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STRUCTURAL CHANGE IN TRANSITIONAL AGRICULTURE: EVIDENCE FROM SERBIA

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Abstract

The systemic and structural reform of the agribusiness sector in Serbia began following the political changes in 2000, after a decade of isolation and economic disruption. In the meantime, the competitive advantages of Serbian agriculture in comparison with the other countries in the region were lost. Serbia's path to reform, its dynamic and the achieved results show a strong similarity with the CEECs, but due to differences in resource availability and in initial market conditions there are also differences between the countries. In this paper the main features of structural changes in the Serbian agricultural sector, in comparison with other transition countries in the region, has been described, the basic factors which have contributed to these changes have been identified and explained, and the key consequences of this process and the related aspects have been examined.

Key words: structural changes, transition, agriculture, Serbia

JEL: Q10

1. Introduction

Although structural changes are a major characteristic of the evolution of the agricultural sector and have been extensively analyzed by academic literature, a consensus over their evaluation and interpretation has not been reached yet (Goddard et al., 1993, Buchenrieder and Mollers, 2009). For instance, some authors emphasize the impact of structural changes on efficiency (in terms of a better allocation of resources), while others insist on the effects on small family farms and on their role in the preservation of rural vitality. Nevertheless, there is widespread consensus that the consequences of structural changes are multi-dimensional, affecting wide range of economic, social and environmental issues, along with agriculture.

Structural changes in agriculture - as in all other sectors of the economy - are characterized by permanent changes in the distribution of production factors: labour, land and financial capital. They traditionally involve workforce outflows to other sectors and a decline in the total number of farms with a consequent enlargement of their average size.

Since the beginning of the 1980s, the interpretation of structural changes in agriculture has been revised and expanded to other segments of the food chain and in wider terms to the overall rural economy. Therefore agricultural holdings - the main actors of structural changes - have been analyzed within a more comprehensive framework, which integrates the implications with the entire production chain, local and national institutions and policies, natural resources and environmental protection, rural nonfarm economics and the social effects and evolution including changes in consumer behaviour (Balmann et al., 2006, Swinnen et al., 2005). In addition, structural changes are reflected in the economic and physical size of holdings, farm size distribution, financial capital, ownership structure, technology utilization, labour force, as well as in their institutional settings (Boehlje, 1999).

The agricultural transition process in Central and Eastern European Countries (CEECs) started already before the 90s and led to significant changes in the agrarian structure. The intensity, the comprehensiveness and the dynamics of these changes have been unexpected if compared to previous experiences (Deininger, 2002). Having in mind the magnitude of the changes and the heterogeneity of the initial conditions, it is not surprising that even after two decades from the reform the agrarian structures the agricultural systems of the CEECs still maintain relevant differences. Many authors consider that the differences among the former socialist countries are considerably higher in 2010 than in the 1990s. The variation of employment in agriculture - which ranges from less than 5% in the Czech Republic to 42.7% in Romania (Copus et al., 2006), the differences in the average size of farms, their ownership structure, and rural employment can be taken as some of the evidences.

Different transition models, together with factors such as different land consolidation policies, differently organized land market, and diverse approaches to land restitution contributed to make the agrarian structure in Central and Eastern Europe significantly different on a country basis. The overall result has been the contemporary existence of relatively large and efficient agricultural enterprises in Czech Republic, small self-subsistence farms in Bulgaria, highly specialized large farms in the former East Germany and small and diversified farms in Slovenia (Buchenrieder et al., 2007).

The systemic and structural reform of the agribusiness sector in Serbia began following the political changes in 2000, after a decade of isolation and economic disruption. The delay in the implementation of essential reforms resulted in the loss of the competitive advantage of Serbian agriculture in comparison with the other countries in the region (Berkum and Bogdanov, 2012). Serbia's path to reform, its dynamic and the achieved results show a strong similarity with the CEECs that began these processes almost a decade earlier. At the same time the differences in resource availability and in initial market conditions led also to some differences between the countries. Overall the effects of the structural change in the Serbian agriculture have not been comprehensively analyzed yet.

The aim of this paper is to: 1) describe the main features of structural changes in the Serbian agricultural sector in comparison with other transition countries in the region, 2) identify and explain the basic factors which have contributed to these changes, and 3) examine the key consequences of this process and the related aspects.

2. Methodology

Methodologically the work is based on a combination of qualitative and quantitative approaches aimed at investigating the main drivers of the structural change and their related implications. For a better understanding of the SC process in Serbia a comparison with the evolution in the CEECs and in the other WBCs is also assessed. Although the little consensus in the definition of structural change has been reached so far it is recognized that from a pure economic perspective an efficiency-increasing structural change founded on a better allocation of resources might be desirable from a strictly economic perspective (Buchenrieder and Mollers, 2009). Under this frame the work intends to analyze the structural change in agriculture on the basis of several interrelated dimensions: farms size and land market, production performances, changes in productivity and value chain development. The identification of the analyzed dimensions is based on the definition of structural change in agriculture as approached in previous studies focusing on CEECs and on the limited availability and reliability of data.

Table 1 Conceptual framework for analyzing structural change in Serbian agriculture

Dimension	Indicators	Type	The quality of data, data availability and compatibility issues
Farms structure and land market	Farm size; Farm number; Agricultural area; Farms that give land on lease; Farms that take land on lease (%); Leased area (Acres).	Quantitative	The monitoring of farm SC through regular farm surveys comparable with EU countries has not been put in place in any Western Balkan country yet. In most countries (Serbia, Kosovo and Montenegro) data relates to private family farms only (without legal entities). Similar problems appear in FYROM where data is published only for family farms, although a full Agricultural Census was conducted.
Production performances	Share of agriculture in GDP, Gross Agricultural Output (GAO); crop yields, livestock production, GAO structure	Quantitative	Data on the shares of agriculture in GDP and employment, changes in volume of agricultural production and its structure in WB countries is weak. Some data on volume changes of agricultural production (without agricultural services output) and the structure of agricultural production is available or can be calculated using primary statistical data. Data on area and production of main crops is available in all countries. Only in Croatia data collecting and disseminating has already been entirely harmonised with EU requirements.

Value chain development	New forms of business; Level of vertical integration.	Qualitative	Data (as well as studies) on the state of upstream and downstream industries at the subsector level (i.e. fertilizer industry, dairy sector etc.) for Serbia and other WB countries are missing.
Changes in gross agricultural output and productivity	GAO, Employment in agriculture,	Quantitative	There is no reliable data on employment in agriculture. Here LFS data used because figures on AWU do not exist.

Source: Author's elaboration

3. Structural Change in the Serbian Agriculture

3.1. Farm structure and land market

The analysis of farm structure and farm size is essential for understanding the effects of transition, at both sector and farm levels. Therefore, it is the basis for studying the dynamism and directions of structural changes of agrarian sector.

The land restitution has brought different effects in the CEECs. During the 1990s, after the collapse of the socialist regime, a mixed farming structure in terms of ownership and size emerged. A relatively stable farm structure, characterized by a large number of small farms, remained in Poland and Slovenia. These two countries had a large number of small family farms already during the socialist period, so that there was no room for significant changes in the direction of a land redistribution process. On the other hand, in countries where agricultural land was mostly state owned, small farms entered in a system that was still characterized by a significant presence of large farms.

Land de-collectivization had positive implications for the agricultural sector of most transition countries due to the relation between the ownership structure and productivity growth: in most of the socialist countries the productivity of private farms was already significantly higher than the one of cooperatives, state owned farms and agrokombinats. Access to land and its transfer through renting, leasing and sales has been improved in a relatively short period. In this way, the market valuation of land, as the most important agricultural resource, has been established creating the pre-conditions for land consolidation and for the creation of large and more competitive farms. The negative effects of farm structure change, especially in the first years of transition when most of the countries carried out the restitution process, included parcels de-fragmentation and the increase in the total number of farms. The process led to an increase in uncultivated areas and in some countries to a significant decrease of the GAO (Bulgaria, Romania).

In fact, during the transition period a dual farming structure emerged in most of the countries, with both ends of farming suffering from a “transition phenomena”: the small farms characterized by a deficit in size and resources and by inexperienced farmers, and the large ones by the lasting heritage of the collective farming system resulting in a largely inefficient management (Swinnen-Rozelle, 2006, Csaki and Jambor, 2010).

Differently than most transition countries, the land privatization in WBCs did not have significant effects on the change of farm structure (Table 1). Since private holdings already existed in pre-transition period (except in the case of Albania), the liberalization of land market did not made significant changes in the farm structure. The share of small farms is still extremely high, especially in highly densely populated (Albania, Kosovo) and mountainous areas (Montenegro, Albania).

Dualism is significant in countries whose territories cover parts of the Pannonian Plain and its edges (Croatia, Serbia, and Bosnia and Herzegovina), where together with small farms a relevant number of large farms (in Croatia and Serbia as large as several thousand hectares) still exist.

Table 1 Farm structure in the WBCs and EU 27

	Albania (2008)	BiH (est. 2003)	Croatia (2003)	Kosovo * (2008)	FYRoM (2007)	Montenegr o (2003)	Serbia (2002)**	EU 27 (2007)
Number of farms (1,000)	357	515	450	177	193	43	779	13,633
Agricultural area (1,000 ha AA)	428	1,700	1,077	264	334	137	2,869	172,485
Average farm size (ha/farm)	1.2	3.3	2.4	1.5	1.7	3.2	3.7	12.7
% of farms with up to 2 ha	89	50	67	81	90	66	46	47
% of farms with over 10 ha	:	4	5	1	1	5	6	20
% of AA on farms over 10 ha	:	:	52	10	13	41	25	85
Average size of farms over 10 ha (ha/farm)	:	:	25.7	19.6	20.0	24.2	16.5	54.9

**family farms only

Source: Volk, edt. 2010

Land privatisation began in the early 1990s, effectively with the application of the 'Law on the manner and conditions of recognition of rights and restitution of land, etc.'¹ Still, former owners or their successors were only compensated up to a maximum of 10 ha (15 ha with forest area). Therefore, the result was that a substantial area of agricultural land remained state owned. Meanwhile, the state applies the principle that all land of which enterprises and cooperatives are unable to prove they are the owners shall be considered as state property. This princip caused great controversy and serious financial and operational problems of large companies. Agricultural enterprises and individuals, however, have great difficulties in claiming land as the land registry and cadastre are out-dated and/or incomplete. Due to unsolved property issues large companies had problems to access the financial market (i.e. problems with collaterals), which in conditions of lack of working capital led to difficult business operations, to the drop of the total value and eventually to bankruptcy. However, today the majority of public property, which originates from land confiscated from former owners, remains in state ownership, although it can be rented out. Currently state owned land amounts 900,000 ha approximately, of which around half of the area is leased. Most of these land (300,000 ha) is located in Vojvodina (Berkum, S. Van, and Bogdanov, N. 2012).

Table 2 The structure of commercial farms in 2008

	Total	Without land	Under 50 ha	51- 100 ha	100- 500 ha	501- 1,000 ha	1001- 2,500 ha	Over 2,500 ha
Number of agricultural businesses	812	158	136	71	184	79	120	64

Source: SORS Statistical yearbook 2009

According to the latest Census data available (2002), there are about 778,900 private farms in Serbia, with an average size of 3.7 ha. Furthermore, land is fragmented in 4 plots per farm, on average. According to the same source over 75% of private farms comprise less than 5 hectares and only about 6 per cent exceed 10 hectares. It is estimated that private family farmers own approximately 82% of the 5.1 million hectares of agricultural land.

The analysis of changes in ownership structure and land market during the 2000s, according Bogdanov (2008) indicates that (as in other transition countries):

- the number of farms is decreasing, followed by a concurrent polarization based on farm size:
- Farm structure is still dominated by small farms: households with less than 5 hectares account for 73% of the total number of farms. This share is lower than the one obtained in the LSMS 2002 (80%) and 2002 Census (78%), which arguments polarization of farms by size.

¹ 'Law on the manner and conditions of recognition of rights and restitution of land that was transferred to public property from agricultural land fund and the confiscation of the outstanding commitments from the compulsory purchase of agricultural products' ('Official Gazette' No. 18/91).

- Overall the average farm size was reduced to 4.34 ha (further 6% compared to 2002), but the land used by farm has grown to nearly 5ha, which proves the activation of a land market (Table 3).

Table 3 Indicators of land market in Serbia

	Years		Index 2007/2002
	2002	2007	
Farms that give land on lease (%)	9.2	6	65
Farms that take land on lease (%)	6.7	11.7	175
The average area of arable land per farm (Acres)	301	336	112
The area to be leased (Acres)	220	299	136
Leased area (Acres)	377	513	136
Utilised agricultural area (Acres)	329	493	150

Source: Bogdanov, 2008

Regional differences related to land operations and inputs are also a prominent and growing characteristic of the Serbian agricultural sector. The tendency of turning family farms in a large commercial farms or agricultural enterprises is evident in Vojvodina, especially in low-populated areas with an aging population. Even if a significant part of the agricultural utilized area is rented/leased, it clearly emerges, at list in terms of land use, that there is an evident re-allocation of factors of production from small to large farms.

In the first years land trading did not significantly increase and even the land returned by the restitution law to non-farm heirs was mostly not sold, but given on lease. However, households renting land did not have a proportional investment in other inputs of production over the past two decades. This could be explained, among other factors, by the unfavourable economic position of agriculture, the uncertainty of sales, adverse financial market and the monopoly prices of inputs. These factors were generally discouraging any larger investment. Holdings renting or taking on lease land generally found their interest in the possibility to realize an economy of scale. Thanks to the low cost of the lease, they obtained the same benefits as they would have achieved if they would have realized higher yields. Choosing such development strategy is motivated by the fact that the leased area could be adjusted annually, according to the economic trends in agriculture. Such a strategy also allowed farms not to be tied to loans in the long run.

Only the stabilization of the economic position of agriculture and a more favourable macroeconomic environment (since 2006) contributed to the growth of investments in inputs and in an increased cost of lease, which in effect led to a more dynamic re-allocation of production factors towards economically more powerful holdings. Practically, these farms began to operate on the principles of modern management, with same performances as the large farms of Western Europe.

On the other hand, in Central and Southern Serbia, which is dominated by extensive agricultural systems and a large number of semi subsistence farms, a dual tendency in terms of ownership structure emerged. Moreover about one third of the land in this area is not utilized because of poor soil quality, inaccessibility and high operating costs. The growing trend of land abandonment characterizes in particular those areas affected since decades by depopulation and land degradation. Conversely, the rental prices and the cost of lease for higher quality and better located land reached very high level. These areas generally have higher density and anthropic pressure on the land, as well as a labour structure based on the use of part time occupations.

3.2. Production performances

Regardless of size of agricultural sector in overall economy of transitional countries, it remains highly visible activity due to its importance in meeting basic needs (and therefore protects from starvation and poverty). The share of agriculture in GDP of European transition economies in late 1980s varied from less than 10% (4.5% in Slovenia, 6.3% in Czech Republic), to over 25% (Lithuania 26.5, Albania 32%). However, the role of agriculture has declined sharply in most CEECs during the transition period. With the exceptions of Bulgaria and Romania, the share of agriculture in GDP in the CEECs was below 10% prior to 2000s.

The importance of agriculture in Serbia is still significantly higher compared with other countries in the region, except for Albania and FYRoM. The relatively high share of the agricultural sector in the country's GDP is due to a slowly progressing restructuring of the rest of the economy, overall low investment activity, but also can be contributed to rich land and other natural resources. Over the last decade the share of agriculture in GDP decreased from 19 to about 10%. A sharp decline in the share of agriculture in total GDP of Serbia could be explained by the fact that by the 2000 country was economically isolated, while in 1999 economy was in collapse due to NATO war operations.

Table 4 Share of agriculture in GDP (%)

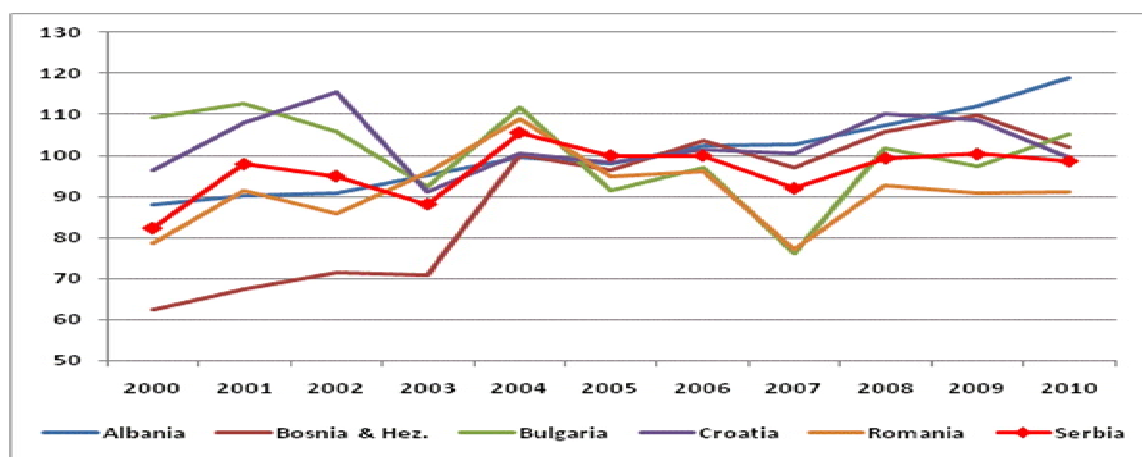
	2000	2003	2006	2010
Bulgaria	13.56	11.20	7.17	5.36
Hungary	5.54	4.30	4.01	3.53
Poland	4.96	4.39	4.29	3.54
Romania	12.51	13.03	10.51	7.14
Croatia	7.0	5.7	5.4	5.6
Bosnia&Herz.	9.9	8.1	8.4	7.7 *
FYRoM	10.0	11.4	10.8	10.4*
Albania	n.a	18.4	14.6	13.7*
Serbia	19.0	12.1	11.4	10.3*

*figures of 2008

Source: Own composition based on World Bank and FP7 Agripolicy project
<http://www.europartnersearch.net/agripolicy/statistics/candidates>

Agricultural output - Economic reforms in the all CEECs have induced important changes in GAO (Gross agricultural output) since 1989. GAO has sharply declined during 1989-1992, while in most of countries (except Albania, Romania, and Slovenia) decline continued pending 1994. The initial decline in agriculture is primarily caused by a combination of institutional disruptions and subsidy cuts (Swinnen, 2003). In general, a growth of GAO was recorded in all countries during the transition period, as well as in the first years of EU membership. More dynamic growth rates had the countries in which the initial value of GAO was low (primarily Baltic countries).

The average annual rates of growth for agricultural goods' output as a whole were positive in all WBC, but not in but not in neighboring EU countries – Romania and Bulgaria (after the sharp decline in production in the period before accession to the EU, after the 2007 record stabilization) (Graph 1).



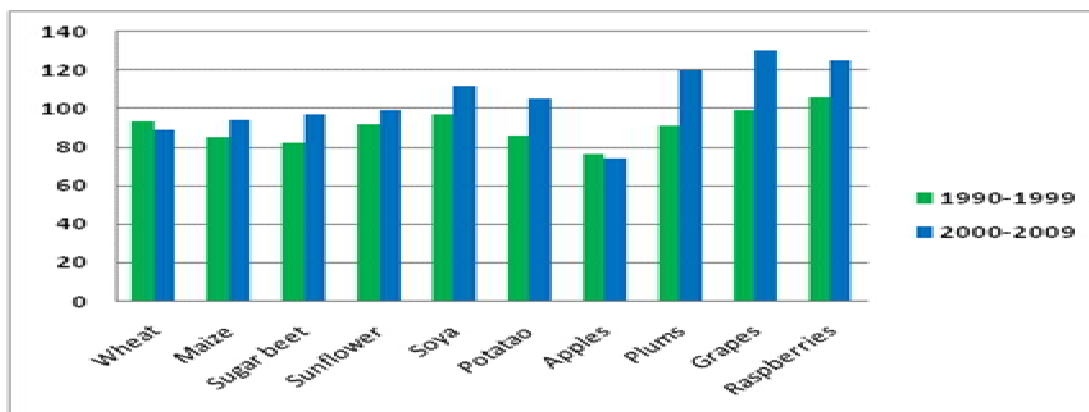
Graph 1 Index of agricultural output (2005=100%)

Source: Authors' calculation based on the FAO Statistics

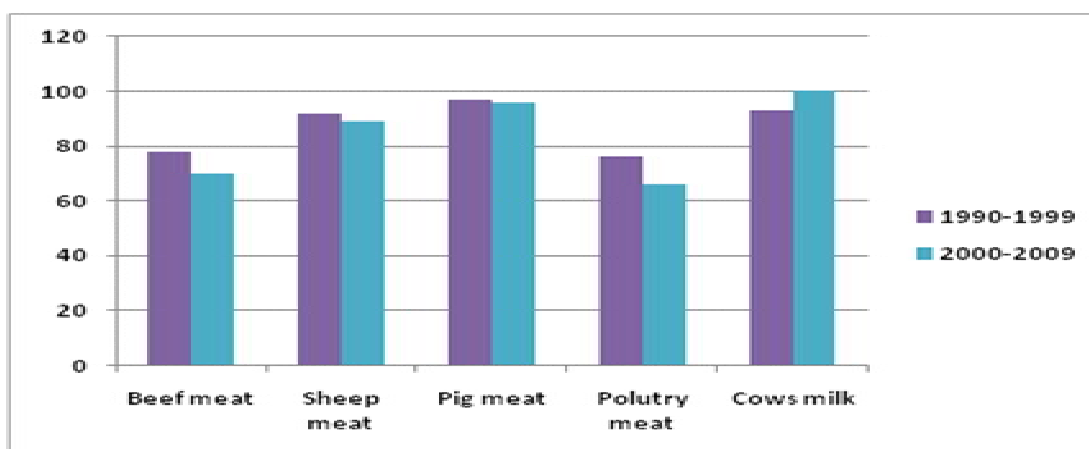
By the early 1980s Serbia experienced a significant growth of agricultural production (3.5-4% annually), which stagnated in the late 1980s and declined sharply in the 1990s. Extremely unfavourable production and economic indicators regarding Serbian agriculture in 1990s are the marked fluctuation and negative trend in production of almost all agricultural products. The drop in

production (other than the typical transition factors experienced by other countries), in Serbia can be explained by the impact of the economic blockade of the country (for almost the entire decade), high inflation rates (one of the largest ever recorded), as well as war conflicts in the Balkans.

The period 2000-2010 was characterized by substantial annual fluctuation of agricultural production, which generally remained lower than in the pre-transition period. Agricultural production in Serbia, which is of a typically extensive nature, was at that time also strongly influenced by the weather conditions, especially droughts. The dynamics of the structural reform of agriculture is reflected also in changes in yield and production structures. Both of these parameters indicate that the productive performance worse than in the pre-transition period (except for the production of fruits and vegetables), and that reached level of intensity is below the of production possibilities (Graph 2 and Graph 3).



Graph 2 Crop yield changes in % (1980-89=100%)
Source: Authors' calculation based on the FAO Statistics

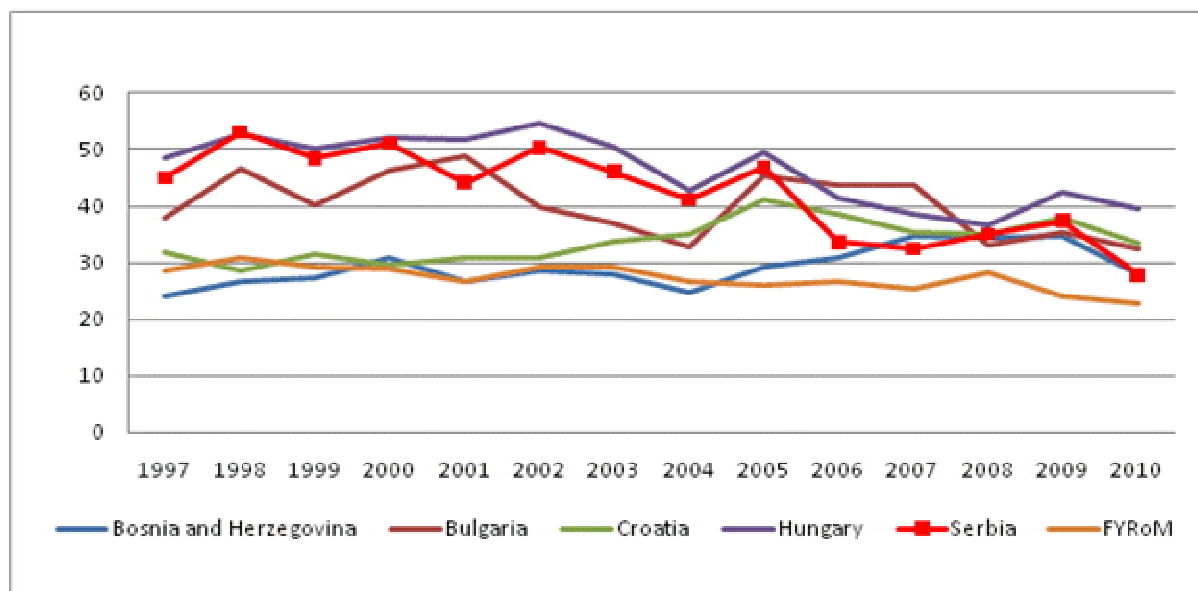


Graph 3 Changes in production of meat, milk and eggs (1980-1989=100%)
Source: Authors' calculation based on the FAO Statistics

In terms of GAO structure, a common characteristic of the transition in agriculture, according to experience of the CEECs, is a decline of livestock production. Most of them (with the exception of Poland and several other countries), yet failed to attain production from the pre-transition period. Today, in none of these countries share of livestock production in total GAO is above 50%. Since 1994 the yields in crop production generally have increased, but the pace of growth often depended on the weather conditions. On the other hand, decline in livestock sector, particularly after accession of these countries to the EU, is evident.

The share of livestock production in total value of agricultural production in Serbia is similar as in Croatia and Hungary. However, while this sector in Croatia grows in the last decade, in Hungary, and particularly in Serbia, it decreases. In Serbia, this trend can no longer be attributed to the effect of the transition factors (decline in demand, loss of markets, price liberalization). The impact of these

factors was manifested during the 1990s, much less than in other transition countries at that time. Moreover, a drastic decline in the number of farm animals occurred at the moment when opportunities for export to the European market were created. Therefore, decline of livestock production could be attributed to the unfavourable price parities, low purchasing power of domestic consumers, adverse conditions in the credit and financial markets, an inadequate system of incentives, the disintegration of value chain (because of the poorly organized privatization process) and lack of efficient system commodity reserves etc.



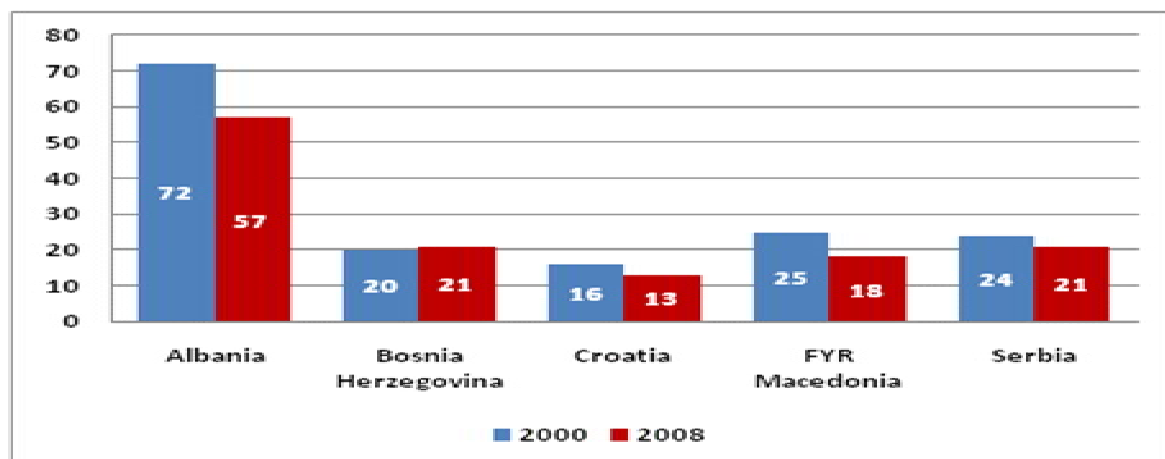
Graph 4 The % of Livestock Production in GAO
Source: Authors' calculation based on the FAO Statistics

3.3. Agricultural productivity

The decrease in agricultural employment caused considerable increase in GAO per worker, i.e. labour productivity. Swinnen et al. (2005) conclude that the differences in the initial position and adopted policies during the transitional period opted changes in employment and productivity in agriculture. Abandoning the policy of price support and high subsidies caused the establishment of the market prices (for both products and labour), which led to a reduction in labour demand. Although productivity gap between transitional countries and developed countries has declined, large differences in agricultural productivity among countries that have undergone the transition process have remained (Csaki and Jambor, 2010).

However, in Serbia such model of transformation of agriculture has not come to life. Due to relatively slow employment growth in other sectors, dynamics of productivity growth was slower than in the CEECs. On the other hand, despite the negative impact of agrarian overpopulation and hidden unemployment on agricultural efficiency, this was exactly what amortized the effects of negative social transition, reducing the risk and consequences of rural poverty. Practically, during transition many of the unemployed have found protection within the small family farms. For them, agriculture was not a source of income, but a guarantee of food security. Researches carried out in Serbia show that only 1/3 of the total number of farms has a market surplus and obtains income from sales of agricultural products (Bogdanov, 2007, Cvejic et al, 2010).

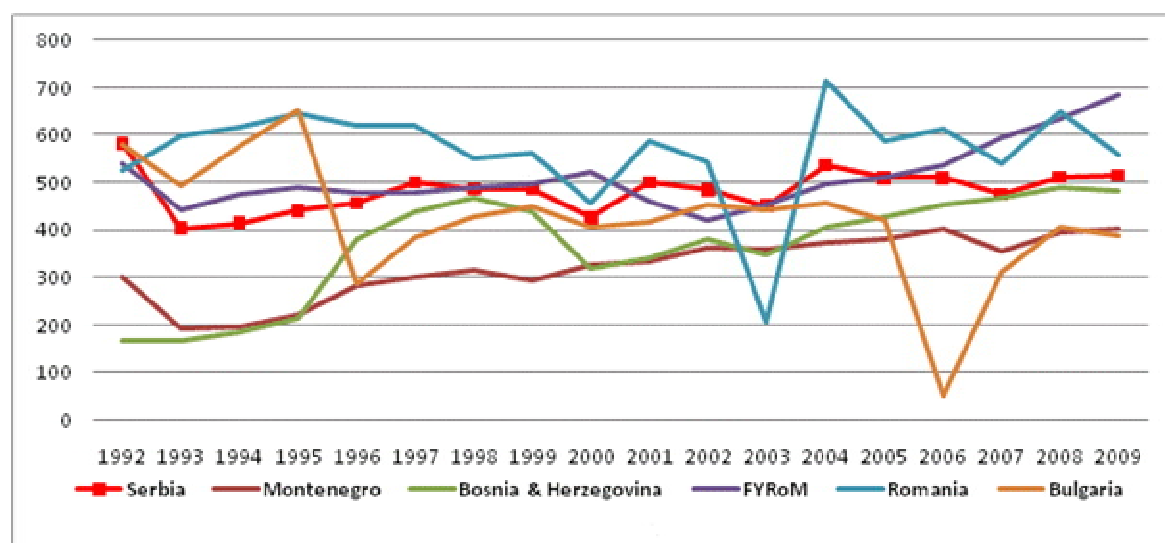
Employment in Serbian agriculture, however, remains extremely high (among the highest in Europe) - the LFS data suggest that almost 40 per cent of all employees in rural areas had the status of farmer or unpaid household labour. Due to such high percentage of farmers and unpaid family members (and a smaller share of waged employees) the share of vulnerable employment among the rural population is significantly worse than in urban areas.



Graph 5 Share of agricultural employment

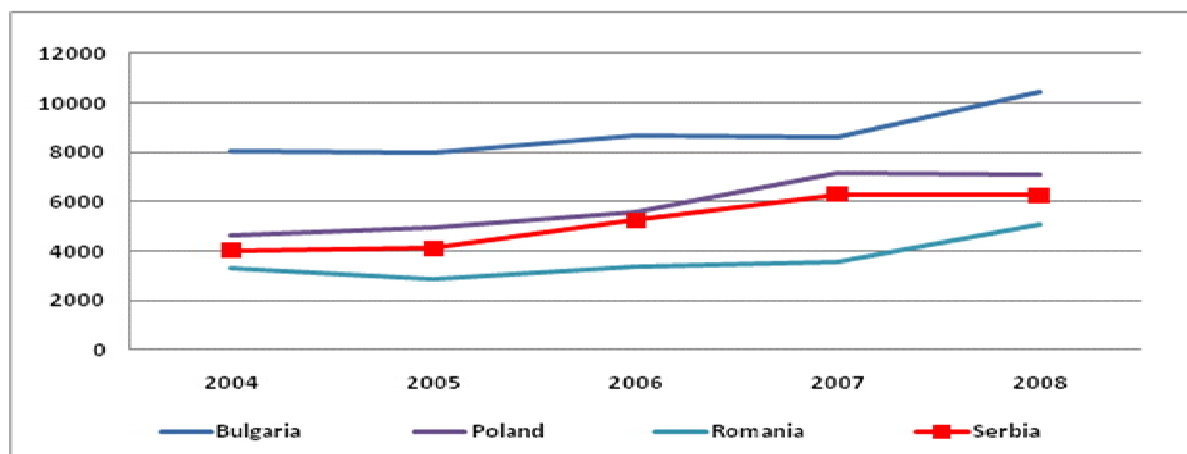
Source: Authors' calculation based on the ILO Statistics

If compared with the neighbouring countries, it could be seen that the productivity of agriculture in Serbia is characterized by stagnation and lowering, recounting to the pre-transition period (Graphs 5 and 6). This can certainly be attributed to the relatively higher initial values of the phenomenon being observed, given that the productivity in Serbia in the pre transitional period was higher than in neighbouring countries. Conditions for productivity growth were created only after political changes in 2000. Practically, the environment in which the majority of European countries in transition were in early 1990s was created with a decade of delays in Serbia. Greater investments in agriculture had begun a few years later, when farms consolidation starts, as well as yield and export growth. Unfortunately, four years of the last decade were extremely unfavourable for agriculture, which contributed to the decline in GAO.



Graph 5 Gross agricultural value added per ha (in constant 2005 USD)

Source: Authors' calculation based on the UN Statistics Division (National Accounts Estimates of Main Aggregates) and FAOSTAT data



Graph 6 Gross agricultural value added per worker

Source: Authors' calculation based on the UN Statistics Division (National Accounts Estimates of Main Aggregates) and ILO (International Labour Organisation) database

3.4. Value chain development

One of the most important challenges of transitional process in agrofood sector is the strengthening of value chains. In fact, the reforms in the upstream and downstream sectors of transition countries were aimed at the abolition of state-controlled monopolies and at the fostering of privatization. As a result of these reforms new private regional and local monopolies have been formed in a number of sectors (e.g. vegetable oil refining in Hungary; grain collection and distribution in Romania). Such re-distribution and processes were particularly noticeable in the livestock sector where in the early stages of transition, in addition to the existing holdings with over-sized capacities, small private processing enterprises emerged. (OECD Observer, 2001).

In later stages, during the second half of the 1990s, the policy focus has shifted to substantial restructuring of the upstream and downstream sectors, technological innovation, growth of productivity and competitiveness, with the main aim to provide better position on local and regional markets. At the same time their domestic retail markets was restructured.

The food chain in the former Yugoslavia was based on a cooperative model. This vertical chain was structured on the local / regional level, and was the link with the large local agro-industrial systems. Agro-industrial complexes had a strong impact on the overall local economy, but also a monopoly on the local market. However, vertical coordination was not completely state-controlled, like in many other socialist countries. Besides them, other trade stakeholders existed (different kind of dealers) whose businesses were often on the border of the grey economy. During the 1990s large agribusiness conglomerates collapsed causing an institutional vacuum in the organization of the market for agricultural products. A particularly relevant problem had those parts of the food sector that were strongly integrated with the other Yugoslav republics. The absence of institutional governance and control, as well as the grey economy widely presented in all segments of the food production system, adversely affected the development of new forms of business matchmaking.

A precondition for the creation of new types of vertical relationships in the sector was created by the privatization of processing facilities, and in the later stages by strengthening of retail chains. Unfortunately, the food industry privatization was carried out in a manner that the vertical chain was not preserved. By chosen model of privatization the opportunity to become co-owners of privatized enterprises was not given to producers of raw materials. On the other hand, in many cases the primary motivation for the purchase of the company was not continuing of production, but the acquirement of land and real estate ownership.

Contrary to the experience of CEECs, in Serbia market liberalization began later. In conditions of high import protection and the lack of competition in the domestic market, the new owners of the privatized enterprises had monopoly position in key sectors. As a result, private traders, retailers, and food processing companies introduced new forms of vertical linkages. Contracting has ceased to be a regular practice, contracts were disregarded by the buyers (especially in terms of maturities), there

were no a joint venture in standards and new technology, and there was no risk sharing. As a consequence of all above mentioned high market volatility, particularly pricing was generated. The grey economy is still present, while in some sub-sectors regional competition starts to act strongly and threatens comfort and monopoly of the domestic food industry. Investment and consolidation processing industry and retail chains are driven by more intensive cross-border cooperation. Value chain is relatively well-rounded only in the production of industrial crops and milk. These are parts of the system which were first privatized and where there is a stable domestic market and export potential. In the domestic market of cereals and meat there are still a large number of participants, production is not contracted, and the standards are slowly being introduced.

4. Conclusions

The CEECs have undergone significant reforms adjustment and socio-economic transformation of the agricultural sector over the last twenty years. Nevertheless, the most important structural and socio-economic indicators of the new EU member states still show significant deviations compared with the EU-15 average, as there are profound differences among themselves. The transition in Western Balkan countries have started at the beginning of 1990s, in a particularly complex economic, political and social environment, caused by the war, the disintegration of the common economic and financial markets and extensive population movements. In the case of Serbia, as a particularly important factors of the dynamics of structural reforming should include sanctions of the UN Security Council, and the hyperinflation that has seriously hamper financial system.

The transition period and the reform of the economic environment in Serbia are practically begun with the change of the political regime in 2000 year. Therefore, transition period practically can be divided in two particular periods:

- 1990-2000 - The period from the beginning of the liberalization of the land market by the end of sanctions and war, and the beginning of substantial economic reforms. During this period, agriculture is characterized by decrease in yield and production due to reduced use of inputs, reduced state support to agriculture with occasional control of food prices, the decline in standards and purchasing power of consumers and banned exports. It created the conditions for the existence of the gray market, particularly in the application of quality standards, veterinary border inspection, etc.
- 2001-2011 - During the first five years of this period have been established the basic institutional systems and the adopted set of new laws. Besides, in this period carried out the privatization of many enterprises in the agricultural and food sectors and the exportation on the EU market started. During the second half of the decade, relatively stabilized system of funding, financial markets have been established and land register improved, which contributed activation of the land market and the growth of total investment.

The analyzed aspects of structural changes in the agrarian Sector's Serbia indicate that this process takes place in an uneven pace, and with different intensity in certain parts of the country. Winners in this process are the regions with the more developed agriculture and larger farms.

Contrary to other transition countries in the region, a farm structure in Serbia (as well as in other countries of the former Yugoslavia) was not significantly changed during the transition period. The dual farm structure has been established in the northern, lowland areas of the country, where the land market is much more active. The renting land becomes more common than selling. Important changes in the farm structure started from the mid 2000's. Since 2005 economic position of agriculture has been stabilized and budgetary incentives for the sector increased. Consequently, large farms are becoming important consumers of inputs and machinery, as well as more active players in the land and the financial markets. This model of restructuring is observed only in the more developed regions of the country, thus make deeper the already big regional divergence.

During the transition period, GAO had smaller amplitude variation than the transitional countries in the region, but production is still lower than the pre-transition period. This situation is

caused by the traditional factors that are noted in other countries, with a few specificities: extremely unfavourable weather conditions during the last decade (from 2000 to the present were four dry years), isolation of the country during the first decade of transition and slower recovery of the rest of the economy. In such circumstances employment in agriculture remains high, with not enough room for a reduction of hidden unemployment in the sector. Agricultural labour and land productivity are lower than in other transitional countries, mostly due to the high employment in agriculture.

The formation of new forms of value chain began relatively late (early 2000's). Given that the country has been for a long time excluded from international economic flows, FDI were lower than in other transition countries with similar potential. On the other hand, such circumstances created the environment for operation of grey economy and monopoly position of national/regional companies. The privatization of processing industry and a more favourable political climate in the region, created the conditions for operation of modern and efficient production chains. Today, retail market is dominated by regional/national retail groups that have started a regional consolidation process. The country's progress in the EU integration would contribute to faster adoption of quality standards and greater competitiveness of local stakeholders. Such restructuring is essential before the upcoming liberalization of domestic market.

5. References

- Balman, A., Odening, M., Weikard, H.-P., and W. Brandes (1996). Path-dependence without Increasing Returns to Scale and Network Externalities. *Journal of Economic Behavior and Organization* 29 (1): 159-172.
- Berkum, S. Van, and Bogdanov, N. (2012). Serbia on the Road to EU Accession, CABI
- Boehlje, M. (1999). Structural change in the agricultural industries: How do we measure, analyze and understand them? *American Journal of Agricultural Economics* 81 (5): 1028-1041.
- Bogdanov, N. (2007). *Small rural households in Serbia and rural non-farm economy*. Belgrade, UNDP.
- Bogdanov, N. (2008). *Agriculture. Living standards measurements study - Serbia 2002-2007 (LSMS)*. Statistical Office of the Republic of Serbia, Belgrade.
- Copus, A., Hall, C., Barnes, A., Dalton, G., Cook, P., Weingarten, P., Baum, S., Stange, H., Lindner, C., Hill, A., Eiden, G., McQuaid, W. R., Grieg, M., and Johansson, M. (2006). *Study on Employment in Rural Areas*. European Commission. Directorate General for Agriculture. Available at: http://ec.europa.eu/agriculture/publi/reports/ruralemployment/sera_report.pdf (6.9.2012)
- Buchenrieder, G., Möllers, J., Happe, K., Davidova, S., Fredriksson, L., Bailey, A., Gorton, M., Kancs, D., Swinnen, J., Vranken, L., Hubbard, C., Ward, N., Juvančič, L., Milczarek, D., Mishev, P., (2007). Conceptual framework for analyzing structural change in agriculture and rural livelihood. Discussion Paper NO. 113, IAMO. Available at: <http://www.iamo.de/dok/dp113.pdf> (5.9.2012)
- Buchenrieder, G., and J. Möllers (eds.) (2009). *Structural Change in Europe's Rural Regions – Farm Livelihoods Between Subsistence Orientation, Modernization and Non-farm Diversification*. Vol. 49 of IAMO Studies Series
- Cvejić, S., Babović, M., Petrović, M., Bogdanov N., and Pavlović, O. (2010), *Social exclusion in rural areas of Serbia (in Serbian)*. Belgrade, UNDP.
- Csaki, Cs., and Jambor, A. (2010). After the first five years: the diversity of effects of EU membership on agriculture in New Member States, Agriculture in Late Transition - Experience of Serbia, Serbian Association of Agricultural Economists – DAES (SAAE), Belgrade.
- Deininger, K. (2002). Agrarian reforms in Eastern European countries: lessons from international experience. *Journal of International Development* 14: 987-1003.
- Goddard, E., Weersink, A., Chen, K., and C. G. Turvey (1993). Economics of structural change in agriculture. *Canadian Journal of Agricultural Economics* 41:475-489.
- Rozelle, S., and J. F. M. Swinnen (2004). Success and failure of reform: insights from the transition of agriculture. *Journal of Economic Literature* 42: 404-346.
- Swinnen, J. (2003). *Between Transition, WTO, and EU Accession: Agriculture and agricultural policies in formerly centrally planned countries*. Leuven Interdisciplinary Research Group on

International Agreements and Development, Working Paper No 2 - December 2003. Available at:
http://ghum.kuleuven.be/ggs/publications/working_papers/archive/wp02.pdf (5.9.2012)

Swinnen, J. F. M., Dries, L., and K. Macours (2005). Transition and agricultural labour. *Agricultural Economics* 32: 15-34.

Volk, T. (ed.) (2010). Agriculture in the Western Balkan Countries, IAMO, Vol. 57 of IAMO Studies Series

OECD Observer (2001). Challenges for the Agro-food Sector in European Transition Countries