NEW ECONOMY Section

STRUCTURAL TRANSFORMATION OF THE ROMANIAN ECONOMY. A COMPARATIVE ANALYSIS

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Abstract. *The reallocation of production factors between different sectors of an economy reflects the process of structural transformation as a result of changes in the various supply and demand side factors. The effects of the reallocation can be seen at the level of production and gross value added of the sectors and sub-sectors of an economy. In this context, the present paper analyzes the structural transformation of the Romanian economy looking at the dynamics of gross value added in different sectors and comparing it to the other EU economies for the period 1995-2017. The results suggest that Romania is an outlier, namely the structural differences between Romania and the other EU states are the highest, comparable only with Bulgaria. The analysis also reveals that, in the specified period of analysis 1995-2017, the European economies became more homogenous from the perspective of their GDP per capita but, at the same time, the structural homogeneity of these economies has reduced.*

Keywords: *structural transformation, gross value added, agriculture, manufacturing, services, ICT.*

1. Introduction

Supply and demand-side changes lead to the reallocation of production factors between sectors. In this context, the description and analysis of structural changes at sectoral level is useful in identifying the relevant competitiveness and economic growth factors as well as in capturing the dynamics of aggregate indicators.

The Kuznets standard macroeconomic models (1973) reflect the ideal case of a single sector economy or an economy characterized by a small number of sectors. In this case, economic growth is mainly driven by productivity growth in the economy as a whole. However, the reallocation of production factors between different sectors of the economy plays an

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important role in optimizing the use of resource (Matsuyama 2008, Ray 2010), while at the same time indicating one of the fundamental mechanisms of structural change.

The process of reallocating production factors (labor force, capital) is an inertial process, reflecting the existence of rigidities specific to the analyzed economy. The effect of the reallocation can be seen at the level of production and gross added value of the branches and sub-sectors of the economy. In this respect, the change in the share of gross value added in the economy's aggregate output is an appropriate indicator to capture structural transformations.

2. Structural transformation. A comparative analysis

Figure 1 captures the high dynamics of the gross value added between 1995 and 2017. The lack of structural transformations would have been signaled by the grouping of analyzed states around the bisector of Figure 1, indicating that the weight of the sectoral gross value added in total gross value added has remained unchanged. However, it is noticed, that EU countries have experienced high variations in the share of gross value added.

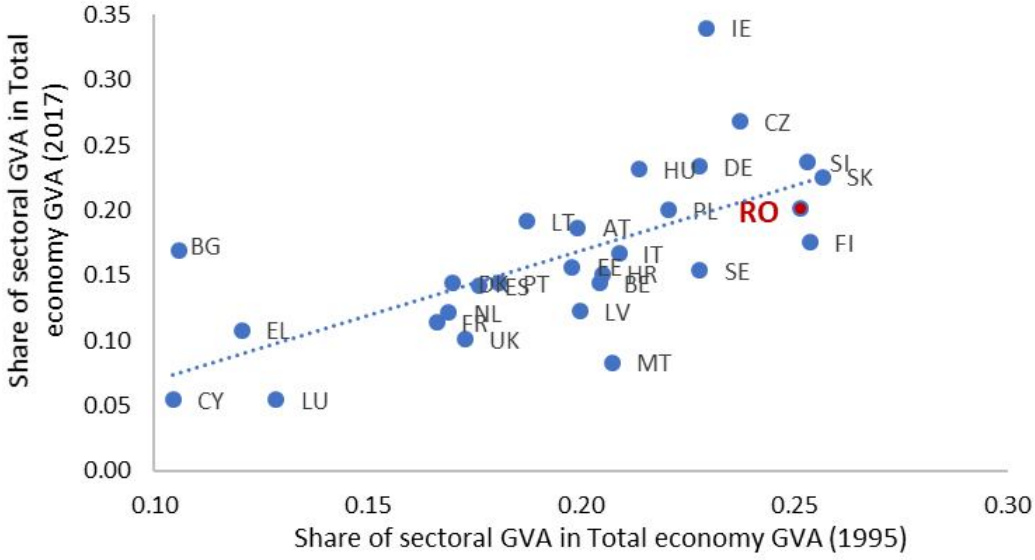
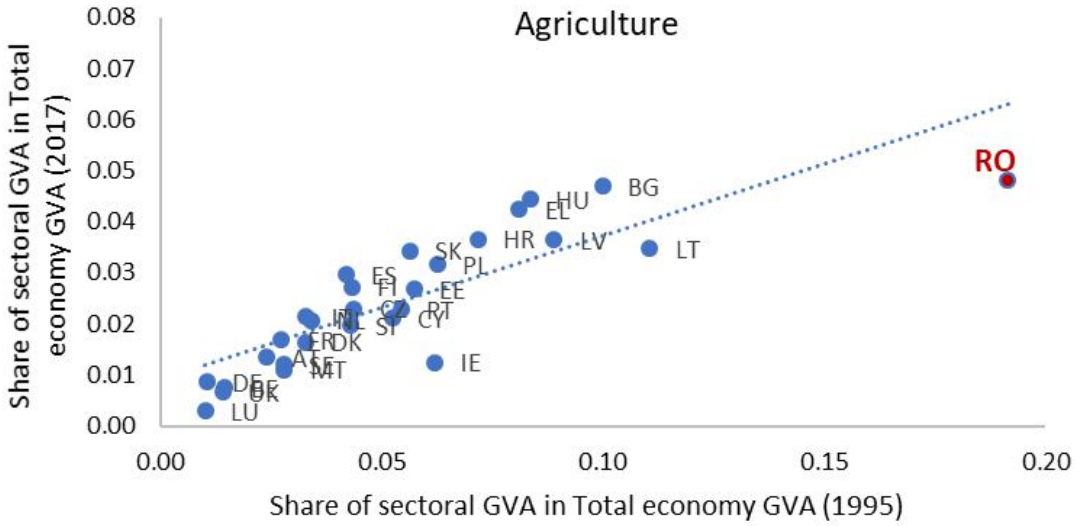


Figure 1. The share of the Manufacturing sector gross value added in the total economy (2017 compared to 1995), in the case of EU countries.

Source: Own calculations based on Eurostat data

The structural transformation of EU countries could be synchronous. The presence of convergence of the EU economies at sectoral level would be indicated by the grouping of states along the regression line (the dotted line in Figure 1). Convergence is understood in this context in the sense of a synchronized evolution of European states, i.e. states are registering the same rate of change in the share of gross value added in the manufacturing industry. This phenomenon does not happen. Therefore, there are arguments in favor of the presence of structural changes in EU economies, as well as the possible lack of convergence of these changes.

The replication of the analysis for agriculture, information and communications technology (ICT) and services (see Figure 2) provides a number of relevant additional information.



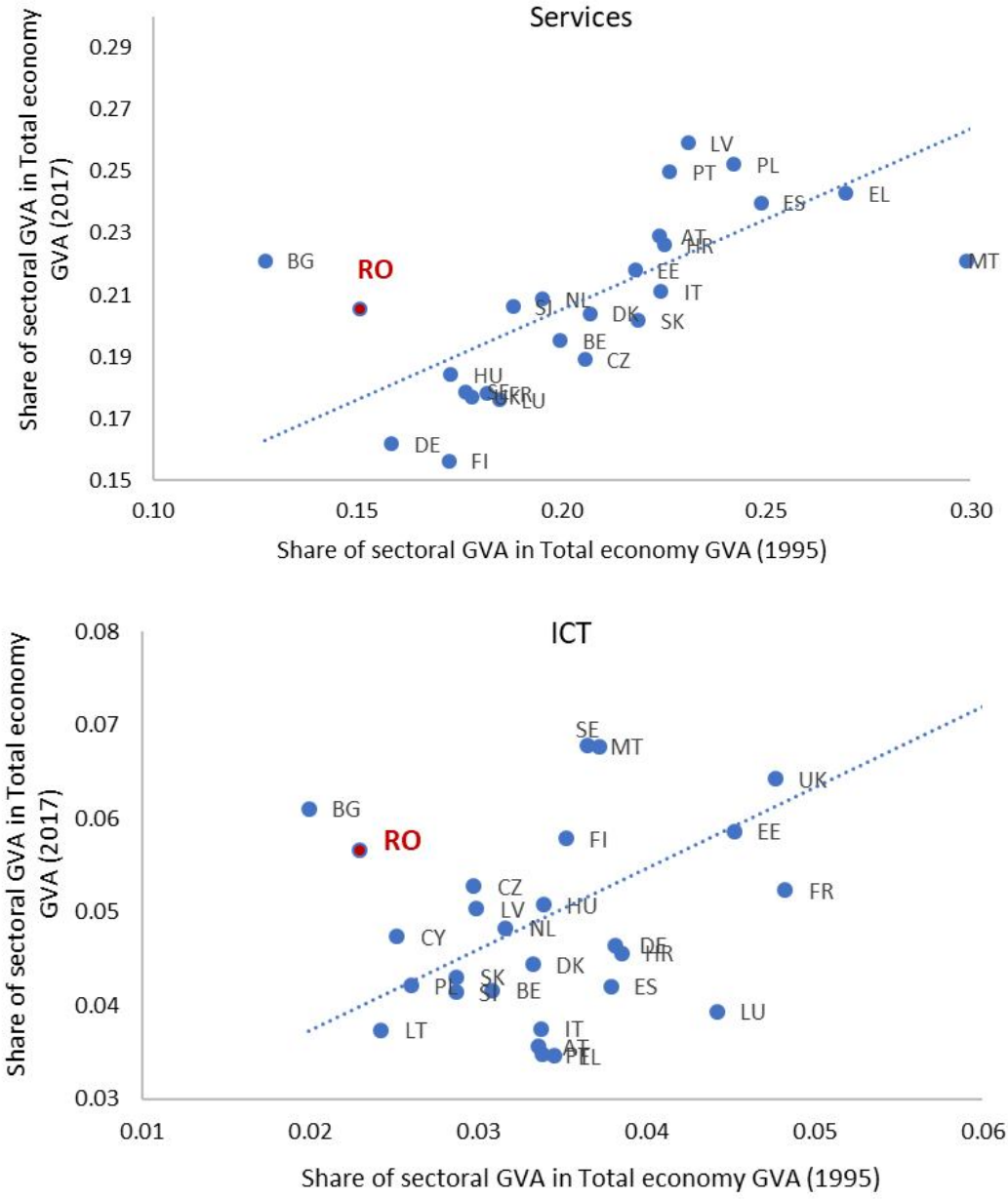


Figure 2. The share of the sectoral gross value added
in the total economy (2017 compared to 1995), in the case of EU countries.

Source: Own calculations based on Eurostat data.

Firstly, it can be seen that in the less capital-intensive economic sectors such as agriculture, the changes in the share of the gross added value of the sector in 2017 compared to 1995 are lower. Also, the degree of convergence of EU economies is higher in this case. Romania is an

exception, having in 1995 a much higher share of agriculture in the economy compared to the other analyzed economies.

Secondly, capital-intensive economic sectors, sectors which require highly skilled workforce such as ICT show high changes in the share of gross value added. Also, in this case, the degree of convergence of EU economies is lower. This indicates that the capital-intensive sectors have a higher dynamic of structural transformation and that the introduction of technologies into the economy has the role of amplifying these changes. Therefore, the correlation between technology and structural stability is negative, in these cases.

Thirdly, it is noticed that Romania is an exception, in the sense that the structural differences between the Romanian economy and the other EU states are the highest, comparable only with Bulgaria. The analysis of structural changes in the context of economic development (see Figure 3) shows the increase of the degree of homogeneity of the European economies from the perspective of development, but also the reduction of their structural homogeneity.

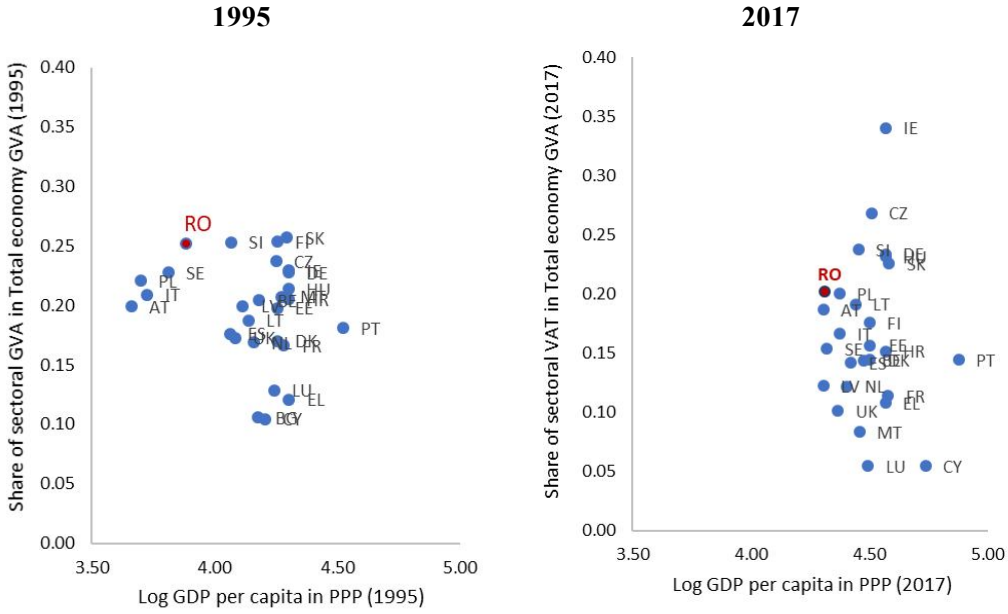


Figure 3. The share of the Manufacturing sector gross value added in the total economy vs GDP per capita.

Source: Own calculations based on Eurostat data.

3. Conclusions

Figure 3 illustrates that Romania benefited from EU accession, with GDP per capita about three times higher in 2017 compared to 1995. At the same time, it is noticed that the European economies are becoming increasingly structurally diverse. At the level of 1995, the share of the manufacturing industry in Romania was one of the highest in Europe. By comparison, in the year 2017, the share of the manufacturing industry in Romania is around the European average, reflecting a changing structure of the Romanian economy.

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