

# Place and role of the agricultural sector in the national and regional economic structure

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**Abstract.** The agricultural sector is an important branch that leads to significant changes in the national and regional economic structure, as well as in trend formation impacting the economic development of the country. The changes related to the sectoral structure of the branch determine the place the country occupies with respect to its economic development. The present study aims to analyze and compare the relative share of some main economic indicators defining the place and the role of the agricultural sector in the economy of the EU and Bulgaria, the relationship of agriculture to the other sectors, and to evaluate the dynamic changes in the sectoral structure over a longer time period. The study shows that Bulgaria still lags behind the other EU member states from the perspective of restructuring economy and allocating resources from the agricultural sector to the other two sectors.

## 1 Introduction

The agricultural sector is a major and essential branch for the Bulgarian economy which has a strategic importance related to the food security of the population. This sector creates opportunities for providing raw materials to many other branches and sectors of the national economy, provides employment and income for a considerable part of the population, has a potential for sustainable development of the environment, and also improves the quality of life. This is a sector, which in recent years has undergone serious changes, both in dynamic, and in structural aspects. The changes related to the sectoral structure of the branch in the national economy determine the place which the country occupies in relation to its economic development. The dynamic and structural changes of the agricultural sector are in immediate relationship with the complex development of the national economy and with economic activity at a regional level.

The **aim** of the present study is to define and compare the sectoral structure of our country against the EU one and to evaluate the place of the agricultural sector in the economy of the country and Europe.

In view of fulfilling the set objective, the following research **tasks** have been set:

1. To determine the economic structure of Bulgaria and the EU
2. To make a comparative analysis of the sectoral structure of the national economy against the EU structure

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3. To define the place and role of the agricultural sector in the economic structure of the national economy.

The **object** of this research is regional sectoral structure of the national and regional economy, and subject of the present study – the indicators *employees, Gross Added Value, and the relative labour productivity by sectors*.

The **range** of the analysis includes a wide time span divided into three intervals, as the first time interval encompasses the period 2000-2006, the second – 2007-2013, and the third - 2014-2020. The primary data for these years is the mean of all analyzed indicators, based on data from Eurostat and NSI.

## 2 Materials and Methods

The economic structure in the study is presented according to the theory of trisectoral division into three main sectors of national economy, namely Agricultural – primary, Industrial – secondary, and Services – tertiary, based on the understanding for a continuous process of structural changes from primary to secondary and tertiary. The methods used to evaluate the structural changes and differences in this article are *relative values of structure, method of consolidation, arranging the structural shares by separate indicators, comparative analysis*, etc.

## 3 Results and discussion

The economic transition through various developmental stages occurs in specific ways for various countries and regions and may be accepted as an indicator for evaluating the degree of development of contemporary economies. The analysis of the sectoral structure in the economy of the EU community and the country as a whole is related to the changes in the volume and structure of GVA by sectors. Parallel to the structural changes by GVA, ensuing changes in the share of employees further impact relative labour productivity. In view of determining the place and role of the sectors in the national economy against the same sectors of the EU member states, we have established the shares of the primary, secondary and tertiary sectors in the GVA structure, the structure of employment by sectors and the relative labour productivity.

**Table 1.** Average relative share of the agricultural, industrial and services sector in the economy of Bulgaria and the EU 28/27 for the period 2000-2020

GVA	Agricultural sector		Industry sector		Services sector	
	Bulgaria	EU 28/27	Bulgaria	EU 28/27	Bulgaria	EU 28/27
2000-2006	10,2	2,0	22,2	20,8	67,6	77,2
2007-2013	5,4	1,7	21,9	19,3	72,8	79,0
2014-2020	4,4	1,9	22,4	20,1	73,2	78,1
Employment	Agricultural sector		Industry sector		Services sector	
	Bulgaria	EU28/27	Bulgaria	EU 28/27	Bulgaria	EU 28/27
2000-2006	21,4	6,1	23,0	18,2	54,4	75,2
2007-2013	19,4	5,3	20,8	16,0	59,8	78,7
2014-2020	18,1	4,9	20,0	16,2	61,8	78,9
Relative labor productivity	Agricultural sector		Industry sector		Services sector	
	Bulgaria	EU 28/27	Bulgaria	EU 28/27	Bulgaria	EU 28/27
2000-2006	47,7	32,8	96,5	114,3	124,3	102,7

2007-2013	27,7	31,9	105,2	120,7	121,7	100,4
2014-2020	24,5	38,8	112,1	124,1	118,4	99,0

Source: [1, 2]

The smallest relative share in the national economy and the economy of the EU member states is occupied by the agricultural sector, followed by the industrial, while the biggest share is taken up by services. The comparison between the share of agriculture by GVA for Bulgaria against the average relative share of the same indicator in the EU, calculated as a mean arithmetic weighted value shows that the participation of the agricultural sector by GVA for Bulgaria is considerably higher, compared to GVA in this sector for the EU. Two to five times larger relative share of this sector by GVA has been found against the average for the EU. Regarding the participation of the industrial sector by GVA, we have established an insignificant difference in the structure of this indicator for the observed sector against the other EU member states.

The share of the services sector by GVA is the highest both for our country, and for the EU member states. For Bulgaria, this relative share is lower and marks minimal deviations against the mean value for the EU. This sector is developing dynamically, determines to a great extent the structural transformations in the economy and poses challenges related to adapting the economies to the new realities. Visually the structure of the separate sectors by GVA for Bulgaria and the EU is presented in the following figure:

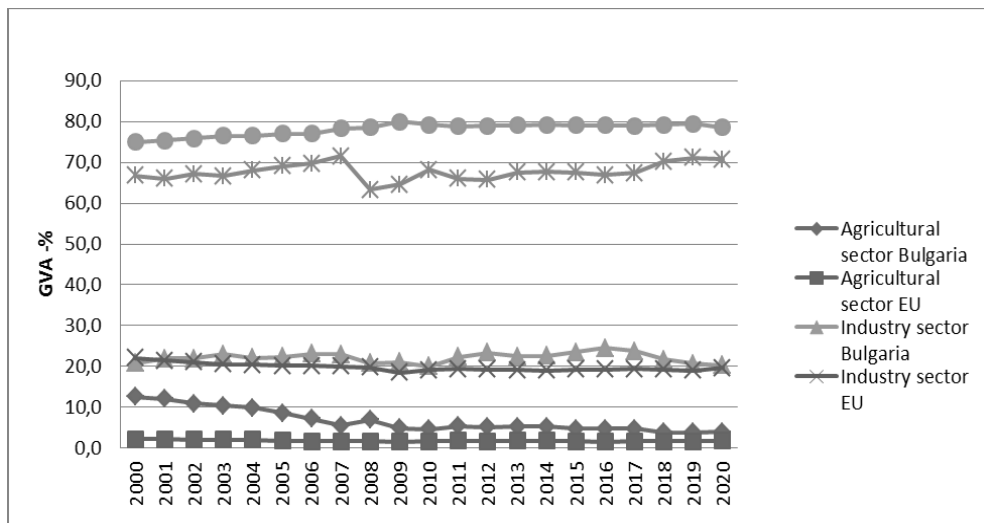


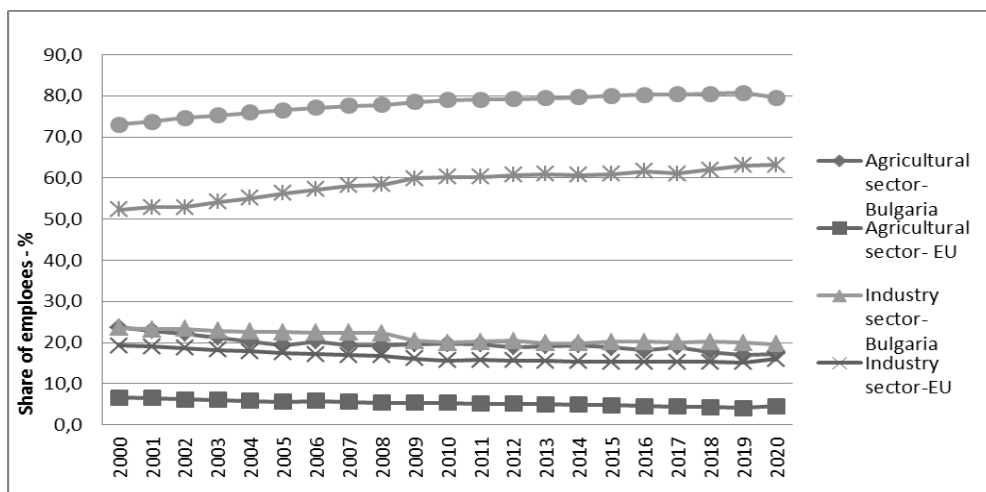
Fig. 1. Share of the agricultural, industrial and services sector by the GVA of Bulgaria and the EU 28/27 for the period 2000-2020

Source: [1, 2]

The employment structure of the agricultural sector of the national economy considerably differs from that of the other EU member states. The employment rate in the Bulgarian agricultural sector exceeds 3.5-3.7 times that in the other EU member states. The high relative share of the employed in the primary sector in our country is a precondition for continuation of the processes of shifting labour force from the agricultural sector to the industrial and services sectors. The question is to what extent can our country rely on its potential to implement these structural transformations, considering the age, qualification, education and other characteristics of employees in the primary sector in Bulgaria.

The share of the people employed in the industry and services approaches the one of the other EU member states, as the share in the industrial sector is a bit higher than the mean value for the EU, while the share in the services is lower.

Visually, the structure of the employees in the separate sectors in Bulgaria and the EU is presented in the following figure



**Fig 2.** Share of the employees in the agricultural, industrial and services sectors in Bulgaria and the EU 28/27 for the period 2000-2020

Source: [1, 2]

The relative labour productivity, obtained as a ratio between the GVA relative share and the employment per sector allows us to determine the place of the country in the EU, and respectively to evaluate the existing process with respect to structural changes.

The relative labour productivity for the period 2000-2007 in the agricultural sector for our country is 1.5 times higher than the EU values. The drastic reduction of this indicator in the other two periods is a result of the greater drop of the GVA relative share against an insignificant decrease in the relative share of the employees in this sector. The reduction in the relative labour productivity in agriculture is at the expense of the higher growth rates of production efficiency in the other two sectors. The increase of the relative labour productivity in the agricultural sector may be realized through downsizing the share of employees in this sector. In Bulgaria the shift of labour resources from agriculture to the other two sectors is a slow process which is not expected to have a short-term duration, while the higher relative share of the employees in the agricultural sector can lead to realization of the slower growth pace of our country, compared to the other EU member states.

The change in these indicators in a dynamic aspect is expressed in a reduction of the mean relative share for the EU of the agricultural and industrial sectors by GVA, as well as of the employment in the same two sectors, as this change accounts for the higher values of the same indicators in the tertiary sector. For Bulgaria, the trend is similar to the EU, yet the decrease of GVA, the employment and the relative labour productivity in the primary sector against the first observed period is drastic and varies between 47.1-56.9% for GVA, between 9.3-15.4% for the employment, and between 41.9-48.6% for the relative labour productivity.

The task of the present study is to determine the position which the agricultural sector occupies, compared to the other sectors, as well as the place of Bulgaria against the other EU member states. For these purposes, we have arranged the structural shares of the sectors

by GVA, the employment and relative labour productivity. For each of the three observed periods according to the GVA, employment and relative labour productivity indicators, an ordinal number (rank) is assigned and the member states are ordered from the smallest to the highest relative share by the relevant indicator. Through summing up the ranks over the entire time period, we have determined the place which each country occupies with respect to the studied indicators. Of particular interest are those member states which lead the ranking with the lowest and highest ranking sum. In the table we have presented the ranking of the EU member states which take up the first three places for the smallest and the largest sum of rank:

**Table 2.** Ranking of the EU member states by the ranking sum of GVA, employment and relative labour productivity for the period 2000-2020

Ranking of the EU member states by		highest sum of ranks			lowest sum of ranks		
Sum of ranks for GVA	Agricultural	Romania	<b>Bulgaria</b>	Croatia	Luxembourg	United Kingdom	Belgium
	Industry	Czechia	Romania	Slovakia	Luxembourg	Cyprus	Greece
	Services	Luxembourg	Cyprus	France	Romania	Czechia	Hungary
Sum of Employment Ranks	Agricultural	Romania	<b>Bulgaria</b>	Poland	Luxembourg	United Kingdom	Malta
	Industry	Czechia	Slovakia	Slovenia	Netherlands	Greece	Cyprus
	Services	United Kingdom	Luxembourg	Netherlands	Romania	<b>Bulgaria</b>	Poland
Sum of ranks for relative labor productivity	Agricultural	Hungary	Malta	Netherlands	Ireland	Portugal	Poland
	Industry	Ireland	Netherlands	Denmark	Luxembourg	Malta	Cyprus
	Services	Romania	<b>Bulgaria</b>	Poland	Ireland	Netherlands	Denmark

Source: [1]

It is apparent from the table that for the three periods our country has occupied second place after Romania in the ranking for the highest sum of the indicators for the agricultural sector in GVA, employment in the primary sector, and relative labour productivity in the services sector. Romania and Bulgaria have the highest share in the agricultural sector in GVA, and also the highest employment in the primary sector. This determines a relatively low labour productivity, regardless of the fact that the two countries do not take the top positions by this indicator. Romania and Bulgaria are the countries with the highest relative share of employment in the services sector, however, they have the highest relative share of relative labour productivity in this sector, occupying the leading position for this indicator.

## 4 General conclusion and recommendations

The high relative share of the employees in the agricultural sector is an indicator for the possibilities of the country to restructure the labour resources to the other two sectors. For Bulgaria this relative share is considerably higher than the average share of employees in the sector at EU level, yet in a dynamic aspect there is an insignificant decrease. This is an indicator which shows that despite the slow pace, the processes of restructuring labour force from the primary sector to the secondary and tertiary for our country continue, however, we may not expect a higher intensity of shifting labour force to the other two sectors. The average relative labour productivity for Bulgaria in the industrial sector rises, followed by a trend of increasing the indicator for the other EU member states, which allows favorable changes in the development of the industry. Services are the sector in

which a higher labour productivity is observed. For Bulgaria there is an increasing trend both for GVA, and for the share of employees. This, on the other hand, may presuppose an effective development of the sector, bringing beneficial changes to the economic growth of the country.

## **References**

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