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COMPARATIVE ANALYSIS OF AGRICULTURAL REFORM IN BULGARIA AND ROMANIA AND ITS EFFECT ON EUROPEAN UNION MEMBERSHIP

General Comparison of Bulgaria and Romania

Bulgaria and Romania are two neighboring Danubian post-communist countries situated in the Southeastern part of the European continent. Bulgaria has a total surface area of 110,994 km² and will be the eleventh largest Member State in terms of surface area in the EU-27. Romania is more than twice the size of Bulgaria with 238,391 km², placing it in ninth position among the EU-27. The total population of Romania (21,698,200 people) is greater than that of Bulgaria by a factor of 2.75. Total Gross Domestic Product (GDP) in Romania is almost three times higher than in Bulgaria. However, both countries have similar GDP per capita indices: Bulgaria has a purchasing power parity (PPP) of €6,234 while Romania has €7,000. GDP per capita in both countries has remained relatively low throughout the transition period: in Romania it is equivalent of only 35% of the EU-25 average, while in Bulgaria the figure is lower still, at 32% of EU-25 average in 2005.¹

Due to its lower population (relative to Romania), Bulgaria has a relatively large urban population, with almost 70% of Bulgarians living in towns. By contrast, in Romania some 45% of inhabitants live in villages. Both Bulgaria and Romania have comparatively low crude birth rates and high crude death rates, giving rise to a negative natural increase. These demographic processes, in combination with the effects of external migration, have resulted in constant decreases in population during the transition period. Since the start of the 1990s Bulgaria's population has fallen by over than 10% and Romania's by 6.5%. Both countries have similar life expectancies at 72 and 71 years for Bulgaria and Romania respectively. On the other hand, Romania has a significantly higher crude marriage rate at 6.2‰ compared with Bulgaria's 3.9‰.

The Human Development Index (HDI) calculated by the UNDP for Bulgaria is 0.81 and 0.79 for Romania. This places Bulgaria in 55th and Romania in 64th position in the world (Human Development Report, UNDP, 2005). Interestingly, the UNDP report categorizes Bulgaria as a country with a high human development index, while Romania is grouped with countries with medium human development indices, despite the minimum difference between their respective HDI values.

Bulgaria and Romania are both considered functioning market economies. Both continue to enjoy relatively high levels of economic development. Real GDP growth for both countries – at 5.6% for Bulgaria and 8.3% for Romania – was strong in 2004 and this trend continued broadly in the first half of 2005 (Communication from the Commission, Comprehensive monitoring report on the state of preparedness for EU membership of Bulgaria and Romania, 2005). Romania has relatively low unemployment, at 6.8%, compared with Bulgaria's 11.9%, but its rate of inflation is significantly higher than in Bulgaria (11.9% compared with 6.1%). There is one overriding negative feature of the macroeconomic performance of these countries: both countries have significant levels of external debt (Bulgaria: 55.9% of GDP, Romania: 18.5% of GDP).² The post-communist period has seen a process of economic restructuring and privatization in both states. The European Commission says that the private sector in Romania has increased gradually due to privatization and entrepreneurial activity. About Bulgaria it says it has made substantial progress in restructuring the economy and its privatization process is nearing an end after a large number of state-owned enterprises were sold off or liquidated, although there still remain several important companies awaiting privatization (Regular Report on Bulgaria's progress towards accession, 2004 and Regular Report on Romania's progress towards accession, 2004).

The political changes that took place in Bulgaria and Romania at the end of 1989 led to profound social and economic reforms. The replacement of political leaders – Thodor Zhivkov in Bulgaria and Nicolae Ceausescu in Romania – put an end to the communist epoch in both countries. The long periods of communist government had a huge impact on the society, economy and culture of Bulgaria and Romania, and more than a decade was needed to overcome this. The political transformations in both countries created the foundations for transition to a pluralistic democracy and market economy. Deep structural reforms in all economic areas were carried out to facilitate the conversion to functioning market economies.

Agriculture, as an important sector in both countries' economies, has also been thoroughly affected by far-reaching reform.

Concept of Land Reform, Agrarian Reform and Agricultural Reform

There are numerous publications dealing with land, agrarian and agricultural reform around the world. Most focus directly on the issues of reform and make use of terminology without discussing it. However, some authors have attempted to define the concept of *land* and *agrarian reform*.

In 1969, the Special Committee on Agrarian Reform, appointed by the Director General of the FAO, defined the concept of agrarian reform as "all aspects of the progress of rural institutions and covering mainly changes in: tenure, production and supporting service" (Cox et al., 2003). Lachman (1970) accepts the term land reform as synonymous with land tenure reform, meaning 1) land ownership redistribution; and/or 2) granting land users secure, long term tenancy. He believes that land reform can be considered in the broader context suggested by the term agrarian reform. However, he claims that the latter designates not only land tenure changes but also those measures designed to develop the agricultural system of a particular region. Bruce (1998) defines agrarian reform as a broad term covering attempts to change agrarian structures, including land reform, land tenure reform, and other supportive reform measures, and the reform of credit systems. He defines land reform as the attempt to change and thereby improve the distribution of land among landholders. Prosterman *et al.* (2003) define post-communist land reforms as "second generation" reforms and explains how many countries that previously conducted collectivized land reforms are now undertaking "second generation" reforms aimed at reorganizing state and collective farms into family-sized units and introducing market-oriented land systems. The terms land reform and agrarian reform when referring to the former communist European countries have also been differentiated by Swinnen (1999), who claims that, "in all Central and East European countries (CEECs) land reform was a key part of the overall agrarian reforms."

Some Bulgarian authors have offered their own definitions for the reforms carried out in the post-communist European countries in the 1990s.

Kanchev (1995) defines agrarian reform in terms of the three main problems it sets out to solve: 1) settlement of ownership issues; 2) liquidation of old organizational structures in the sector, and 3) establishment of market type agricultural holdings. Ianakieva (2000) accepts that "land reform is the core of agrarian reform, especially in Bulgaria at present because it is related to the subject of ownership." Most Bulgarian authors (Kanchev, 1995; Rissina, 2000; Madjarova, 2000; Ianakieva, 2000; Patarchanov, 2001, etc.) agree with the concept that land reform is the essence of agrarian reform. However, some scholars define agrarian reform in a narrower sense. Mihailov (2001) claims that agrarian reform consists of accomplishing the change from public ownership to private ownership of land. Petrov (1975), on the other hand, states that agrarian reform means the legislative regulation of land ownership rights and land relations in agriculture.

After taking into consideration the theoretical background, and from the fieldwork performed, we agree that the terms *agrarian reform* and *land reform* are closely related but not identical. Agrarian reform has a broader meaning and includes measures that also characterize land reform. *Agrarian reform* can be defined as regulated state changes in land tenure which lead to shifts in land use and have an impact on the entire structure of the agricultural sector.

Bulgaria and Romania have undergone unique reforms of their agriculture sectors during the post-communist period. As well as changes in land tenure and the process of de-collectivization, both countries have had to take the appropriate measures to bring their agricultural sectors into conformity with the membership requirements of the European Union (EU). We argue that post-communist *agricultural reform* in Bulgaria and Romania includes transformations in agriculture for the restoration of private property and the liquidation of state-owned farms, as well as reform of the sector to bring it into conformity with the Common Agricultural Policy (CAP) requirements necessary for EU accession.

Post-communist Agricultural Reform in Bulgaria and Romania and Accession to the European Union

Researchers from various academic fields have examined different aspects of post-communist agricultural transformation in the former communist countries. There are a large number of case country studies of

the implementation of agrarian reforms in Bulgaria (Ilieva, 1997, 2002, 2003; Boiadjiev, 1998; Mishev *et al.*, 1998; Kaneva, 1999; Ianakieva, 2000; Madjarova, 2000; Rissina, 2000; Mihailov, 2001; Patarchanov, 2001; Swinnen, 1997; Davidova *et al.*, 1997; Begg *et al.*, 1998; Howe, 1998; Hanisch, 2000, etc.) and Romania (Lazar, 1996; Sarris and Gavrilescu, 1997; Turnock, 1998; Tesliuc, 1999; Mihailescu, 2000; Rizov and Swinnen, 2003; Bordanc, 2006), as well as comparative studies examining post-communist agrarian reform in Central and Eastern Europe (Swinnen, 2000; Hartell and Swinnen, 2000; Nemenyi, 2000; Kooten *et al.*, 2001; Sharman, 2003; Rembold, 2003). However, most of these concentrate on the agrarian reform itself, the methodology and policy of its implementation, and less on its impact on agricultural performance and production. We shall therefore try to examine the consequences of post-communist agricultural transformations on the contribution of agriculture to GDP and employment; the areas with different agricultural crops and their production levels; the number of livestock; and the reforms aimed at bringing Bulgarian and Romanian agriculture into compliance with the principles of the CAP.

Post-communist Agrarian Transformations in Bulgaria and Romania

The transformation of the agricultural sectors in Bulgaria and Romania was initiated at the same time as these countries' transition from centrally planned economies to market democracies at the beginning of the 1990s. However, the official start of post-communist agrarian reform is considered in both countries to be 1991 at the time of the adoption of legislation for the restoration of private property on agricultural land and measures of de-collectivization in agriculture. Land Law 18/1991, defining Romanian post-communist agrarian reform, was published in Romania's *Monitorul Oficial nr. 37* on 20 February 1991, and a few days later (1 March 1991) the Law on Ownership and Use of Agricultural Land, defining the official transformation of Bulgarian agriculture, was published in Bulgarian State Gazette. The first similarity between the post-communist agricultural reforms in Bulgaria and Romania is their very close date of official commencement (end of February 1991 in Romania and start of March 1991 in Bulgaria). The initial conditions for economic reform in both countries were unfavorable for reasons including the legacy of

over-centralized management, the state ownership of the means of production, inefficient production structures, and an irrational distribution of employment (Nemenyi, 2000: 3).

Initially, the general goals of agricultural reform in both countries were the restoration of private property on agricultural land and the restructuring/dismantling of the old agricultural structures. A few years later, after Bulgaria and Romania had both set EU accession as a major political priority, the scope of the agricultural reforms was enlarged to include the transformation of agriculture to bring it into compliance with the requirements of the CAP. The common main objective of post-communist agricultural reform is another similarity between Bulgaria and Romania.

In both countries, land reform, as an important part of the post-communist agricultural reforms, aimed at the restoration of private property on agricultural land to its former owners. In Bulgaria agricultural land was given back to former owners "within the real boundaries of the land owned, where these still exist; where boundaries of land no longer exist, reinstatement of ownership would be made within the real boundaries of farm land of equivalent area and quality, in compliance with a plan showing land division" (Mishev *et al.*, 1998). By 2000, some 99.8% of the land approved for restitution in Bulgaria had been returned to its former owners. The majority (4,171,800 ha) of the land returned was distributed according to the land division plans that were coming into force, and only 26.5% of the land returned respected still existing or repairable past boundaries.³ Romania adopted the *restitutio in integrum* principle in its reconstruction of the new private agricultural sector (Bordanc, 2006). Bordanc (2006) says that the Land Law "was being applied exclusively by the second half of 2000" and "the returned surface area under Law 18/1991 represented 84.6% of the total surface to be given back (9,366,349 ha) and the property titles issued 76.7% of the total of 4,330,582 titles." Land reform in Bulgaria and Romania had made significant progress by the beginning of the new millennium: in Bulgaria the restitution of privately owned land was near to completion, while in Romania more than three quarters of owners had received their ownership titles. In both countries, therefore, the post-communist land reforms had been completed by the onset of the new century.

Another interesting issue in the restoration of private ownership of land is the comparison between Bulgaria and Romania in terms of the legal limits on the amount of agricultural land that could be returned to

a former owner. At the beginning of the 1990s, Bulgarian legislation was comparatively liberal, setting a limit of 20 ha (for Dobrudzha 30 ha) compared with Romania's limit of 10 ha per household. However, the Bulgarian Law on the Ownership and Use of Agricultural Land was labeled by experts as anti-constitutional in its setting of a limit on the amount of land to be returned to former owners, but the Constitutional Court decided that the law did not violate the Bulgarian Constitution and the limit remained in force. In Romania, Law 1/2000 was introduced at the start of 2000 to amend the Land Law and increase the limit on the amount of land for restitution to a single household to 50 ha. In Bulgaria and Romania there was a tendency towards liberalization of the legislation on returned land over the period of land reform. At the beginning of the reform, legislation in Romania was strict: "from 1991 to 1998 there was a ban on the sale of all returned land" (Tesliuc, 1999: 102). However, over the course of the transformation, the legislation was gradually relaxed such that, apart from transactions between Romanian citizens, land can now be also sold to foreign citizens. In Bulgaria, on the other hand, the ban on the sale of agricultural land to foreign persons remained. In 2005, however, the Constitution was amended so that "foreigners and foreign legal persons may acquire ownership of land under the conditions ensuing from Bulgaria's accession to the European Union or by virtue of an international treaty that has been ratified, published and entered into force in the Republic of Bulgaria, or through legal inheritance" (Constitution of the Republic of Bulgaria, Art. 22). This amendment comes into force at the same time as the entry into force of the Treaty concerning the Accession of the Republic of Bulgaria to the European Union. Until that time, therefore, no foreign person or foreign legal person is able to acquire ownership of land, except through legal inheritance law.

The results of post-communist agricultural reform can be seen in its direct effect on the contribution of agriculture to GDP and employment; the agrarian structure of the sector; the alteration of areas with agricultural crops, production and yields; and number of livestock etc.

Agriculture has always been an important part of both the Bulgarian and Romanian economies. The contribution of Bulgarian agriculture to GDP varied in the period 1992-1997 between a low of 10.0% and a high of 23.8% (1997). Romanian agriculture has never reached the same level of GDP as was seen in Bulgaria in 1997. However, its performance was more evenly distributed over the period of reform by comparison with Bulgarian agriculture (Fig. 1). Bulgarian agriculture was only stronger

than Romanian agriculture in terms of its contribution to GDP for a four-year period (1997-2001). Its financial importance during this period was due to its improved performance as well as the heavy industrial decline in 1997. Although in absolute terms Bulgarian agriculture's contribution to GDP did not fall, as a percentage it dropped from 11.9% in 2001 to 9.4% in 2004 due to the financial growth of other sectors of the economy. In 2004 Bulgarian agriculture generated 3,581 million BGN. Of this more than 98.5% can be attributed to the private sector, demonstrating the enormous importance of private property in agriculture in the post-land-reform period. The share of agriculture in Romanian GDP decreased gradually over the period 1990-2003. At the start of this period it represented 21.8% of GDP, while thirteen years later this had fallen to 11.7%. Romanian agriculture did not witness a large surge as did Bulgaria in 1997, but its contribution to GDP remained significantly high, particularly at the beginning of the reform period.

The agrarian reforms and economic transformations in Bulgaria and Romania had a large impact on the number of people employed in the agricultural sector. In both countries, there is a significantly higher share of the population working in agriculture than in economically developed countries. The agricultural sector is therefore of great importance for these two countries, both economically and socially: it represents over one quarter of total employment in Bulgaria and over 34% in Romania (Fig. 2, 3 and 4). Agriculture in Romania has always been more important in terms of employment than in Bulgaria. Post-communist agricultural reform, combined with the deep industrial crises suffered by both countries, gave a significant boost to employment in agriculture and increased appreciably the importance of agriculture in total employment. During Bulgaria's and Romania's transition period agriculture was perceived as a buffer against rising unemployment: in Bulgaria "small private agricultural enterprises became the refuge of all those made redundant or threatened by unemployment" (Ilieva, M. *et al.*, 2003: 100) and in Romania "agriculture played the role of an employment buffer, providing a shield against extreme poverty for many unemployed who used to commute to towns before 1989, and for other rural households" (Tesliuc, 1999: 94). The effect of the agricultural reform in terms of increased employment in the sector was seen positively as counterweight to increasing national unemployment and as a way of ensuring food to the employed and their families. On the other hand, the increase in employment in the agricultural sector led to a reduction in labor efficiency and discouraged mechanization.

Post-communist agricultural reform, in terms of the land reform measures implemented, had an enormous impact on the agrarian structure of both Bulgaria and Romania. The process of land restitution, privatization of other agricultural assets, and the dismantling of the cooperatives brought about dramatic changes to agrarian structures. Bulgaria, a country known to have some of the most consolidated agricultural land in the world during the communist period, was left with a relatively scattered agrarian structure after the post-communist land reform. However, the current agrarian structure of both countries is comparatively dualistic, since the dimensions of agricultural holdings differ significantly according to their legal status. In the period 2002-2003, there were 654,808 agricultural holdings with 2,904,479.63 ha of utilized agricultural land in Bulgaria, while Romanian land management was even more fragmented, with a cultivated area some 4.8 times larger and over 4.2 million agricultural holdings (Table 1).⁴ The average size of an agricultural holding utilizing agricultural land in Bulgaria was 4.4 ha and, smaller still, 3.2 ha in Romania (Tables 2 and 3). However, individual agricultural holdings – smallest holdings that cultivated land in both countries – were larger in Romania, at 1.8 ha, than Bulgaria (1.4 ha). More than 76% of all agricultural holdings in Bulgaria were less than 1 ha in size. In Romania the situation was slightly better with only 50% agricultural holdings under 1 ha. In both countries, these holdings cultivated less than 10% of the utilized agricultural area. After accession to the EU this agricultural land will not be eligible for aid under the Single Area Payment Scheme (SAPS) since the CAP rules stipulate a minimum size of between 0.3 and 1 hectare. Bulgaria and Romania need to make strategic political decisions concerning the minimum size of agricultural holdings eligible for aid. In fact, all new Member States applying for SAPS have set this limit at 1 hectare, and it is most likely that Bulgaria and Romania will also exclude holdings of less than 1 hectare from applying for support through direct payments. This means that after accession to the EU, 501,744 agricultural holdings in Bulgaria and 2,169,257 holdings in Romania will not be eligible for financial aid under SAPS, with the number of holdings eligible for direct payments at approximately 153,064 for Bulgaria and 2,130,104 for Romania. As direct payments under SAPS are determined and paid on the basis of the amount of utilized agricultural area, it is more important to access the land eligible for subsidy. The amount of agricultural land maintained in good agricultural condition eligible for direct payments is around 2,711,887 ha in Bulgaria and 13,171,895 ha in Romania. Setting

the minimum size of farm that can receive direct payments at 1 ha will have dramatic social effects since a large number of farmers in Bulgaria and Romania will then be excluded from the scheme: they will not receive financial aid through the direct payments granted to EU member countries. This will make them less competitive on external and internal markets, and will reinforce their semi-subsistence and subsistence nature. A strong direct adverse economic effect is not expected, because only 5.4% of the utilized agricultural area in Bulgaria and 6.6% in Romania comes from farms of less than 1 hectare.⁵

The post land-reform dualistic agrarian structure of Bulgaria and Romania comprises extremely small individual agricultural holdings and significantly larger commercial holdings managing land. In 2002-2003 more than two thirds of utilized agricultural area in Bulgaria was from agricultural holdings of over 100 ha, however these farms represented less than 1% of all agricultural holdings in the country. The majority of agricultural holdings fell into the categories for utilized agricultural area of 0 to 2 ha and 0 to 5 ha in Bulgaria and in Romania, respectively. However, in Bulgaria, the majority of agricultural land fell into the over 100 ha category, while in Romania the majority of agricultural land came under the categories of 2 to 10 ha and over 100 ha (Table 1). From this we conclude the existence in Bulgaria of two completely different types of agricultural holding in terms of size: subsistence farms and large agricultural holdings. The former is made up of small farms managed by a large number of small scale owners, who cultivate their privately owned land and practice subsistence agriculture. The latter comprises agricultural holdings that use their own as well as leased land, and practice modern farming, producing mainly for the market. Bulgarian agriculture has a dual nature. On the one hand, the majority of peasants cultivate their own land, which is highly fragmented and small scale. They will not be eligible for financial aid in terms of EU direct payments, but this will not have a strong adverse effect on them as their production is mainly for own consumption. On the other hand, there are the large holdings specialized in grain and livestock. Most of these will receive direct payments, but their production costs are also likely to increase as the cost of the leased agricultural land will rise after EU accession. In Romania, there is a middle group of semi-subsistence agricultural holdings, which produce for their own consumption and then sell any surplus production. Utilized agricultural area in Romania is fairly evenly distributed between the three types of agricultural holding: 5.3 million ha,

4.3 million ha, and 4.3 million ha for subsistence, semi-subsistence and large agricultural holdings respectively.

In 2002-2003, the majority of farms in Bulgaria and Romania were individual agricultural holdings (Tables 2 and 3). Commercial holdings accounted for 1% and 0.5% of the total farms in Bulgaria and Romania respectively. However, these managed almost 70% of the utilized agricultural area in Bulgaria and 45% in Romania, and their average size was significantly higher than that of the individual holdings. In Romania individual and commercial agricultural holdings were of almost equal significance in terms of utilized agricultural area, while in Bulgaria commercial holdings were more important. The average size of individual agricultural holdings in both countries was less than 2 ha, making them subsistence or semi-subsistence farms. Co-operative farms were the most important agricultural form in Bulgaria because they cultivated more than 40% of the land and had the largest average size. In some villages in Bulgaria, cooperatives managed the entirety of land belonging to a village. Peasants who made available their land to the cooperatives received rent or a share of production. The growth of cooperatives was the result of a number of factors. First, land was given back to relatively old owners, unable to cultivate it themselves, or to people living far away. Second, most peasants do not own the right agricultural machinery. Third, the effects of the fragmented agrarian structure and the higher production costs associated with maintaining small plots. In Romania, co-operative farms were less important than in Bulgaria. Indeed, individual agricultural holdings were the most important agricultural form in Romania in 2002-2003. This was the result of the relatively larger number of rural population and number of people working in agriculture. Post-communist land reform had a large impact on the agricultural sector in both Bulgaria and Romania, however its further reconfiguration resulted from other factors, with agricultural reform and agrarian structure being the main agents affecting agricultural production.

The main results of the post-communist agricultural reform in Bulgaria and Romania are seen in the analysis of the changes in harvested areas, production and crop yields, as well as the shifts in the number of livestock. The main area, production and yield indicators for 22 agricultural crops (wheat, barley, oats, maize, beans, soybean, sunflower seeds, sugar beet, tobacco, potatoes, tomatoes, cucumbers, green pepper, onions, cabbage, grapes, apples, apricots, cherries, peaches, pears and plums) in Bulgaria and Romania for the period 1988 to 2005 have been calculated.⁶ The

year 1990 has been accepted as a model year (1990 = 100) and indexes for the values of main indicators concerning these agricultural crops for the whole period have been estimated.

Wheat was the most important cereal crop for both Bulgaria and Romania. In 1990 the area of wheat harvested was 1,162,775 ha. In Romania this area was almost twice the size at 2,253,213 ha. On the other hand, for the same year, Romanian wheat production was not double that of Bulgaria's, with Bulgaria producing 5.3 million metric tons and Romania 7.3 million metric tons. This implies that Bulgaria saw larger yields than Romania. In 1990, Bulgaria harvested 4,551 kilograms of wheat from one hectare, while Romania harvested only 3,235 kilograms per hectare. In the post-communist period, wheat output for both Bulgaria and Romania decreased significantly, despite there being no considerable change in harvested areas (Fig. 5 and Fig. 6). This was mainly due to reduced yields. In Bulgaria there were many years during which wheat areas were increased (1994, 2001, 2002) but the production was still much lower than prior to the agricultural reform. When yield reductions coincided with the decrease in areas harvested, production declined significantly, as seen in Bulgaria in 1996 and 2003 and in Romania in 1992, 1996 and 2003, when wheat production was less than fifty percent of the pre-reform level.

Both Bulgaria and Romania reduced their cultivation areas and production of barley during the reform period. In 1996 and 2003, barley production in both countries was 42% of the 1990 level. Bulgaria had a larger output than Romania in 2003 and produced less barley during the rest of the period.

Oat cultivation increased considerably in terms of areas and production in Romania in the post-communist period. From 1992 to 1994, the country doubled its output of oats, and production was significantly higher during the whole period. Bulgaria's performance was not as good as Romania's. Bulgarian oat output fell between 1995 and 1998. In 1990 oat yields were higher in Bulgaria, but in 2005 Romania was cultivating higher amounts of oats per hectare. This implies that oats production has been positively influenced by the post-communist reform in Romania.

Maize was another crop more positively affected by the agricultural reform in Romania than in Bulgaria. Romania increased cultivated area, production and yields of maize in the post-communist period (Fig. 8). In 1990, Romania was using 2.5 million hectares of land for maize production, while the amount was almost six times less in Bulgaria

(424,000 hectares). In this same year, Bulgaria produced 1.2 million metric tons of maize, and Romania 6.8 million metric tons. However, Bulgaria had larger yields (2877 kg/ha) than Romania (2760 kg/ha). Maize output varied in Bulgaria, falling overall to 804,134 metric tons in 2000, from a level of 2.8 million metric tons in 1991. Romanian production only fell below the pre-reform level in 2000, while Bulgarian production was lower than the pre-reform level in 1993, 1996, 2000, 2001, and 2003 (Fig. 7). At certain times, Romania enjoyed significantly high maize yields. Agricultural transformations in Romania had a positive effect on maize production, while in Bulgaria the trend was not unidirectional.

Cultivated area and production of beans shrank in Bulgaria and Romania in the post-communist period, while yields increased. From 1990 to 2000, output in Bulgaria increased slightly, but then fell to less than 40% (of the 1990 base) in 2005, as a result of a reduction in harvested area. In Romania there was also a constant decline in bean production, albeit not as sharp as in Bulgaria. In 2005 Romania produced 50 thousand metric tons of beans, the equivalent of 86.9% of the 1990 harvest. Yields in both countries increased significantly over the entire period, with the exceptions of 2004 and 2005, when Romania had an extremely low average bean production per hectare.

Cultivated area and production of soybeans declined more notably in Bulgaria than in Romania. After 2002, output in Romania increased, while Bulgarian soybean production almost ceased: in 2005 total Bulgarian soybean production was only 604 metric tons from 272 ha. Romania almost doubled its soybean output in the period 2002-2005, although the harvested area remained lower than the 1990 level. This was the result of the growth in yields, and possibly also the introduction of genetically modified soybeans.

The sunflower crop benefitted most from the post-communist agricultural reform, in terms of area cultivated and production, in both Bulgaria and Romania (Fig. 9 and Fig. 10). In 1990, Bulgaria had a sunflower crop of 280,200 hectares, and Romania some 394,800 hectares. This increased to 635,000 hectares and 950,000 hectares in Bulgaria and Romania respectively, due to increased demand for sunflower seeds on the domestic markets of both countries. Production of sunflower seeds in Bulgaria rose from a level of 388,600 metric tons in 1990 to 934,900 metric tons in 2005. In Romania output rose from 556,200 metric tons in 1990 to 1,257,000 metric tons in 2005. However, there was no growth in crop yields, which for most years maintained 80-90% of their 1990 level.

Sugar beet was one of the crops most negatively influenced by the reforms in Bulgaria and Romania (Fig. 11 and Fig.12). In 2005, Bulgaria had almost liquidated its sugar beet production. The cultivated area of sugar beet decreased to 1,300 hectares in 2005, compared with 36,500 hectares in 1990, due to the decline in domestic demand resulting from the crisis in the Bulgarian sugar industry. Romania saw a lesser decrease by comparison with Bulgaria. Production of sugar beet in both countries dropped significantly. Sugar beet output decreased from 583,700 metric tons in 1990 to 24,700 metric tons in 2005 in Bulgaria, and, for the same years, from 3,277,700 metric tons to 694,000 metric tons in Romania. However, yields increased from 20,148 kg/ha in 1990 to 32,372 kg/ha in 2004 in Romania. Bulgarian average output per hectare also rose during the post-communist period, though it remained lower than Romanian harvests. The reduction of harvested areas and production of sugar beet was a result of the crisis in both countries' sugar production, as well as a reflection of the principles of the CAP on the acceding countries' agricultural sectors. The sugar sector in the EU is highly subsidized due to the difference between sugar prices on the world market and the Community market. For this reason, the EU wants new member states to have lower sugar production, and this has been seen in sugar beet production in Bulgaria and Romania in the post-communist period.

Tobacco production is more developed in Bulgaria than Romania due to the more suitable pedo-climatic conditions and social traditions in this sector. Harvested areas of tobacco crop in Bulgaria exceeded by a factor of three those in Romania, and production was five times higher in Bulgaria in 1990. During the reform period, there was a decrease in area cultivated, production and yields of tobacco in Bulgaria, most notably in 1994-95. Ten years later, however, tobacco production in Bulgaria had enjoyed a strong recovery, stabilizing at 81% of the 1990 level. Romanian tobacco production declined significantly at the end of the research period. Tobacco yields in Romania increased, while the average output per hectare in Bulgaria decreased between 1990 and 2005. However, in 2005 yields in Bulgaria remained larger than in Romania, due to the higher base level at the beginning of the period.

There was a slight rise in potato production in both Bulgaria and Romania. In Bulgaria this was due to an increased cultivated area, while in Romania this was the result of increased yields. In 2005, the potato harvest amounted to 3,990,000 metric tons in Romania (from

285,000 hectares), while in Bulgaria the level was almost ten times lower, at 420,000 metric tons (from 25,400 hectares).

Production and yields of tomatoes dropped significantly in Bulgaria between 1990 and 2005. There were large fluctuations in the size of cultivated area of this crop in Bulgaria, exceeding the 1990 level in 1995, 1998, 1999, 2000 and 2001. In Romania there was a slight but constant fall in cultivated area. Contemporary agricultural reform influenced tomato production in Bulgaria more negatively than in Romania. In 1990, the tomato output in Bulgaria (846,000 metric tons) was larger than in Romania (813,000 metric tons), despite the fact that the area cultivated in Romania was almost twice the size of that of Bulgaria. In the course of reform, Bulgaria saw a twofold decrease in production, while Romania achieved its 1990 level in 2005.

Romania increased production and yields of cucumbers, green pepper, dry onion and cabbage from 1990 to 2005, while the same indicators showed a decline in Bulgaria over the same period. Vegetable production was more developed in Bulgaria than in Romania during the communist period. By the beginning of the contemporary agricultural reform, one hectare of cucumbers in Bulgaria resulted in a 31,923 kg harvest, compared with 8,708 kg in Romania. The average output of green pepper in Bulgaria was 13,460 kg/ha, against 7,896 kg/ha in Romania in 1990. The production and yields of vegetables dropped significantly in the post communist period due to unsuitable agricultural policies, the decline of mechanization and irrigation in Bulgarian farming, as well as the high production costs, which outgrew the market prices. Romanian vegetable production caught up with Bulgarian farming, even beating it on most of the indicators. In 1990 Bulgarian yields of cucumbers, green pepper and cabbage exceeded Romanian average production per hectare (Fig. 13). However, some fifteen years later, the situation had radically changed: Romania now had larger yields of green pepper, dry onions and cabbage, while Bulgaria had only retained its leading position for tomatoes and cucumbers.

In 1990 there were 140,300 hectares of vineyard in Bulgaria and 223,600 hectares in Romania. However, Romanian grape production (954,000 metric tons) was not much larger than in Bulgaria (731,400 thousand metric tons) due to higher yields in the latter. Fifteen years later, Bulgaria had seen a decline in grape cultivated area of 20%, in production of 50% and yields of 40%. Romanian vineyards saw an

insignificant decline (3%). In 2005 Romanian grape production and yields were larger than at the beginning of the period. The grape harvest amounted to 1,027,600 metric tons at a rate of 4,735 kg/ha.

Fruit production declined significantly in Bulgaria during the reform period. Production and yields of apples (Fig. 15), apricots, cherries, pears and peaches decreased steadily in Bulgaria during the post-communist period. By 2005, Bulgaria had almost liquidated its apple production, performing at less than seven percent of its 1990 level. At the beginning of the post-communist period Bulgaria produced 410,900 metric tons of apples and was a large exporter of this fruit. Now Bulgarian apple output (27,000 metric tons) does not even meet the demands of the domestic market, and the country imports large quantities of apples for its own consumption. The area of cultivated perennial crops also declined in Bulgaria, but less notably than production and yields. There was a slight increase in the area of certain fruit trees (apricots, cherries, plums) in the last few years. Romanian fruit production was less negatively influenced by the reform than in Bulgaria. In Romania, apple trees areas maintained their 1990 level throughout the whole reform period (Fig. 16), while plum orchards increased in size. Romania enlarged its cherry production and yields of pears and cherries (Fig. 14). Outputs of peaches, plums and apricots decreased.

Contemporary agricultural reform in Bulgaria and Romania has strongly influenced both countries' vegetal sectors. Negative effects were less evident in Romania than in Bulgaria. Production of wheat, barley, oats, beans, soybeans, sugar beet, tobacco, tomatoes, cucumbers, green peeper, grapes and fruits declined significantly in Bulgaria during the post-communist period. In Romania, drops in output were observed for a smaller number of crops – wheat, barley, beans, sugar beet, tobacco and fruits. Romania increased its vegetable production while Bulgaria's decreased. Sunflower seeds and maize were positively affected by the reform, which led to enlarged cultivated area and production in both countries. Soybean production in Romania grew, while it was almost wiped out in Bulgaria. Negative effects of the reform were more notable in Bulgarian fruit production than Romanian output.

Post-communist agricultural transformation had a strong impact on the livestock sector in Bulgaria and Romania. Cattle numbers in Bulgaria decreased to 671,600 in 2005, as compared with 1,575,000 in 1990 (Fig. 17). In Romania, by 2005 cattle numbers had fallen to less than 50% of the 1990 figure. In the post-communist period, the number of

cattle, pigs, sheep, donkeys, chicken and beehives declined both in Bulgaria and in Romania. However, goats and horses increased in number (Fig. 18). This should not be seen only as a positive effect of the contemporary agricultural reform, because it also highlights an increase in poverty: goat breeding was widespread among the Bulgarian rural population because it was less expensive than cattle breeding. Peasants used the goat milk mainly for their own consumption and practiced a subsistence type of agriculture. The number of horses in Romania grew from 663,000 in 1990 to 900,000 in 2005, due to the increased demand for these animals as a mechanical force in the vegetal sector.

Post-communist agricultural reform resulted in a reduction in the level of mechanization in Bulgarian agriculture (Fig. 19). Romania slightly increased its number of tractors, from 165,100 in 1988 to 169,177 in 2003. The amount of irrigated agricultural land declined significantly in Bulgaria, while it remained almost unchanged in Romania (Fig. 20). Both Bulgaria and Romania saw their consumption levels for fertilizers fall (Fig. 21).

Transformation of Agriculture in connection with Accession to the European Union

Accession to the European Union is one of the main priorities for the countries of Bulgaria and Romania, as acknowledged by their respective societies, governors and politicians representing the majority of political parties. Numerous programs, plans and strategies have been drawn up to facilitate the achievement of this goal in both countries. The importance of accession is well appreciated in Bulgaria, which has stated that its “main priority ... is membership of the EU, which has the support of the majority of Bulgarian society and total political consensus” (Master Plan – Bulgaria, 2006: 7), and in Romania, which has said that “European integration is the strategic objective of the Government” (Tariceanu, 2006) and “integration into the European Union is one of Romania’s key foreign policy priorities” (Csaki, 2005: 26).

Agriculture was one of the most important issues discussed during negotiations over Bulgaria’s and Romania’s accession to the EU. It is the largest of the negotiation chapters as well as one of the most controversial. Bulgaria and Romania must adopt all the principles of the CAP and observe them strictly after joining the EU. Bulgaria opened Chapter 7 (Agriculture)

for negotiation in March 2002, and a few months later, in November 2002, Romania followed suit. Talks between both countries and the Council continued for two years and “ended on 4 June 4 2004 with the two countries getting basically the same agreement as the recently acceded 10 New Member States” (Gain Report, 2004: 1). Bulgaria and Romania closed the agricultural chapter in December 2004. The conditions of Bulgaria’s and Romania’s accession were laid down in an Accession Treaty, signed in April 2005 between the 25 Member States and both countries, which both Bulgaria and Romania, as well as 14 other Member States, have already ratified. According to the Treaty, Bulgaria and Romania will both join the EU on 1 January 2007, unless the Council decides, upon a recommendation from the Commission, to postpone the accession of either country until 2008 (Communication from the Commission, 2006: 2). Bulgaria and Romania have to achieve significant transformations of their agricultural sectors to prepare for membership of the EU. Some of the reforms have already been completed, while others are still underway. Prior to accession, Bulgaria and Romania must adopt and implement the entire “*acquis communautaire*” for all chapters. Agriculture comes under chapter 7, which is one of the most important stages in the preparations for accession. The European Commission’s main recommendation to acceding countries is to bring their agricultural sectors into conformity with the principles of the CAP. We consider the transformation of Bulgarian and Romanian agriculture in respect of EU membership as a part of the post-communist agricultural reform. There is mutual interaction between agriculture in both countries and their accession to the EU. On one the hand, contemporary agricultural reforms and recent agricultural development have a strong impact on the state of preparedness for EU membership. On the other, in the post-accession period, the agricultural sectors of both countries will be affected by the CAP in form of direct payments, market support, and support for rural development, as well as their association with the Common Market. Bulgaria and Romania must have accredited and fully operational payment agencies for handling direct payments to farmers and operators under the CAP by the date of accession. This is one of the main challenges facing the agricultural sectors of both countries, since, with only a couple of months to go before the scheduled accession, there is still a lot to be done before the payment agencies become operational. Romania has decided to establish two Paying Agencies: one responsible for rural development measures and built on the existing agency of the

Special Accession Programme for Agriculture and Rural Development; another responsible for market measures and direct payments. Bulgaria will have a single Paying Agency. To ensure the proper functioning of the payment agencies, Integrated Administration and Control Systems (IACS) must be set up in both countries. Each integrated system shall comprise the following elements: (a) a computerized database; (b) an identification system for agricultural parcels; (c) a system for the identification and registration of payment entitlement; (d) aid applications; (e) an integrated control system; (f) a single system to record the identity of each farmer submitting an aid application (Council Regulation 1782/2003: 11). The Land Parcels Identification System (LPIS) is an important part of each IACS. For setting up proper IACS Bulgaria and Romania have to create comprehensive LPIS. The main actions of the competent authorities in both states regarding the proper transformation of agriculture connected with the EU accession are creation of LPIS (comprising digital maps based on aerial orthophoto images and/or satellite images), setting up proper IACS and establishment of fully operational paying agencies by the end of 2006. Failing to comply with these particular requirements would hardly lead to postponement of membership with one year. However, this would have strong negative effect on farming in both countries because without accredited and functioning paying agencies Bulgaria and Romania will not be granted even a single euro from the CAP-related budgetary allocations negotiated during the pre-accession talks. "The Commission, in its capacity to execute the budget, will not release funds from the EU budget if, for example, a new Member State does not offer the necessary guarantees on proper spending of EU funds as required under the Common Agricultural Policy or under the Structural Funds" (Communication from the Commission – Comprehensive monitoring report on the state of preparedness for EU membership of Bulgaria and Romania, 2005: 12). Establishment of paying agencies with proper IACS is a crucial goal of Bulgarian and Romanian contemporary agricultural transformations. Membership of the EU would provide certain budgetary allocations to agriculture of both states. Bulgaria has negotiated a financial framework for its agricultural sector of EUR 1,552 million (EUR 431 million for direct payments, EUR 388 million for market measures and EUR 733 million for rural development)⁷ and Romania has stipulated a significantly larger amount of EU budgetary allocation – EUR 4037 million (EUR 881 million for direct payments, EUR 732 million for market support and EUR 2424 million for rural

development)⁸ for the first three years after accession to the EU. The common market and the principle of free movement of goods in the Community would have a strong impact on farming in Bulgaria and Romania after they become members of the EU. Financial support allocated by the EU funds is expected to soften the negative effects of accession on the countries' agriculture. It would enhance the competitiveness of Bulgarian and Romanian agricultural products and promote development of rural areas. That is why the establishment of functioning paying agencies with proper IACS is a main priority of Bulgarian and Romanian contemporary agricultural policy. The European Commission has advised its decision in case that both countries fail to meet this requirement – "in the area of agriculture, accredited paying agencies as well as a proper Integrated Administration and Control System (IACS) are necessary for handling direct payments to farmers and operators. In Romania, the paying agencies are not fully operational and accredited. There is also no proper IACS in Bulgaria and Romania. If this situation is not remedied, in addition to the existing mechanisms, the Commission may take measures based on Article 37 of the Act of Accession to withhold payments to Bulgaria or Romania" (Communication from the Commission: Monitoring report on the state of preparedness for EU membership of Bulgaria and Romania, 2006: 9).

A few months before their expected accession to the EU, Bulgaria and Romania still face some serious concerns requiring urgent action. In May 2006, the European Commission was more critical towards Bulgaria than Romania. It defined six critical issues in Bulgaria's preparations for accession, and only four "red flags" for Romania. However, it seems the Bulgarian agricultural authorities have been more successful overall, since they were criticized on two counts, whereas Romania was criticized on three. It was recommended that Bulgaria take immediate action in setting up a proper IACS and solve some veterinary issues: namely "setting up a proper Integrated Administration and Control System (IACS) in agriculture, building on progress made (acquis chapter 7) and building-up of rendering collection and treatment facilities in line with the acquis on TSE and animal by-products (acquis chapter 7)" (Communication from the Commission: Monitoring report on the state of preparedness for EU membership of Bulgaria and Romania, 2006). Romania received the same criticism with an additional recommendation concerning its paying agencies: namely "accrediting fully operational paying agencies for handling direct payments to farmers and operators under the common

agriculture policy, building on progress made (acquis chapter 7)" (Communication from the Commission: Monitoring report on the state of preparedness for EU membership of Bulgaria and Romania, 2006). Bulgaria and Romania face similar agricultural problems in respect of their accession to the EU and will experience similar consequences of membership in their respective agricultural sectors.

New Tendencies and Perspectives for Bulgarian and Romanian Agriculture

Agriculture has been deeply influenced by new tendencies, such as the introduction of genetically modified organisms (GMO) and the implementation of organic farming principles. Bulgarian and Romanian agriculture cannot avoid these developments. The introduction of GMO and organic principles in these countries will have both positive and negative results. These effects cannot be characterized partially, as merely positive or negative.

Bulgaria and Romania can reduce agricultural spending on pesticides, herbicides and fertilizers by introducing GM crops. However, this brings with it the risk of the appearance of "superweeds", resulting in an increased need for herbicides. A lower prime cost of farm production, increased yields and a decrease in labor consumption would be other positive effects of planting GM crops in Bulgaria and Romania. However, there are also some negative consequences, such as the possible loss of foreign agricultural markets (especially in the EU) and increased prices for GM seeds compared with conventional seeds. The introduction of GMO would have a beneficial financial effect on the agricultural sector because it would lead to a reduction in capital and labor spending and would increase the productivity of crops and animals. However, introducing GMO in Bulgaria and Romania would result in a significant loss of international agricultural markets due to the refusal of the majority of the European population to consume GM foods. This new technology would not lead to a serious fall in domestic agricultural market because Bulgarian consumers still remain more sensitive to price of a product than quality. Bulgarian law on GMO prohibits the introduction in agriculture and the market of the following GM crops: tobacco, vine, cotton, roses, wheat, all vegetables and fruits, as well as GM animals.

The genetic modification of roses, vines and cotton is entirely forbidden in Bulgaria.

Developing organic farming in certain regions in both countries could increase new international markets given that demand for organic products has grown in recent years. Consumption of these types of agricultural products in both countries would be limited by their higher price. An increase in demand for organic foods in Bulgaria and Romania is expected in the future, however, due to rising incomes and increased access to information concerning healthy living. The introduction of GMO in Bulgaria and Romania cannot be avoided – however, it is necessary that some parts of the country be declared GMO-free regions that practice organic farming. Bulgaria and Romania can then create an image of being countries that also practice natural agricultural production. The most important thing for Bulgarian and Romanian agriculture today is to strike a balance between conventional farming and new technologies.

Conclusions

The post-communist agricultural reforms in Bulgaria and Romania have many similarities. The shared agricultural heritage (from the communist period) and the pairing of the two countries in their EU accession ambitions are the main reasons for the resemblance of the processes in both countries. The similar dates for official commencement of post-communist agricultural reform in both countries provide one of the similarities in terms of their agricultural performances. Reform in Romania started at the end of February 1991, with Bulgaria following suit at the beginning of March 1991. The reforms in Bulgaria and Romania had the same objectives: restoration of private property situated on agricultural land and the restructuring/dismantling of old agricultural structures. When Bulgaria and Romania defined their accession to the EU as a major political priority, the scope of the agricultural reforms was enlarged to include the transformation of agriculture in order to bring it into compliance with the requirements of the CAP.

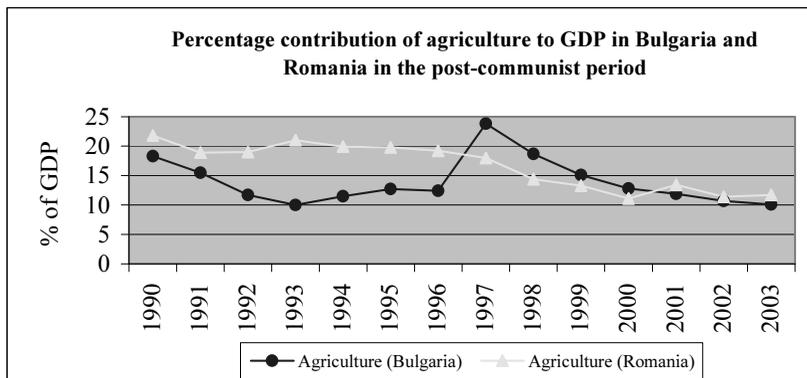
Agriculture is one of the most important economic sectors in terms of GDP and employment for both Bulgaria and Romania. However, its social and economic influence is more noticeable in Romania than in Bulgaria.

The restitution of land ownership has had an impact on agricultural structures in Bulgaria and Romania. The fragmentation of land led to an

increase in the cost of cultivation and gave rise to a subsistence type of agriculture. Most agricultural crops in Bulgaria and Romania saw their yields and production decrease during the post-communist period due to a fall in mechanization, irrigation, and the use of fertilizers, as well as land fragmentation. Land consolidation will be one of the most important tasks of contemporary agricultural policy in Bulgaria and Romania.

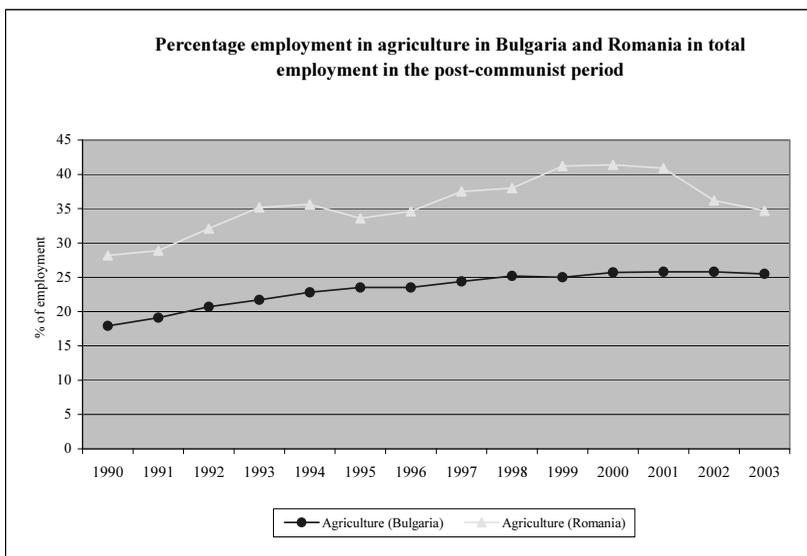
Agriculture and accession to the EU are two interconnected phenomena in Bulgaria and Romania. On the one hand, agriculture was one of the most important chapters in the accession negotiations. On the other, EU membership will have a strong impact on the development of agriculture in Bulgaria and Romania.

Fig. 1



Source: Own calculations based on figures from National Institute of Statistics (Romania), Statistical Yearbook of Bulgaria (1994, 1997, 2001) and Statistical Manual of Bulgaria (2005)

Fig. 2



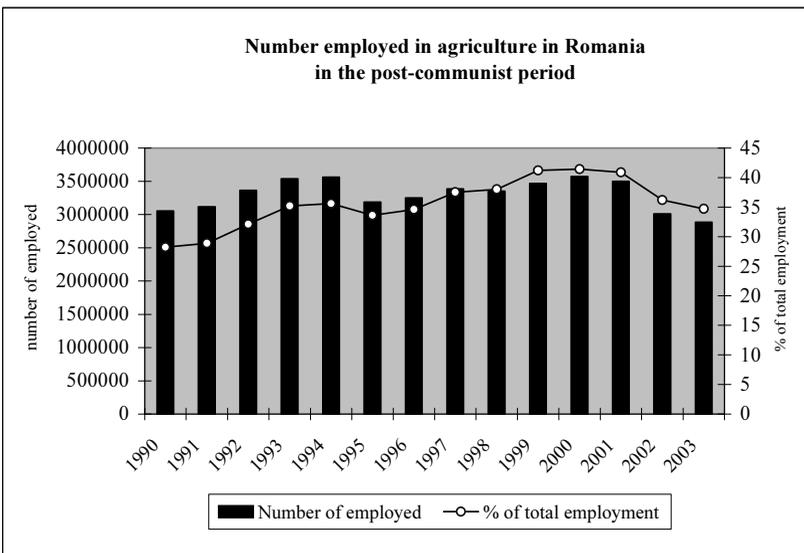
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Fig. 3



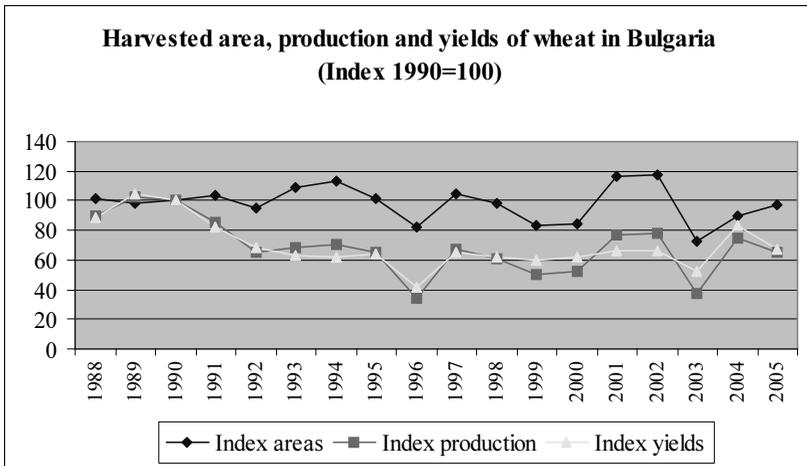
Source: Own calculations based on figures from Statistical Yearbook of Bulgaria (1994, 1997, 2001) and Statistical Manual of Bulgaria (2005)

Fig. 4



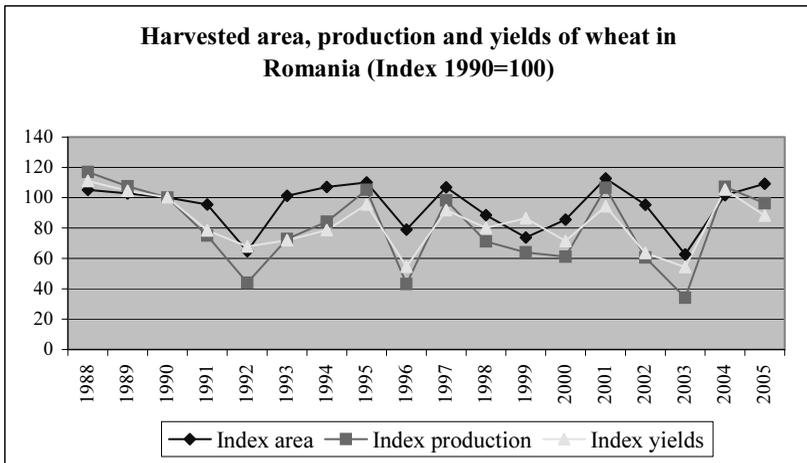
Source: Own calculations based on figures from National Institute of Statistics (Romania)

Fig. 5



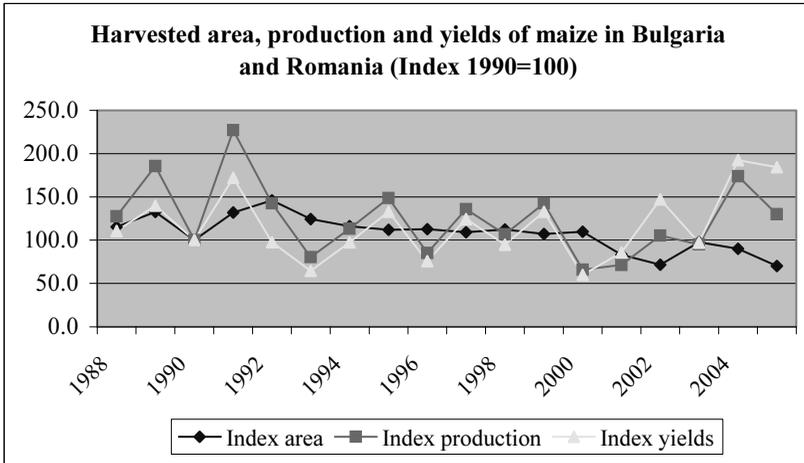
Source: Own calculations based on data from FAOSTAT – <http://faostat.fao.org/faostat/collections?version=ext&hasbulk=0&subset=agriculture>

Fig. 6



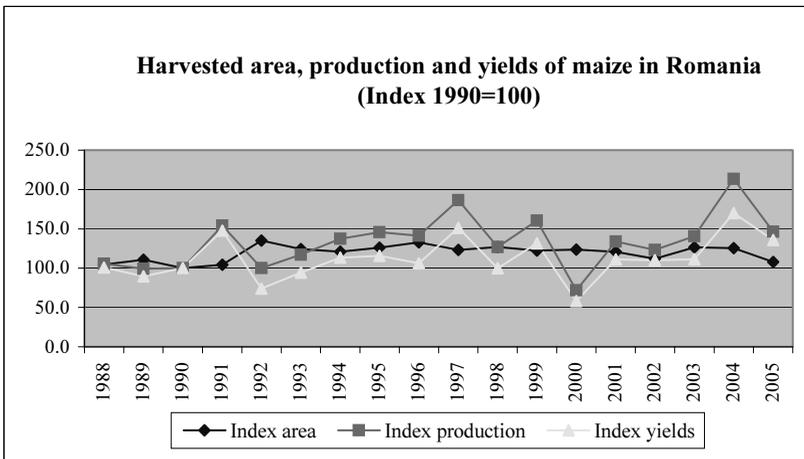
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Fig. 7



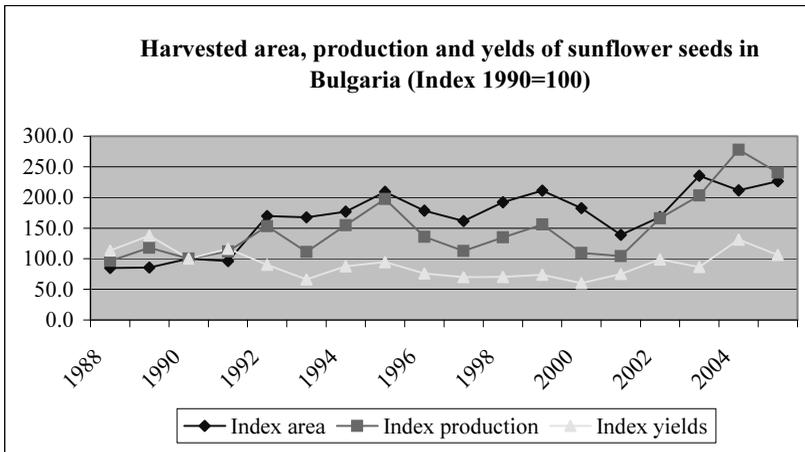
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Fig. 8



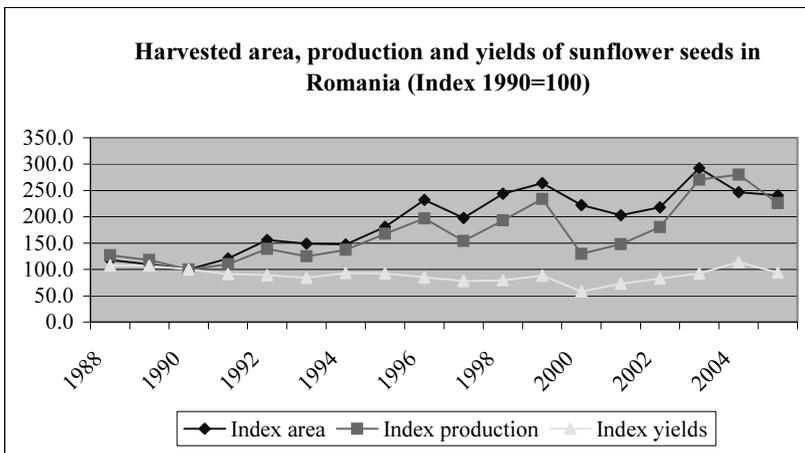
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Fig. 9



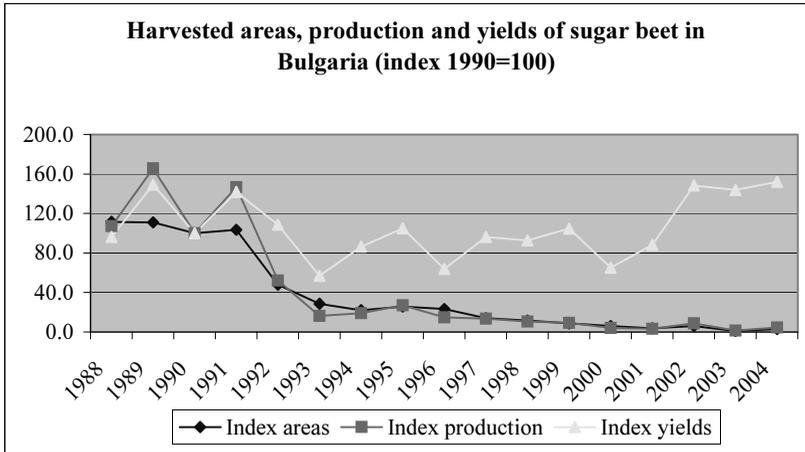
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Fig. 10



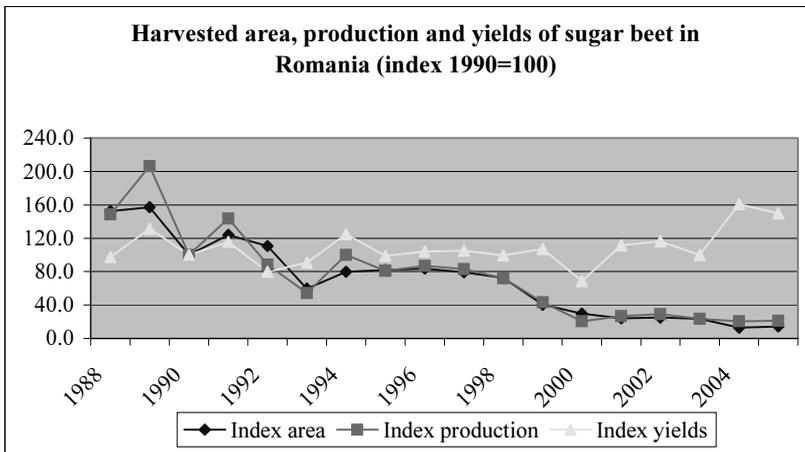
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Fig. 11



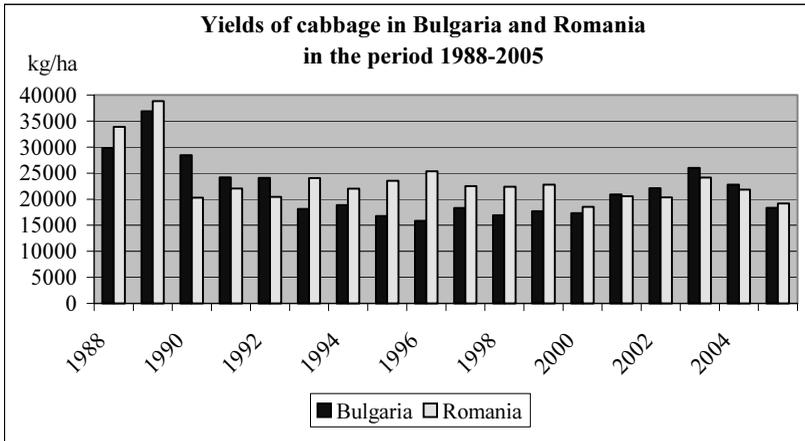
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Fig. 12



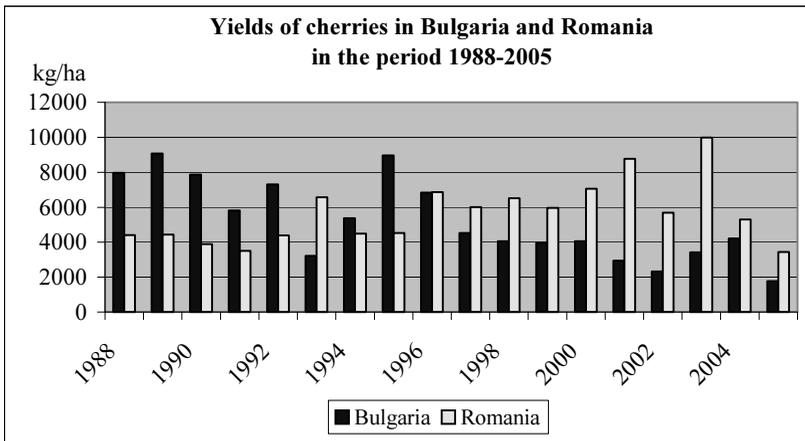
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Fig. 13



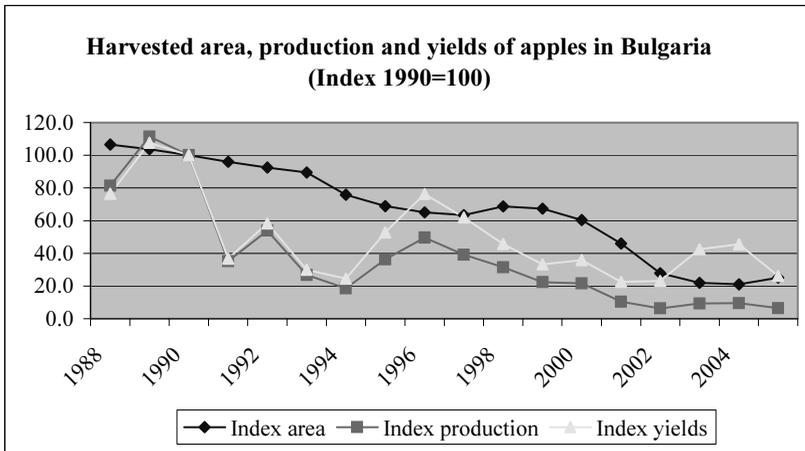
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Fig. 14



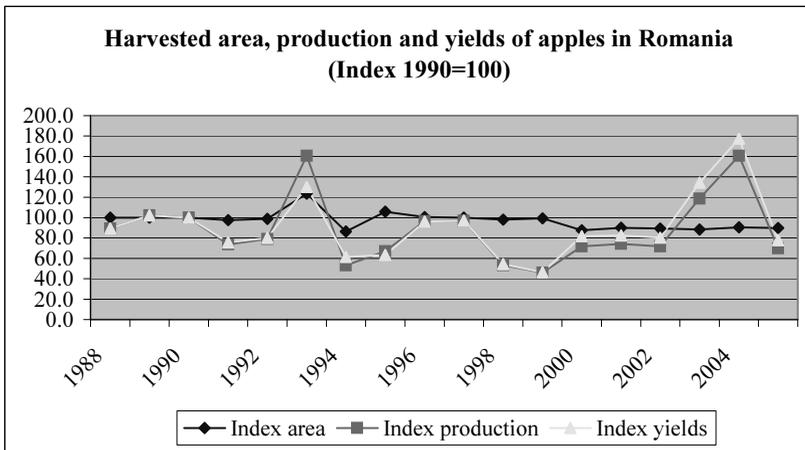
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Fig. 15



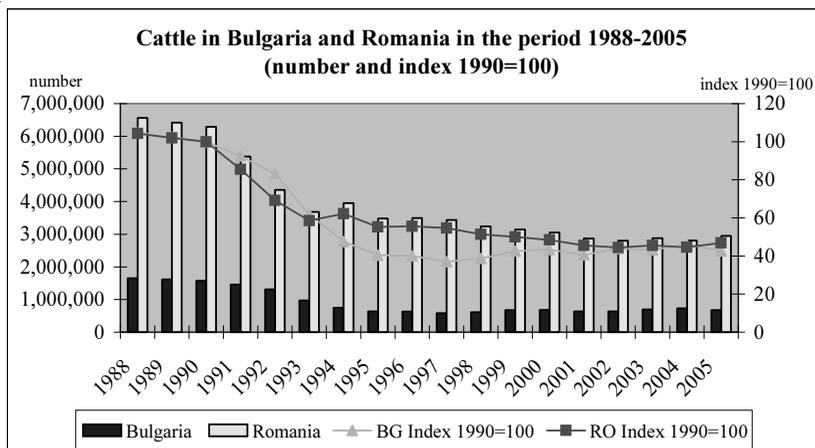
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Fig. 16



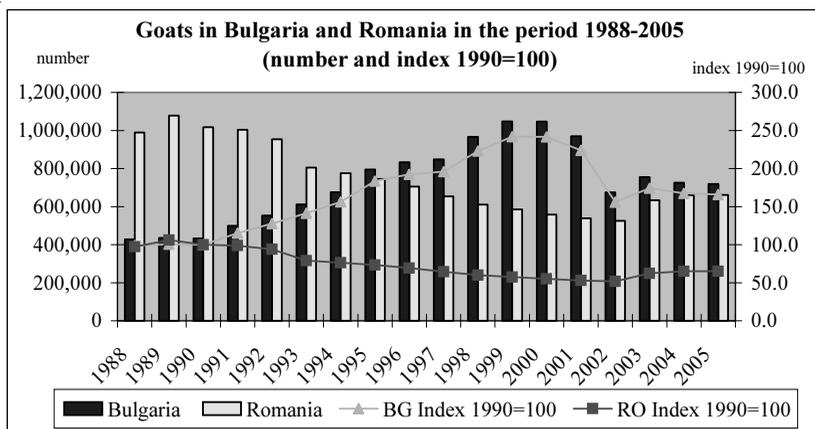
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Fig. 17



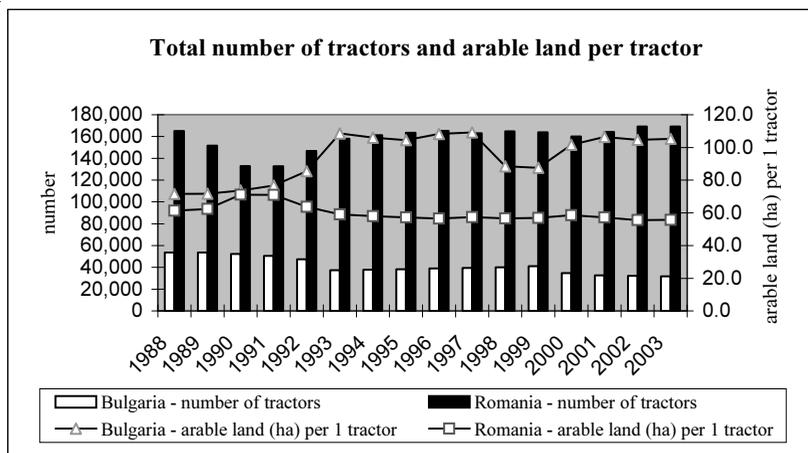
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Fig. 18



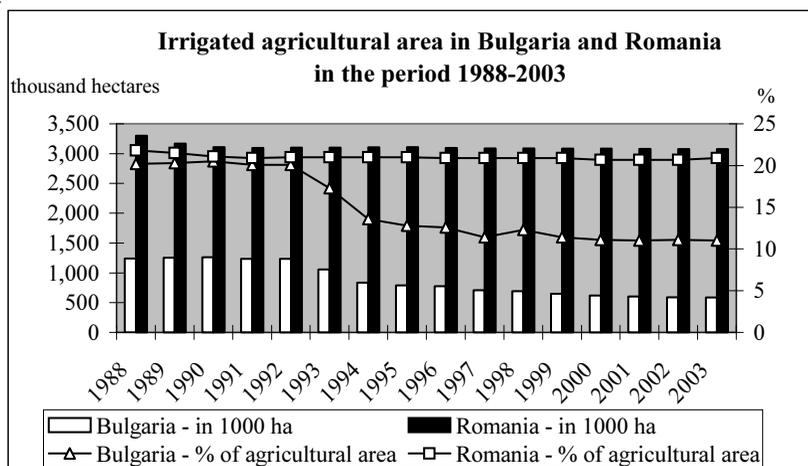
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Fig. 19



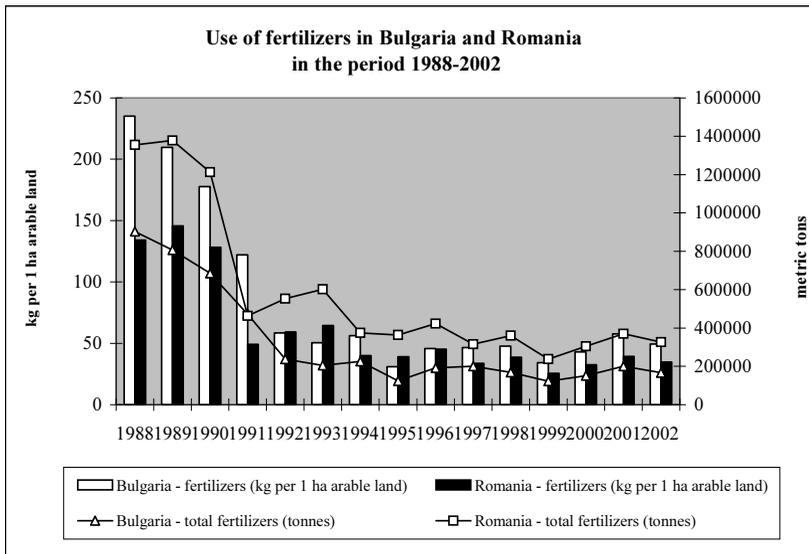
Source: FAOSTAT and own calculations

Fig. 20



Source: FAOSTAT and own calculations

Fig. 21



Source: FAOSTAT and own calculations

Agricultural holdings and utilized agricultural area by size of utilized agricultural area

Table 1

Size categories for utilized agricultural area (hectares)													
	under 0.1	0.1-0.3	0.3-0.5	0.5-1.0	1.0-2.0	2.0-5.0	5.0-10.0	10.0-20.0	20.0-30.0	30.0-50.0	50.0-100.0	over 100.0	TOTAL
<i>Agricultural holdings - number</i>													
Bulgaria	60687	146046	125465	169546	89964	41857	9719	3976	1264	1188	1217	3879	654808
Romania	539893	581365	323452	724547	897891	952395	218880	37408	5527	3950	3850	10203	4299361
<i>Agricultural holdings - %</i>													
Bulgaria	9.27	22.30	19.16	25.89	13.74	6.39	1.48	0.61	0.19	0.18	0.19	0.59	100.00
Romania	12.56	13.52	7.52	16.85	20.88	22.15	5.09	0.87	0.13	0.09	0.09	0.24	100.00
<i>Utilized agricultural area - ha</i>													
Bulgaria	2709.67	26021.50	47774.24	116086.24	120203.28	121714.49	64212.43	52719.53	29796.72	44346.32	83099.74	2195795.47	2904479.63
Romania	23899.50	103709.40	124745.42	506460.76	1272610.64	2907957.69	1440944.55	471097.55	131583.66	149588.43	258042.66	6540069.84	13930710.10
<i>Utilized agricultural area - %</i>													
Bulgaria	0.09	0.90	1.64	4.00	4.14	4.19	2.21	1.82	1.03	1.53	2.86	75.60	100.00
Romania	0.17	0.74	0.90	3.64	9.14	20.87	10.34	3.38	0.94	1.07	1.85	46.95	100.00

Source: Bulgarian Ministry of Agriculture and Forestry; Romanian Ministry of Agriculture, Forestry and Rural Development – data from agricultural censuses 2002-2003 and own calculations.

Agricultural holdings, utilized agricultural area and average size of utilized agricultural area by agricultural holding and legal status of the agricultural holding in Bulgaria, 2002-2003

Table 2

Legal status of agricultural holdings	Number of agricultural holdings*	Utilized agricultural area (hectares)*	Average of utilized area (hectares)*
Individual agricultural holdings	648274	879677.8	1.36
Commercial holdings:	6534	2024801.8	309.89
Agricultural holdings	2870	340861.4	118.77
Trading companies	1331	469197.1	352.51
Co-operatives	1973	1169309.5	592.66
Public administration and other types	360	45433.9	126.21
TOTAL	654808	2904479.6	4.44

Source: Ministry of Agriculture and Forestry (Bulgaria), General Agricultural Census.

*Data refers only to agricultural holdings utilizing agricultural area; farms without utilized agricultural area are not included.

Agricultural holdings, utilized agricultural area and average size of utilized agricultural area by agricultural holding and legal status of the agricultural holding in Romania, 2002-2003

Table 3

Legal status of agricultural holdings	Number of agricultural holdings*	Utilized agricultural area (hectares)*	Average of utilized area (hectares)*
Individual agricultural holdings	4277315	7708757.6	1.80
Legal units:	22046	6221952.5	282.23
Legal personal agricultural holdings	2224	975564.3	438.65
Trading companies	5706	2168792.0	380.09
Public administration	5618	2867368.4	510.39
Co-operatives	77	2365.1	30.72
Other types	8421	207862.7	24.68
TOTAL	4299361	13930710.1	3.24

Source: Ministry of Agriculture, Forestry and Rural Development (Romania), General Agricultural Census.

*Data refers only to agricultural holdings utilizing agricultural area; farms without utilized agricultural area are not included.

NOTES

- ¹ The figures for GDP per capita for Bulgaria and Romania are based on data from the European Commission (EUROSTAT).
- ² The economic statistics based on figures from the European Commission (http://ec.europa.eu/comm/enlargement/romania/economical_profile.htm and <http://ec.europa.eu/comm/enlargement/bulgaria/index.htm> accessed on 18 June 2006).
- ³ The data on restituted land are based on information from the Statistical Yearbook 2001, National Institute of Statistics (Bulgaria), p. 255.
- ⁴ When discussing the agrarian structure we include only agricultural holdings utilizing agricultural area; farms without utilized agricultural area are excluded.
- ⁵ The calculations and assessments on the number of agricultural holdings and utilized agricultural area were made on the basis of data from the Agricultural Censuses in Bulgaria and Romania, 2002-2003. This included only agricultural holdings utilizing agricultural area; farms without utilized agricultural area were excluded from the estimations.
- ⁶ The statistical data concerning harvested area, production and yields of the 22 agricultural crops mentioned are based on figures from FAOSTAT. I have estimated area, production and yields indexes (1990=100) for all crops for each year in the period from 1988 to 2005.
- ⁷ This information was provided by MAF (Bulgaria).
- ⁸ The financial data for Romania is based on Csaki and Kray (2005: 27,28).

BIBLIOGRAPHY

- BEGG, R., M. MEURS, "Writing a New Song – Path dependency and state policy in reforming Bulgarian agriculture", in: Szelenyi, I., (ed.) *Privatizing the Land – Rural political economy in post communist societies*, Rutledge Studies of Societies in Transition, London, 1998, ISBN 0-415-182042, pp. 245-270
- BOIADJIEV, V., "Regionalnata politika v bulgarskoto zemedelie: po-dobre kasno otkolkoto nikoga" (Regional Policy in Bulgarian Agriculture: Better Late than Never), in *Sbornik dokladi Agrarnata reforma novi proekcii – XXI vek*, Nauchno- prakticheska konferencia s mejdunarodno uchastie, Svishtov, 1998, pp. 243-247
- BORDANC, F., *Mutations of Farming Patterns in Romania in the Last 150 Years*, forthcoming, 2006
- BRUCE, J. W., "Review of tenure terminology", in: *Tenure Brief*, University of Wisconsin-Madison, number 1, July 1998
- CONSTITUTION OF THE REPUBLIC OF BULGARIA, Prom., SG. 56/13 Jul 1991, amend., SG. 85/26 Sep 2003, amend., SG. 18/25 Feb 2005
- COX, M., P. MUNRO-FAURE, P. MATHIEU, A. HERRERA, D. PALMER, P. GROppo, "FAO in Agrarian Reform", in *Land reform*, No 2, 2003, pp. 13-29
- CSAKI, C., H. KRAY, "Romanian Food and Agriculture from a European Perspective", ECSSD Environmentally and Socially Sustainable Development Working Paper No. 39, June 2005
- DAVIDOVA, S., A. BUCKWELL, D. KOPEVA, "Bulgaria: economics and politics of post-reform farm structures", in Swinnen, J. F. M. (ed.), *Political Economy of Agrarian Reform in Central and Eastern Europe*, Ashgate, Aldershot, 1997, pp. 23-62
- HANISCH, M., "Property Reform and Social Conflict – the analysis of agricultural ownership transformation in Post Communist Bulgaria", KATO Symposium Berlin, Germany, November 2-4, 2000
- HARTELL, J. G., J. F. M. SWINNEN, "From Central Planning to the Common Agricultural Policy: Analysis and Political Economy Aspects of Agricultural Policy in Central and Eastern Europe", in Hartell, J. G., J. F. M. Swinnen (ed.), *Agriculture and East-West European Integration*, Ashgate, Aldershot, 2000, pp. 187-213
- HOWE, K., "Politics, equity and efficiency: Objectives and outcomes in Bulgarian land reform", in Wegren, S. K. (ed.), *Land Reform in the Former Soviet Union and Eastern Europe*, Routledge, London, 1998, pp. 208-223
- IANAKIEVA, I., "Pozemlenata reforma v Bulgaria" (Land reform in Bulgaria), in *Agrarnata politika na Republika Bulgaria – dnes i utre (Agrarian policy of the Republic of Bulgaria – today and tomorrow)*, Third National Conference of the Union of Agrar-economists in Bulgaria, Sofia, 2000, pp. 93-117
- ILIEVA, M., I. ILIEV, "Restoration of property rights over farmland in Bulgaria as an important prerequisite for transition to market economy", in: *Rural Geography*, Valtice, Czech Republic, Sept. 15-19, 1997, pp. 33-38

- ILIEVA, M., "Transformations of the rural areas in Bulgaria (processes, territorial disparities)", in: *Transformation of Rural Areas in Poland and Bulgaria a case study*, Warszawa, 2002, pp. 21-33
- ILIEVA, M., "The Changing Role of the Agriculture in the Bulgarian Economy", in: *New Arrangements of Socia-economic Links in Central and Eastern Europe*, Rzesow, 2002, pp. 379-393
- ILIEVA, M., CH. MLADENOV, "Changes in the rural areas in Bulgaria: processes and prospects", in: *Geographia Polonica*, 76, 1, 2003, 97-110, PL ISSN 0016-7282
- KANCHEV, I., Organizatsionni formi v agrarnia sektor na Republika Bulgaria (Forms of organization in agricultural sector of the Republic of Bulgaria), Dissertation, Sofia, 1995
- KANEVA, K., "Organisational Restructuring of Bulgarian Agriculture", Partial project 3c, 3rd KATO Workshop, Prague, 1999
- KOOTEN, C. G., L. H. G. SLANGEN, P. SUCHANEK, R. OOSTEN, "Comparative Agricultural Success in Central and Eastern European Countries: Institutions and Social Capital", Nitra, Slovakia, September 10-16, 2001
- LACHMAN, A. E., "What is land reform?" in: *Analytical Papers*, Agency for International Development, Second Edition, Volume XI, Washington DC, June 1970, pp. 1-7
- LAZAR, T., "Probleme Socio-economice ale Agriculturii in Tranzitie", in: Fulea, M., V. Florian, A. Sarbu (coordinatori), *Probleme Romanesti Contemporane*, Academia Româna, Bucharest, 1996
- MACOURS, K., J. F.M. SWINNEN, "Causes of Output Decline in Economic Transition: The Case of Central and Eastern European Agriculture", *Journal of Comparative Economics*, 28(1), 2000, pp. 172-206
- MADJAROVA, S., "Rezultati ot provejdanata pozemlena reforma v Bulgaria" (Results from the Land Reform in Bulgaria), in *Ikonomika i upravljenie na selskoto stopanstvo (Economics and Management of Agriculture)*, No6, 2000
- MIHAILESCU, V. "Peasant Strategies and Rural Development in Romania. Coping with Local Diversity in Development policy", SOCO Project Paper No 92, Vienna, 2000
- MIHAILOV, M., "Bulgarskoto zemedelie v kraia na XX I v nachaloto na XXI vek" (Bulgarian Agriculture at the end of XX and beginning of XXI century), in *Ikonomika i upravljenie na selskoto stopanstvo (Economics and Management of Agriculture)*, No1, 2001, pp. 3 – 10
- MISHEV, P., M. TZONEVA, N. IVANOVA, "Agricultural Reform, Markets and Prices in Bulgaria", *Options mediterraneennes*, Serie B-n 22, 1998, p. 36-52
- NEMENYI, A. "Rural Restructuring and the Sustainability of Farming in Romania and Bulgaria", SOCO Project Paper No. 71, Vienna 2000
- PATARCHANOV, P., "Razvitie i geografski osobenosti na agrarnata reforma v Bulgaria" (Development and Geographical Characteristics of the Agrarian Reform in Bulgaria), Sofia University Yearbook, book 2 – Geography, volume 92, 2001, pp. 283-293.

- PETROV, C., *Agramite reformi v Bulgaria 1880 – 1944 (Agrarian Reforms in Bulgaria 1880 – 1944)*, Bulgarian Academy of Sciences, Sofia, 1975
- PROSTERMAN, R. L., T. HANSTAD, *Land Reform in the 21st Century: New Challenges, New Responses*, in RDI Reports on Foreign Aid and Development 117, Seattle, 2006, ISSN 1071-7099
- REMBOLD, F., "Land fragmentation and its impact on Central and Eastern European countries and the Commonwealth of Independent States", in: *Land Reform*, number 1, 2003, pp. 82-90
- RISSINA, M., "Prikluchva ili zapochva pozemlenata i agrarna reforma u nas" (Completion or Beginning of the Land and Agrarian Reform in Bulgaria), in: *Agrarnata politika na Republika Bulgaria – dnes i utre (Agrarian policy of the Republic of Bulgaria – today and tomorrow)*, Third National Conference of the Union of Agrar-economists in Bulgaria, Sofia, 2000, pp. 143-151
- RIZOV, M., J. F. M. SWINNEN, "The Growth of Individual Farming in Romania", in: Davidova, S., K. J. Thomson (ed.), *Romanian Agriculture and Transition towards the EU*, Lexington Books, Lanham, 2003, pp. 31-45
- SARRIS, A. H., D. GAVRILESCU, "Restructuring of farms and agricultural systems in Romania", in: Swinnen, J. F. M., A. Buckwell, E. Mathijs (ed.), *Agricultural Privatisation, Land Reform and farm Restructuring in Central and Eastern Europe*, Aldershot, 1997, pp. 189-229
- SHARMAN, J.C., "Agrarian Politics in Eastern Europe in the Shadow of EU Accession", in: *European Union Politics*, SAGE Publications, Volume 4(4), 2003
- SWINNEN, J. F. M., "On liquidation councils, flying troikas and Orsov cooperatives: The political economy of agricultural reform in Bulgaria", in: Swinnen, J. F. M. (ed.), *Political Economy of Agrarian Reform in Central and Eastern Europe*, Ashgate, Aldershot, 1997, pp. 129-158
- SWINNEN, J., "Political Economy of Land Reform Choices in Central and Eastern Europe", *The Economics of Transition*, 7(3), 1999, pp. 637-664.
- SWINNEN, J. F. M., "Ten Years of Transition in Central and Eastern European Agriculture", KATO Symposium, Berlin, Germany, November 2-4, 2000
- TĂRICEANU, C. P., Address as a response to the censure motion submitted by the parliamentary opposition, Government of Romania - Press office - 28.06.2006
- TESLIUC, E. D. "Agricultural Policies: Achievements and Challenges", in: *Economic Transition in Romania – Past, Present and Future*, Proceedings of the Conference: Romania 2000: 10 Years of Transition – Past, Present and Future, Bucharest, 1999, pp. 91-141
- THOMSON, K. J., "Modeling the Economic Costs and Benefits of EU Accession", in: Davidova, S., K. J. Thomson (ed.), *Romanian Agriculture and Transition towards the EU*, Lexington Books, Lanham, 2003, pp. 178-194
- TURNOCK, D., "Romania", in: Turnock, D. (ed.), *Privatization in Rural Eastern Europe: The Process of Restitution and Restructuring*, Cheltenham, 1998, pp. 200-246

- ***** *A Decade Later: Understanding the Transition Process in Romania, National Human Development Report Romania 2001-2002*, United Nations Development Programme – Romania (<http://www.undp.ro/publications/pdf/NHDR.pdf>)
- ***** *Agricultural Situation and Prospects in the Central and Eastern European Countries – Bulgaria*, European Commission Directorate General for Agriculture (DG VI), Working Document, June 1998.
- ***** *Agricultural Situation and Prospects in the Central and Eastern European Countries – Romania*, European Commission Directorate General for Agriculture (DG VI), Working Document, May 1998.
- ***** *Agricultural Situation in the Candidate Countries - Country Report on Bulgaria*, European Commission, Directorate-General for Agriculture, July 2002.
- ***** *Agricultural Situation in the Candidate Countries - Country Report on Romania*, European Commission, Directorate-General for Agriculture, July 2002.
- ***** *Bulgaria, Agriculture and Enlargement*, European Commission Directorate-General for Agriculture, May 2002.
- ***** *Communication from the Commission - Comprehensive monitoring report on the state of preparedness for EU membership of Bulgaria and Romania*, Brussels, 25 October 2005, COM (2005) 534, Commission of the European Communities
- ***** *Communication from the Commission – Monitoring report on the state of preparedness for EU membership of Bulgaria and Romania*, {SEC(2006) 595}, {SEC(2006) 596}, {SEC(2006) 598}, COM(2006) 214 final , Brussels, 16.5.2006
- ***** Council Regulation (EC) No 1782/2003 of 29 September 2003 establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers and amending Regulations (EEC) No 2019/93, (EC) No 1452/2001, (EC) No 1453/2001, (EC) No 1454/2001, (EC) 1868/94, (EC) No 1251/1999, (EC) No 1254/1999, (EC) No 1673/2000, (EEC) No 2358/71 and (EC) No 2529/2001, published in the Official Journal of the European Union, 2003
- ***** *Gain Report Number: E34028*, USDA Foreign Agricultural Service, 2004
- ***** *Human Development Report, International cooperation at a crossroads: Aid, trade and security in an unequal world*, UNDP, 2005
- ***** LEGEA nr.1 din 11 ianuarie 2000 pentru reconstituirea dreptului de proprietate asupra terenurilor agricole și celor forestiere, solicitate potrivit prevederilor Legii fondului funciar nr.18/1991 și ale Legii nr.169/1997
- ***** *Master Plan for Establishment of Paying Agency and Integrated System for Administration and Control (IACS) in Bulgaria*, Ministry of Agriculture and Forestry (Bulgaria), Sofia, 2006
- ***** *Monitoring Report – Bulgaria*, Commission of the European Communities, SEC (2006) 595, (COM (2006) 214 final), Brussels, 16/05/2006

- ***** *Monitoring Report – Romania*, Commission of the European Communities, SEC (2006) 596, (COM (2006) 214 final), Brussels, 16/05/2006
- ***** *National Human Development Report (NHDR) for Romania*, UNDP, 2005
- ***** *Regular Report on Bulgaria’s progress towards accession* {COM (2004) 657 final}, Brussels, 6.10.2004, SEC (2004) 1199
- ***** *Regular Report on Romania’s progress towards accession* {COM (2004) 657 final}, Brussels, 6.10.2004, SEC (2004) 1200
- ***** *Report No. 23809*, Republic of Bulgaria - Country Assistance Evaluation, Document of The World Bank, Washington, U.S.A., March 7, 2002
- ***** *Report No. 32452*, Romania - Country Assistance Evaluation, Document of the World Bank, Washington, May 25, 2005
- ***** *Romania, Agriculture and Enlargement*, European Commission Directorate-General for Agriculture, May 2002.