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# **PARTIAL PRODUCTIVITY OF AGRICULTURE IN THE WESTERN BALKAN COUNTRIES – IMPLICATION FOR COMPETITIVENESS OF THE RURAL ECONOMY**

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## **PARTIAL PRODUCTIVITY OF AGRICULTURE IN THE WESTERN BALKAN COUNTRIES – IMPLICATION FOR COMPETITIVENESS OF THE RURAL ECONOMY**

### **Abstract**

The process of transition and, within it, the agricultural transformation in the Western Balkan countries resulted, in the first phase, in the weakening of the developmental performances in agriculture. Such tendencies widened the gap between the countries of the Western Balkans and the EU countries, which continued their steady increase in agricultural productivity. Unfavorable tendencies in agricultural productivity adversely affected its competitiveness, and, consequently, the competitiveness of the rural economy as a whole. The effect of the low agricultural competitiveness on the competitiveness of the rural economy is determined by the importance of agriculture in the rural economy, which is substantial in the West Balkan countries.

**Key words:** Productivity, Agriculture, Competitiveness, Rural Development, the West Balkans, Transition.

### **Introductory Notes**

The Western Balkan countries – Albania, Bosnia and Herzegovina, Montenegro, Croatia, Macedonia and Serbia represent the "un acceded" area of the South East Europe, and have, to a greater or lesser extent, come closer to the EU accession. During the process of accession, agriculture will certainly be one of the key issues in negotiations, due to the role the agrarian sector plays in these countries, and more importantly, its low competitiveness. In other words, agriculture in the Western Balkan countries is characterized by the predominance of small, individual farms which increasingly use semi-natural production methods. Such structure of the agrarian sector causes the unsuitable ratio of the number of active farmers to the area of land (expressed in *ha*) which consequently leads to a low level of agricultural partial productivity - especially labor productivity. The low level of agricultural competitiveness influences the competitiveness of the whole rural sector, where agriculture represents the dominant economic activity.

### **The Processes of Transformation and the Structure of Agriculture and Rural Areas**

On one hand, the Western Balkan countries were characterized by large public/state firms; while on the other hand, there were small individual farms, which occupied most of the land area, with the exception of Albania. Therefore, Albania suffered the most dramatic consequences of the restructuring of farms, because all collectivized land was distributed to farmers and farm workers. The land privatization created

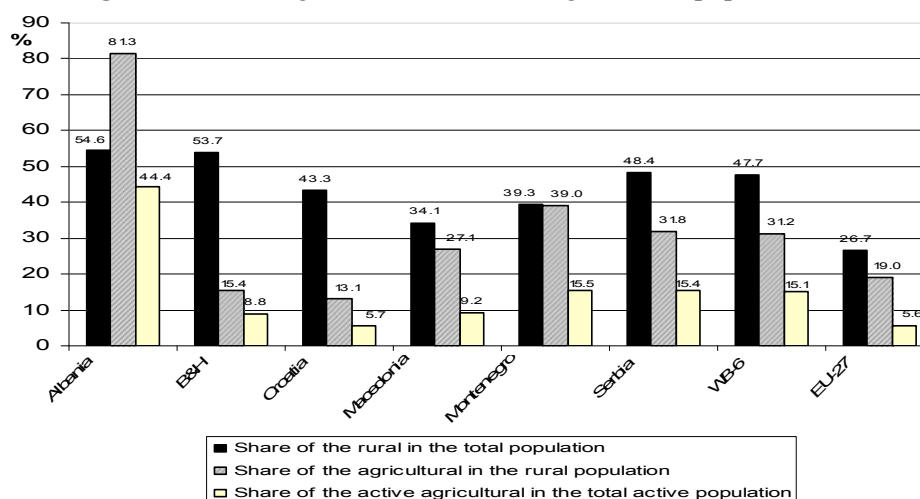
around half a million new private farms, segmented into 1.900.000 parcels, where each farm consisted of between one and ten parcels, i.e. 3.3 parcels on average. During the 1990s, the average farm size in Albania was very small: 1.05 *ha*, and it stretched to 1.29 *ha* in the flat area<sup>1</sup> or shrank to 0.55 *ha* in the mountainous area (Cunga, A., Swinnen, J. F. M., 1997, 7-8).

The former Yugoslavia did not have collective farming during the socialist regime. The private sector was dominant in Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, and at the end of the 1980s it occupied around 82% of the arable soil (Swinnen, J. F. M., Mathijs, E., 1997, 352). As a result, the private land ownership has been dominant in all "heir states", i.e. there have been individual farms with a small average size, and with highly fragmented ownership structure, which has been caused by the retention of traditional inheritance laws. The very small average size of farms and high degree of land fragmentation represent a serious problem concerning the improvement of productive efficiency of individual farms. In Bosnia and Herzegovina, approximately 95% of the land, with an average size of 3 *ha* to 5 *ha*, is in private ownership. In Croatia, private ownership takes up 66% of the land, and the average size is 2.9 *ha*. In Macedonia, the private sector takes up between 70% and 85% of arable soil, consisting of farms with a very small average size of 2.5 *ha* to 2.8 *ha*. Serbia and Montenegro, like other countries, is characterized by predominance of private ownership, which occupies over 85% of arable soil. The rest of arable soil is in the hands of the state, and it is cultivated by huge state farms. These countries are undergoing the process of land privatization, so the share of private ownership is constantly on the rise. The average size of highly fragmented individual farms is very small, and it varies between 3 *ha* and 5 *ha* (Csaki, C., Zuschlang, A., 2004, 68-115). These farms mostly rely on their own workforce, which often consists of households with older members. Out of 800 000 farms, slightly over 100 000 have only one member. There are two members in slightly over 200 000 farms (Bogdanov, N., 2004, 107). Considering only registered farms, the average size of an individual farm is 6.3 *ha*, while the average size of agricultural firms is 431 *ha*.

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<sup>1</sup> In some flat regions with limited land resources, the average farm size was less than 1 *ha*.

**Figure 1 - Rural, agricultural and active agricultural population**



Source: Own calculations on the basis of FAOSTAT.

There is a relatively great number of inhabitants in the rural sector in the Western Balkan countries – almost 50%, and they are largely associated with agriculture – farm inhabitants make up around 1/3 of rural population – in Albania even 81% of rural population. In the EU-27, 1/4 of population inhabits the rural area, and every fifth person works in agriculture as a primary activity. In addition, the share of active farmers in total active population is larger in the Western Balkan countries – around 15%, while, it is below 6% in the EU-27, and even less in the EU-15 (*Figure 1*). The share of agriculture in the total GDP varies from 7% in Croatia to 23% in Albania, while the percentage is one-digit in EU, with the exception of a few new member states.<sup>2</sup> According to all the criteria mentioned above, Albania represents "the most rural" and "the most agricultural" country in the region, which it largely owes to the farm structure. Agricultural structure highly affects the resource structure in other countries in the Western Balkans as well, which is reflected in the level of agricultural productivity and the competitiveness of the agrarian, and consequently the whole rural sector.

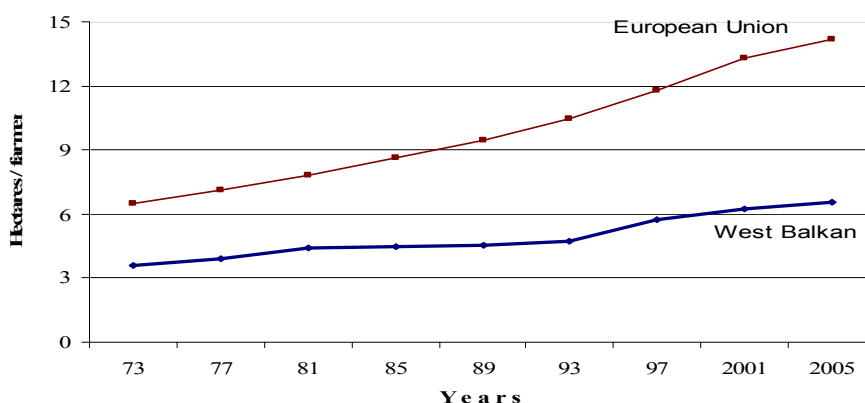
### **The Resource Structure in Agriculture**

The favorable resource structure in agriculture, i.e. the ratio of basic productive factors of land and labor results in the predominance of mechanic or bio-chemical technology, which further influences the differences concerning the level and growth of partial productivity, as well as the differences in determination of labor productivity growth.

<sup>2</sup> Source: earthtrends.wri.org.

Partial labor and land productivity are "connected" through the factorial relation between the land and the labor, which can be expressed as  $(P/L) = (P/A) * (A/L)$ , where  $P$ ,  $L$  and  $A$  stand for production, labor and land respectively.<sup>3</sup>

**Figure 2** - Structure of agricultural resources



Source: Own calculations on the basis of FAOSTAT.

Resource structure in the countries of the Western Balkans is far more unfavorable than in the EU-27 (*Figure 2*). Resource favorability varies significantly in the Western Balkan countries. The greatest availability of arable land per labor has Croatia, and the smallest Albania, the only country in the region which has witnessed decrease in the land/labor ratio. Within this context, Serbia could be among the countries with less favorable resource structure, i.e. with a relatively high number workers in agriculture (*Zekić, S., 2008, 67*).

On the plus side, however, the transitional process within all the countries of the Western Balkans, considering all the changes in the agrarian structure, has largely improved the change of more or less extensive ownership structure that is represented here with the rising amount of arable land per farmer. However, this ratio is still lower compared to the EU countries. Although the intensity of changes in the agrarian structure is, on one hand, a function of general economic development, it is necessary to point out that, on the other hand, it is determined by the agrarian policy as well, especially by the policy of structural reconstruction of agriculture in the countries in transition, i.e. their readiness to base their agrarian reforms on the European agrarian model, whose last evolutionary feature is

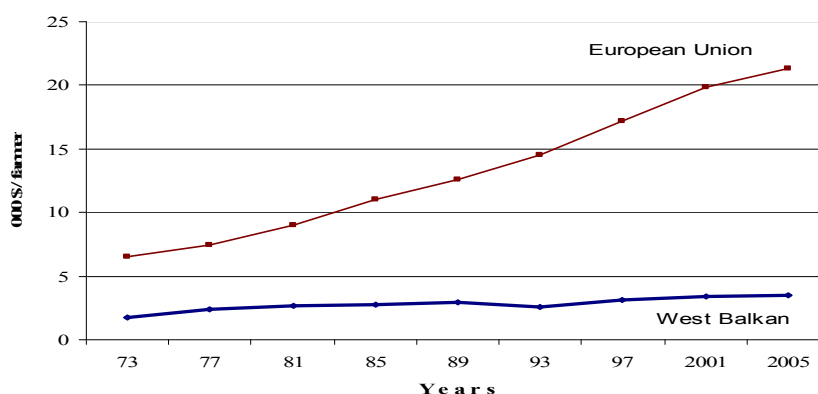
<sup>3</sup> The volume of agricultural production is expressed in 1990 international dollars; the labor is represented through the number of active farmers, and the land through the sum of arable land, multi-year crops, meadows and pastures. All categories are defined according to the FAO methodology, since the data is taken from the FAO database FAOSTAT (*faostat.fao.org*).

associated with agricultural multifunction within the integrating policy of the agrarian and rural development (*Gajić, M., Lovre, K., Zekić, S., 2007, 592-593*).

### Partial Productivity in Agriculture

The analysis of labor productivity in agriculture, measured by the volume of agricultural production per active farmer, shows that it significantly falls behind in the countries of the Western Balkans compared to the EU countries. Although there has been a slight increase in this type of partial productivity over the past fifteen years in the Western Balkan countries, the gap with the EU-27 has additionally widened. In other words, the gap concerning labor productivity between these two groups of countries rose from 1:2.53 between 1973 and 1989 to 1:3.43 in the period between 1990 and 2003. The gap is even wider if the comparison includes the "old" EU member states, i.e. EU-15 and it is 1:3.88 and 1:4.92 in pre-transition and transition periods<sup>4</sup> respectively (*Figure 3*).

**Figure 3** - Level of labor productivity

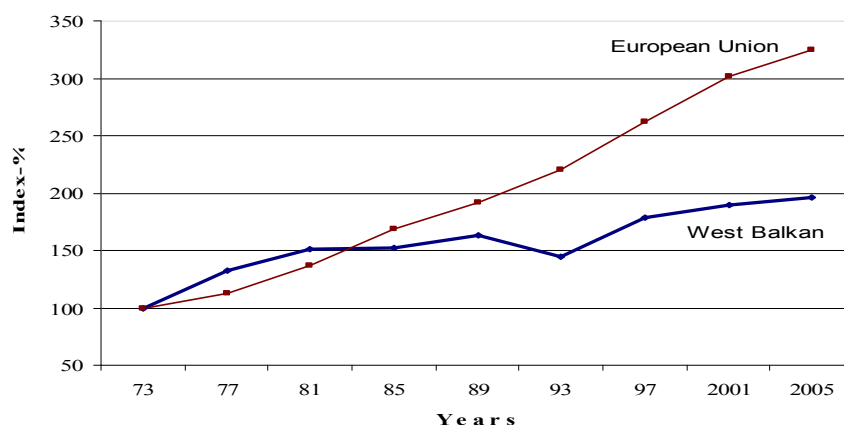


Source: Own calculations on the basis of FAOSTAT.

If we look at the countries individually, labor productivity is highest in Croatia, while Albania holds the lowest level of this type of partial productivity (*Zekić, S., 2008, 57*). The increase in labor productivity is much more apparent in the EU-27, where the average annual rate of growth of agricultural production per active farmer is 3.43%, for a given period, compared to 1.67% in the countries of the Western Balkans (*Figure 4*).

<sup>4</sup> As far as labor is concerned, the referential pre-transition period is represented by the last 16 years of the socialist era, i.e. the period between 1973 and 1989, while the transition period starts with 1989. Such division has been based on the FAOSTAT database.

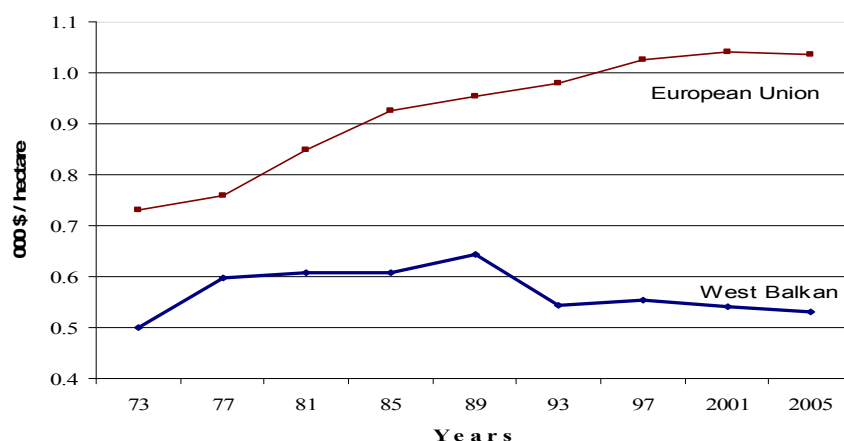
**Figure 4 - Dynamics of labor productivity**



Source: Own calculations on the basis of FAOSTAT.

As far as land productivity is concerned, the situation is somewhat more favorable in the Western Balkan countries, since the gap with the EU-27 is slightly narrower, i.e. 1:1.34 and 1:1.59 in the pre-transition and transition periods respectively. If fifteen old EU member states are included in the comparison, the gap is, naturally, a slightly wider, i.e. 1:1.58 and 1:2.10, for given periods, respectively (*Figure 5*).

**Figure 5 - Level of land productivity**



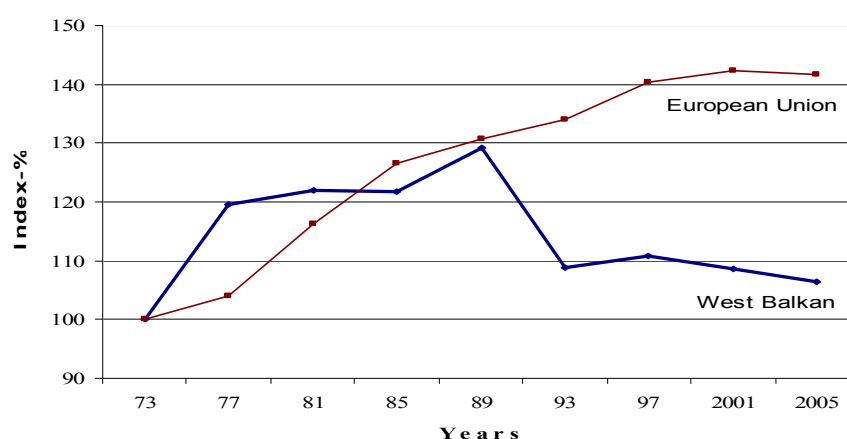
Source: Own calculations on the basis of FAOSTAT.

Croatia, Serbia and Macedonia have the greatest volume of production per *ha* of arable soil, while Bosnia and Herzegovina holds the last position (*Zekić, S., 2008, 59*). However, in contrast to labor productivity, the level of land productivity in the



countries of the Western Balkans has decreased during the period of transition, so that, in the given period of analysis, the average annual rate of growth is -0.05% or -0.54%. Although there has been a decrease in land productivity in the new EU member states since 1989, the EU-27 records the increase of 0.82% on average per year, for the given period, in this type of partial productivity (*Figure 6*).

**Figure 6 - Dynamics of land productivity**



Source: Own calculations on the basis of FAOSTAT.

### Rural Economy Competitiveness

Farm producers in the Western Balkan countries will, sooner or later, find their place in the common EU market, where they will be exposed to strong pressure of competition from highly efficient producers from, first and foremost, and the highly developed countries of Western Europe. In the process of integration with the common EU market, the non-competitiveness of the agro-food sector in these countries, characterized by a low level of agricultural productivity, especially labor productivity, will induce high costs of production, i.e. price non-competitiveness of food products in the common agricultural market.

The low level of labor productivity is mostly determined by unfavorable resource structure in agriculture, i.e. by a relatively large number of workers in this sector, which is slowly shrinking due to insufficiently rapid development of the non-agricultural sector. The preservation of "over employment" in agriculture "is enabled" by high rural unemployment accompanied by the dual agrarian structure<sup>5</sup>,

<sup>5</sup> On one hand, the dual agrarian structure is characterized by large commercial farms, while on the other hand there are small individual semi-natural farms.

which is predominant in the Western Balkan countries.<sup>6</sup> Such situation adversely affects the profitability of agriculture, diminishes the volume of investments and makes the increase in competitiveness impossible. The effects of high employment in agriculture in the Western Balkan countries depend, among other things, on the political influence of agricultural lobbies and rural population.

In the countries of the Western Balkans agriculture is still undergoing transformations, i.e. there are still traces from the former socialist economy which are to be overcome. The agricultural structure continues to be unfavorable, with a large number of small farms and co-existence of semi-natural and commercial farming sector. Rational application of agro-technical systems to small, semi-natural farms is not possible. This causes low labor productivity, which consequently cannot ensure adequate income.

Another problem in the agro-food sector in the Western Balkan countries is reaching EU standards, i.e. EU requirements concerning product quality. The application of EU standards will have two contradictory effects on the agricultural production and prices. On one hand, cheap, low-quality products will be excluded from the market, and they are still in demand by the poorer population, and partly by the export market in the "poorer" countries. On the other hand, the implementation of the standards mentioned above will have the opposing effects concerning the acceleration of restructuring and creation of more efficient agriculture and channels of food distribution, so that the first middle-term results will be seen in the countries with the low level of restructuring of the agro-industry.

In addition to the comprehensive restructuring process, agriculture in the region should be recapitalized so that production can be modernized and costs reduced. The problem is particularly noticeable in cattle breeding, which will have more difficulties in conforming to EU standards, while the level of competitiveness in plant production will be determined by high transportation costs and a lack of storing capacity. On the other hand, rural regions require faster development of "non-agricultural" activities, which would enable the absorption of the excess of labor force, which is unproductively employed in agriculture.<sup>7</sup> Within this context, the development of this sector for processing farm products, as well as agricultural input industry could play a "significant" role. These processes should be accompanied by the erection of an infrastructural network as well as raising the general level of services.

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<sup>6</sup> The retention of a large number of workers in agriculture goes hand in hand with the current land policy, which on one hand forbids foreigners, sometimes even national corporations to purchase the land, and on the other hand "promotes" short-term and usually informal lease due to the weak legal protection of land lessees.

<sup>7</sup> The development of non-agricultural activities in rural regions will ensure alternative possibilities for the use of labor, capital and land, as well as changes regarding the demand for these factors, which will be reflected in the structure of farm production (Lovre, K., Gajić, M., Trkulja, Đ., 2007, 82).

In order to achieve necessary restructuring of agriculture so as to increase agricultural competitiveness, after the accession to the EU, the countries of the Western Balkans will be able to use relatively huge resources from the EU funds, such as direct payments. However, the important question is: what will be the level of such support at the moment of accession of individual countries to the EU and, what will be the outcome of pre-accession talks. Moreover, it is not certain to which extent will this kind of support be adjusted to the economic and social aims of transforming agriculture. In other words, there is a risk that direct payments will be absorbed by increased demand and increased land prices, and that they will result in consolidating the existing structure. This will slow down the process of restructuring towards reducing "over employment" in agriculture and solving the problems of high degree of land fragmentation. In short, direct payments can turn out to be inadequate instrument to obtain investments and social security in agriculture. During the pre-accession period, the countries in the region will be able to use IPA resources (*Instrument for Pre-Accession Assistance*) for their rural development, especially once they become candidates for the EU membership. Then, all five types of support will be available to them, including the support for the development of rural regions.

### **Conclusion**

In the Western Balkan countries, the rural structure is far more unfavorable than in the EU countries, which largely determines the relatively low level of partial productivity in agriculture. This is especially noticeable in labor productivity. As a result, the level of competitiveness of the agricultural sector is fairly lower compared to the EU countries. Since agriculture represents the dominant economic activity in rural regions of the Western Balkan countries, the low level of the competitiveness of the agricultural sector significantly reduces the competitiveness of the rural economy as a whole, as well. Within this context, necessary reconstruction of agriculture is still far from completion. The problem of competitiveness is particularly noticeable in the sector of cattle breeding as well as in small semi-natural farms, which will have the greatest difficulties in the future common EU market. However, such farms are still of key importance for social security in rural regions, where semi-subsistent production represents the main factor of economic sustainability. In addition, rural regions require faster development of non-agricultural development, which would enable absorption of the excess labor force unproductively employed in agriculture. Within this context, the development of the sector for processing farm products as well as the agricultural input industry could "play" a significant role.

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