12 393	158 007	533 603	422 889
Tractors	100	816	1 574	2 858	3 847	7 496	31 942	415 399	449 075	422 005
Combines	100	197	546	704	1 783	3 016	6 816	88 636	110 224	75 237
Inputs total	100	602	921	1 262	2 165	n.a.	n.a.	n.a.	n.a.	n.a.
Farm price index	100	267	322	486	861	1 509	3 380	39 227	41 777	37 307
Crop price index	100	267	293	451	820	1 257	3 807	35 559	36 768	35 113
Livestock price index	100	267	359	529	912	1 823	2 847	43 806	49 501	36 878
Processed food	100	336	530	764	1 324	2 020	4 608	47 566	59 555	59 165
Retail food price index	100	476	812	1 263	2 415	3 835	8 487	103 927	124 920	115 551
CPI	100	439	787	1 228	2 296	3 722	8 300	98 132	120 008	123 095

p Provisional.

n.a. Not available.

Source: Calculated based on the average annual prices for shown inputs. Processed food indexes, retail food price indexes and CPI as reported by NSI (Statisticheski spravocnik, various years).

Annex Table I.3. Relative prices of agricultural products in the period 1989-1999

Products	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
<b>Wheat-all kinds</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Barley	0.88	0.72	0.94	0.88	0.89	0.93	0.83	0.96	0.90	0.98	0.90
Grain maize	1.07	1.94	1.17	1.16	1.20	1.28	1.35	0.95	0.83	1.19	1.09
Dry beans	7.09	7.75	5.41	4.40	4.00	8.97	9.69	3.01	3.26	8.33	7.53
Sunflower seed	2.77	1.74	1.84	1.76	1.50	2.11	1.95	1.03	1.07	2.63	2.06
Potatoes	2.62	2.36	2.17	1.68	1.75	2.22	2.35	1.11	1.61	3.63	2.11
Tomatoes (incl. under glass)	1.62	1.45	0.86	0.86	0.83	0.76	0.67	0.54	0.86	n.a.	0.85
Sugar beet	0.41	0.69	0.19	0.20	0.15	0.25	0.26	0.14	0.15	0.29	n.a.
Cotton	5.59	5.69	5.61	4.34	3.51	6.53	6.14	4.15	2.78	5.33	4.44
Tobacco leaves (oriental)	27.56	17.40	14.66	19.16	13.74	16.68	16.09	17.29	12.67	22.05	45.32
Tobacco leaves ("Virginia")	20.51	18.88	14.56	14.04	13.83	16.08	16.28	11.38	10.14	19.84	19.42
Apples	1.38	1.53	1.27	0.93	0.67	1.56	1.54	0.44	0.47	0.59	1.28
Pears	1.08	1.06	1.44	0.77	1.19	2.17	2.01	0.60	1.46	1.61	2.00
Plums	1.24	1.21	1.67	1.10	0.81	1.12	1.40	0.65	0.65	1.04	1.10
Wine grapes	1.64	2.32	1.47	1.52	1.10	2.45	2.84	1.33	1.54	3.76	3.59
Beef (live weight)	10.53	6.24	4.29	6.10	5.67	9.55	13.11	3.76	5.76	10.67	7.28
Veal (live weight)	16.58	11.74	7.38	9.29	7.25	10.05	14.91	0.46	6.25	12.52	9.79
Mutton and goat meat (live weight)	8.65	6.26	3.39	4.38	3.87	8.00	11.88	3.96	4.12	7.99	6.87
Lamb and goat (live weight)	16.27	12.02	7.00	10.51	10.34	10.64	16.17	5.17	10.74	7.67	17.07
Pig meat (live weight)	12.50	8.48	6.93	9.58	8.53	11.56	13.95	4.84	9.41	13.53	9.99
Poultry meat (live weight)	7.75	6.97	7.53	8.77	7.49	10.61	10.62	4.62	6.74	11.61	12.30
Eggs – total	0.53	0.51	0.50	0.68	0.47	0.70	0.67	0.38	0.36	0.57	0.60
Cow milk – 3.6% butter content	2.37	1.86	1.31	1.78	1.87	2.52	2.78	1.02	1.22	2.61	2.13
Buffalo milk – 7.5% butter content	5.98	4.83	2.09	2.63	3.19	3.50	5.86	1.99	2.26	4.83	4.02
Sheep milk – 6.5% butter content	3.51	4.63	2.28	2.73	3.38	3.85	5.20	1.28	1.92	5.08	4.15

p Provisional.

Source: Calculations based on data from the NSI.

Annex Table I.4. Share of farm prices in retail prices of the main food products for the period 1989-1999

Per cent

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Bread wheat	43.33	75.00	52.13	32.66	34.90	28.27	26.07	38.26	38.24	23.31	21.96
Veal	61.68	75.62	45.51	41.84	37.54	32.27	40.63	34.47	27.93	30.85	27.86
Pork	46.59	54.73	44.10	43.75	33.80	2.78	31.11	28.51	33.80	28.76	28.93
Chicken	50.56	78.62	50.94	45.71	43.59	41.58	43.61	34.77	39.62	49.05	57.06
Milk	121.94	185.83	74.91	68.66	61.62	65.24	52.92	52.22	61.39	53.61	41.18
Milk for white cheese	16.88	25.73	10.05	9.62	9.43	9.02	8.69	8.18	8.26	9.20	8.83
Milk for yellow cheese	10.98	16.73	7.61	6.29	6.49	5.71	5.23	5.09	5.27	5.59	5.29
Potatoes	n.a.	75.89	74.40	61.49	59.31	57.89	53.80	60.00	68.62	83.07	58.00
Tomatoes	n.a.	21.71	30.22	18.82	22.21	13.45	11.79	24.91	10.30	n.a.	7.40
Apples	n.a.	56.02	42.95	11.18	13.80	13.79	14.38	14.61	12.43	10.32	12.40

p Provisional.

n.a. Not available.

Source: Calculated based on data from the NSI.



Annex Table I.5. **Level and structure of agricultural production in Bulgaria for the period 1989-1999**

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
GDP in agriculture in mln.lv current prices	9 064	8 316	20 735	22 736	28 682	59 014	108 913	240 711	4 008 331	3 980 383	3 363
Annual exchange rate – BGL/USD	0.8	0.8	16.7	23.3	27.6	54.2	67.2	175.8	1 674.1	1 759.1	1.9
GDP in agriculture in mln.USD	10 790	65 670	1 242	976	1 039	1 089	1 621	1 369	2 394	2 262	1 819
Change in volume of GAO-prev. year =100	102.2	92.2	92.5	91.0	81.9	97.2	108.2	84.7	105.3	103.0	101.9
Crop	108.4	86.9	103.6	86.5	75.3	114.3	110.6	69.5	120.4	99.9	98.6
Livestock	97.6	96.6	84.3	95.2	87.3	85.0	105.9	99.9	94.8	105.6	104.8
Base index of volume of GAO		100.0	106.1	91.0	87.0	113.7	122.8	94.2	125.0	105.3	n.a.
% of crop prod.	50	49	56	47	44	53	49	41	59	52	44

p Provisional.

n.a. Not available.

Source: NSI, Estimates.

Annex Table I.6. **Crop sown areas, 1989-1999**

Thousand hectares

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Grains	2 200	2 156	2 337	2 291	2 315	2 341	2 186	1 841	2 105	2 054	1 815
Incl. wheat	1 138	1 163	1 200	1 108	1 266	1 320	1 181	958	1 212	1 141	966
Maize	563	424	560	619	528	493	475	478	464	477	455
Sunflower	240	280	270	476	469	496	586	500	453	539	592
Tobacco	73	43	43	41	32	21	8	20	33	26	19
Sugar beet	49	37	38	18	11	8	9	9	5	4	3
Vegetables	102	157	161	157	135	161	209	153	166	209	217
Potatoes	40	41	42	48	39	47	56	40	44	51	52
Wine grape	139	131	129	126	109	103	100	97	97	102	100
Orchards	n.a.	296	293	279	244	216	204	200	199	218	214

p Provisional.

n.a. Not available.

Source: NSI.

Annex Table I.7. **Production of the major crops, 1989-1999**

Thousand tonnes

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Grains	n.a.	8 216	9 072	6 644	5 717	6 462	6 595	3 426	6 198	5 388	5 178
Incl. wheat	5 425	5 292	4 497	3 443	3 618	3 754	3 435	1 802	3 575	3 203	2 637
Maize	2 265	1 221	2 775	1 742	983	1 384	1 817	1 042	1 659	1 303	1 719
Potatoes	553	433	498	566	357	497	649	319	463	478	566
Sugarbeet	966	584	856	304	95	112	157	87	80	62	53
Sunflower	458	389	434	595	432	602	767	526	438	524	610
Tobacco	65	57	57	53	36	26	12	31	49	30	26
Vegetables	n.a.	1 565	1 347	1 075	819	1 038	1 363	938	974	1 401	1 319
Wine grape	587	563	576	616	394	380	499	520	495	319	306
Fruits	n.a.	1 677	1 328	1 432	823	913	1 162	1 166	1 073	734	672

p Provisional.

n.a. Not available.

Source: NSI.

Annex Table I.8. **Animal numbers, 1989-2000**

Thousand

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Cattle	1 637	1 575	1 457	1 310	974	750	638	632	582	612	671	682
Pigs	4 119	4 332	4 187	3 141	2 680	2 071	1 986	2 140	1 500	1 480	1 721	1 512
Sheep	9 045	8 130	7 938	6 703	4 814	3 763	3 398	3 383	3 020	2 848	2 774	2 549
Poultry	41 805	36 338	27 998	21 707	19 872	18 211	19 126	18 609	16 227	14 766	15 686	14 963

Source: NSI.

Annex Table I.9. **Production of basic animal products, 1989-1999**

Thousand tonnes

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 <sup>p</sup>
Meat – total <sup>1</sup>	820	901	760	754	651	512	535	569	512	467	572
Beef	130	126	115	154	122	96	66	80	57	56	53
Pork	413	408	362	319	277	207	256	252	227	248	259
Poultry	188	182	100	89	97	82	92	99	101	105	90
Milk – total	2 438	2 385	2 005	1 806	1 531	1 420	1 404	1 390	1 436	1 588	1 655
Cow milk	n.a.	2 040	1 709	1 543	1 300	1 162	1 130	1 128	1 161	1 287	1 347
Wool	29	28	23	19	14	12	9	9	7	8	8
Eggs <sup>2</sup>	2 726	2 460	1 866	1 639	1 624	1 751	1 955	1 734	1 583	1 690	1 650

p Provisional.

n.a. Not available.

1. Carcass weight, inc. by-products.

2. Million pieces.

Source: NSI.

Annex Table I.10. Production of some agricultural inputs for the period 1990-1999

	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Tractors	Number	3 120	1 729	889	598	465	289	310	315	239	118
Combines	Number	9 735	2 600	30	300	100	100	300	200	n.a.	n.a.
Trucks	Number	7 285	2 778	945	406	321	259	66	43	21	n.a.
N fertilisers	Thousand tonnes	911.1	760.4	653.6	611.5	676.0	826.6	835.2	677.0	262.8	187.5
Phosphates	Thousand tonnes	46.6	36.9	37.3	45.0	50.6	53.1	90.4	110.2	91.4	n.a.
Ag. Chemicals	Thousand tonnes	10.0	9.7	7.2	5.1	6.3	7.6	5.7	5.3	n.a.	n.a.

p Provisional.

n.a. Not available.

Source: NSI.

Annex Table I.11. **Food industry output, 1989-1999**

Thousand tonnes

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Meat	588.0	550.5	313.1	239.4	180.4	125.1	130.5	117.6	52.0	65.9	n.a.
Meat products	143.0	134.0	91.0	93.3	68.1	50.2	52.3	41.6	21.7	35.4	25.5
Canned veg. canned fruits	305.0	244.4	185.0	81.3	86.8	143.2	134.4	127.3	136.1	71.2	14.0
White cheese	290.0	210.9	80.3	49.6	45.8	31.2	31.6	49.6	65.9	28.7	18.1
Milk	149.0	111.4	94.7	67.8	51.8	48.6	43.3	39.8	32.6	34.7	n.a.
Veg. oil	n.a.	586.0	368.0	307.0	216.0	173.0	156.0	160.0	88.0	112.0	n.a.
Flour	178.0	133.8	103.4	126.4	149.9	139.5	190.3	159.9	155.4	202.2	174.5
Sugar	1 317.0	1 366.0	1 206.0	1 004.0	1 051.0	988.0	977.0	875.0	757.0	681.0	n.a.
Wine	351.0	185.0	126.0	152.0	172.0	274.0	237.0	292.0	114.0	130.0	n.a.
Tobacco products	241.0	219.9	244.1	200.8	152.4	164.7	248.1	226.4	194.3	233.3	121.8
	86.0	75.8	79.7	48.6	32.1	53.7	74.6	57.3	43.3	33.2	25.7

p Provisional.

n.a. Not available.

Source: NSI.

Annex Table I.12. **Food consumption, 1989-1999**  
Kg per person per year

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Bread and bakery	175.7	184.2	181.1	160.4	157.2	156.1	155.5	145.8	141.7	146.3	144.1
Meat	35.8	36.5	26.2	31.4	30.2	25.8	25.3	24.9	17.3	22.6	24.9
Meat products	17.5	n.a.	15.0	18.1	15.9	15.0	12.9	11.9	8.1	10.8	12.6
Fish	3.4	4.6	1.5	2.9	3.6	3.3	3.5	2.5	2.1	3.2	n.a.
Veg. oil	15.3	14.0	11.1	13.1	13.5	11.1	11.4	11.4	12.4	14.2	14.0
Sugar	12.0	26.0	16.0	10.6	9.2	8.2	8.1	8.2	7.7	8.9	9.0
Milk	116.7	195.0	157.0	78.3	70.5	69.7	62.3	60.9	50.2	55.5	57.8
Cheese	14.7	14.6	11.8	13.5	12.1	11.7	10.7	10.2	7.9	9.4	9.8
Veg.	103.0	114.0	96.0	65.7	64.6	62.7	59.0	55.6	46.7	60.1	60.3
Potatoes	28.3	28.8	28.2	28.6	26.0	25.6	25.9	26.4	24.4	27.1	27.8
Fruits	42.6	47.3	43.5	47.2	50.4	49.8	47.2	39.9	28.4	35.7	43.2
Eggs	170.0	239.0	192.0	153.0	148.0	146.0	141.0	125.0	110.0	127.0	137.0

p Provisional.

n.a. Not available.

Source: NSI.



**B. Annex Tables to Part II**

Annex Table II.1. **Agro-food trade and total Bulgarian trade**  
mn USD

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Total export	13 672.9	13 366.5	3 433.2	3 923.4	3 720.7	4 137.7	5 354.5	4 890.2	4 939.7	4 292.9	3 934.6
Total import	12 795.8	13 056.8	2 700.9	4 469.8	4 756.7	4 344.7	5 657.5	5 073.9	4 932.0	4 995.2	5 426.0
Trade balance	877.1	309.6	732.3	-546.4	-1 036.0	-207.0	-302.9	-183.7	7.7	-702.3	-1 491.3
Total agro-food export	2 363.5	2 026.2	751.6	1 029.0	764.0	915.0	1 119.4	890.6	701.9	689.8	624.4
Total agro-food import	1 003.1	570.9	195.5	383.6	414.4	462.2	399.9	372.6	428.3	382.6	337.6
Balance	1 360.4	1 455.3	556.1	645.4	349.6	452.8	719.5	518.0	273.6	307.2	286.8
Share of agro-food in total export (%)	17.29	15.16	21.89	26.23	20.53	22.11	20.91	18.21	14.21	16.07	15.87
Share of agro-food in total import (%)	7.84	4.37	7.24	8.58	8.71	10.64	7.07	7.34	8.68	7.66	6.22

p Provisional.

Source: Ministry of Agriculture and Forestry, National Trade Statistics, NSI.

Annex Table II.2. **Commodity group breakdown of Bulgarian agro-food exports, 1992-1999**

mn USD

	1992	1993	1994	1995	1996	1997	1998	1999p
01 Live animal	104.69	38.34	45.90	22.04	17.65	2.26	1.62	3.90
02 Meat and edible offals	71.31	32.95	40.61	37.79	55.46	49.75	40.40	36.10
03 Fish and molluscs	7.84	7.57	13.62	18.84	28.18	12.08	7.40	6.90
04 Milk, dairy products, eggs and honey	64.36	43.13	49.93	26.08	33.58	31.15	25.40	23.60
05 Meat products	0.50	0.84	0.73	0.88	2.20	2.09	2.39	1.90
06 Flowers	1.68	0.88	1.67	1.60	1.98	2.10	2.24	1.60
07 Vegetables, edible tubers	51.78	21.45	43.06	36.96	33.99	23.00	30.21	28.00
08 Fruits and nuts	19.40	19.93	72.49	34.39	29.33	21.74	24.74	20.10
09 Coffe, tea, spices	8.05	11.41	13.53	13.45	6.08	7.94	6.37	7.20
10 Cereals	80.38	13.28	8.89	120.48	3.92	14.09	90.79	93.00
11 Milling products, malt, staech	13.37	4.04	6.99	26.15	1.79	2.14	2.59	6.30
12 Oilseeds and oilcakes	53.68	29.31	37.34	53.79	36.91	37.85	54.79	80.70
13 Vegetable extracts	0.38	0.58	0.17	0.30	0.15	0.09	0.22	0.10
14 Fibres	0.57	0.30	0.30	0.86	0.59	0.29	0.36	0.40
15 Animal and vegetable fats	15.16	23.38	21.71	47.50	21.79	21.94	21.88	22.30
16 Fish products	12.92	16.48	11.94	12.92	9.43	10.38	4.59	5.60
17 Sugar and confectionary	18.82	22.58	25.43	52.00	49.95	24.87	19.72	11.50
18 Cocoa and cocoa products	5.43	4.51	6.61	4.07	7.68	11.71	9.54	2.60
19 Cereal products	2.30	3.49	7.53	10.62	10.66	12.20	10.80	8.00
20 Vegetable and fruit products	55.73	58.41	59.10	53.70	70.06	67.36	45.72	41.20
21 Various food preparations	7.29	16.97	29.67	26.81	33.27	32.92	18.46	4.20
22 Beverages	102.90	130.53	159.58	186.49	171.45	145.42	144.07	91.70
23 Feed stuffs	10.25	7.86	13.52	33.20	5.16	3.68	15.13	25.70
24 Tobacco and cigarettes	318.89	250.04	235.24	293.63	251.02	164.66	110.39	101.80
<b>Total all commodities</b>	<b>1 027.68</b>	<b>758.24</b>	<b>905.58</b>	<b>1 114.54</b>	<b>882.27</b>	<b>701.71</b>	<b>689.82</b>	<b>624.40</b>

p Provisional.

Source: Ministry of Agriculture and Forestry, NSI.

Annex Table II.3. Commodity group breakdown of Bulgarian agro-food imports, 1992-1999

mn USD

	1992	1993	1994	1995	1996	1997	1998	1999p
01 Live animal	4.43	5.03	3.74	3.82	1.80	4.42	4.27	2.20
02 Meat and edible offals	2.37	18.68	33.10	20.49	10.00	40.04	55.87	32.20
03 Fish and molluscs	3.27	5.47	5.88	6.61	6.84	12.94	18.48	11.10
04 Milk, dairy products, eggs and honey	7.00	15.09	22.71	14.72	6.88	11.40	17.88	12.60
05 Meat products	0.86	2.17	1.35	2.23	1.57	1.35	1.99	2.10
06 Flowers	0.37	0.24	0.42	1.00	1.04	0.43	1.46	2.20
07 Vegetables, edible tubers	3.72	7.51	9.65	6.83	2.75	9.46	6.02	5.60
08 Fruits and nuts	18.80	31.14	49.17	36.52	14.47	12.26	14.10	19.60
09 Coffe, tea, spices	15.39	13.63	17.61	18.12	6.09	7.76	10.93	13.80
10 Cereals	8.27	19.42	4.69	5.33	61.12	79.20	9.61	10.30
11 Milling products, malt, staech	0.58	2.43	24.31	1.04	5.54	7.38	2.53	3.90
12 Oilseeds and oilcakes	17.08	3.23	5.15	5.45	3.02	3.32	8.91	14.00
13 Vegetable extracts	1.81	1.18	0.99	0.91	0.80	0.73	1.16	1.30
14 Fibres	0.00	0.01	0.03	0.06	0.04	0.04	0.16	0.10
15 Animal and vegetable fats	10.29	20.46	21.58	20.12	18.59	17.69	22.47	18.80
16 Fish products	2.92	2.20	2.65	3.02	1.10	2.60	5.11	3.30
17 Sugar and confectionary	105.38	68.43	105.58	107.66	111.37	107.28	63.41	55.30
18 Cocoa and cocoa products	19.68	16.67	16.48	16.85	10.49	12.24	14.77	12.90
19 Cereal products	4.56	5.32	5.62	7.49	4.21	5.23	8.45	10.60
20 Vegetable and fruit products	7.90	11.11	9.64	10.69	6.61	15.83	17.79	14.40
21 Various food preparations	11.35	12.94	13.68	7.87	4.24	7.24	14.29	21.10
22 Beverages	33.45	23.97	32.87	35.70	25.38	13.27	20.10	17.10
23 Feed stuffs	26.93	28.13	20.89	37.10	15.37	22.62	24.66	18.30
24 Tobacco and cigarettes	77.18	96.22	43.44	19.90	52.17	33.57	38.17	34.80
<b>Total all commodities</b>	<b>383.59</b>	<b>410.66</b>	<b>451.22</b>	<b>389.51</b>	<b>371.48</b>	<b>428.29</b>	<b>382.59</b>	<b>337.60</b>

p Provisional.

Source: Ministry of Agriculture and Forestry, NSI.

Annex Table II.4. Total and regional breakdown of agricultural and food exports

Mn USD											
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Total	13 672.9	13 366.5	3 433.2	3 923.4	3 720.7	4 137.7	5 354.5	4 890.2	4 939.7	4 292.9	3 934.7
Total agr. and food	2 363.5	2 026.2	751.6	1 029.0	764.0	915.0	1 119.4	890.6	701.9	689.8	624.4
Share of agr. and food in total	17.3	15.2	21.9	26.2	20.5	22.1	20.9	18.2	14.2	16.1	15.9
OECD	240.7	281.3	227.3	356.0	260.0	256.4	388.2	283.2	288.4	241.6	339.6
<i>of which:</i>											
– EU <sup>2</sup>	145.6	170.5	120.3	221.5	165.7	185.2	242.6	203.9	195.6	231.3	214.8
– OECD-CEECs <sup>3</sup>									16.3		20.1
– EFTA	40.6	39.5	22.3	37.2	26.6	27.7	28.7	13.1	5.0		15
– Other OECD <sup>4</sup>	54.5	71.3	84.7	97.3	69.8	46.6	116.9	79.4	71.5	10.3	89.6
CEECs				144.1	87.6	46.3	76.9	53.2	51.4	71.0	60.6
<i>of which:</i> Baltic States				1.5	27.4	37.7	3.4		7.7		10.4
NIS	1 491.2	1 315.0	406.5	365.4	212.3	340.9	446.7	404.3	302.8	161.7	47.9
Other	160.0	97.4	54.9	163.5	204.1	271.4	207.6	149.9	59.3	215.5	176.4
Exchange rate used	0.8	0.8	16.7	23.3	27.7	52.3	67.2	175.8	1 676.5	1 760.4	1.8
Per cent											
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
OECD	10	14	30	35	34	28	35	32	41	35	54
<i>of which:</i>											
– EU <sup>2</sup>	6	8	16	22	22	20	22	23	28	34	34
– OECD-CEECs <sup>3</sup>									2		3
– EFTA	2	2	3	4	3	3	3	1	1		2
– Other OECD <sup>4</sup>	2	4	11	9	9	5	10	9	10	1	14
CEECs				14	11	5	7	6	7	10	10
<i>of which:</i> Baltic States				0	4	4	0		1		2
NIS	63	65	54	36	28	37	40	45	43	23	8
Other	7	5	7	16	27	30	19	17	8	31	28
Total <sup>5</sup>	80	84	92	100	100	100	100	100	100	100	100

p Provisional.

1. The National Statistics Institute only publish a regional breakdown of foreign trade flows on total commodity exports. Neither aggregated data on food and agricultural trade, nor its regional breakdown is published. Since 1992, data from the primary customs statistics are aggregated for the purpose of the study. Data for 1992 include export flows registered in chapters 1 to 24 inclusive, HS codes, with the exception of chapter 3 (fish and products). For 1993-1994 trade registered in chapters 1 to 24 is included. Thus, data for 1989-1991 is not fully comparable with the data for 1992-1994 the latter being more comprehensive. The missing information on chapter 3 for 1992 is not significant, therefore the comparison between annual performance in the period 1992-1994 is feasible.

2. EU includes new members from 1 January 1995 (Austria, Finland, Sweden).

3. As of 1997 includes Poland, Hungary and Czech Republic which became members of OECD.

4. OECD members less EU countries, OECD-CEECs and EFTA countries.

5. The difference to 100% till 1992 is export/import to/from ex-CMEA countries, excluding SU.

Sources: Bulletin of Foreign Trade, NSI, different issues; Institute of Foreign Trade, based on primary customs statistics; Statisticheski Spravochnik 1996.

Annex Table II.5. Total and regional breakdown of agricultural and food imports

Mn USD											
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Total	12 795.8	13 056.8	2 700.9	4 469.8	4 756.7	4 344.7	5 657.5	5 073.9	4 932.0	4 995.2	5 426.0
Total agr. and food	1 003.1	570.9	195.5	383.6	414.4	462.2	399.9	372.6	428.3	382.6	337.6
Share of agr. and food in total	7.8	4.4	7.2	8.6	8.7	10.6	7.1	7.3	8.7	7.7	6.2
OECD	441.9	177.4	63.0	268.7	255.2	255.4	204.7	136.5	216.6	163.5	162.7
<i>of which:</i>											
– EU <sup>2</sup>	178.8	110.6	55.3	204.1	180.6	200.0	127.7	77.1	129.1	146.3	107.4
– OECD-CEECs <sup>3</sup>									44.3		19.3
– EFTA	47.1	43.4	2.1	31.4	50.3	26.4	9.8	2.9	3.3		5.2
– Other OECD <sup>4</sup>	216.0	23.4	5.6	33.2	26.6	31.5	67.2	56.5	39.9	17.2	30.8
CEECs				28.6	27.6	45.7	49.5	27.9	16.4	41.1	13.5
<i>of which:</i> Baltic States				0.6	4.0	1.2			1.4		
NIS	39.3	27.1	5.9	16.0	16.1	43.0	27.4	35.2	21.8	7.7	6.2
Other	205.7	158.0	104.0	70.3	115.5	118.1	118.3	173.0	173.5	170.3	155.2
Exchange rate used	0.8	0.8	16.7	23.3	27.7	52.3	67.2	175.8	1 676.5	1 760.4	1.8
Per cent											
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
OECD	44	31	32	70	62	55	51	37	51	43	48
<i>of which:</i>											
– EU <sup>2</sup>	18	19	28	53	44	43	32	21	30	38	32
– OECD-CEECs <sup>3</sup>									10		6
– EFTA	5	8	1	8	12	6	2	1	1		2
– Other OECD <sup>4</sup>	22	4	3	9	6	7	17	15	9	4	9
CEECs				7	7	10	12	7	4	11	4
<i>of which:</i> Baltic States				0	1	0			0		
NIS	4	5	3	4	4	9	7	9	5	2	2
Other	21	28	53	18	28	26	30	46	41	45	46
Total <sup>5</sup>	68	63	88	100	100	100	100	100	100	100	100

p Provisional.

1. The National Statistics Institute only publish a regional breakdown of foreign trade flows on total commodity exports. Neither aggregated data on food and agricultural trade, nor its regional breakdown is published. Since 1992, data from the primary customs statistics are aggregated for the purposes of the study. Data for 1992 include export flows registered in chapters 1 to 24 inclusive, HS codes, with the exception of chapter 3 (fish and products). For 1993-1994 trade registered in chapters 1 to 24 is included. Thus, data for 1989-1991 is not fully comparable with the data for 1992-1994 the latter being more comprehensive. The missing information on chapter 3 for 1992 is not significant, therefore the comparison between annual performance in the period 1992-1994 is feasible.

2. EU includes new members from 1 January 1995 (Austria, Finland, Sweden).

3. As of 1997, includes Poland, Hungary and Czech Republic which became members of OECD.

4. OECD Members less EU countries, OECD-CEECs and EFTA countries.

5. The difference to 100% till 1992 is export/import to/from ex-CMEA countries, excluding SU.

Sources: Bulletin of Foreign Trade, NSI, different issues; Institute of Foreign Trade, based on primary customs statistics; Statisticheski Spravochnik 1996.

**C. Annex Tables to Part IV**

Annex Table IV.1. Restrictions on agricultural exports during the transition period

	Export ban	Export tax	Amount per T	Export quota	Minimum export price
1990	Meat Meat products Feed grains Sunflower Potatoes				
1991	Feed grains Milk and dairy Sugar Vegetable oils Fertilisers Bread wheat (since August)	Bread grains (1991 harvest) Live animals; Meat Meat products; Cheeses (white and yellow)	30% of exp.price replaced by 20% of exp.price in April and removed in mid-1991		Live animals(all types) Meat (all types) Dairies
1992	Cattle (female) -since October Sheep and goat (female)	Grains (since October) Wheat flour Vegetable oils	12% 15% 5%	Bread and feed grains(after harvest) Wheat flour Female animals Tobacco	Live animals(all types) Meat (all types) Cheeses
1993	Wheat (since March) Maize (since March) Barley (since March) Wheat flour (since March) Soya (since March) Siftings (since March)	Wheat Maize Barley Wheat flour Sunflower Sunflower oil	20% 20% 15% 25% 25% increased to USD 45/T 5% increased to USD 55/T	Female animals for breeding	
1994	Wheat Maize Cattle Wheat flour Sunflower oil(since August)	Sunflower Wheat flour (since March) Sunflower oil	90; 120; 200 USD/T USD 30/T 55; 300 USD/1 000 L		
1995	Wheat (since October) Barley (since November) Maize Sunflower (since November)	Wheat Barley Cattle Sheep and goat Wheat flour Sunflower oil	25; 5; 35; 55 USD/T USD 10/T USD 500/T USD 30/T 5; 10; 15 USD/T USD 300/1 000 L	Wheat (350 000 T)	
1996	Wheat Barley Maize Sunflower Wheat flour Sunflower oil	Cattle Sunflower oil (since October) Cattle Sheep and goat	USD 500/T USD 100/1 000 L USD 500/T USD 30/T		



Annex Table IV.1. **Restrictions on agricultural exports during the transition period** (cont.)

	Export ban	Export tax	Amount per T	Export quota	Minimum export price
1997	Wheat	Wheat (since July)	15% reduced to 10%		
	Barley	Barley (since July)	15% reduced to 10%		
	Maize	Maize (since July)	15% reduced to 10%		
	Sunflower	Sunflower(since July)	90 USD reduced to 80 USD/T		
	Wheat flour	Cattle	USD 500/T		
		Wheat flour (since July)	USD 30 reduced to USD 15/T		
		Sunflower oil	320; 250 USD/1 000 L		
1998		Sheep and goat	30 USD/T		
		Cattle	DEM 500/T		
		Sheep and goat	DEM 50/T		
		Sunflower	DEM 90/T		
		Sunflower oil	DEM 250/T		

Sources: NSI, Ministry of Agriculture and Forestry.

Annex Table IV.2. Restrictions on imports of some basic agricultural and food products during the 1990s

	Products	Quota	Duty within the quota	Additional import tax	Minimum import prices	
1990	Meat	All imported quantities	0			
	Meat products		0			
	Dairy		0			
	Vegetable oils		0			
	Sugar		0			
	Fruits		0			
	Vegetables		0			
	Feed components	10 000 T	0			
	Tobacco		General duty			
1991	Sugar	10 000	0			
	Vegetable oils		0			
	Milk and dairy		0			
	Feed and feed components		0			
	Plant protection chemicals		0			
	Fertilisers		0			
	Agricultural machines		0			
		Tobacco		General duty		
1992	Greenhouse vegetables	10 000	General duty	Beef and veal (frozen) - 25%	Pork (since September)	
	Agricultural machines		0	Pork (frozen) - 15%	Poultry meat (since September)	
	Spare parts		0	Poultry meat (frozen) - 25%	Potatoes (since September)	
	Plant protection chemicals		0	Butter - 15%	Tomatoes (since September)	
	Fertilisers		0	Fruits (in the season) - 15%	Table grapes (since September)	
	Row sugar		3		Apples (since September)	
	Refined sugar		5%		Peaches (since September)	
		Tobacco		General duty		
1993	Tobacco	10 000 T (12 000 T since April)	General duty	Beef and veal (frozen) - 25%		
	Agricultural machines		0	Pork (frozen) - 15%		
	Spare parts		0	Poultry meat (frozen) - 25%		
	Plant protection chemicals		0	Butter - 15%		
	Fertilisers	since June	0	Fruits (in season) - 15%		
	Seeds potatoes		0	Vegetables (in season) - 15%		
	Maize		0			
	Feed components		0			
1994	Wheat	200 000 T	0			
	Barley	100 000 T	0			
	Maize	700 000 T	0			
	Pigs (breeding)	2 000 units	0			
	Poultry	50 000 units	0			
	Sunflower	2 000 T	10%			
	Sunflower oil	7 000 T	0			

Annex Table IV.2. **Restrictions on imports of some basic agricultural and food products during the 1990s** (cont.)

	Products	Quota	Duty within the quota	Additional import tax	Minimum import prices
1995	Wheat	200 000 T	0		
	Cattle	8 000 units	0		
	Poultry	200 000 units	0		
	Sunflower oil	20 000 T	0		
	Beef and veal	8 000 T	0		
	Milk powder	350 mill leva replaced by 300 T	0		
	1996	Wheat	450 000 T	0	
Barley		100 000 T	0		
Maize		190 000 T	0		
Sunflower		50 000 T	0		
Wheat flour		80 000 T	0		
Beef and veal		15 000 T	0		
Butter		125 T	30%		
Cheese		83 T	17.5%		
1997		Wheat	600 000 T (total import since VI)	0	
	Barley	50 000 T (total import since VI)	0		
	Maize	100 000 T (total import since VI)	0		
	Sunflower (since July)	Total import	0		
	Poultry (breeding)	500 000 units	0		
	Wheat flour	83 000 T	0		
	Cheeses	3 000 T	0		
1998	Wheat		General duty - 0		

NSI, Ministry of Agriculture and Forestry.

Statistical Annex  
**ASSISTANCE TO BULGARIAN AGRICULTURE**

## Introduction

In this Annex, section A briefly explains the concepts of Producer Support Estimates (PSE), Consumer Support Estimates (CSE) and Total Support Estimates (TSE). Some particular methodological issues concerning the estimation of PSEs and CSEs for Bulgaria are discussed in section B. Section C contains the main PSE and CSE results and related data in tabular form.

### A. Concepts and Methodology

The OECD classification of total transfers associated with agricultural policies (TSE), groups the policy measures into three main categories: transfers to producers individually (PSE), transfers to consumers individually (CSE), and transfers to general services to agriculture collectively (GSSE) as in Annex Box V.1.

**I. Producer Support Estimate (PSE):** *an indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers, measured at farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on farm production or income.*

The PSE measures support arising from policies targeted to agriculture relative to a situation without such policies, *i.e.* when producers are subject only to general policies (including economic, social, environmental and tax policies) of the country. The PSE is a **gross** notion implying that any costs associated with those policies and incurred by individual producers are not deducted.<sup>1</sup> It is also a **nominal assistance** notion meaning that increased costs associated with import duties on inputs are not deducted. But, it is an indicator **net** of producer contributions to help finance the policy measure (*e.g.* producer levies) providing a given transfer to producers. The PSE includes implicit and explicit payments such as price wedges on output or inputs, tax exemptions, and budgetary payments, including those for remunerating non-market goods and services. Therefore, the indicator measures more than the “subsidiy element”. Although **farm receipts** (revenues)<sup>2</sup> are increased (or farm expenditure reduced) by the amount of support, the PSE is not in itself an estimate of the impacts of support on farm production or income.

**A. Market Price Support (MPS):** *an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers arising from policy measures creating a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level.*

Conditional on the production of a specific commodity, MPS includes the transfer to producers associated with both production for domestic use and exports, and is measured by the price gap applied to current unlimited production (1. *Based on unlimited output*); or to current limited production (2. *Based on limited output*). The MPS is **net** of financial contributions from individual producers through producer levies on sales of the specific commodity or penalties for not respecting regulations such as production quotas (3. *Price levies*); and in the case of livestock production is net of the market price support on domestically produced coarse grains and oilseeds used as animal feed (4. *Excess feed cost*).

**B. Payments based on output:** *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on current output of a specific agricultural commodity or a specific group of agricultural commodities.*

Conditional on producing a specific commodity or a specific group of commodities, it includes payments per tonne, per hectare or per head of animals to current unlimited (1. *Based on unlimited output*), or limited (2. *Based on limited output*) production.

**C. Payments based on area planted/animal numbers:** *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on current plantings, or number of animals of a specific agricultural commodity or a specific group of agricultural commodities.*

Conditional on planting, or animal numbers of a specific commodity or a specific group of commodities, it includes payments per hectare or per head to current unlimited (1. *Based on unlimited area or animal numbers*), or limited (2. *Based on limited area or animal numbers*) area planted or animal numbers.

**D. Payments based on historical entitlements:** *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on historical support, area, animal numbers, or production of a specific agricultural commodity or a specific group of agricultural commodities without obligation to continue planting or producing such commodities.*

Conditional on being a producer of a specific commodity or a specific group of commodities at the time of introduction of the payment, it includes payments based on historical plantings/animal numbers or production of such commodities (1. *Based on plantings/animal numbers or production*); and payments based on historical support programmes for such commodities (2. *Based on historical support programmes*).<sup>3</sup>

**E. Payments based on input use:** *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific fixed or variable input or a specific group of inputs or factors of production.*

Conditional on the on-farm use of specific fixed or variable inputs, it includes explicit and implicit payments affecting specific variable input costs (1. *Based on use of variable inputs*); the cost of on-farm technical, sanitary and phytosanitary services (2. *Based on use of on-farm services*); or affecting specific fixed input costs, including investment costs (3. *Based on use of fixed inputs*).

**F. Payments based on input constraints:** *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on constraints on the use of a specific fixed or variable input or a specific group of inputs through constraining the choice of production techniques.*

Conditional on the application of certain constraints (reduction, replacement, or withdrawal) on the on-farm use of specific variable inputs (1. *Based on constraints on variable inputs*); or fixed inputs (2. *Based on constraints on fixed inputs*); or based on constraints on the use of a set of farm inputs through constraining the choice of production techniques of marketed commodities for reducing negative externalities or remunerating farm inputs producing non-market goods and services (3. *Based on constraints on a set of inputs*).<sup>4</sup>

**G. Payments based on overall farming income:** *an indicator of the annual monetary value of transfers from taxpayers to agricultural producers arising from policy measures based on overall farming income (or revenue), without constraints or conditions to produce specific commodities, or to use specific fixed or variable inputs.*

Conditional on farm(er) eligibility, it includes payments to compensate for farm income fluctuations or losses (1. *Based on farm income level*); or for ensuring a minimum income guarantee (2. *Based on established minimum income*).<sup>5</sup>

**H. Miscellaneous payments:** *an indicator of the annual monetary value of all transfers from taxpayers to agricultural producers that cannot be disaggregated and allocated to the other categories of transfers to producers.*

Conditional on being an aggregate of payments to producers which cannot be disaggregated due, for example, to a lack of information, it includes payments funded by national governments (1. National payments), or state, regional, prefectural, or provincial governments (2. Sub-national payments).

**II. General Services Support Estimate (GSSE):** *an indicator of the annual monetary value of gross transfers to general services provided to agriculture collectively, arising from policy measures which support agriculture, regardless of their nature, objectives and impacts on farm production, income, or consumption of farm products.*

Conditional on being an eligible private or public general service provided to agriculture collectively, including collective actions for agri-environmental purposes, it includes taxpayers transfers to: improve agricultural production (**I. Research and development**); agricultural training and education (**J. Agricultural schools**); control of quality and safety of food, agricultural inputs, and the environment (**K. Inspection services**); improve off-farm collective infrastructures, including downstream and upstream industry (**L. Infrastructures**); assist marketing and promotion (**M. Marketing and promotion**); meet the costs of depreciation and disposal of public storage of agricultural products (**N. Public stock-holding**); other general services that cannot be disaggregated and allocated to the above categories due, for example, to a lack of information (**O. Miscellaneous**). Unlike the PSE and CSE transfers, these transfers are not received by producers or consumers individually, and do not affect **farm receipts** (revenue) or consumption expenditure by their amount, although they may affect production and consumption of agricultural commodities.

**III. Consumer Support Estimate (CSE):** *an indicator of the annual monetary value of gross transfers to (from) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on consumption of farm products.*

The CSE includes explicit and implicit consumer transfers to producers of agricultural commodities, measured at the farm gate (first consumer) level and associated with: market price support on domestically produced consumption (**P. Transfers to producers from consumers**); and transfers to the budget and/or importers on the share of consumption that is imported (**Q. Other transfers from consumers**); and is **net** of any payment to consumers to compensate them for their contribution to market price support of a specific commodity (**R. Transfers to consumers from taxpayers**); and the producer contribution (as consumers of domestically produced crops) to the market price support on crops used in animal feed (**S. Excess feed cost**). When negative, transfers from consumers measure the implicit tax on consumption associated with policies to the agricultural sector. Although consumption expenditure is increased/reduced by the amount of the implicit tax/payments, this indicator is not in itself an estimate of the impacts on consumption expenditure.

**IV. Total Support Estimate (TSE):** *an indicator of the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures which support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.*

Annex Box V.1. **Classification of policy measures included in the OECD indicators of support**

- I. Producer Support Estimate (PSE) [Sum of A to H]**
- A. Market Price Support**
    - 1. Based on unlimited output
    - 2. Based on limited output
  - B. Payments based on output**
    - 1. Based on unlimited output
    - 2. Based on limited output
  - C. Payments based on area planted/animal numbers**
    - 1. Based on unlimited area or animal numbers
    - 2. Based on limited area or animal numbers
  - D. Payments based on historical entitlements**
    - 1. Based on historical plantings/animal numbers or production
    - 2. Based on historical support programmes
  - E. Payments based on input use**
    - 1. Based on use of variable inputs
    - 2. Based on use of on-farm services
    - 3. Based on use of fixed inputs
  - F. Payments based on input constraints**
    - 1. Based on constraints on variable inputs
    - 2. Based on constraints on fixed inputs
    - 3. Based on constraints on a set of inputs
  - G. Payments based on overall farming income**
    - 1. Based on farm income level
    - 2. Based on established minimum income
  - H. Miscellaneous payments**
    - 1. National payments
    - 2. Sub-national payments
- II. General Services Support Estimate (GSSE) [Sum of I to O]**
- I. Research and development**
  - J. Agricultural schools**
  - K. Inspection services**
  - L. Infrastructure**
  - M. Marketing and promotion**
  - N. Public stockholding**
  - O. Miscellaneous**
- III. Consumer Support Estimate (CSE) [Sum of P to S]**
- P. Transfers to producers from consumers**
  - Q. Other transfers from consumers**
  - R. Transfers to consumers from taxpayers**
  - S. Excess Feed Cost**
- IV. Total Support Estimate (TSE) [I + II + R]**
- T. Transfers from consumers**
  - U. Transfers from taxpayers**
  - V. Budget revenues**

The TSE is the sum of the explicit and implicit gross transfers from consumers of agricultural commodities to agricultural producers net of producer financial contributions (in MPS and CSE); the gross transfers from taxpayers to agricultural producers (in PSE); the gross transfers from taxpayers to general services provided to agriculture (GSSE); and the gross transfers from taxpayers to consumers of agricultural commodities (in CSE). As the transfers from consumers to producers are included in the MPS, the TSE is also the sum of the PSE, the GSSE, and the transfers from taxpayers

to consumers (in CSE). The TSE measures the overall cost of agricultural support financed by consumers (**T. Transfers from consumers**) and taxpayers (**U. Transfers from taxpayers**) net of import receipts (**V. Budget revenues**).

#### Percentage PSE/CSE and producer/consumer NAC

The PSE by country and by commodity can be expressed in monetary terms – the **PSE**; as a ratio to the value of total gross farm receipts,<sup>6</sup> measured by the value of total production (at farm gate prices), plus budgetary support – the **percentage PSE**; or a ratio to the value of total gross farm receipts valued at world market prices, without budgetary support – the **producer NAC** (Nominal Assistance Coefficient).

In algebraic form, these PSE expressions can be written as follows:

1.  $\%PSE = I.PSE / (Q.Pp + PP) \times 100$
2.  $(100 - \%PSE) = Q.Pb / (Q.Pp + PP) \times 100$
3.  $[1/(100 - \%PSE) \times 100] = [\%PSE/(100 - \%PSE) + 1] = [(I.PSE/Q.Pb) + 1] = NACp$

where,

PP = Payments to producers = I. PSE – I.A. Market Price Support =  $\Sigma$  I.B to I.H (see Annex Box V.1)

Q.Pp = value of production at producer prices

Q.Pb = value of production at border prices

In other words, the above equations can be explained as follows:

- for example, a percentage PSE of 60%, expresses the share of transfers to agricultural producers in the total value of gross farm receipts (as measured by the PSE), or the share of gross farm receipts derived from policies (equation (1)); hence
- some 40% of gross farm receipts is derived from the market without any support (equation (2)); and
- the value of gross farm receipts is 250% of (or 150% higher than) what they would be if entirely obtained at world prices without any budgetary support (equation (3)) – a producer NAC of 2.50.

All transfers included in the CSE are implicit taxes or explicit budgetary transfers to consumers of agricultural commodities affecting consumer expenditure (valued at farm gate) of agricultural commodities. Therefore, *the CSE by country and by commodity can be expressed in monetary terms – the CSE ; as a ratio to the total value of consumption expenditure on commodities domestically produced, measured by the value of total consumption (at farm gate prices), minus budgetary support to consumers – the percentage CSE ; or as a ratio to the total value of consumption expenditure on commodities domestically produced valued at world market prices, without budgetary support to consumer – the consumer NAC .*

In algebraic form, the CSE expressions can be written as follows:

4.  $\%CSE = III.CSE/(Qc.Pd - TC) \times 100$
5.  $(100 - \%CSE) = Qc.Pb/(Qc.Pd - TC) \times 100$
6.  $[1/(100 - \%CSE) \times 100] = [1 + \%CSE/(100 - \%CSE) + 1] = [(III.CSE/Qc.Pb) + 1] = NACc$

where,

TC = taxpayer transfers to consumers = III.R. *Transfers to consumers from taxpayers* (Annex Box V.1)

Qc.Pd = value of consumption at domestic prices (at farm gate)

Qc.Pb = value of consumption at border prices

In other words, the above equations can be explained as follows:

- for example, a percentage CSE of 60%, expresses the share of transfers to (from) consumers in the total consumption expenditure on agricultural commodities (as measured by the CSE), or the share of the consumption expenditure created by policies (equation (4)); hence
- some 40% of total consumption expenditure is derived from the market without any market support to domestic agricultural producers (equation (5)); and
- the amount of consumption expenditure is 250% of (or 150% higher than) what it would be if entirely created at world market prices without any budgetary support to consumers (equation (6)) – a consumer NAC of 2.50.

The consumer NAC measures the **consumer price differential** or the ratio between the price paid by consumers (at farm gate) and the border price. When the price paid by consumers (at farm gate) is on average the producer price, and there are no consumption subsidies, the consumer NAC also measures the **producer price differential**. In all the other cases, this differential or the ratio between the producer and border prices can only be measured through the MPS calculation, as the ratio between the unit MPS and the border price.

## Percentage GSSE and TSE

For a given country or commodity, the calculation of any of the indicators in percentage terms needs to have a precise meaning. This is the case when both the numerator and the denominator have an economic meaning, and the value of the transfers in the numerator can be seen as an integral part of the denominator.<sup>7</sup> Moreover, as percentage indicators take account of the effect of inflation on both numerator and denominator, this effect is eliminated. As a result percentage indicators are more representative and appropriate measures of support for analysis over time and across countries.

### Annex Box V.2. Transfers associated with market price support

Consider the case of a country where there are border measures and government purchasing agencies (GPAs) importing, and buying and selling in the domestic market in order to maintain the domestic price close to an administered domestic price higher than the world border price.

**In the case of exported commodities (Annex Figure V.1),** farmers sell all their production to domestic consumers (D2) and GPAs (S2-D2) at an average producer price (Pp) higher than the world reference price (Pr). The quantities purchased by the GPAs are sold in the same year in the domestic market at the average price Pp, offered as *domestic food aid* at the opportunity cost of Pp, sold in the world market (with *export subsidies*) at the average price Pr, offered as *foreign food aid* at an opportunity cost of Pr, or kept in *public storage* for later sale.

As in a given year domestic consumers and GPAs purchase all domestic production at the average price (Pp) higher than the price at which the GPAs export the commodity (Pr), the transfers to producers associated with MPS to the commodity is measured by the area  $abcd = (Pp - Pr) * S2$  and considered under **I.A. Market Price Support**. Where the area  $abfg = (Pp - Pr) * D2$  measures the share of MPS financed by consumers considered under **I.A. MPS** in the PSE, and **III.P. Transfers to producers from consumers** in the CSE; and area  $gfcd = (Pp - Pr) * (S2 - D2)$  measures *transfers to producers from taxpayers*, i.e. the share of MPS financed by taxpayers considered under **I.A. MPS** in the PSE (through food aid, export subsidies, or public storage).

The CSE is the share of MPS financed by consumer [area  $abfg = (Pp - Pr) * D2$ ] (**III.P. Transfers to producers from consumers**) minus consumption subsidies in cash or in kind, and price compensating aids to processors financed by taxpayers (**III.R. Transfers to consumers from taxpayers**). The total of the transfers associated with MPS are therefore obtained by adding to the MPS in the PSE [area  $abcd = (Pp - Pr) * S2$ ], those under marketing and stockholding in the GSSE, and the consumption subsidies in cash and price compensation in the CSE.

**In the case of imported commodities (Annex Figure V.2),** both, domestic production (S2) and imports (D2 - S2) are sold in the domestic market at the average producer price (Pp). But in both cases price compensation is provided by Government to processors (first consumers) to help them to stay competitive in the world market of processed products, and some consumption subsidies in cash and in kind are also provided. The quantities domestically produced and those imported by the GPAs are sold in the same year in the domestic market at the average price Pp, offered as *domestic food aid* at the opportunity cost of Pp or as *foreign food aid* at the opportunity cost of Pr, or kept in *public storage* for later sale.

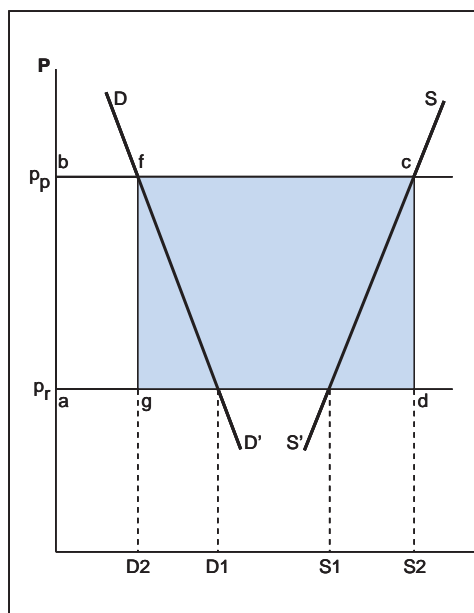
In these conditions, the transfers to producers associated with MPS to the commodity are measured by area  $abcd = (Pp - Pr) * S2$  and considered under **I.A. Market Price Support** in the PSE and **III.P. Transfers to producers from consumers** in the CSE. While this area also represents the transfers from consumers to producers, the area  $dcfg = (Pp - Pr) * (D2 - S2)$  measures the transfers from consumers to the budget through import receipts or as rents to importers or exporters due to tariff quotas (**III. Q. Other transfers from consumers or IV.V. Budget revenues**).

The CSE is measured by the area  $abfg = (Pp - Pr) * D2$  (**III.P. Transfers to producers from consumer and III.Q. Other transfers from consumers**) minus the consumption subsidies in cash or in kind, or price compensation financed by taxpayers (**III.R. Transfers to consumers from taxpayers**). The total of transfers associated with MPS is therefore obtained by adding to the MPS in the PSE [area  $abcd = (Pp - Pr) * S2$ ], those under marketing and stockholding in the GSSE, and the consumption subsidies in cash and price compensating aids in the CSE, minus the transfers from consumers to the budget and/or importers.

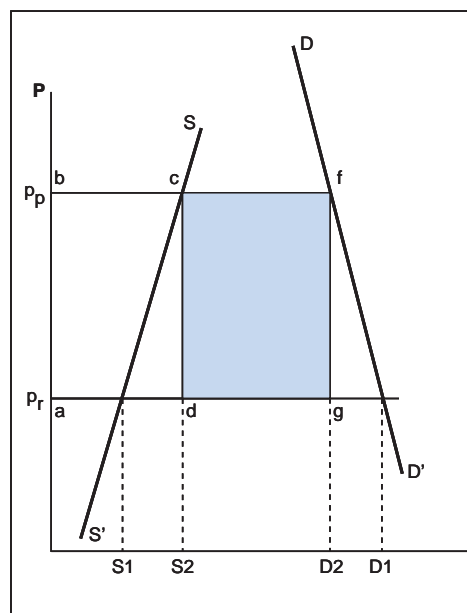
**In both cases, exported and imported commodities,** to provide such transfers to producers through MPS, other transfers are generated, mainly in the form of operational costs of GPAs, and stock depreciation and disposal costs of public stockholding. However, although these transfers contribute to creating the *price gap* received by producers, they are not in themselves a transfer to producers. They are transfers to general services provided to agriculture considered in the GSSE under **II.M. Marketing and promotion** in the case of the operational costs of GPAs, and **II.N. Public stockholding** in the case of the stock depreciation and disposal costs, which are in most of the cases dead-weight losses.



Annex Figure V.1. Exported commodities



Annex Figure V.2. Imported commodities



The **percentage GSSE** is defined as the share of support to general services provided to agriculture in the total support to agriculture (TSE), the rest being the support to individual producers and consumers of domestic agricultural commodities. In a situation of public support to agriculture, the higher the percentage GSSE, the lower the share of support affecting individual decisions on domestic production and consumption of agricultural commodities.

The TSE contains taxpayers transfers that are a component of the total current government expenditure, and transfers from consumers which are a component of the total domestic consumption expenditure. But, both of these transfers, from taxpayers and consumers, are included in Gross Domestic Product (GDP). Therefore, the **percentage TSE** is defined as the share of total support to agriculture in the total GDP. The higher the percentage TSE, the larger the share of national wealth used to support agriculture.

## B. Estimation of Bulgarian PSEs and CSEs from 1986 to 1999

### 1. Budget expenditures

The calculation of the PSE consists of allocating budgetary expenditures among the various commodities. For most of the subsidies in Bulgaria, data were available only on the total amount of funds distributed by the state throughout the agricultural economy, not on the amount of funds allocated for production of specific commodities. The distribution method is related to the way each measure is applied (and to which commodities it is related), but if there is no specific basis for allocating the expenditure, allocation is done according to the share of each commodity in total value of agricultural production.

### 2. Reference prices

Two key reference prices are used in the measurement of a price gap: external reference price and domestic producer reference price.

#### External reference price

The external price is in principle the unit export value or average export price for a product for which the country is a net exporter and the unit import value or average import price for a product for which the country is a net importer. The trade prices should, as far as possible, be those of the country being assessed to ensure a comparison of "like with like". In the case of many OECD countries, unit trade values have proven to be unreliable and quoted trade prices have been used as reference prices (*e.g.* the annual average of a regularly quoted export price of a specific commodity at a specific location). The chosen price is one that, as far as possible, is representative of the product

produced domestically. When a country's own unit trade values are not available or deemed to be unreliable and no suitable quoted trade prices are available, previous practice has been to use the trade prices of a third country. This practice does carry the risk of poor comparability between the domestic product and the reference product. If this can be demonstrated, an adjustment for quality differences can be attempted. For many countries in transition, the OECD practice has been to use EU reference prices when problems with the country's own trade prices are found. This is a useful approach for a number of reasons. The EU is a major trader in the region and as such tends to determine trade prices for the region. Hence, its reference prices are a good indicator of the alternative price that would have faced Bulgaria in the absence of its own trade barriers or systemic failures. In addition, as exported products would be competing with the EU export price on any third market, the same EU export price can be used when the country is a net exporter of the product in question.

This was the approach adopted, therefore. EU reference prices (as used for the calculation of the EU's own PSEs and those of some neighbouring countries) were used for most products. Exceptions were rye and potatoes where a German price was used (as no EU price was available and as Germany is a major producer of rye and potatoes); beef and pigmeat, where Hungarian export prices were used from 1986 to 1997 (however for 1998 and 1999 the EU export prices were applied); and milk where the OECD methodology applies the adjusted New Zealand export price for all countries.

#### Domestic producer reference price

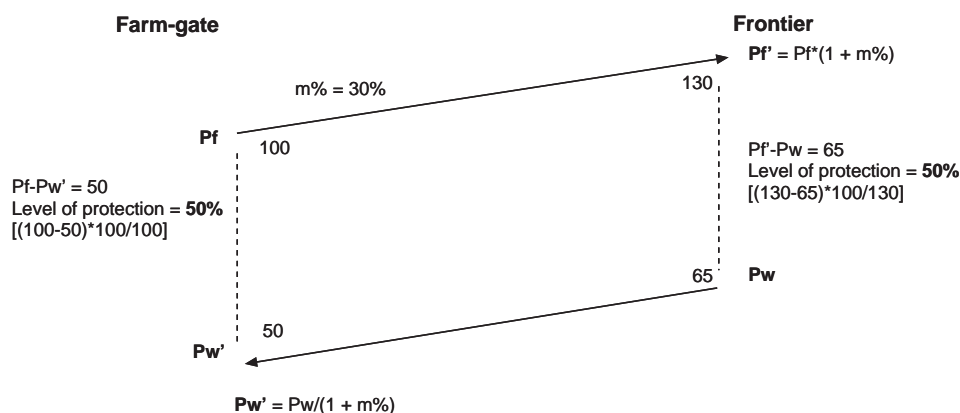
In principle, when a price comparison is made between the two reference prices (domestic and external), the comparison should be for the identical product in terms of quality and stage of processing. If the external reference price is for a quality of product very different from the average product produced, unit value of production would not be the appropriate domestic price for measurement of the price gap. In the case of Bulgaria, the choice of domestic price was based on data availability. The domestic producer prices used were the weighted average of prices to processing industries and registered on the peasant market. The domestic reference prices are then adjusted by technical coefficients and margins to arrive, as close as possible, at prices comparable to the external reference price applied.

### 3. Farm gate comparison

It is OECD practice to measure support to agriculture as near as practicable to the farm gate. However, external reference prices (if for traded goods) are applied to a product to which some value has been added after the farm gate. Hence, comparison of a farm gate domestic price with an external reference price will exclude this value-added and tend to understate the price gap.

This problem has led to two practices. First, the external reference price should be sought for a product that is as little transformed as possible. An export price for salami as a reference price for pork would create severe problems in identifying both the technical and economic margins involved between the farm gate product and the highly processed product. The same problem would arise in using an external price for flour to measure the price gap for milling wheat. The errors in such a procedure are likely to be very large. It is for this reason that for meats generally external reference prices for a carcass with minimal processing or value-added are preferred, while for grains an export price for the grain in its rawest form is preferred. The second practice involves making technical and value-

Annex Figure V.3. Measurement of the margin between farm gate and frontier



added adjustments to the prices on which the comparison is based. The first practice of choosing a product with minimal transformation minimises the errors in making these adjustments. The appropriate margin can be added to the farm gate price to bring it to the frontier for comparison or, alternatively, the margin can be subtracted from the external reference price to bring it back to the farm gate for comparison. The resulting price gap will be the same at the farm gate, if percentage margins are used. A simple example may help clarify this issue and is illustrated on Annex Figure V.3.

If the farm gate price ( $P_f$ ) is 100 and 30% is added to the value in getting the product to the frontier, the frontier price ( $P_f'$ ) is 130. If the external reference price ( $P_w$ ) is 65, the price gap ( $P_f' - P_w$ ) is also 65. The level of protection at the frontier is 50% ( $50\% = [130 - 65] * 100 / 130$ ). Similarly, when the export price ( $P_w$ ) of 65 is deflated by the 30% margin, it gives an external reference price ( $P_w'$ ), "taken" to farm gate, of 50. This gives the same result at the farm gate, *i.e.* a level of protection of 50% ( $50\% = [100 - 50] * 100 / 100$ ).

The margins for Bulgaria are based on price estimates of the National Statistics Institute and the Sofia Commodity Exchange. Although they have fluctuated over the period studied, in recent years they have normally been between 7 and 21% of the average farm gate price. Margins were not applied for potatoes as in this case farm gate prices were used as the external reference price.

#### 4. Exchange rate in PSE estimation

Currency exchange rates enter into the calculation of the PSE in two ways: firstly, when an external reference price is used that is expressed in a foreign currency, and secondly, when total PSEs are converted to some *numéraire* currency such as the US dollar for comparison with other country values. It is obvious that the exchange rate used for this purpose should be some economically meaningful figure. Since the official exchange rate seems to reflect in the most adequate way the macroeconomic conditions in which economic agents in Bulgaria have been making decisions, these rates were selected for the calculations of basic series of PSEs and CSEs. However, in order to take into account some significant overvaluation and undervaluation in the period from 1986 to 1999, a second set of PSEs and CSEs was calculated with adjusted exchange rates.

The adjusted exchange rate used in the study is the "Atlas Conversion Factor" calculated by the World Bank. This "Atlas Conversion Factor" represents a three-year average exchange rate, with exchange rates of the current year and the two preceding years adjusted for differences in the rates of inflation between the country for which the atlas conversion factor is calculated and the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States). The inflation rate for G-5 countries is represented by changes in the Special Drawing Right (SDR) deflators. The ratio of adjusted to official exchange rates is presented in Part V of the report (Table V.2). This ratio indicates that the Lev was strongly overvalued during the pre-reform period, with the adjusted exchange rate being on average 2 times higher than the official one during the period 1986-1990. In 1991 and 1992 on the contrary the adjusted exchange rate reflects an undervaluation linked with the sharp depreciation of the Lev. In effect in 1991 the Lev depreciated by more than 22 times against the US dollar, while prices increased by about 14 times. Afterwards, the difference between the official and adjusted exchange rates was marginal in 1994 and 1997 and the ratio of the adjusted to the official exchange rate was nearly equal to one.

As an alternative, the purchasing power parity (PPP) could be applied. However, since the PPP reflects to a large extent a wide range of non-tradable goods (such as services, housing rents and charges, etc.), the exchange rate based on PPP does not reflect adequately the price gap for tradable goods such as agricultural products. For this reason, it has not been applied in the case of Bulgaria.

## Notes

1. In other words, elements in the PSE are, in general, gross transfers to producers because to receive a given payment producers have to produce or plant a specific commodity, or use a specific input, and therefore incur costs, which are not deducted from the amount of the payment, although these costs may absorb a part of the payment.
2. Farm receipts (revenues) are not the same as farm income, which is farm receipts less farm costs.
3. Unlike the others payments to commodities, these payments directly increase farm income by the amount of the payment as producers do not have to incur any specific cost (other than those associated with being a farmer).
4. A payment remunerating farm inputs on condition they are used for producing a non-market good can be seen as a payment associated with constraints on the use of a set of inputs or on the choice of production techniques.
5. Unlike most of the others, these payments directly increase farm income by the amount of the payment as producers do not have to incur any specific cost (other than those necessary to generate an (or the) eligible level of farm income).
6. Gross farm receipts are not the same as farm income, which is farm receipts less farm costs.
7. That is the case of the percentage PSE and CSE as defined above. The GSSE and the TSE are not a part of the total value of farm receipts (as the PSE) nor a part of the total value of consumption expenditure of agricultural commodities (as the CSE).

**SUPPORTING TABLES:  
CALCULATION OF PSES AND CSES – DEFINITIONS AND SOURCES**

## GENERAL NOTES

The country Total Support Estimate (TSE) and derived indicators in **Annex Table V.1.1** cover all agricultural production, *i.e.*, all agricultural commodities produced in the country.

Market Price Support (MPS) and Consumer Support Estimates (CSE) by commodity in **Annex Tables V.2.1 to V.2.10** are only calculated for commodities produced in the country within a set of *common commodities* (wheat, maize, barley, sunflower, sugar, potatoes, milk, beef and veal, pigmeat, poultrymeat, and eggs). Definitions are provided only for basic data sets from which all the other data sets in this table are derived, following the formula indicated in each commodity table. Specific sources are numerated into brackets.

Producer Support Estimates (PSE) by commodity in **Annex Tables V.3.1 to 3.10** are also calculated only for commodities produced in the country within the set of common commodities. All data sets in the calculation of PSE by commodity come from Annex Tables V.1 and V.2 where definitions are included.

Annex Table V.1.1  
**TOTAL SUPPORT ESTIMATE**

**Definitions:**

**I. Total value of production (at farm gate):** total agricultural production valued at farm gate prices, *i.e.*, value (at farm gate) of all agricultural commodities produced in the country (I).

1. **Of which share of common commodities (%):** share of commodities for which MPS is explicitly calculated (in Annex Tables V.2) in the total value of agricultural production.

**II. Total value of consumption (at farm gate):** consumption of all commodities domestically produced valued at farm gate prices, and estimated by increasing the value of consumption (at farm gate) of the common commodities according to their share in the total value of agricultural production  $[(II.1) / (I.1) \times 100]$ .

1. **Of which common commodities:** sum of the value of consumption (at farm gate prices) of the common commodities produced in the country as indicated in Annex Tables V.2.

**III.1 Producer Support Estimate (PSE):** associated with total agricultural production, *i.e.* for all commodities domestically produced [Sum of A to H; when negative, the amounts represent an implicit or explicit tax on producers].

**A. Market Price Support:** on quantities domestically produced (excluding for on-farm feed use – *excess feed cost*) of all agricultural commodities, estimated by increasing the MPS for the common commodities according to their share in the total value of production  $[(A.1) / (I.1)]$ .

1. **Of which common commodities:** sum of the MPS (net of *price levies* and *excess feed cost*) for the common commodities produced in the country as calculated in Annex Tables V.2.

**B. Payments based on output**

**C. Payments based on area planted/animal numbers**

**D. Payments based on historical entitlements**

**E. Payments based on input use**

**F. Payments based on input constraints**

**G. Payments based on overall farming income**

**H. Miscellaneous payments**

**III.2 Percentage PSE**  $[100 \times (III.1) / ((I)+(B)+(C)+(D)+(E)+(F)+(G)+(H))]$

**III.3 Producer NAC**  $[1 + (III.2) / (100 - (III.2))]$

**IV. General Services Support Estimate (GSSE) [Sum(I to O)]**

**I. Research and development**

**J. Agricultural schools**

**K. Inspection services**

**L. Infrastructure**

**M. Marketing and promotion**

**N. Public stockholding**

**O. Miscellaneous**

**V.1 Consumer Support Estimate (CSE) [(P) + (Q) + (R) + (S)]**

**P. Transfers to producers from consumers**  $[(P.1) / (I.1) \times 100]$

1. Common PSE commodities [ Annex Tables V.2]

**Q. Other transfers from consumers**  $[(Q.1) / (I.1) \times 100]$

1. Common PSE commodities [ Annex Tables V.2]

**R. Transfers to consumers from taxpayers**

- S. Excess Feed Cost (-)** [ $\Sigma$ Annex Tables V.2]
- V.2 Percentage CSE (V.1) / [(II)-(R)]**
- V.3 Consumer NAC (V.2) / [1 - (V.2)]**
- VI. Total Support Estimate [(T)+(U)+(V)] or [(III.1)+(IV)+(R)]**
  - T. Transfers from consumers -[(P)+(Q)]
  - U. Transfers from taxpayers [(III.1)+(P)+(IV)+(R)]
  - V. Budget revenues (-)[(Q)]



## MARKET PRICE SUPPORT AND CONSUMER SUPPORT ESTIMATE BY COMMODITY

### Definitions:

#### I. Level of production

**Wheat, maize, barley, potatoes, sunflower, sugar beet:** Total production in calendar year. (1)

**Milk :** Cow, goat, sheep and buffalo milk production. (1)

**Beef and Veal :** Total production in carcass weight equivalent. (1)

**Pigmeat :** Total production in carcass weight equivalent. (1)

**Poultry meat :** Total production in carcass weight equivalent. (1)

**Eggs :** Total production of eggs expressed in thousand tonnes using the coefficient of 17.7 eggs per kg. (1)

#### II. Producer price

**Producer prices at farm gate level:** The domestic producer prices used were the weighted average producer prices to processing industries and prices registered on peasant market. (1)

#### IV. Level of consumption

**Wheat, maize, barley, potatoes, sunflower, sugar beet:** Total domestic use defined as production plus imports minus exports minus net change in stocks. (2)

**Beef and veal, pigmeat, poultry meat:** Total domestic use in carcass weight equivalent, defined as production plus imports minus exports minus net change in stocks. (2)

**Eggs :** Total domestic use of eggs expressed in thousand tonnes using the coefficient of 17.7 eggs per kg. (2)

#### VII. Reference prices

**Wheat:** EU export price of commercial quality wheat. (3)

**Maize:** EU import price. (3)

**Barley:** EU export price for feed barley. (3)

**Oats:** EU import price. (3)

**Potatoes:** German price at farm gate. (3)

**Sunflower:** EU import price. (3)

**Rapeseed:** EU import price. (3)

**Soybean:** EU import price. (3)

**Sugar beet:** EU export price of white sugar. (3)

**Milk:** New Zealand export price. (3)

**Beef and veal:** Hungarian unit export value for carcasses from 1986 to 1997, extra-EU unit export value for 1998 and 1999. This price is expressed in carcass weight and recalculated from the Hungarian carcass coefficient (0.56) using the Bulgarian carcass coefficient. (3)

**Pigmeat:** Hungarian unit export value for carcasses from 1986 to 1997, extra-EU unit export value for 1998 and 1999. This price is expressed in carcass weight and recalculated from the Hungarian carcass coefficient (0.79) using the Bulgarian carcass coefficient. (3)

**Poultry:** Extra-EU unit export value. (3)

**Eggs:** Extra-EU unit export value. (3)

### Sources:

1. National Statistics Institute of Bulgaria.
2. FAOstat collection database.
3. OECD PSE/CSE databases for European Union and for Hungary.

Annex Table V.1.1. BULGARIA: Total Support Estimate / Total Transfers

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Total value of production (at farm gate)</b>	Leva mn	9 891	9 392	9 254	11 488	15 784	40 064	50 052	60 302	94 347	165 179	336 009	4 940 502	5 045 173	4 207 258
1. Share of standard PSE commodities (%)	%	51	51	53	53	52	56	56	66	65	62	59	55	54	53
<b>II. Total value of consumption (at farm gate)</b>	Leva mn	10 016	9 707	9 649	11 460	16 997	41 971	50 227	61 623	97 662	159 250	388 286	5 167 952	5 444 698	4 398 197
1. Standard PSE commodities	Leva mn	5 131	4 944	5 088	6 022	8 896	23 619	28 133	40 402	63 799	98 542	229 781	2 865 250	2 942 773	2 352 228
<b>III.1 Producer Support Estimate (PSE)</b>	Leva mn	8 398	7 762	7 497	8 594	12 531	-16 981	-23 272	-2 558	-26 110	-41 478	-185 833	-495 846	106 089	-41 615
<b>A. Market price support</b>	Leva mn	7 282	6 646	6 380	7 487	10 823	-19 989	-24 412	-4 963	-29 428	-42 597	-191 144	-518 993	87 594	-73 381
1. Standard PSE commodities	Leva mn	3 731	3 385	3 365	3 934	5 665	-11 249	-13 674	-3 254	-19 224	-26 358	-113 115	-287 744	47 343	-39 245
<b>B. Payments based on output</b>	Leva mn	1 024	1 024	1 024	1 014	574	886	0	0	0	0	0	18 765	0	0
1. Based on unlimited output	Leva mn	1 024	1 024	1 024	1 014	574	886	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	18 765	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	520	0	0	0	0	0	2 852	318	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	520	0	0	0	0	0	2 852	318	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	93	93	93	94	614	2 122	1 140	2 405	3 318	1 119	2 460	4 064	18 495	31 766
1. Based on use of variable inputs	Leva mn	93	93	93	94	614	1 812	960	1 700	2 000	691	1 850	1 934	8 368	21 766
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	310	180	705	1 318	428	610	2 130	0	0
3. Based on use of fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	10 127	10 000
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>III.2 Percentage PSE</b>	%	76	74	72	68	72	-39	-45	-4	-27	-25	-54	-10	2	-1
<b>III.3 Producer NAC</b>		4.22	3.83	3.61	3.15	3.53	0.72	0.69	0.96	0.79	0.80	0.65	0.91	1.02	0.99
<b>IV. General Services Support Estimate (GSSE)</b>	Leva mn	255	255	255	376	461	560	650	1 868	1 268	1 485	2 373	19 220	6 240	10 243
<b>I. Research and development</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>J. Agricultural schools</b>	Leva mn	70	70	70	81	111	0	0	0	0	0	0	0	0	0
<b>K. Inspection services</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>L. Infrastructure</b>	Leva mn	185	185	185	295	350	560	650	1 868	1 268	1 485	2 373	19 220	6 240	10 243
<b>M. Marketing and promotion</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>N. Public stockholding</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>O. Miscellaneous</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>V.1 Consumer Support Estimate (CSE)</b>	Leva mn	-6 983	-6 637	-6 255	-7 234	-12 279	20 325	24 314	4 762	30 039	40 874	208 795	549 322	-55 612	123 248
<b>P. Transfers to producers from consumers (-)</b>	Leva mn	-7 150	-6 637	-6 194	-7 386	-12 177	20 984	26 499	3 887	32 047	48 776	205 229	537 533	-63 667	159 822
1. Standard PSE commodities	Leva mn	-3 663	-3 380	-3 266	-3 881	-6 374	11 808	14 843	2 548	20 935	30 182	121 450	298 022	-34 411	85 475
<b>Q. Other transfers from consumers (-)</b>	Leva mn	-66	-274	-247	-119	-1 222	452	37	432	1 543	1 521	14 591	25 551	33 235	30 969
1. Standard PSE commodities	Leva mn	-34	-140	-130	-63	-640	254	20	283	1 008	941	8 635	14 166	17 963	16 563
<b>R. Transfers to consumers from taxpayers</b>	Leva mn	13	13	14	17	44	0	187	127	127	660	0	0	0	0
<b>S. Excess feed cost</b>	Leva mn	220	260	171	254	1 077	-1 110	-2 409	317	-3 678	-10 083	-11 025	-13 762	-25 180	-67 544
<b>V.2 Percentage CSE</b>	%	-70	-68	-65	-63	-72	48	49	8	31	26	54	11	-1	3
<b>V.3 Consumer NAC</b>		3.31	3.17	2.85	2.72	3.63	0.67	0.67	0.93	0.76	0.80	0.65	0.90	1.01	0.97
<b>VI. Total Support Estimate (TSE)</b>	Leva mn	8 666	8 030	7 765	8 987	13 036	-16 421	-22 435	-563	-24 714	-39 333	-183 460	-476 626	112 329	-31 372
T. Transfers from consumers	Leva mn	7 216	6 910	6 440	7 505	13 399	-21 435	-26 535	-4 319	-33 590	-50 296	-219 819	-563 084	30 433	-190 792
U. Transfers from taxpayers	Leva mn	1 516	1 394	1 572	1 601	858	4 562	4 064	3 324	7 332	9 443	21 769	60 906	48 662	128 540
V. Budget revenues (-)	Leva mn	-66	-274	-247	-119	-1 222	452	37	432	1 543	1 521	14 591	25 551	33 235	30 969

p: provisional; e: estimate; NAC: Nominal Assistance Coefficient.  
Source: OECD.

Annex Table V.1.2.i. BULGARIA: Producer support estimate by commodity

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Wheat</b>														
Leva mn	341	338	337	595	1 475	-2 018	-3 968	-102	-7 421	-16 846	-11 505	1 601	-85 546	-53 496
Percentage PSE	51	53	46	48	74	-41	-74	-1	-55	-101	-25	0	-19	-15
Producer NAC	2.04	2.11	1.84	1.94	3.81	0.71	0.58	0.99	0.64	0.50	0.80	1.00	0.84	0.87
<b>Maize</b>														
Leva mn	430	310	224	355	834	-508	-990	585	-1 790	-3 732	-7 044	-14 988	-15 596	-56 239
Percentage PSE	64	71	61	62	89	-11	-31	18	-29	-31	-30	-5	-7	-23
Producer NAC	2.81	3.42	2.56	2.64	8.78	0.90	0.76	1.21	0.78	0.76	0.77	0.96	0.93	0.81
<b>Other grains</b>														
Leva mn	92	101	80	162	273	-331	-899	317	-953	-4 315	-2 010	6 434	9 802	-13 816
Percentage PSE	58	66	44	52	72	-17	-55	14	-26	-93	-20	4	10	-18
Producer NAC	2.40	2.95	1.77	2.08	3.59	0.85	0.65	1.17	0.79	0.52	0.83	1.04	1.11	0.85
<b>Potatoes (non-PSE commodity)</b>														
Leva mn	122	74	84	280	333	376	312	1 135	137	-4 489	3 018	115 359	134 226	16 296
Percentage PSE	76	71	71	86	91	26	21	67	4	-62	37	68	55	10
Producer NAC	4.11	3.44	3.49	7.03	10.64	1.35	1.27	3.07	1.04	0.62	1.58	3.10	2.22	1.11
<b>Oilseeds</b>														
Leva mn	117	104	77	204	186	-540	-1 407	-991	-4 234	-6 467	-9 913	-58 956	-56 305	-65 517
Percentage PSE	60	63	51	71	73	-47	-86	-54	-94	-89	-77	-51	-29	-39
Producer NAC	2.49	2.70	2.05	3.45	3.64	0.68	0.54	0.65	0.52	0.53	0.56	0.66	0.78	0.72
<b>Sugar (refined equivalent)</b>														
Leva mn	75	62	51	77	141	46	5	1	20	30	51	1 275	1 396	1 371
Percentage PSE	92	89	87	87	92	21	6	1	20	16	18	46	56	63
Producer NAC	12.37	9.44	7.53	7.42	12.71	1.27	1.06	1.01	1.25	1.19	1.22	1.85	2.25	2.73
<b>Crops<sup>1</sup></b>														
Leva mn	1 054	914	769	1 393	2 909	-3 351	-7 257	-192	-14 379	-31 330	-30 421	-64 632	-146 250	-187 697
Percentage PSE	60	62	51	56	78	-26	-61	-1	-51	-77	-33	-5	-15	-22
Producer NAC	2.48	2.65	2.05	2.27	4.55	0.79	0.62	0.99	0.66	0.56	0.75	0.95	0.87	0.82

p: provisional; e: estimate; NAC: Nominal Assistance Coefficient.

1. Only PSE commodities included in aggregation.

Source: OECD.

Annex Table V.1.2.ii. BULGARIA: Producer support estimate by commodity (cont<sup>1</sup>)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Milk</b>														
Leva mn	1 178	1 113	1 055	978	1 710	-194	328	2 416	3 221	7 211	-8 375	17 987	232 433	85 650
Percentage PSE	85	80	76	73	78	-5	7	31	26	39	-26	5	40	18
Producer NAC	6.54	4.97	4.21	3.70	4.55	0.95	1.07	1.45	1.36	1.63	0.80	1.05	1.66	1.23
<b>Beef and Veal</b>														
Leva mn	557	428	430	398	285	-1 056	-1 522	-2 383	-3 081	251	-17 643	-92 944	-28 660	-47 063
Percentage PSE	76	71	72	67	42	-81	-54	-67	-51	3	-132	-55	-18	-40
Producer NAC	4.23	3.45	3.63	3.04	1.71	0.55	0.65	0.60	0.66	1.03	0.43	0.65	0.85	0.72
<b>Pigmeat</b>														
Leva mn	1 037	1 049	1 160	1 311	1 444	-3 638	-4 510	-955	-2 538	-4 191	-45 411	-140 209	-61 064	-9 624
Percentage PSE	74	75	78	73	68	-69	-63	-10	-20	-16	-107	-19	-9	-2
Producer NAC	3.89	3.95	4.51	3.72	3.15	0.59	0.61	0.91	0.83	0.86	0.48	0.84	0.92	0.98
<b>Poultry</b>														
Leva mn	243	248	312	276	348	-413	-424	-257	-125	542	-5 505	10 034	40 358	86 895
Percentage PSE	57	58	67	59	49	-29	-25	-9	-3	8	-37	5	17	36
Producer NAC	2.34	2.36	2.99	2.46	1.96	0.78	0.80	0.91	0.97	1.09	0.73	1.05	1.20	1.56
<b>Eggs</b>														
Leva mn	295	262	286	233	297	-254	372	-71	185	2 065	-700	4 046	24 347	51 968
Percentage PSE	71	62	70	65	53	-18	20	-3	4	30	-4	3	16	36
Producer NAC	3.40	2.63	3.38	2.83	2.14	0.85	1.24	0.97	1.04	1.43	0.96	1.03	1.20	1.57
<b>Livestock<sup>1</sup></b>														
Leva mn	3 311	3 100	3 243	3 196	4 084	-5 554	-5 755	-1 251	-2 339	5 878	-77 634	-201 085	207 414	167 826
Percentage PSE	76	73	75	70	65	-43	-31	-5	-6	9	-65	-12	11	11
Producer NAC	4.16	3.69	3.95	3.35	2.88	0.70	0.76	0.95	0.94	1.10	0.61	0.89	1.13	1.13
<b>All commodities<sup>1</sup></b>														
Leva mn	8 398	7 762	7 497	8 594	12 531	-16 981	-23 272	-2 558	-26 110	-41 478	-185 833	-495 846	106 089	-41 615
Percentage PSE	76	74	72	68	72	-39	-45	-4	-27	-25	-54	-10	2	-1
Producer NAC	4.22	3.83	3.61	3.15	3.53	0.72	0.69	0.96	0.79	0.80	0.65	0.91	1.02	0.99

p: provisional; e: estimate; NAC: Nominal Assistance Coefficient.

1. Only PSE commodities included in aggregation.

Source: OECD.

Annex Table V.1.3.i Estimates of support to agriculture in selected CEECs, Russia, EU and OECD average, 1986-1999

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Estonia</b>															
Total PSE	mn US\$	2 472	2 606	2 765	2 704	3 058	1 707	-274	-114	-43	-2	42	25	98	53
	mn Euro	2 519	2 260	2 339	2 456	2 409	1 381	-212	-97	-36	-1	33	22	88	50
General Support Estimate	mn US\$	25	21	21	28	30	34	6	10	10	18	13	11	14	12
Total Support Estimate	mn US\$	3 490	3 705	3 851	3 813	4 287	1 790	-265	-104	-32	16	55	36	112	66
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-25.4	-6.2	-1.4	0.4	1.3	0.8	2.2	1.3
<b>Percentage PSE</b>	<b>%</b>	<b>76</b>	<b>76</b>	<b>79</b>	<b>74</b>	<b>71</b>	<b>59</b>	<b>-97</b>	<b>-32</b>	<b>-10</b>	<b>0</b>	<b>7</b>	<b>5</b>	<b>19</b>	<b>15</b>
<b>Latvia</b>															
Total PSE	mn US\$	4 251	4 323	5 523	5 256	5 507	13 286	-486	-223	40	40	21	30	106	95
	mn Euro	4 331	3 750	4 674	4 774	4 338	10 749	-375	-190	34	31	17	27	95	90
General Support Estimate	mn US\$	249	279	275	313	187	1 666	7	6	10	16	11	10	14	8
Total Support Estimate	mn US\$	5 669	5 898	7 004	6 947	7 862	15 611	-479	-217	49	56	32	40	120	103
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-10.0	1.4	1.3	0.6	0.7	1.9	1.6
<b>Percentage PSE</b>	<b>%</b>	<b>83</b>	<b>81</b>	<b>82</b>	<b>77</b>	<b>75</b>	<b>83</b>	<b>-101</b>	<b>-40</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>17</b>	<b>18</b>
<b>Lithuania</b>															
Total PSE	mn US\$	5 205	5 537	7 403	6 610	7 665	-918	-733	-335	-153	1	71	128	363	344
	mn Euro	5 304	4 803	6 264	6 003	6 038	-742	-566	-286	-129	0	56	113	324	323
General Support Estimate	mn US\$	1 010	266	504	498	119	10	13	18	40	43	52	60	54	55
Total Support Estimate	mn US\$	7 970	7 719	9 831	9 129	9 552	-907	-720	-317	-113	43	122	188	416	398
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-37.4	-11.9	-2.7	0.7	1.6	2.0	4.0	5.1
<b>Percentage PSE</b>	<b>%</b>	<b>79</b>	<b>77</b>	<b>80</b>	<b>75</b>	<b>72</b>	<b>-262</b>	<b>-124</b>	<b>-37</b>	<b>-15</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>20</b>	<b>21</b>
<b>Czech Republic</b>															
Total PSE	mn US\$	5 044	4 546	4 194	5 242	5 293	2 326	1 326	1 198	804	560	640	370	879	919
	mn Euro	5 140	3 944	3 549	4 761	4 170	1 882	1 024	1 023	678	428	504	326	785	863
General Support Estimate	mn US\$	57	58	59	96	74	36	35	35	116	119	124	110	106	98
Total Support Estimate	mn US\$	5 917	5 425	5 034	6 764	6 102	2 362	1 361	1 234	920	679	764	480	984	1 017
	% GDP	13.6	12.1	10.8	13.9	12.0	8.5	4.3	3.5	2.2	1.3	1.3	0.9	1.7	1.9
<b>Percentage PSE</b>	<b>%</b>	<b>66</b>	<b>59</b>	<b>53</b>	<b>55</b>	<b>54</b>	<b>52</b>	<b>31</b>	<b>28</b>	<b>20</b>	<b>12</b>	<b>13</b>	<b>9</b>	<b>21</b>	<b>25</b>
<b>Hungary</b>															
Total PSE	mn US\$	3 367	3 001	2 676	2 109	1 850	715	855	1 030	1 318	805	627	394	692	898
	mn Euro	3 432	2 603	2 265	1 916	1 457	578	660	880	1 111	616	494	348	619	842
General Support Estimate	mn US\$	87	84	79	82	76	73	84	87	90	95	122	92	171	202
Total Support Estimate	mn US\$	3 857	3 469	2 872	2 286	1 990	835	938	1 118	1 408	900	749	486	864	1 100
	% GDP	8.7	8.0	6.6	5.5	5.3	2.5	2.5	2.9	3.4	2.0	1.7	1.1	1.8	2.2
<b>Percentage PSE</b>	<b>%</b>	<b>44</b>	<b>39</b>	<b>35</b>	<b>27</b>	<b>24</b>	<b>11</b>	<b>16</b>	<b>20</b>	<b>24</b>	<b>14</b>	<b>9</b>	<b>7</b>	<b>13</b>	<b>20</b>

Annex Table V.1.3.ii Estimates of support to agriculture in selected CEECs, Russia, EU and OECD average, 1986-1999 (cont')

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Poland</b>															
Total PSE	mn US\$	5 258	3 769	2 814	424	-772	119	2 428	2 081	2 455	3 266	4 404	3 507	3 760	3 296
	mn Euro	5 358	3 270	2 381	386	-608	96	1 876	1 777	2 070	2 498	3 469	3 094	3 362	3 094
General Support Estimate	mn US\$	294	303	277	212	231	488	383	330	428	458	533	507	482	340
Total Support Estimate	mn US\$	6 527	4 701	5 914	2 181	-399	610	2 813	2 413	2 886	3 725	4 939	4 016	4 245	3 639
	% GDP	4.7	3.5	6.3	2.6	-0.7	0.8	3.3	2.8	2.9	2.9	3.5	2.8	2.7	2.4
<b>Percentage PSE</b>	<b>%</b>	<b>34</b>	<b>26</b>	<b>27</b>	<b>5</b>	<b>-12</b>	<b>1</b>	<b>18</b>	<b>15</b>	<b>18</b>	<b>18</b>	<b>23</b>	<b>22</b>	<b>23</b>	<b>25</b>
<b>Slovakia</b>															
Total PSE	mn US\$	1 754	1 712	1 636	2 306	2 030	959	585	477	422	382	234	277	503	388
	mn Euro	1 787	1 485	1 384	2 094	1 599	776	452	407	356	292	184	245	450	364
General Support Estimate	mn US\$	112	128	145	143	139	122	79	54	62	67	59	55	56	40
Total Support Estimate	mn US\$	2 127	2 118	2 063	2 999	2 435	1 081	664	531	484	450	293	332	559	428
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	4.1	3.5	2.6	1.6	1.7	2.8	2.3
<b>Percentage PSE</b>	<b>%</b>	<b>56</b>	<b>51</b>	<b>46</b>	<b>50</b>	<b>50</b>	<b>35</b>	<b>28</b>	<b>26</b>	<b>23</b>	<b>18</b>	<b>11</b>	<b>13</b>	<b>26</b>	<b>25</b>
<b>Romania</b>															
Total PSE	mn US\$	5 589	6 413	6 534	5 148	3 414	1 490	598	1 624	2 070	1 223	1 414	327	2 890	1 679
	mn Euro	5 695	5 563	5 529	4 676	2 689	1 206	462	1 386	1 746	936	1 114	288	2 584	1 576
General Support Estimate	mn US\$	262	301	317	314	251	212	105	148	157	178	88	103	137	88
Total Support Estimate	mn US\$	5 851	6 714	6 851	5 463	3 665	1 853	1 218	2 163	2 412	1 775	1 892	502	3 040	1 781
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	8.0	5.3
<b>Percentage PSE</b>	<b>%</b>	<b>48</b>	<b>54</b>	<b>51</b>	<b>46</b>	<b>28</b>	<b>15</b>	<b>8</b>	<b>16</b>	<b>19</b>	<b>10</b>	<b>12</b>	<b>3</b>	<b>25</b>	<b>20</b>
<b>Russia</b>															
Total PSE	mn US\$	161 292	166 435	187 055	192 200	150 651	87 759	-14 467	-5 601	-3 656	6 193	11 556	12 622	4 114	-661
	mn Euro	164 357	144 365	158 286	174 556	118 667	70 997	-11 178	-4 782	-3 082	4 738	9 104	11 133	3 710	-1 512
General Support Estimate	mn US\$	6 475	7 326	8 266	8 509	7 452	4 768	362	591	1 002	787	758	2 973	293	444
Total Support Estimate	mn US\$	216 867	223 985	268 335	278 259	226 848	124 547	-13 721	-4 594	-2 455	6 981	12 314	15 595	4 407	-218
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-13.9	-2.5	-0.9	2.0	2.9	3.5	1.6	-0.1
<b>Percentage PSE</b>	<b>%</b>	<b>82</b>	<b>81</b>	<b>81</b>	<b>77</b>	<b>70</b>	<b>60</b>	<b>-93</b>	<b>-24</b>	<b>-15</b>	<b>16</b>	<b>24</b>	<b>29</b>	<b>15</b>	<b>-3</b>
<b>EU<sup>1</sup></b>															
Total PSE	mn US\$	87 921	97 348	100 373	80 195	125 653	143 195	126 799	117 847	118 508	131 038	118 367	112 260	122 946	114 450
	mn Euro	89 595	84 456	84 944	72 839	98 979	115 853	97 976	100 610	99 911	100 238	93 248	99 056	109 929	107 416
General Support Estimate	mn US\$	9 519	11 247	11 555	8 487	12 976	17 392	17 947	14 616	8 043	7 677	9 230	8 208	8 282	7 495
Total Support Estimate	mn US\$	101 562	113 450	116 960	93 219	143 964	166 461	151 308	138 897	131 927	144 125	131 818	124 965	135 570	125 873
	% GDP	2.9	2.6	2.4	1.9	2.3	2.5	2.1	2.1	1.9	1.7	1.5	1.5	1.6	1.5
<b>Percentage PSE</b>	<b>%</b>	<b>46</b>	<b>44</b>	<b>42</b>	<b>38</b>	<b>45</b>	<b>51</b>	<b>44</b>	<b>44</b>	<b>42</b>	<b>41</b>	<b>35</b>	<b>38</b>	<b>45</b>	<b>49</b>
<b>OECD</b>															
Total PSE	mn US\$	236 458	252 020	250 200	222 172	287 367	304 129	294 777	287 270	294 351	286 079	263 274	246 167	270 869	282 780
	mn Euro	240 960	218 644	211 740	201 791	226 364	246 057	227 769	245 254	248 159	218 838	207 405	217 213	242 190	265 400
General Support Estimate	mn US\$	39 772	39 029	44 371	45 754	51 967	64 798	67 187	68 712	61 605	68 290	60 518	54 773	54 585	52 267
Total Support Estimate	mn US\$	295 784	310 605	316 973	289 958	363 312	393 711	389 877	385 110	384 036	382 803	351 802	328 762	352 058	361 493
	% GDP	2.5	2.3	2.1	1.8	2.1	2.1	1.9	1.9	1.8	1.6	1.4	1.4	1.5	1.4
<b>Percentage PSE</b>	<b>%</b>	<b>42</b>	<b>41</b>	<b>38</b>	<b>34</b>	<b>38</b>	<b>41</b>	<b>39</b>	<b>38</b>	<b>37</b>	<b>35</b>	<b>31</b>	<b>31</b>	<b>36</b>	<b>40</b>

Notes: p: provisional; e: estimate; n.c.: not calculated;

1. EU-12 for 1986-1994, EU-15 from 1995; as from 1990, includes ex-GDR.

Source: OECD, PSE/CSE database.

Annex Table V.1.4. BULGARIA: Reference prices

Commodity	Ref. price country	Currency	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999p
Wheat	EU	ECU/t	92.4	83.0	97.3	142.6	111.9	78.9	101.7	99.8	97.2	125.0	155.9	136.0	100.2	92.5
Maize	EU	ECU/t	103.0	78.5	107.6	118.2	100.0	99.3	90.2	98.8	104.6	110.7	144.9	119.2	104.4	104.2
Rye	Germany	ECU/t	75.8	63.1	88.9	160.3	110.1	46.2	82.6	105.3	81.4	75.3	117.7	108.4	73.2	66.7
Feed Barley	EU	ECU/t	71.3	53.6	91.5	117.0	86.1	76.9	79.9	72.1	70.8	98.0	131.3	116.8	72.8	83.5
Oats	EU	ECU/t	94.0	104.5	152.6	145.1	105.9	110.3	105.6	113.4	97.9	92.9	104.8	103.7	79.0	66.7
Potatoes	Germany	US\$/t	84.9	110.1	113.9	100.0	106.1	121.2	88.3	55.7	134.6	270.1	91.0	70.4	131.2	139.8
Sunflower	EU	ECU/t	205.8	176.1	237.0	233.4	213.5	208.7	200.9	239.9	268.1	241.0	231.6	241.8	276.3	225.2
Rapeseed	EU	ECU/t	219.1	146.6	202.3	210.7	160.7	161.0	162.3	205.8	247.0	219.5	237.1	247.9	262.9	191.5
Soybean	EU	ECU/t	212.0	187.4	257.3	249.8	194.6	194.2	182.4	217.7	212.5	198.1	240.3	267.4	217.3	189.6
Refined sugar	EU	ECU/t	189.6	167.8	224.1	343.9	303.5	240.0	212.1	244.2	302.6	303.5	288.7	279.3	228.0	193.0
Milk	NZ	US\$/t	67.6	105.2	151.1	161.7	122.3	128.6	143.8	137.8	147.4	184.0	190.9	169.0	137.0	139.2
Beef and Veal (CWE)	Hungary, EU 1998-1999	US\$/t	877.2	1 099.3	1 251.1	1 347.2	1 639.1	1 424.8	1 520.6	1 910.8	2 115.4	2 619.0	2 595.4	2 571.7	2 200.3	1 707.1
Pigmeat (CWE)	Hungary, EU 1998-1999	US\$/t	986.3	1 026.8	997.0	1 380.1	1 594.6	1 530.1	1 756.9	1 487.8	1 496.2	1 971.8	2 208.5	2 524.7	1 954.5	1 255.2
Poultry	EU	ECU/t	975.3	846.1	755.4	905.7	942.6	983.0	969.9	981.4	987.6	943.3	1 107.3	1 182.9	1 069.1	884.1
Eggs	EU	ECU/t	632.1	787.3	663.6	666.0	795.2	824.9	715.4	793.1	814.0	674.3	928.6	874.5	709.2	600.4

p: provisional. CWE: carcass weight equivalent.

Source: OECD.

Annex Table V.2.1. WHEAT: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production	000t	4 327	4 149	4 743	5 425	5 292	4 497	3 443	3 618	3 788	3 435	1 802	2 575	3 203	2 637
1. of which feed	000t	442	549	574	524	821	852	765	654	618	901	189	437	522	510
II. Producer price (at farm gate)	Leva/t	140	140	140	208	360	922	1 522	2 621	3 330	4 768	22 995	227 546	140 625	131 760
2. Handling margin	%	13	13	13	13	13	13	13	13	13	12	12	13	16	16
3. Adjusted producer price	Leva/t	158	158	158	235	407	1 043	1 721	2 964	3 766	5 359	25 718	257 997	163 264	152 972
III. Value of production (at farm gate)	Leva mn	606	581	664	1 128	1 905	4 146	5 240	9 483	12 614	16 378	41 439	585 885	450 464	347 468
IV. Level of consumption	000t	4 207	4 286	4 911	4 946	4 740	4 655	3 394	3 200	3 687	2 846	2 314	2 839	2 784	2 784
V. Consumption price (at farm gate)	Leva/t	140	140	140	208	360	922	1 522	2 621	3 330	4 768	22 995	227 546	140 625	131 760
VI. Value of consumption (at farm gate)	Leva mn	589	600	688	1 029	1 706	4 292	5 165	8 387	12 277	13 572	53 207	646 000	391 559	366 875
VII. Reference price	Leva/t	85	83	95	132	112	1 735	3 072	3 225	6 241	10 975	35 203	259 338	197 354	179 390
4. Border reference price	ECU/t	92	83	97	143	112	79	102	100	97	125	156	136	100	92
5. Official exchange rate	Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
VIII. Producer price differential	Leva/t	65	66	56	91	261	- 612	- 1 195	- 231	- 2 188	- 4 997	- 8 481	- 1 183	- 29 363	- 22 755
IX. Market transfers	Leva mn	243	248	241	404	1 022	- 2 328	- 3 141	- 588	- 6 714	- 9 720	- 18 020	- 2 840	- 66 438	- 51 758
6. Transfers to producers from consumers	Leva mn	272	275	264	452	1 236	- 2 753	- 4 054	- 739	- 8 067	- 14 224	- 15 284	- 3 045	- 81 758	- 60 007
7. Other transfers from consumers	Leva mn	0	9	9	0	0	- 97	0	0	0	0	- 4 340	- 312	0	- 3 352
8. Excess feed cost	Leva mn	29	36	32	48	214	- 522	- 913	- 151	- 1 352	- 4 504	- 1 604	- 517	- 15 320	- 11 601
X. Budgetary transfers	Leva mn	9	2	2	47	154	0	128	31	- 94	- 2 281	0	0	- 12 300	0
9. Transfers to producers from taxpayers	Leva mn	8	0	0	44	144	0	- 59	- 96	- 221	- 2 941	0	0	- 12 300	0
10. Transfers to consumers from taxpayers	Leva mn	2	2	2	3	10	0	187	127	127	660	0	0	0	0
11. Price levies (-)	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	Leva mn	280	275	264	496	1 380	- 2 753	- 4 113	- 835	- 8 288	- 17 165	- 15 284	- 3 045	- 94 058	- 60 007
XII. Consumer Support Estimate (CSE)	Leva mn	- 242	- 247	- 239	- 401	- 1 012	2 328	3 328	715	6 841	10 380	18 020	2 840	66 438	51 758
XII.1 Unit CSE	Leva/t	- 57	- 58	- 49	- 81	- 213	500	981	223	1 856	3 647	7 788	1 000	23 861	18 588
XII.2 Percentage CSE	%	- 41	- 41	- 35	- 39	- 60	54	67	9	56	80	34	0	17	14
XII.3 Consumer NAC		1.70	1.70	1.54	1.64	2.48	0.65	0.60	0.92	0.64	0.55	0.75	1.00	0.85	0.88

p: provisional ; e: estimate.

Source: OECD.



Annex Table V.2.2. MAIZE: Market Price Support and Consumer Support Estimate

		Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production		000t	2 848	1 858	1 557	2 265	1 221	2 775	1 742	983	1 362	1 817	1 042	1 659	1 303	1 719
1. of which feed		000t	1 302	1 366	1 035	1 220	1 210	1 120	1 375	1 518	1 119	1 375	1 191	1 147	1 309	1 421
II. Producer price (at farm gate)	data	Leva/t	204	204	204	223	699	1 514	1 767	3 145	4 268	6 415	21 810	188 207	167 316	143 100
2. Handling margin	data	%	14	14	14	14	14	14	14	14	14	13	12	12	14	14
3. Adjusted producer price	$\text{II} * [1+(2)/100]$	Leva/t	233	233	233	255	799	1 731	2 020	3 595	4 879	7 255	24 492	211 535	191 349	163 654
III. Value of production (at farm gate)	$[(\text{I}) * (\text{II})/1000]$	Leva mn	581	379	318	505	853	4 201	3 078	3 092	5 813	11 656	22 724	312 273	218 080	245 969
IV. Level of consumption		000t	2 693	2 538	2 428	2 609	2 228	3 128	1 718	1 092	1 200	1 511	1 434	1 483	1 308	1 308
V. Consumption price (at farm gate)	$(\text{II}) - ((6)+(9))/(\text{I}) * 1000 + ((6)+(7))/(\text{IV}) * 1000$	Leva/t	204	204	204	223	699	1 514	1 767	3 145	4 268	6 415	21 810	188 207	167 316	143 100
VI. Value of consumption (at farm gate)	$(\text{IV}) * (\text{V}) / 1000$	Leva mn	549	518	495	582	1 558	4 735	3 035	3 434	5 121	9 693	31 285	279 170	218 811	187 142
VII. Reference price	$(4)*(5)$	Leva/t	95	79	106	109	100	2 184	2 725	3 193	6 716	9 720	32 719	227 302	205 443	202 056
4. Border reference price		ECU/t	103	79	108	118	100	99	90	99	105	111	145	119	104	104
5. Official exchange rate		Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
VIII. Producer price differential	$(\text{II}) * ((3) - (\text{VII})) / (3)$	Leva/t	121	135	112	127	611	- 396	- 617	352	- 1 607	- 2 179	- 7 326	- 14 028	- 12 324	- 33 579
IX. Market transfers	$(6) + (7) - (8)$ for feed crops	Leva mn	168	158	155	177	623	- 796	- 211	38	- 130	- 296	- 2 876	- 4 721	- 54	3 791
6. Transfers to producers from consumers	$= \text{IF}(\text{IV}) > (\text{I}), (\text{VIII}) * (\text{I}) / 1000, (\text{VIII}) * (\text{IV}) / 1000$	Leva mn	325	251	174	288	746	- 1 100	- 1 060	346	- 1 928	- 3 293	- 7 633	- 20 808	- 16 063	- 43 913
7. Other transfers from consumers	$= \text{IF}(\text{IV}) < (\text{I}), 0, ((\text{IV}) - (\text{I})) * (\text{VIII}) / 1000$	Leva mn	0	92	97	44	616	- 140	0	38	0	0	- 2 876	0	- 54	0
8. Excess feed cost	$= \text{IF}((\text{I}) < (\text{I}), (\text{I}) * (\text{VIII}) / 1000, (\text{I}) * (\text{VIII}) / 1000)$	Leva mn	157	185	116	155	740	- 444	- 848	346	- 1 799	- 2 997	- 7 633	- 16 088	- 16 063	- 47 704
X. Budgetary transfers	$(9) + (10) + (11)$	Leva mn	20	1	1	1	5	0	- 15	0	- 261	- 667	0	- 2 467	0	- 13 804
9. Transfers to producers from taxpayers	$= \text{IF}(\text{IV}) > (\text{I}), 0, ((\text{I}) - (\text{IV})) * (\text{VIII}) / 1000$	Leva mn	19	0	0	0	0	0	- 15	0	- 261	- 667	0	- 2 467	0	- 13 804
10. Transfers to consumers from taxpayers	data	Leva mn	2	1	1	1	5	0	0	0	0	0	0	0	0	0
11. Price levies (-)	data	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>XI. Market Price Support (MPS)</b>	$(6) + (9) + (11)$	Leva mn	344	251	174	288	746	- 1 100	- 1 075	346	- 2 189	- 3 959	- 7 633	- 23 276	- 16 063	- 57 717
<b>XII. Consumer Support Estimate (CSE)</b>	$(10) - ((6) + (7) - (8))$ for feed crops	Leva mn	- 167	- 157	- 155	- 176	- 618	796	211	- 38	130	296	2 876	4 721	54	- 3 791
XII.1 Unit CSE	$(\text{XII}) / (\text{IV}) * 1000$	Leva/t	- 62	- 62	- 64	- 67	- 277	254	123	- 35	108	196	2 005	3 182	41	- 2 899
<b>XII.2 Percentage CSE</b>	$100 * (\text{XII}) / ((\text{VI}) - (10))$	%	- 30	- 30	- 31	- 30	- 40	17	7	- 1	3	3	9	2	0	- 2
XII.3 Consumer NAC	$1 - (\text{XII.2}) / (100 + (\text{XII.2}))$		1.44	1.44	1.46	1.43	1.66	0.86	0.93	1.01	0.98	0.97	0.92	0.98	1.00	1.02

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.3. OTHER GRAINS (Barley): Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production	000t	1 144	1 091	1 313	1 572	1 387	1 502	1 195	933	1 146	1 173	456	810	717	652
1. of which feed	000t	503	502	507	586	671	542	829	446	580	699	402	363	463	376
II. Producer price (at farm gate) (all barley)	Leva/t	126	126	126	182	260	1 221	1 342	2 323	3 090	3 940	22 008	205 130	137 760	118 600
2. Handling margin	%	14	14	14	14	14	14	14	14	14	13	12	13	15	15
3. Adjusted producer price	Leva/t	143	143	143	207	296	1 388	1 526	2 641	3 513	4 442	24 664	231 568	158 743	136 664
III. Value of production (at farm gate)	Leva mn	144	138	165	286	361	1 834	1 604	2 167	3 541	4 622	10 036	166 114	98 788	77 334
IV. Level of consumption	000t	1 539	1 394	1 505	1 565	1 477	1 568	1 221	924	878	901	714	783	759	759
V. Consumption price (at farm gate)	Leva/t	119	118	124	183	256	1 225	1 354	2 327	2 673	2 165	23 425	205 514	137 277	120 387
VI. Value of consumption (at farm gate)	Leva mn	182	165	187	286	378	1 920	1 653	2 151	2 347	1 952	16 731	160 984	104 260	91 433
VII. Average reference price	Leva/t	66	54	90	108	86	1 691	2 414	2 330	4 546	8 605	29 648	222 716	143 310	161 901
4. Border reference price feed barley	ECU/t	71	54	92	117	86	77	80	72	71	98	131	117	73	83
5. Official exchange rate	Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
VIII. Producer price differential	Leva/t	68	79	47	87	184	- 266	- 781	274	- 908	- 3 692	- 4 448	7 842	13 393	- 21 901
IX. Market transfers	Leva/t	71	70	47	85	148	- 273	- 307	131	- 271	- 747	- 1 390	3 300	3 968	- 8 395
6. Transfers to producers from consumers	Leva/t	78	86	62	136	255	- 400	- 933	253	- 797	- 3 328	- 2 028	6 143	9 604	- 14 281
7. Other transfers from consumers	Leva mn	27	24	9	0	17	- 17	- 20	0	0	0	- 1 149	0	568	- 2 353
8. Excess feed cost	Leva mn	34	39	24	51	123	- 144	- 647	122	- 526	- 2 581	- 1 787	2 843	6 204	- 8 239
X. Budgetary transfers	Leva mn	0	0	0	1	2	0	0	2	- 243	- 1 003	0	208	0	0
9. Transfers to producers from taxpayers	Leva mn	0	0	0	1	0	0	0	2	- 243	- 1 003	0	208	0	0
10. Transfers to consumers from taxpayers	Leva mn	0	0	0	1	2	0	0	0	0	0	0	0	0	0
11. Price levies (-)	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	Leva mn	78	86	62	136	255	- 400	- 933	255	- 1 040	- 4 331	- 2 028	6 350	9 604	- 14 281
XII. Consumer Support Estimate (CSE)	Leva mn	- 70	- 70	- 47	- 84	- 147	273	307	- 131	271	747	1 390	- 3 300	- 3 968	8 395
XII.1 Unit CSE	Leva mn	- 46	- 50	- 31	- 54	- 99	174	251	- 142	308	828	1 946	- 4 213	- 5 224	11 053
XII.2 Percentage CSE	%	- 39	- 42	- 25	- 29	- 39	14	19	- 6	12	38	8	- 2	- 4	9
XII.3 Consumer NAC		1.63	1.74	1.33	1.42	1.64	0.88	0.84	1.06	0.90	0.72	0.92	1.02	1.04	0.92

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.4. OILSEEDS (Sunflower) : Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production	000t	489	410	374	458	389	434	595	432	602	767	526	438	524	610
1. of which feed	000t	40	37	12	12	10	17	27	24	38	97	92	91	135	142
II. Producer price (at farm gate)	data Leva/t	363	363	363	577	627	2 383	2 683	3 944	7 010	9 275	23 748	244 380	369 957	271 150
2. Handling margin	data %	19	19	19	19	19	19	19	19	19	18	21	16	14	14
3. Adjusted producer price	II * [1+(2)/100]	Leva/t	430	430	430	684	743	2 824	3 179	4 674	8 307	10 971	28 743	283 852	308 461
III. Value of production (at farm gate)	(I) * (II)/1000	Leva mn	177	149	136	264	244	1 034	1 596	1 704	4 220	7 114	12 491	107 112	165 430
IV. Level of consumption		000t	473	479	461	481	398	344	413	460	445	573	482	524	524
V. Consumption price (at farm gate)	(II)-((6)+(9))/(I)*1000+((6)+(7))/(IV)*1000	Leva/t	363	363	363	577	627	2 383	2 683	3 944	7 010	9 275	23 748	244 380	271 150
VI. Value of consumption (at farm gate)	(IV) * (V) / 1000	Leva mn	172	174	167	278	250	820	1 109	1 814	3 117	5 313	11 449	107 114	142 083
VII. Reference price	(4)*(5)	Leva/t	190	177	232	216	214	4 590	6 069	7 753	17 213	21 157	52 299	461 034	436 944
4. Border reference price		ECU/t	206	176	237	233	213	209	201	240	268	241	232	242	225
5. Official exchange rate		Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 940
VIII. Producer price differential	(II)*(3)-(VII)/(3)	Leva/t	203	214	167	395	446	-1 491	-2 439	-2 599	-7 515	-8 612	-19 463	-152 544	-112 941
IX. Market transfers	(6) + (7) - (8) for feed crops	Leva mn	96	102	77	190	178	-513	-1 008	-1 195	-3 342	-4 933	-9 383	-66 861	-59 181
6. Transfers to producers from consumers	=IF((IV)>(I),(VIII)*(I)/1000,(VIII)*(IV)/1000)	Leva mn	96	88	62	181	174	-513	-1 008	-1 123	-3 342	-4 933	-9 383	-66 860	-56 674
7. Other transfers from consumers	=IF((IV)<(I),0,(IV)-(I))*(VIII)/1000)	Leva mn	0	15	15	9	4	0	0	-72	0	0	0	0	
8. Excess feed cost	=IF((I)<(I),(I)*(VIII)/1000,(I)*(VIII)/1000)	Leva mn	8	8	2	5	4	-26	-65	-63	-283	-833	-1 786	-13 936	-16 093
X. Budgetary transfers	(9) + (10) + (11)	Leva mn	4	0	0	1	1	-134	-443	0	-1 182	-1 672	-854	0	-9 725
9. Transfers to producers from taxpayers	=IF((IV)>(I),0,(I)-(IV))*(VIII)/1000)	Leva mn	3	0	0	0	0	-134	-443	0	-1 182	-1 672	-854	0	-9 725
10. Transfers to consumers from taxpayers	data	Leva mn	0	0	0	1	1	0	0	0	0	0	0	0	0
11. Price levies (-)	data	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	(6) + (9) + (11)	Leva mn	99	88	62	181	174	-647	-1 451	-1 123	-4 524	-6 605	-10 237	-66 860	-68 906
XII. Consumer Support Estimate (CSE)	(10) - ((6) + (7) - (8) for feed crops)	Leva mn	-87	-94	-74	-185	-172	487	943	1 132	3 058	4 100	7 597	52 925	43 088
XII.1 Unit CSE	(XII) / (IV)*1000	Leva/t	-185	-197	-162	-384	-432	1 416	2 282	2 461	6 878	7 158	15 758	120 749	82 229
XII.2 Percentage CSE	100* (XII) / ((VI) - (10))	%	-51	-54	-45	-67	-69	59	85	62	98	77	66	49	22
XII.3 Consumer NAC	1-(XII.2)/(100+(XII.2))		2.04	2.19	1.81	3.00	3.25	0.63	0.54	0.62	0.50	0.56	0.67	0.82	0.77

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.5. SUGAR BEET/REFINED SUGAR: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production (beet)	000t	870	736	626	966	584	856	304	95	112	157	87	80	62	53
II. Producer price (at farm gate)	Leva/t	85	85	85	85	250	247	299	384	847	1 232	3 158	35 008	40 609	40 910
1. Processing factor	data	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2. Adjusted producer price	Leva/t	179	179	179	179	525	519	628	806	1 779	2 587	6 632	73 517	85 279	85 911
III. Value of production (at farm gate) (beet)	Leva mn	74	63	53	82	146	211	91	36	95	193	275	2 783	2 510	2 153
IV. Level of consumption (beet)	000t	870	736	627	966	584	856	304	95	112	157	87	81	62	62
3. Level of consumption (white sugar)	000t	79	91	75	79	83	69	29	10	8	13	7	6	5	5
4. Coefficient (beet to sugar)	%	9	12	12	8	14	8	9	10	7	8	8	7	8	8
V. Consumption price (at farm gate)	Leva/t	85	85	85	85	250	247	299	384	847	1 232	3 158	35 008	40 609	40 910
VI. Value of consumption (at farm gate)	Leva mn	74	63	53	82	146	211	91	37	95	194	274	2 836	2 509	2 528
VII. Reference price (beet)	Leva/t	16	21	26	26	43	425	604	817	1 455	2 188	5 425	39 865	38 017	31 716
5. Border reference price (white sugar)	ECU/t	190	168	224	344	304	240	212	244	303	304	289	279	228	193
6. Official exchange rate	Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
7. Border reference price (white sugar)	Leva/t	175	168	220	318	304	5 278	6 407	7 892	19 428	26 648	65 190	532 615	448 863	374 466
VIII. Producer price differential	Leva/t	77	75	73	73	229	44	11	- 5	154	190	575	16 024	22 506	25 807
IX. Market transfers	Leva mn	67	55	45	70	134	38	3	- 1	17	30	50	1 298	1 391	1 595
8. Transfers to producers from consumers	Leva mn	67	55	45	70	134	38	3	- 1	17	30	50	1 274	1 391	1 358
9. Other transfers from consumers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	24	0	236
10. Excess feed cost	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X. Budgetary transfers	Leva mn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11. Transfers to producers from taxpayers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12. Transfers to consumers from taxpayers	Leva mn	0	0	0	0	1	0	0	0	0	0	0	0	0	0
13. Price levies (-)	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	Leva mn	67	55	45	70	134	38	3	- 1	17	30	50	1 274	1 391	1 358
XII. Consumer Support Estimate (CSE)	Leva mn	- 67	- 55	- 45	- 70	- 133	- 38	- 3	1	- 17	- 30	- 50	- 1 298	- 1 391	- 1 595
XII.1 Unit CSE (sugar)	Leva/t	- 853	- 604	- 606	- 881	- 1 600	- 551	- 122	51	- 2 057	- 2 312	- 6 909	- 214 091	- 265 726	- 304 707
XII.2 Percentage CSE	%	- 91	- 88	- 85	- 85	- 92	- 18	- 4	1	- 18	- 15	- 18	- 46	- 55	- 63
XII.3 Consumer NAC		11.25	8.54	6.79	6.82	12.04	1.22	1.04	0.99	1.22	1.18	1.22	1.84	2.24	2.71

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.i. POTATOES (not included in the aggregation): Market Price Support and Consumer Support Estimate

		Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production		000t	491	316	358	553	412	498	566	357	497	649	319	463	478	566
1. of which feed		000t	65	20	20	21	44	13	13	6	7	8	5	6	6	8
II. Producer price (at farm gate)	data	Leva/t	299	299	299	544	850	2 805	2 558	4 585	7 381	11 189	25 603	367 267	510 487	278 490
2. Handling margin	data	%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Adjusted producer price	$II * [1+(2)/100]$	Leva/t	299	299	299	544	850	2 805	2 558	4 585	7 381	11 189	25 603	367 267	510 487	278 490
III. Value of production (at farm gate)	$[(I) * (II)/1000]$	Leva mn	147	94	107	301	350	1 397	1 448	1 637	3 668	7 262	8 167	170 118	244 166	157 692
IV. Level of consumption		000t	484	402	453	517	510	495	488	439	514	498	483	522	510	510
V. Consumption price (at farm gate)	$(II)-((6)+(9))/(I)*1000+((6)+(7))/(IV)*1000$	Leva/t	299	299	299	544	850	2 805	2 558	4 585	7 381	11 189	25 603	367 267	510 487	278 490
VI. Value of consumption (at farm gate)	$(IV) * (V) / 1000$	Leva mn	145	120	136	281	433	1 387	1 249	2 013	3 797	5 572	12 373	191 840	260 382	142 048
VII. Reference price	$(4)*(5)$	Leva/t	80	96	95	84	84	2 155	2 062	1 536	7 287	18 143	16 188	118 404	230 880	254 541
4. Border reference price		US\$/t	85	110	114	100	106	121	88	56	135	270	91	70	131	140
5. Official exchange rate		Leva/US\$	1	1	1	1	1	18	23	28	54	67	178	1 682	1 760	1 821
VIII. Producer price differential	$(II)*((3)-(VII)) / (3)$	Leva/t	219	203	204	460	766	650	496	3 049	94	- 6 954	9 415	248 863	279 607	23 949
IX. Market transfers	$(6) + (7) - (8)$ for feed crops	Leva mn	106	82	93	238	391	321	242	1 339	48	- 3 463	4 550	129 992	142 618	12 216
6. Transfers to producers from consumers	$=IF(IV)>(I),0,(VIII)*(I)/1000,(VIII)*(IV)/1000$	Leva mn	106	64	73	238	316	321	242	1 089	47	- 3 463	3 003	115 273	133 736	12 216
7. Other transfers from consumers	$=IF(IV)<(I),0,(IV)-(I))*(VIII)/1000$	Leva mn	0	18	19	0	75	0	0	250	2	0	1 547	14 719	8 882	0
8. Excess feed cost	$=IF(1)<(I),(1)*(VIII)/1000,(I)*(VIII)/1000$	Leva mn	14	4	4	10	33	8	7	19	1	- 54	51	1 391	1 754	181
X. Budgetary transfers	$(9) + (10) + (11)$	Leva mn	2	0	0	17	2	2	39	0	0	- 1 050	0	0	0	1 345
9. Transfers to producers from taxpayers	$=IF(IV)>(I),0,(I)-(IV))*(VIII)/1000$	Leva mn	2	0	0	17	0	2	39	0	0	- 1 050	0	0	0	1 345
10. Transfers to consumers from taxpayers	data	Leva mn	0	0	0	1	2	0	0	0	0	0	0	0	0	0
11. Price levies (-)	data	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	$(6) + (9) + (11)$	Leva mn	108	64	73	254	316	324	281	1 089	47	- 4 513	3 003	115 273	133 736	13 561
XII. Consumer Support Estimate (CSE)	$(10) - ((6) + (7) - (8))$ for feed crops	Leva mn	- 91	- 77	- 88	- 227	- 355	- 313	- 236	- 1 319	- 47	3 408	- 4 499	- 128 601	- 140 864	- 12 034
XII.1 Unit CSE	$(XII) / (IV)*1000$	Leva/t	- 189	- 192	- 195	- 440	- 697	- 633	- 483	- 3 005	- 92	6 845	- 9 310	- 246 199	- 276 169	- 23 594
XII.2 Percentage CSE	$100 * (XII) / ((VI) - (10))$	%	- 63	- 65	- 65	- 81	- 82	- 23	- 19	- 66	- 1	61	- 36	- 67	- 54	- 8
XII.3 Consumer NAC	$1-(XII.2)/(100+(XII.2))$		2.73	2.82	2.88	5.27	5.67	1.29	1.23	2.90	1.01	0.62	1.57	3.03	2.18	1.09

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.6. MILK: Market Price Support and Consumer Support Estimate

		Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production		000t	2 601	2 590	2 570	2 514	2 459	2 067	1 862	1 578	1 464	1 446	1 433	1 480	1 638	1 706
II. Producer price (at farm gate)	data	Leva/t	475	475	475	478	649	1 642	2 630	4 763	8 150	12 838	22 822	268 677	355 726	271 610
III. Value of production (at farm gate)	(I) * (II) / 1000	Leva mn	1 236	1 231	1 222	1 202	1 596	3 394	4 898	7 519	11 932	18 570	32 705	397 662	582 776	463 428
IV. Level of consumption		000t	2 600	2 590	2 570	2 512	2 458	2 064	1 851	1 599	1 480	1 470	1 440	1 486	1 650	1 650
V. Consumption price (at farm gate)	(II) - ((8)+(11)) / (I)*1000 + ((8)+(9)) / (IV)*1000	Leva/t	475	475	475	478	649	1 642	2 630	4 763	8 150	12 838	22 822	268 677	355 726	271 610
VI. Value of consumption (at farm gate)	(IV) * (V) / 1000	Leva mn	1 236	1 231	1 221	1 201	1 595	3 390	4 870	7 616	12 065	18 865	32 872	399 216	587 069	448 250
VII. Reference price (at farm gate)	[(1)*((5)/(6)+(2))] * (7)	Leva/t	64	87	112	120	89	2 067	2 960	3 369	6 986	10 550	30 494	258 013	221 216	231 963
1. Border reference price	data	US\$/t	68	105	151	162	122	129	144	138	147	184	191	169	137	139
2. Transport cost, milk equivalent	(3) * 0.056 + (4) * 0.082	US\$/t	15	18	18	17	18	18	17	18	18	17	20	20	17	17
3. Transport cost, butter	data	US\$/t	152	180	180	155	169	175	160	162	160	150	166	167		
4. Transport cost, SMP	data	US\$/t	79	95	95	100	110	96	102	105	105	105	130	129		
5. Fat content (Bulgaria)	data	%	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6. Fat content (New Zealand)	data	%	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7. Official exchange rate	data	Leva/US\$	1	1	1	1	1	18	23	28	54	67	178	1 682	1 760	1 821
VIII. Producer price differential	(II)-(VII)	Leva/t	411	389	363	359	559	- 425	- 329	1 394	1 164	2 288	- 7 672	10 664	134 510	39 647
IX. Market transfers	(8) + (9)	Leva mn	1 070	1 007	934	901	1 375	- 877	- 609	2 229	1 723	3 362	- 11 051	15 845	221 987	65 431
8. Transfers to producers from consumers	=IF((IV)>(I),(VIII)*(I)/1000,(VIII)*(IV)/1000)	Leva mn	1 070	1 007	934	901	1 375	- 877	- 609	2 200	1 704	3 309	- 10 995	15 783	220 364	65 431
9. Other transfers from consumers	=IF((IV)<(I),0,((IV)-(I))*(VIII)/1000)	Leva mn	0	0	0	0	0	0	0	28	19	53	- 56	62	1 623	0
10. Excess feed cost		Leva mn	- 46	- 56	- 41	- 62	- 262	427	835	3	1 224	3 840	2 560	1 922	10 899	15 535
X. Budgetary transfers	(11) + (12) + (13)	Leva mn	4	3	4	4	9	- 1	- 4	0	0	0	0	0	0	0
11. Transfers to producers from taxpayers	=IF((IV)>(I),0,((I)-(IV))*(VIII)/1000)	Leva mn	0	0	0	1	1	- 1	- 4	0	0	0	0	0	0	2 215
12. Transfers to consumers from taxpayers	data	Leva mn	3	3	3	3	8	0	0	0	0	0	0	0	0	0
13. Price levies (-)	data	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	(8) + (10) + (11) + (13)	Leva mn	1 024	951	893	839	1 114	- 451	222	2 203	2 928	7 149	- 8 434	17 705	231 263	83 182
XII. Consumer Support Estimate (CSE)	(12) - ((8) + (9))	Leva mn	- 1 066	- 1 003	- 930	- 898	- 1 367	877	609	- 2 229	- 1 723	- 3 362	11 051	- 15 845	- 221 987	- 65 431
XII.1 Unit CSE	(XII) / (IV)	Leva/t	- 410	- 387	- 362	- 357	- 556	425	329	- 1 394	- 1 164	- 2 288	7 672	- 10 664	- 134 510	- 39 647
XII.2 Percentage CSE	100 * (XII) / ((VI) - (12))	%	- 87	- 82	- 76	- 75	- 86	26	13	- 29	- 14	- 18	34	- 4	- 38	- 15
XII.3 Consumer NAC	1 - (XII.2) / (100 + (XII.2))		7.42	5.48	4.23	3.99	7.22	0.79	0.89	1.41	1.17	1.22	0.75	1.04	1.61	1.17

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.7. BEEF AND VEAL: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e	
I. Level of production (carcass)	000t	163	132	130	130	126	115	154	122	96	66	80	67	55	64	
II. Producer price (at farm gate) (carcass)	Leva/t	4 174	4 174	4 174	4 234	4 342	10 732	17 942	28 729	61 428	120 754	167 136	2 532 879	2 898 539	1 852 541	
1. Handling margin	%	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
2. Adjusted producer price	II * [1+(1)/100]	Leva/t	4 570	4 570	4 570	4 636	4 754	11 752	19 646	31 457	67 261	131 982	182 789	2 767 961	3 164 816	2 022 726
III. Value of production (at farm gate)	[(1) * (II)/1000]	Leva mn	680	551	543	550	547	1 234	2 763	3 505	5 897	7 970	13 371	169 703	159 420	117 636
IV. Level of consumption	000t	165	120	119	133	127	108	131	136	108	89	81	77	85	85	
V. Consumption price (at farm gate)	(II)-((5)+(8))/(I)*1000+((5)+(6))/(IV)*1000	Leva/t	4 174	4 174	4 174	4 234	4 342	10 732	17 942	28 729	61 428	120 754	167 136	2 532 879	2 898 539	1 852 541
VI. Value of consumption (at farm gate)	(IV) * (V) / 1000	Leva mn	689	501	497	563	551	1 164	2 342	3 915	6 622	10 774	13 494	195 348	247 808	158 381
VII. Reference price	(3)*(4)	Leva/t	825	956	1 038	1 132	1 295	25 347	35 491	52 719	114 507	175 916	461 693	4 325 278	3 873 289	3 107 952
3. Border reference price	US\$/t	877	1 099	1 251	1 347	1 639	1 425	1 521	1 911	2 115	2 619	2 595	2 572	2 200	1 707	
4. Official exchange rate	Leva/US\$	1	1	1	1	1	18	23	28	54	67	178	1 682	1 760	1 821	
VIII. Producer price differential	(II)*((3)-(VII))/(3)	Leva/t	3 421	3 300	3 226	3 200	3 159	-12 416	-14 471	-19 418	-43 148	-40 196	-255 021	-1 425 054	-648 865	-993 918
IX. Market transfers	(5) + (6)	Leva mn	564	396	384	426	401	-1 346	-1 889	-2 646	-4 651	-3 586	-20 589	-109 907	-55 474	-84 974
5. Transfers to producers from consumers	=IF((IV)>(I),(VIII)*(I)/1000,(VIII)*(IV)/1000)	Leva mn	558	396	384	416	398	-1 346	-1 889	-2 369	-4 142	-2 653	-20 402	-95 479	-35 688	-63 114
6. Other transfers from consumers	=IF((IV)<(I),0,((IV)-(I))*(VIII)/1000)	Leva mn	7	0	0	10	3	0	0	-277	-509	-933	-188	-14 429	-19 786	-21 860
7. Excess feed cost		Leva mn	-50	-59	-40	-61	-251	308	666	-84	967	2 882	2 740	2 450	6 672	15 528
X. Budgetary transfers	(8) + (9) + (10)	Leva mn	1	41	37	1	2	-82	-340	0	0	0	0	0	0	0
8. Transfers to producers from taxpayers	=IF((IV)>(I),0,((I)-(IV))*(VIII)/1000)	Leva mn	0	40	35	0	0	-82	-340	0	0	0	0	0	0	0
9. Transfers to consumers from taxpayers		Leva mn	1	1	1	1	2	0	0	0	0	0	0	0	0	0
10. Price levies (-)		Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	(5)+ (7) + (8) + (10)	Leva mn	508	376	379	355	147	-1 120	-1 563	-2 453	-3 176	229	-17 662	-93 029	-29 016	-47 586
XII. Consumer Support Estimate (CSE)	(9) - ((5) + (6))	Leva mn	-563	-395	-383	-425	-399	1 346	1 889	2 646	4 651	3 586	20 589	109 907	55 474	84 974
XII.1 Unit CSE	(XII) / (IV)*1000	Leva/t	-3 415	-3 291	-3 217	-3 192	-3 144	12 416	14 471	19 418	43 148	40 196	255 021	1 425 054	648 865	993 918
XII.2 Percentage CSE	100* (XII) / ((VI) - (9))	%	-82	-79	-77	-76	-73	116	81	68	70	33	153	56	22	54
XII.3 Consumer NAC	1-(XII.2)/(100+(XII.2))		5.53	4.77	4.39	4.09	3.66	0.46	0.55	0.60	0.59	0.75	0.40	0.64	0.82	0.65

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.8. PIGMEAT: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production (carcass)	000t	372	372	394	413	408	362	319	277	210	256	252	225	247	258
II. Producer price (at farm gate) (carcass)	data														
1. Handling margin	Leva/t	3 365	3 365	3 365	3 923	4 608	13 527	21 995	33 715	58 093	100 355	168 036	3 232 068	2 870 457	1 986 210
2. Adjusted producer price	%	9	9	9	9	9	9	9	9	9	9	10	10	10	10
III. Value of production (at farm gate)	II * [1+(1)/100]														
IV. Level of consumption	Leva/t	3 682	3 682	3 682	4 293	5 043	14 804	24 071	36 897	63 576	109 748	184 149	3 541 994	3 145 707	2 176 669
V. Consumption price (at farm gate)	Leva mn	1 251	1 251	1 326	1 620	1 880	4 897	7 016	9 339	12 200	25 691	42 345	727 215	709 003	512 442
VI. Value of consumption (at farm gate)	[(I) * (II)/1000]														
VII. Reference price	000t	297	304	330	344	360	340	303	253	243	259	240	223	268	268
3. Border reference price	Leva/t	3 365	3 365	3 365	3 923	4 608	13 527	21 995	33 715	58 093	100 355	168 036	3 232 068	2 870 457	1 986 210
4. Official exchange rate	(IV) * (V) / 1000														
VIII. Producer price differential	(3)*(4)														
5. Transfers to producers from consumers	US\$/t	986	1 027	997	1 380	1 595	1 530	1 757	1 488	1 496	1 972	2 209	2 525	1 955	1 255
6. Other transfers from consumers	Leva/US\$	1	1	1	1	1	18	23	28	54	67	178	1 682	1 760	1 821
7. Excess feed cost	(II)*((3)- (VII)) / (3)														
8. Transfers to producers from taxpayers	Leva/t	2 517	2 548	2 608	2 863	3 457	- 11 346	- 15 475	- 3 793	- 15 913	- 20 754	- 190 466	- 642 579	- 269 182	- 98 984
9. Transfers to consumers from taxpayers	(5) + (6)														
10. Price levies (-)	Leva mn	747	773	862	985	1 243	- 3 861	- 4 686	- 961	- 3 860	- 5 373	- 45 652	- 143 289	- 72 229	- 26 560
XI. Market Price Support (MPS)	=IF((IV)>(I), (VIII)*(I)/1000, (VIII)*(IV)/1000)														
XII. Consumer Support Estimate (CSE)	Leva mn	747	773	862	985	1 243	- 3 861	- 4 686	- 961	- 3 342	- 5 313	- 45 652	- 143 289	- 66 488	- 25 538
XII.1 Unit CSE	=IF((IV)<(I), 0, ((IV)-(I))*(VIII)/1000)														
XII.2 Percentage CSE	Leva mn	0	0	0	0	0	0	0	0	- 518	- 60	0	0	- 5 741	- 1 022
XII.3 Consumer NAC	Leva mn	- 44	- 52	- 32	- 45	- 204	129	286	- 150	518	1 040	2 436	3 859	3 525	13 160
	(8) + (9) + (10)														
	Leva mn	192	177	170	202	176	- 246	- 250	- 90	0	0	- 2 346	- 1 292	0	0
	=IF((IV)>(I), 0, ((I)-(IV))*(VIII)/1000)														
	Leva mn	189	174	166	198	167	- 246	- 250	- 90	0	0	- 2 346	- 1 292	0	0
	data														
	Leva mn	3	3	3	4	9	0	0	0	0	0	0	0	0	0
	data														
	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(5)+ (7) + (8) + (10)														
	Leva mn	892	896	995	1 137	1 207	- 3 978	- 4 651	- 1 201	- 2 823	- 4 274	- 45 561	- 140 722	- 62 963	- 12 378
	(9) - ((5) + (6))														
	Leva mn	- 743	- 770	- 858	- 981	- 1 234	3 861	4 686	961	3 860	5 373	45 652	143 289	72 229	26 560
	(XII) / (IV)*1000														
	Leva/t	- 2.507	- 2.538	- 2.598	- 2.851	- 3.431	11.346	15.475	3.793	15.913	20.754	190.466	642.579	269.182	98.984
	100* (XII) / ((VI) - (9))														
	%	- 75	- 76	- 77	- 73	- 75	84	70	11	27	21	113	20	9	5
	1-(XII.2)/(100+(XII.2))														
		3.96	4.11	4.44	3.69	3.98	0.54	0.59	0.90	0.78	0.83	0.47	0.83	0.91	0.95

p: provisional ; e: estimate.

Source: OECD.



Annex Table V.2.9. POULTRY: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production (carcass)	000t	167	169	183	188	182	100	89	97	82	92	99	94	107	107
II. Producer price (at farm gate) (carcass)	Leva/t	2 208	2 208	2 208	2 240	3 483	13 531	18 538	27 279	49 069	70 319	147 438	2 131 432	2 267 843	2 250 625
1. Handling margin	data	9	9	9	9	9	9	9	9	9	9	9	9	9	9
2. Adjusted producer price	II * [1+(1)/100]	Leva/t	2 414	2 414	2 414	2 449	3 808	14 793	20 267	29 825	53 648	76 713	161 269	2 325 841	2 455 906
III. Value of production (at farm gate)	[(I) * (II)/1000]	Leva mn	369	372	404	421	634	1 353	1 650	2 646	4 024	6 469	14 596	200 355	240 817
IV. Level of consumption	000t	138	143	147	153	165	87	73	87	77	84	92	102	122	122
V. Consumption price (at farm gate)	(II)-((5)+(8))/(I)*1000+((5)+(6))/(IV)*1000	Leva/t	2 208	2 208	2 208	2 240	3 483	13 531	18 538	27 279	49 069	70 319	147 438	2 131 432	2 250 625
VI. Value of consumption (at farm gate)	(IV) * (V) / 1000	Leva mn	304	316	324	344	574	1 175	1 358	2 383	3 776	5 928	13 536	216 605	274 374
VII. Reference price	(3)*(4)	Leva/t	900	849	741	838	945	21 616	29 300	31 717	63 407	82 825	250 035	2 255 664	1 714 990
3. Border reference price	ECU/t	975	846	755	906	943	983	970	981	988	943	1 107	1 183	1 069	884
4. Official exchange rate	Leva/ECU	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
VIII. Producer price differential	(II)*((3)-(VII)) / (3)	Leva/t	1 385	1 432	1 531	1 474	2 619	- 6 241	- 8 262	- 1 731	- 8 926	- 5 603	- 81 152	64 311	678 985
IX. Market transfers	(5) + (6)	Leva mn	191	205	225	226	432	- 542	- 605	- 151	- 687	- 472	- 7 451	6 536	82 775
5. Transfers to producers from consumers	=IF((IV)>(I),(VIII)*(I)/1000,(VIII)*(IV)/1000)	Leva mn	191	205	225	226	432	- 542	- 605	- 151	- 687	- 472	- 7 451	6 045	72 651
6. Other transfers from consumers	=IF((IV)<(I),0,((IV)-(I))*(VIII)/1000)	Leva mn	0	0	0	0	0	0	0	0	0	0	490	5 055	10 124
7. Excess feed cost	Leva mn	- 44	- 52	- 32	- 45	- 204	129	286	- 150	518	1 040	2 436	3 859	3 525	13 160
X. Budgetary transfers	(8) + (9) + (10)	Leva mn	41	37	57	52	48	- 82	- 130	- 17	- 45	- 43	- 583	0	0
8. Transfers to producers from taxpayers	=IF((IV)>(I),0,((I)-(IV))*(VIII)/1000)	Leva mn	41	37	56	51	45	- 82	- 130	- 17	- 45	- 43	- 583	0	0
9. Transfers to consumers from taxpayers	data	Leva mn	1	1	1	1	3	0	0	0	0	0	0	0	0
10. Price levies (-)	data	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	(5)+ (7) + (8) + (10)	Leva mn	187	190	248	232	273	- 495	- 450	- 318	- 214	524	- 5 598	9 904	85 811
XII. Consumer Support Estimate (CSE)	(9) - ((5) + (6))	Leva mn	- 190	- 204	- 224	- 225	- 429	542	605	151	687	472	7 451	- 6 536	- 82 775
XII.1 Unit CSE	(XII) / (IV)*1000	Leva/t	- 1 379	- 1 426	- 1 524	- 1 467	- 2 601	6 241	8 262	1 731	8 926	5 603	81 152	- 64 311	- 678 985
XII.2 Percentage CSE	100* (XII) / ((VD) - (9))	%	- 63	- 65	- 69	- 66	- 75	46	45	6	18	8	55	- 3	- 30
XII.3 Consumer NAC	1-(XII.2)/(100+(XII.2))		2.68	2.84	3.25	2.92	4.01	0.68	0.69	0.94	0.85	0.93	0.64	1.03	1.43

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.2.10. EGGS: Market Price Support and Consumer Support Estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
I. Level of production	000t	160	161	155	151	139	105	92	92	99	110	98	89	95	93
II. Producer price (at farm gate)	Leva/t	2 340	2 340	2 340	2 165	3 569	12 578	20 183	23 907	45 143	62 244	168 636	1 584 024	1 550 757	1 530 165
1. Handling margin	data														
	%	7	7	7	7	7	7	7	7	7	7	7	7	7	7
2. Adjusted producer price	II * [1+(1)/100]														
Leva/t	2 504	2 504	2 504	2 316	3 818	13 458	21 595	25 580	48 302	66 601	180 441	1 694 906	1 659 310	1 637 277	
III. Value of production (at farm gate)	Leva mn	375	377	362	326	495	1 324	1 866	2 190	4 459	6 861	16 496	141 460	147 850	142 440
	[(I) * (II)/1000]														
IV. Level of consumption	000t	145	152	147	142	135	104	92	89	95	101	99	87	97	97
V. Consumption price (at farm gate)	Leva/t	2 340	2 340	2 340	2 165	3 569	12 578	20 183	23 907	45 143	62 244	168 636	1 584 024	1 550 757	1 530 165
VI. Value of consumption (at farm gate)	Leva mn	339	355	345	308	480	1 307	1 850	2 127	4 290	6 268	16 656	137 259	150 200	148 206
	(IV) * (V) / 1000														
VII. Reference price	(3)*(4)														
3. Border reference price	Leva/t	583	790	651	616	798	18 140	21 612	25 632	52 262	59 206	209 683	1 667 578	1 396 199	1 164 650
4. Official exchange rate	ECU/t	632	787	664	666	795	825	715	793	814	674	929	875	709	600
Leva/ECU	1	1	1	1	1	1	22	30	32	64	88	226	1 907	1 969	1 940
VIII. Producer price differential	(II)*(3)-(VII)/(3)														
Leva/t	1 795	1 602	1 732	1 589	2 823	- 4 375	- 16	- 48	- 3 700	6 911	- 27 330	25 540	245 898	441 707	
IX. Market transfers	(5) + (6)														
Leva mn	260	243	255	226	380	- 455	- 1	- 4	- 352	696	- 2 699	2 213	23 817	42 782	
5. Transfers to producers from consumers	=IF((IV)>(I),(VIII)*(I)/1000,(VIII)*(IV)/1000)														
Leva mn	260	243	255	226	380	- 455	- 1	- 4	- 352	696	- 2 673	2 213	23 444	41 118	
6. Other transfers from consumers	=IF((IV)<(I),0,((IV)-(I))*(VIII)/1000)														
Leva mn	0	0	0	0	0	0	0	0	0	0	0	- 26	0	373	1 664
7. Excess feed cost	Leva mn	- 36	- 42	- 26	- 41	- 156	116	337	- 123	450	1 282	1 946	1 673	633	10 161
X. Budgetary transfers	(8) + (9) + (10)														
Leva mn	29	16	13	14	14	- 6	0	0	- 14	66	0	68	0	0	
8. Transfers to producers from taxpayers	=IF((IV)>(I),0,((I)-(IV))*(VIII)/1000)														
Leva mn	28	15	12	14	12	- 6	0	0	- 14	66	0	68	0	0	
9. Transfers to consumers from taxpayers	data														
Leva mn	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0
10. Price levies (-)	data														
Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
XI. Market Price Support (MPS)	(5) + (7) + (8) + (10)														
Leva mn	252	216	242	199	236	- 345	335	- 127	85	2 044	- 727	3 954	24 077	51 279	
XII. Consumer Support Estimate (CSE)	(9) - ((5) + (6))														
Leva mn	- 259	- 242	- 254	- 225	- 378	455	1	4	352	- 696	2 699	- 2 213	- 23 817	- 42 782	
XII.1 Unit CSE	(XII) / (IV)*1000														
Leva/t	- 1 789	- 1 596	- 1 725	- 1 583	- 2 805	4 375	16	48	3 700	- 6 911	27 330	- 25 540	- 245 898	- 441 707	
XII.2 Percentage CSE	100 * (XII) / ((VI) - (9))														
%	- 77	- 68	- 74	- 73	- 79	35	0	0	8	- 11	16	- 2	- 16	- 29	
XII.3 Consumer NAC	1-(XII.2)/(100+(XII.2))														
		4.28	3.16	3.84	3.75	4.76	0.74	1.00	1.00	0.92	1.12	0.86	1.02	1.19	1.41

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.1. WHEAT : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sub>p</sub>	1999 <sub>e</sub>
<b>I. Level of production</b>	000t	4 327	4 149	4 743	5 425	5 292	4 497	3 443	3 618	3 788	3 435	1 802	2 575	3 203	2 637
<b>II. Value of production (at farm gate)</b>	Leva mn	606	581	664	1 128	1 905	4 146	5 240	9 483	12 614	16 378	41 439	585 885	450 464	347 468
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	341	338	337	595	1 475	- 2 018	- 3 968	- 102	- 7 421	- 16 846	- 11 505	1 601	- 85 546	- 53 496
<i>A. Market price support</i>	Leva mn	280	275	264	496	1 380	- 2 753	- 4 113	- 835	- 8 288	- 17 165	- 15 284	- 3 045	- 94 058	- 60 007
1. Based on unlimited output	Leva mn	280	275	264	496	1 380	- 2 753	- 4 113	- 835	- 8 288	- 17 165	- 15 284	- 3 045	- 94 058	- 60 007
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>B. Payments based on output</i>	Leva mn	48	48	56	81	0	308	0	0	0	0	0	2 785	0	0
1. Based on unlimited output	Leva mn	48	48	56	81	0	308	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	2 785	0	0
<i>C. Payments based on area planted/animal numbers</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	2 704	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	2 704	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>D. Payments based on historical entitlements</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>E. Payments based on input use</i>	Leva mn	13	14	17	19	95	427	145	733	867	319	1 075	1 861	8 512	6 511
1. Based on use of variable inputs	Leva mn	13	14	17	19	95	395	126	622	691	277	1 000	1 609	7 608	5 685
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	32	19	111	176	42	75	253	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	904	826
<i>F. Payments based on input constraints</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>G. Payments based on overall farming income</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>H. Miscellaneous payments</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	79	81	71	110	279	- 449	- 1 152	- 28	- 1 959	- 4 904	- 6 384	622	- 26 706	- 20 286
<b>V. Percentage PSE</b>	%	51	53	46	48	74	- 41	- 74	- 1	- 55	- 101	- 25	0	- 19	- 15
<b>VI. Producer NAC</b>		2.04	2.11	1.84	1.94	3.81	0.71	0.58	0.99	0.64	0.50	0.80	1.00	0.84	0.87

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.2. MAIZE : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	2 848	1 858	1 557	2 265	1 221	2 775	1 742	983	1 362	1 817	1 042	1 659	1 303	1 719
<b>II. Value of production (at farm gate)</b>	Leva mn	581	379	318	505	853	4 201	3 078	3 092	5 813	11 656	22 724	312 273	218 080	245 969
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	430	310	224	355	834	- 508	- 990	585	- 1 790	- 3 732	- 7 044	- 14 988	- 15 596	- 56 239
<i>A. Market price support</i>	Leva mn	344	251	174	288	746	- 1 100	- 1 075	346	- 2 189	- 3 959	- 7 633	- 23 276	- 16 063	- 57 717
1. Based on unlimited output	Leva mn	344	251	174	288	746	- 1 100	- 1 075	346	- 2 189	- 3 959	- 7 633	- 23 276	- 16 063	- 57 717
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>B. Payments based on output</i>	Leva mn	73	50	42	58	45	160	0	0	0	0	0	8 130	0	0
1. Based on unlimited output	Leva mn	73	50	42	58	45	160	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	8 130	0	0
<i>C. Payments based on area planted/animal numbers</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>D. Payments based on historical entitlements</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>E. Payments based on input use</i>	Leva mn	13	9	8	8	42	432	85	239	399	227	590	158	467	1 478
1. Based on use of variable inputs	Leva mn	13	9	8	8	42	400	74	203	318	197	548	23	29	894
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	33	11	36	81	30	41	135	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	438	585
<i>F. Payments based on input constraints</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>G. Payments based on overall farming income</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>H. Miscellaneous payments</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	151	167	144	157	683	- 183	- 568	595	- 1 314	- 2 054	- 6 761	- 9 033	- 11 966	- 32 719
<b>V. Percentage PSE</b>	%	64	71	61	62	89	- 11	- 31	18	- 29	- 31	- 30	- 5	- 7	- 23
<b>VI. Producer NAC</b>		2.81	3.42	2.56	2.64	8.78	0.90	0.76	1.21	0.78	0.76	0.77	0.96	0.93	0.81

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.3. OTHER GRAINS (Barley) : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	1 144	1 091	1 313	1 572	1 387	1 502	1 195	933	1 146	1 173	456	810	717	652
<b>II. Value of production (at farm gate)</b>	Leva mn	144	138	165	286	361	1 834	1 604	2 167	3 541	4 622	10 036	166 114	98 788	77 334
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	92	101	80	162	273	- 331	- 899	317	- 953	- 4 315	- 2 010	6 434	9 802	- 13 816
<b>A. Market price support</b>	Leva mn	78	86	62	136	255	- 400	- 933	255	- 1 040	- 4 331	- 2 028	6 350	9 604	- 14 281
1. Based on unlimited output	Leva mn	78	86	62	136	255	- 400	- 933	255	- 1 040	- 4 331	- 2 028	6 350	9 604	- 14 281
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	11	11	14	20	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	11	11	14	20	0	0	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	3	3	4	5	18	69	35	61	87	15	18	84	198	465
1. Based on use of variable inputs	Leva mn	3	3	4	5	18	55	29	36	38	3	0	12	0	281
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	14	6	25	49	12	18	72	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	198	184
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	81	92	61	103	197	- 220	- 752	339	- 832	- 3 679	- 4 408	7 945	13 669	- 21 188
<b>V. Percentage PSE</b>	%	58	66	44	52	72	- 17	- 55	14	- 26	- 93	- 20	4	10	- 18
<b>VI. Producer NAC</b>		2.40	2.95	1.77	2.08	3.59	0.85	0.65	1.17	0.79	0.52	0.83	1.04	1.11	0.85

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.4. OILSEEDS (Sunflower) : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	489	410	374	458	389	434	595	432	602	767	526	438	524	610
<b>II. Value of production (at farm gate)</b>	Leva mn	177	149	136	264	244	1 034	1 596	1 704	4 220	7 114	12 491	107 112	193 931	165 430
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	117	104	77	204	186	- 540	- 1 407	- 991	- 4 234	- 6 467	- 9 913	- 58 956	- 56 305	- 65 517
<i>A. Market price support</i>	Leva mn	99	88	62	181	174	- 647	- 1 451	- 1 123	- 4 524	- 6 605	- 10 237	- 66 860	- 56 695	- 68 906
1. Based on unlimited output	Leva mn	99	88	62	181	174	- 647	- 1 451	- 1 123	- 4 524	- 6 605	- 10 237	- 66 860	- 56 695	- 68 906
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>B. Payments based on output</i>	Leva mn	14	12	11	19	0	0	0	0	0	0	0	7 850	0	0
1. Based on unlimited output	Leva mn	14	12	11	19	0	0	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	7 850	0	0
<i>C. Payments based on area planted/animal numbers</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>D. Payments based on historical entitlements</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>E. Payments based on input use</i>	Leva mn	4	4	3	4	12	106	44	132	290	139	324	54	390	3 389
1. Based on use of variable inputs	Leva mn	4	4	3	4	12	98	38	112	231	120	301	8	1	2 996
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	8	6	20	59	18	23	46	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	389	393
<i>F. Payments based on input constraints</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>G. Payments based on overall farming income</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>H. Miscellaneous payments</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	239	253	207	446	477	- 1 245	- 2 364	- 2 294	- 7 034	- 8 431	- 18 847	- 134 510	- 107 412	- 107 387
<b>V. Percentage PSE</b>	%	60	63	51	71	73	- 47	- 86	- 54	- 94	- 89	- 77	- 51	- 29	- 39
<b>VI. Producer NAC</b>		2.49	2.70	2.05	3.45	3.64	0.68	0.54	0.65	0.52	0.53	0.56	0.66	0.78	0.72

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.5. SUGAR BEET/REFINED SUGAR : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	870	736	626	966	584	856	304	95	112	157	87	80	62	53
<b>II. Value of production (at farm gate)</b>	Leva mn	74	63	53	82	146	211	91	36	95	193	275	2 783	2 510	2 153
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	75	62	51	77	141	46	5	1	20	30	51	1 275	1 396	1 371
<b>A. Market price support</b>	Leva mn	67	55	45	70	134	38	3	- 1	17	30	50	1 274	1 391	1 358
1. Based on unlimited output	Leva mn	67	55	45	70	134	38	3	- 1	17	30	50	1 274	1 391	1 358
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	6	5	4	6	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	6	5	4	6	0	0	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	1	1	1	1	7	8	2	1	2	1	0	1	5	13
1. Based on use of variable inputs	Leva mn	1	1	1	1	7	6	2	1	1	0	0	0	0	8
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	2	0	0	1	1	0	1	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	5	5
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	86	84	81	80	242	54	18	6	175	194	581	16 042	22 587	26 053
<b>V. Percentage PSE</b>	%	92	89	87	87	92	21	6	1	20	16	18	46	56	63
<b>VI. Producer NAC</b>		12.37	9.44	7.53	7.42	12.71	1.27	1.06	1.01	1.25	1.19	1.22	1.85	2.25	2.73

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.i. POTATOES (not included in the aggregation) : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	491	316	358	553	412	498	566	357	497	649	319	463	478	566
<b>II. Value of production (at farm gate)</b>	Leva mn	147	94	107	301	350	1 397	1 448	1 637	3 668	7 262	8 167	170 118	244 166	157 692
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	122	74	84	280	333	376	312	1 135	137	- 4 489	3 018	115 359	134 226	16 296
<i>A. Market price support</i>	Leva mn	108	64	73	254	316	324	281	1 089	47	- 4 513	3 003	115 273	133 736	13 561
1. Based on unlimited output	Leva mn	108	64	73	254	316	324	281	1 089	47	- 4 513	3 003	115 273	133 736	13 561
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>B. Payments based on output</i>	Leva mn	12	8	9	21	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	12	8	9	21	0	0	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>C. Payments based on area planted/animal numbers</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>D. Payments based on historical entitlements</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>E. Payments based on input use</i>	Leva mn	3	2	2	4	17	53	31	46	90	24	15	86	490	2 735
1. Based on use of variable inputs	Leva mn	3	2	2	4	17	42	26	27	39	5	0	13	0	2 360
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	11	5	19	51	19	15	73	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	490	375
<i>F. Payments based on input constraints</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>G. Payments based on overall farming income</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>H. Miscellaneous payments</i>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	248	234	236	507	808	755	551	3 179	275	- 6 916	9 461	249 048	280 632	28 779
<b>V. Percentage PSE</b>	%	76	71	71	86	91	26	21	67	4	- 62	37	68	55	10
<b>VI. Producer NAC</b>		4.11	3.44	3.49	7.03	10.64	1.35	1.27	3.07	1.04	0.62	1.58	3.10	2.22	1.11

p: provisional ; e: estimate.

Source: OECD.



Annex Table V.3.6. MILK : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	2 601	2 590	2 570	2 514	2 459	2 067	1 862	1 578	1 464	1 446	1 433	1 480	1 638	1 706
<b>II. Value of production (at farm gate)</b>	Leva mn	1 236	1 231	1 222	1 202	1 596	3 394	4 898	7 519	11 932	18 570	32 705	397 662	582 776	463 428
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	1 178	1 113	1 055	978	1 710	- 194	328	2 416	3 221	7 211	- 8 375	17 987	232 433	85 650
<b>A. Market price support</b>	Leva mn	1 024	951	893	839	1 114	- 451	222	2 203	2 928	7 149	- 8 434	17 705	231 263	83 182
1. Based on unlimited output	Leva mn	1 024	951	893	839	1 114	- 451	222	2 203	2 928	7 149	- 8 434	17 705	231 263	83 182
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	155	162	162	139	179	129	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	155	162	162	139	179	129	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	380	0	0	0	0	0	0	82	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	380	0	0	0	0	0	0	82	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	0	0	0	0	38	128	106	213	293	62	59	201	1 170	2 468
1. Based on use of variable inputs	Leva mn	0	0	0	0	38	102	88	125	126	14	0	30	0	1 366
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	26	18	88	167	48	59	171	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	1 170	1 101
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	453	430	411	389	695	- 94	176	1 530	2 200	4 985	- 5 844	12 153	141 876	50 198
<b>V. Percentage PSE</b>	%	85	80	76	73	78	- 5	7	31	26	39	- 26	5	40	18
<b>VI. Producer NAC</b>		6.54	4.97	4.21	3.70	4.55	0.95	1.07	1.45	1.36	1.63	0.80	1.05	1.66	1.23

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.7. BEEF AND VEAL : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	163	132	130	130	126	115	154	122	96	66	80	67	55	64
<b>II. Value of production (at farm gate)</b>	Leva mn	680	551	543	550	547	1 234	2 763	3 505	5 897	7 970	13 371	169 703	159 420	117 636
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	557	428	430	398	285	- 1 056	- 1 522	- 2 383	- 3 081	251	- 17 643	- 92 944	- 28 660	- 47 063
<b>A. Market price support</b>	Leva mn	508	376	379	355	147	- 1 120	- 1 563	- 2 453	- 3 176	229	- 17 662	- 93 029	- 29 016	- 47 586
1. Based on unlimited output	Leva mn	508	376	379	355	147	- 1 120	- 1 563	- 2 453	- 3 176	229	- 17 662	- 93 029	- 29 016	- 47 586
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	49	52	51	43	42	32	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	49	52	51	43	42	32	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	88	0	0	0	0	0	0	25	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	88	0	0	0	0	0	0	25	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	0	0	0	0	9	32	41	70	95	22	19	60	355	522
1. Based on use of variable inputs	Leva mn	0	0	0	0	9	25	34	41	41	5	0	9	92	289
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	7	7	29	54	17	19	52	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	263	233
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	3 419	3 245	3 310	3 062	2 264	- 9 180	- 9 881	- 19 533	- 32 095	3 808	- 220 542	- 1 387 217	- 521 098	- 741 157
<b>V. Percentage PSE</b>	%	76	71	72	67	42	- 81	- 54	- 67	- 51	3	- 132	- 55	- 18	- 40
<b>VI. Producer NAC</b>		4.23	3.45	3.63	3.04	1.71	0.55	0.65	0.60	0.66	1.03	0.43	0.65	0.85	0.72

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.8. PIGMEAT : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	372	372	394	413	408	362	319	277	210	256	252	225	247	258
<b>II. Value of production (at farm gate)</b>	Leva mn	1 251	1 251	1 326	1 620	1 880	4 897	7 016	9 339	12 200	25 691	42 345	727 215	709 003	512 442
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	1 037	1 049	1 160	1 311	1 444	- 3 638	- 4 510	- 955	- 2 538	- 4 191	- 45 411	- 140 209	- 61 064	- 9 624
<b>A. Market price support</b>	Leva mn	892	896	995	1 137	1 207	- 3 978	- 4 651	- 1 201	- 2 823	- 4 274	- 45 561	- 140 722	- 62 963	- 12 378
1. Based on unlimited output	Leva mn	892	896	995	1 137	1 207	- 3 978	- 4 651	- 1 201	- 2 823	- 4 274	- 45 561	- 140 722	- 62 963	- 12 378
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	146	154	165	174	196	171	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	146	154	165	174	196	171	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	77	148	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	77	148	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	0	0	0	0	41	169	141	246	285	83	74	365	1 900	2 754
1. Based on use of variable inputs	Leva mn	0	0	0	0	41	135	118	144	123	19	0	54	494	1 525
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	35	24	102	162	64	74	311	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	1 406	1 229
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	2 791	2 822	2 945	3 174	3 540	- 10 049	- 14 138	- 3 449	- 12 088	- 16 370	- 180 201	- 623 149	- 247 221	- 37 302
<b>V. Percentage PSE</b>	%	74	75	78	73	68	- 69	- 63	- 10	- 20	- 16	- 107	- 19	- 9	- 2
<b>VI. Producer NAC</b>		3.89	3.95	4.51	3.72	3.15	0.59	0.61	0.91	0.83	0.86	0.48	0.84	0.92	0.98

p: provisional ; e: estimate.

Source: OECD.

Annex Table V.3.9. POULTRY : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>Volume of production</b>	000t	167	169	183	188	182	100	89	97	82	92	99	94	107	107
<b>Value of production (at farm gate)</b>	Leva mn	369	372	404	421	634	1 353	1 650	2 646	4 024	6 469	14 596	200 355	242 659	240 817
<b>Producer Support Estimate (PSE)</b>	Leva mn	243	248	312	276	348	- 413	- 424	- 257	- 125	542	- 5 505	10 034	40 358	86 895
<b>Market price support</b>	Leva mn	187	190	248	232	273	- 495	- 450	- 318	- 214	524	- 5 598	9 904	39 804	85 811
1. Based on unlimited output	Leva mn	187	190	248	232	273	- 495	- 450	- 318	- 214	524	- 5 598	9 904	39 804	85 811
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments based on output</b>	Leva mn	56	58	64	44	62	41	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	56	58	64	44	62	41	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	71	37	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	71	37	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments based on input use</b>	Leva mn	0	0	0	0	13	41	26	61	88	18	22	92	554	1 084
1. Based on use of variable inputs	Leva mn	0	0	0	0	13	32	22	36	38	4	0	14	144	600
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	8	4	25	50	14	22	79	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	410	484
<b>Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net PSE</b>	Leva/t	1 456	1 470	1 703	1 467	1 912	- 4 129	- 4 761	- 2 651	- 1 528	5 889	- 55 602	106 742	377 181	812 100
<b>Equivalent PSE</b>	%	57	58	67	59	49	- 29	- 25	- 9	- 3	8	- 37	5	17	36
<b>Producer NAC</b>		2.34	2.36	2.99	2.46	1.96	0.78	0.80	0.91	0.97	1.09	0.73	1.05	1.20	1.56

sional ; e: estimate.  
OECD.

Annex Table V.3.10. EGGS : Producer support estimate

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998p	1999e
<b>I. Level of production</b>	000t	160	161	155	151	139	105	92	92	99	110	98	89	95	93
<b>II. Value of production (at farm gate)</b>	Leva mn	375	377	362	326	495	1 324	1 866	2 190	4 459	6 861	16 496	141 460	147 850	142 440
<b>III. Producer Support Estimate (PSE)</b>	Leva mn	295	262	286	233	297	- 254	372	- 71	185	2 065	- 700	4 046	24 347	51 968
<b>A. Market price support</b>	Leva mn	252	216	242	199	236	- 345	335	- 127	85	2 044	- 727	3 954	24 077	51 279
1. Based on unlimited output	Leva mn	252	216	242	199	236	- 345	335	- 127	85	2 044	- 727	3 954	24 077	51 279
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>B. Payments based on output</b>	Leva mn	43	45	44	34	51	46	0	0	0	0	0	0	0	0
1. Based on unlimited output	Leva mn	43	45	44	34	51	46	0	0	0	0	0	0	0	0
2. Based on limited output	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>C. Payments based on area planted/animal numbers</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	26	0	0
1. Based on unlimited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	26	0	0
2. Based on limited area or animal numbers	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>D. Payments based on historical entitlements</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on historical plantings/animal numbers or production	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on historical support programmes	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>E. Payments based on input use</b>	Leva mn	0	0	0	0	11	45	37	56	100	21	27	65	270	690
1. Based on use of variable inputs	Leva mn	0	0	0	0	11	36	31	33	43	5	0	10	0	382
2. Based on use of on-farm services	Leva mn	0	0	0	0	0	9	6	23	57	16	27	55	0	0
3. Based on on-farm investment	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	270	308
<b>F. Payments based on input constraints</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on constraints on variable inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on constraints on fixed inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Based on constraints on a set of inputs	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>G. Payments based on overall farming income</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Based on farm income level	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Based on established minimum income	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>H. Miscellaneous payments</b>	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. National payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Sub-national payments	Leva mn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>IV. Unit PSE</b>	Leva/t	1 840	1 625	1 847	1 546	2 139	- 2 411	4 023	- 776	1 868	18 731	- 7 156	45 301	255 365	558 272
<b>V. Percentage PSE</b>	%	71	62	70	65	53	- 18	20	- 3	4	30	- 4	3	16	36
<b>VI. Producer NAC</b>		3.40	2.63	3.38	2.83	2.14	0.85	1.24	0.97	1.04	1.43	0.96	1.03	1.20	1.57

p: provisional ; e: estimate.

Source: OECD.

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