Western Balkans: State of Agriculture and its Opportunities on the Eve of EU Accession - I

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Abstract: The Western Balkan countries can be characterised by their shared goal, which is the quickest possible accession to the European Union. Agriculture is an important obstacle to achieving this goal. The role of agriculture differs widely among the analysed countries but is more important than the average of the EU. This study gives a comprehensive overview of the most important agricultural indicators related to both crop and livestock production. These indicators present a precise picture of the sector's relevance, production structure, efficiency and international relations. After demonstrating changes in input use, production structure, prices, terms of trade and agricultural policies, the next section identifies some of the reasons for these changes. The time horizon of the analysis goes back to the early nineties and tries to capture some transition effects. The consequences of the Yugoslav war can be easily recognised in every country involved. However, since the end of the war Serbia became the leading producer and the only net exporter of agricultural goods in the region. Nevertheless, the current situation is endangered by several issues, such as imbalanced sectoral production, fragmented production structure, relatively low yields, unfavourable export composition, and poor food hygiene and quality control, which anticipate painful and hard actions need to be carried out.

Keywords: Western Balkans; agriculture; trade balance; EU accession

JEL Classification: Q13; Q18

1. Introduction

The aim of this study is to give a comprehensive overview of the most important agricultural indicators related to crop and livestock production in the Western Balkan countries, Albania, Bosnia and Herzegovina (BiH), Croatia, the former Yugoslav Republic of Macedonia (FYROM), Montenegro, and Serbia. The time horizon of the analysis goes back to the early nineties and tries to capture some transition effects. One of its implications is that data for Montenegro and Serbia can not be always separated. The other exception is Kosovo, there are almost no data for this country in the main databases.

The recently passed twentieth anniversary of the beginning of the transition is a good opportunity to assess the developments in these countries' agriculture and evaluate the status of the sector in the light of initial expectations. What is the

actual state of these countries in the field of agriculture? Have agricultural productivity and competitiveness improved? How are their performances compared to the averages of the EU? Could these countries reach positive trade balance? What are the major challenges and policy lessons?

The Western Balkans has a long history of research carried out by academics or research institutes. The majority of them are basically social and political analyses. The chances of EU accession are also measured on these bases. It reflects to the higher, but not vital role of agriculture in these countries. The World Bank studies focus on specific issues like the state and problems of land and land rental markets (Swinnen et. al., 2006), or the difficulties of the health and pension systems (Bredenkamp et al., 2008). The EBRD and FAO carried out country specific analyses (e.g. EBRD, 2007 and FAO, 2005). In addition to these, the FAO recently published two studies on the agriculture of the region in its regional studies series. The first one was about the new member states of the EU (Csáki – Jámbor, 2009), while the second one was on the Western Balkans (Mizik, 2010). The present topic is closer to the latter one, but the methodology is different. Instead of using milestones, it explores the whole time series and tries to dig deeper in some areas such as agricultural value added per worker, export structure or terms of trade. Meantime, newer data became available and they could overwrite the previous results in some cases. Academics and research institutes, mostly geographically close to or in these countries, also carried out deep analyses on this region. As a member of a European consortium, the Hungarian Agricultural Research Institute gave a detailed overview of agriculture and food industry of the Western Balkans (Arcotrass, 2006). One of its remarkable results was the lack of consistent and comparable data. In 2010 the IAMO published the results of the Agripolicy project supported by the European Commission under the 7th Framework Programme (Volk, 2010). In this study a detailed picture was given on the actual state of agriculture and agricultural policy of the Western Balkan countries by national experts and researchers. One of its messages was similar to the above mentioned one, as it was not always possible to gather reliable and precise data even for national actors. Erjavec, the former expert of DG Agri who was the member of this team, has been dealing with the integration of the Western Balkan countries for decades, especially with its agricultural aspects (e.g. Erjavec, 2010). Bojnec and Fertő also need to be mentioned for assessing the competitiveness of the agricultural and food industrial products of the region (Bojnec – Fertő, 2003, 2009). The aim of this study using the data for the last twenty years is to demonstrate changes and its reasons and to compare them to the same indices of the European Union.

The data used came from three main sources. Data on production, prices and yields are from FAO database. The basis of the trade connections is the WTO database. It contains only few data for the beginning of nineties, therefore the base year of

trade analysis was changed to 1996. Analyses on the relevance and role of agriculture are based on the World Development Indicators of the World Bank and national statistics.

The study has two sections. The first one gives an overview of the most important indicators in order to have a precise picture of the sector's relevance, production structure, efficiency and international relations. The second section identifies some of the reasons of the changes in the last twenty years by analysing input use (labour, land, and technology), production structure, prices, terms of trade and agricultural policies.

2. The Performance of Agriculture in the Western Balkans

The Role of Agriculture

The role of agriculture in the national economies is best characterized by the share of agriculture in GDP. The highest role of agriculture in the GDP among all selected countries was in Albania in 2008 with 21%.[1] It has dropped from a very high value as in 1992 even more than the half of the GDP came from this sector's production. Contrary to this, the agricultural GDP was the lowest in Croatia (6%). Table 1. summarises its values on country level.

Table 1. The agricultural value added in the Western Balkans

Countries	**1992**	**2000**	**2008**
Albania	52%	29%	21%
Bosnia and Herzegovina	36%*	13%	9%
Croatia	15%	8%	6%
FYROM	17%	12%	11%
Montenegro	N/A	12%	10%
Serbia	N/A	20%	12%

* Data for 1994

Source: World Bank database and Volk (2010) for Serbia

As a general phenomenon, the contribution of agriculture to the national GDP shows a declining trend in each country, but both of them are much higher than the EU's average which was 1.6% for EU-27 in 2009 (Eurostat database). Moreover, this value already contains Bulgaria and Romania, where the importance of agriculture is much higher than the average of the EU.

The next important indicator is the share of agricultural employment. In the Western Balkans all countries showed different tendencies between 2000 and 2007.

[1] According to the World Bank database, it was higher than the value added of the industry (19,7%).

But in Bosnia and Herzegovina and in the middle of the analysed period in Albania and FYROM it increased. The following table shows these values (Table 2.).

Table 2. Share of agricultural employment in the Western Balkan countries

Countries	1992	2000	2007
Albania	67%	72%	58%
Bosnia and Herzegovina	N/A	8%	12%
Croatia	20%*	15%	13%
FYROM	19%*	24%	18%
Montenegro	-	-	9%**
Serbia	-	-	21%

* Data for 1996

** Data for 2005

Source: World Bank database and author's calculations based on national statistics

It is not surprising that the highest value can be found in Albania, as the importance of the sector is far the biggest among the Western Balkan countries. But what is food for thought is its value. It means that 58% of the total employees can produce only about 20% of the value added. It indicates huge efficiency problems, where were also reflected in BiH where value went down and employment increased from 2000 to 2008. The same value in the EU was only 6% in 2007. The long term decreasing trend shows high fluctuations and slowed down in the second half of the observed period. Figure 1. illustrates it.

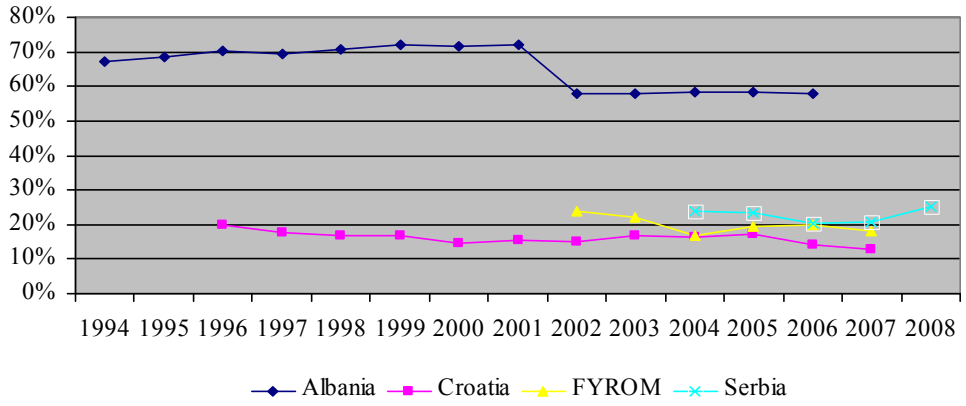


Figure 1. The changing share of agricultural employment

Source: Author's composition based on World Bank database

In order to have comparable results, the figure above contains data only for those countries that can be found in the WDI database of the World Bank.[1] In Albania the index showed slight upward trend until 2001. After a large drop in 2002 it seems to be stabilised around 60%. It indicates data problem as there was no change before and after it. Both the classification and the data provider (Ministry of Labor, Social Affairs and Equal Opportunities instead of General Directorate of Taxation) changed from 2000 to 2001. A continuous decreasing trend can be seen for Croatia, which broke between 2000 and 2006. The last three observed years show the general decreasing trend again. In FYROM and especially in Serbia the results are ambiguous. In the latter case the share of agricultural employment significantly increased in the last two years from 21% to 25%. According to the turnover of the sector, this trend probably continued in 2009.

The relevance and importance of agriculture can be measured by its share from the total export and import.[2] The used WTO International Trade Statistics database contains SITC (Standard International Trade Classification) Rev. 3 sections 0, 1, 4 and divisions 21, 22, 23, 24, 25, 26 and 29 of agricultural food and raw materials. The next figure illustrates the development of agricultural export (Figure 2.).

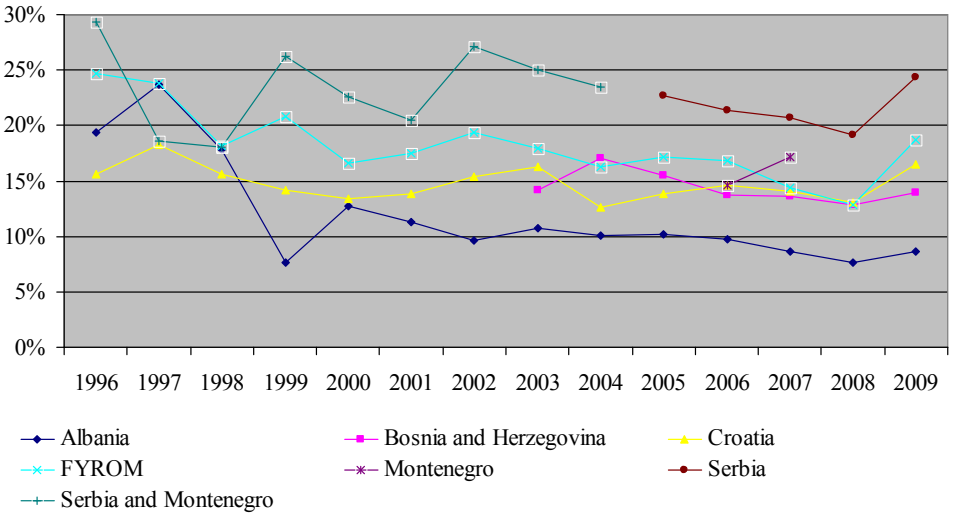


Figure 2. The development of agricultural export within the total export

Source: Author's composition based on WTO database

[1] Regarding Montenegro, only two data can be found in the database for 2003 and 2005 and they are the same.

[2] The relevance of the region can be demonstrated by using Hungary as a benchmark. According to the WTO database, the agricultural export of the Western Balkans is about two thirds of that, while their total export is less than one third of the Hungarian one.

The decreasing trend on the figure means that the expansion of agricultural export was slower than the expansion of total export. It spectacularly happened in Albania, but the Macedonian one was also remarkable. On the contrary the last value was around the initial one in Croatia. Serbia is a special case and the diagram shows clearly why agriculture is a key sector. It generated almost 25% of the foreign revenues in 2009. However, it has historical roots as the initial Serbian-Montenegrin value was almost 30%. The closest value to average of the EU (EU-27: 10.8%, EU-12: 9.6% calculated from the WTO database) is the Albanian one.

Taking a closer look to the relative importance of agricultural import, generally lower values can be seen (Figure 3.). It is not surprising because when the agricultural export is significant in a given country, it is less likely for the agricultural import too. Serbia, the only country in the region with agricultural trade surplus, is a good example of this with the lowest, 7.5% rate. The previous downward trend shattered in 2009 when the agricultural import increased more than the total import. The significant growth of national production resulted a huge drop in import dependency in Albania, although the value of the index is still around 18%. It enhances the above mentioned efficiency problems. This value is very high itself, but the fact that agriculture contributes to the GDP with about 20% makes it even higher. In this case the Croatian value is the closest to EU-27 average (11.1%), while the slightly lower Serbian one is in accordance with the average of the new member states (8.3% calculated from the WTO database).

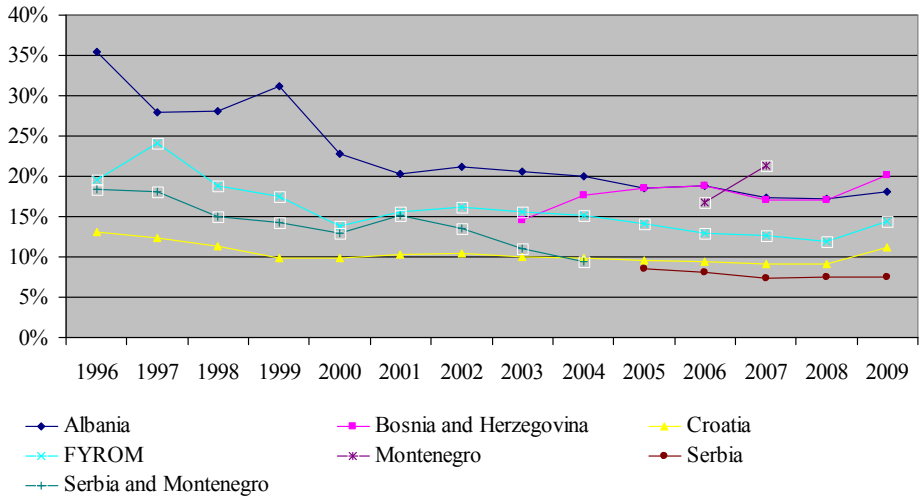


Figure 3. The development of agricultural import within the total import

Source: Author's composition based on WTO database

Besides the relative share of agricultural export and import, it is important to take a closer look at their structure. It gives answer to the question whether it is

dominated by raw materials or processed products. In case of exports, the latter one is more desired, because the value added is much higher and competitiveness is not linked almost entirely to the price. Figure 4. demonstrates the structure of agricultural export.

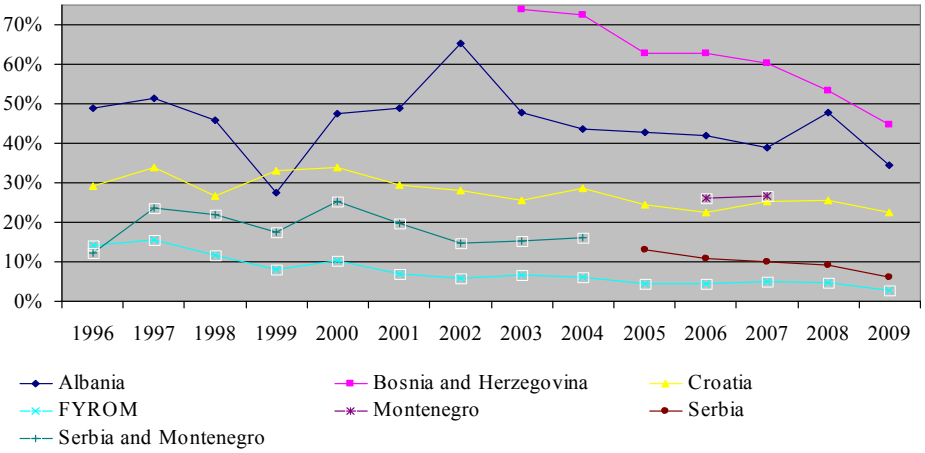


Figure 4. The share of raw materials in the agricultural export

Source: Author's composition based on WTO database

The Albanian index fluctuates the most, but generally it can be stated that the structure of the agricultural export is shifting toward the good direction as the share of raw materials shows decreasing trend. The Serbian and Macedonian values are even on a lower level than the average of the EU (EU-27: 13.9%, EU-12: 15.2% calculated from the WTO database). But one should note that these values are still on a high level in the other countries, for example they surpass 30% for Albania and Bosnia and Herzegovina. The latter one has the worst situation with almost 45%. It is even worse in the light of the less favourable endowments of the country. Bosnia and Herzegovina should make more efforts to produce higher value added agricultural goods. According to the national endowments it should focus on organic production instead of input intense goods (Bojnec, 2005).

Regarding the agricultural import, the opposite judgement used: the higher the share of raw materials, the better the import structure is. Figure 5. illustrates it for the Western Balkan countries.

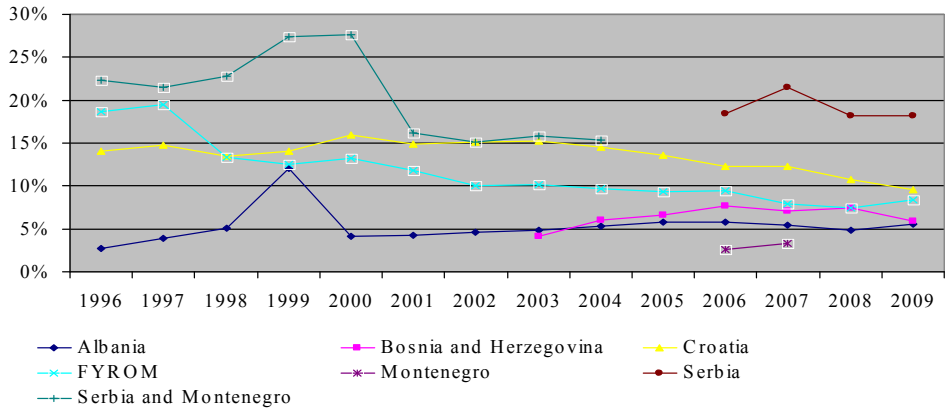


Figure 5. The share of raw materials in the agricultural import

Source: Author's composition based on WTO database

The general picture shows mostly decreasing trend over the last 14 years. The share of raw materials within the agricultural import are mostly between 5% and 10%, except in Serbia, but they are generally on a lower level than for exports. In the EU these shares are almost the same as they were for the agricultural export with no significant differences among the member states (13.6% for the EU-27 and 13.4% for the EU-12 calculated from the WTO database). The unfavourable export and import composition, when the share of raw materials in the export is higher than in the import, was proven by several studies (e.g. Bojnec – Fertő, 2003; Volk, 2010) and so by this analysis. From this aspect Bosnia Herzegovina has the worst position, while Serbia and especially FYROM can be found on the other side. A serious contingency is embedded in this phenomenon because under the given circumstances the competitiveness of the export is determined by the price.

Taking into consideration the relatively high transportation costs of mass products, it can easily result a significant decline in quantities and therefore in export revenues.

But it is a fact that agriculture plays an above average role in human nutrition. It can be confirmed by the high share of food products and beverages in the households' expenditures. Therefore food security is often translated as satisfactory food supply in this region. The next table shows these shares (Table 3.).

Table 3. The share of food products and beverages in the households' expenditure, 2008

Countries	Food	Beverages & tobacco	Together
Albania	N/A	N/A	57.8%
Bosnia and Herzegovina	32.0%	3.2%	35.2%
Croatia	33.9%	4.1%	38.0%
FYROM	39.4%	3.9%	43.3%
Montenegro	42.5%	4.0%	46.5%
Serbia	39.0%	4.4%	43.4%

Source: USDA database, national statistics, Sisevic (2009) for Montenegro

Despite of the continuously decreasing trend, households still spend notable part of their incomes on food products and beverages. It has the highest share in Albania (57.8%), while the lowest one is in Bosnia and Herzegovina (35.2%). However, even the latter one is much higher than the 19.4% average of the EU which contains an even higher 50% for Romania (Eurostat database).[1] The real problem behind these values is undoubtedly bigger because the averages obscure the huge differences between the lower and higher income groups within each country.

3. The Agricultural Output

The agricultural turnover can be assessed by total production and its sectoral structure. Table 4. shows the total output of agriculture.

Table 4. Total production of agriculture [1000 int. $][2]

Countries	1992	2000	2009
Albania	539 687	734 136	827 142
Bosnia and Herzegovina	744 075	609 590	907 920
Croatia	1 170 797	1 158 024	1 315 790
FYROM	634 896	609 807	676 066
Montenegro	-	-	131 593
Serbia	-	-	3 992 315
Serbia and Montenegro	3 947 030	3 566 626	-
Total	7 036 485	6 678 183	7 850 826

Source: Author's calculations based on FAO database

[1] In addition to this, the price elasticity of food products and beverages is high. According to the USDA database, Albania has the highest value (0.69), but it is above 0.6 in Bosnia and Herzegovina and Croatia either. It means if households gain one additional unit of income, they will spend more than half of that on these products. This value is about 0.3 in the EU-15, but even the average of EU-10 is under 0.5, although the Bulgarian and Romanian data are above 0.6 (USDA database).

[2] International dollar is a theoretical currency used by FAO, World Bank and IMF. It shows the purchasing power of the US dollar in the given time. Therefore it is better for comparisons, but can not be directly converted to other currencies.

In the observed period Albania reached the largest growth which was 53% compared to the initial value of production. Besides that, the 22% growth of Bosnia and Herzegovina needs to be mentioned. During this time the total production of the region increased by only 12%. Although it counts high, as the EU's production did not changed during this period (FAO database). The most significant producer was Serbia who provided more than the half of the region's turnover in 2009. Probably this proportion was even higher earlier. Due to the large differences between the nominal data, the development of the values is illustrated by using 1992 as a base year (Figure 6.).

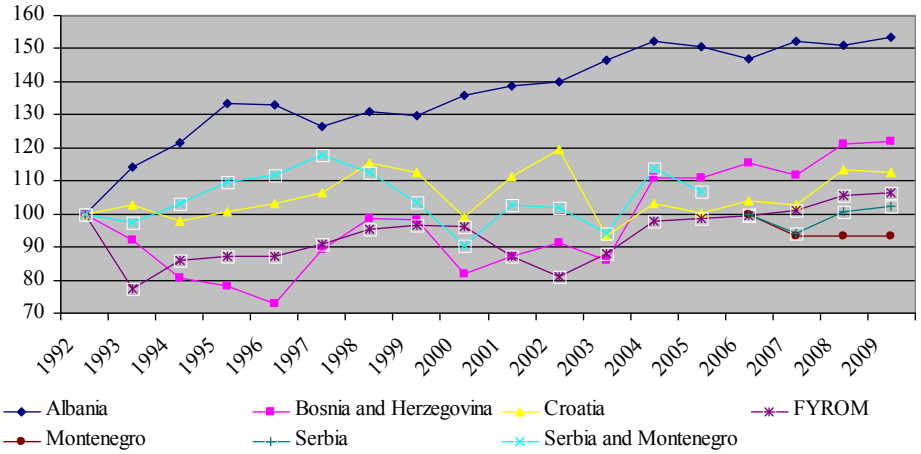


Figure 6. The development of agricultural production [initial year = 100]

Source: Author's composition based on FAO database

The first half of the period was dominated by the negative effects of the Yugoslav war. As Albania was not involved in that, it was able to remarkably increase its output. Since the first part of the war was mostly on the territory of Bosnia and Herzegovina, the decline of its production was not surprising. The Bosnian gross crop production stabilised around 80% of the value of 1992, while livestock production dropped heavily to 49% of that (FAO database). After signing the Dayton Agreement, gross agricultural output reached its initial value within two years due to the quick recovery of crop production. Contrary to this, the second part of the war effected exclusively Serbia and Montenegro, where the production touched its bottom in 2000. In the period of piece natural forces replaced the war machines. The clearly visible declines in 2000 and 2003 were the consequence of serious droughts. A smaller brake in production can be seen in 2007, when the region faced with very dry weather. It effected mostly the maize production, but this effect was party compensated by the other commodities. Despite all these issues, the decline in agriculture was not as severe as in many CEE and former Soviet Union countries.

The sectoral structure of production is an important issue. Figure 7. illustrates the development of crop production within the agricultural output. As the rest of production is livestock, it summarises the changes of sectoral proportion as well.

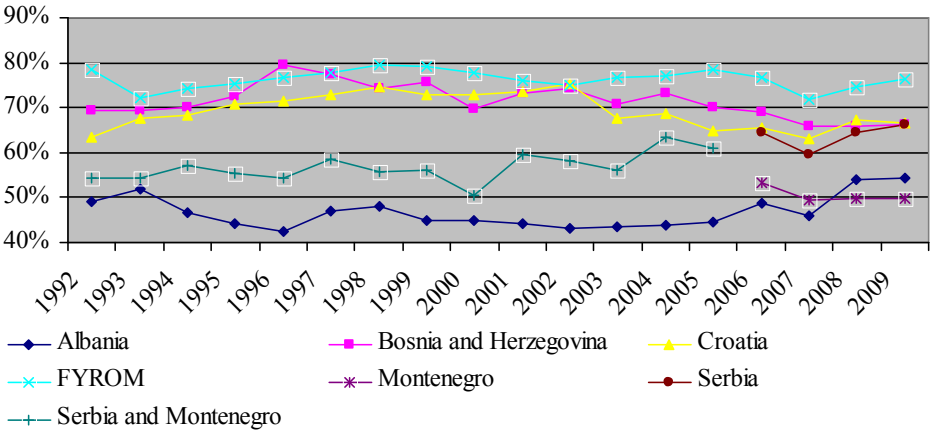


Figure 7. The share of crops in the agricultural production

Source: Author's composition based on FAO database

The crop production is more than 50% in every country except Montenegro. For instance in FYROM it gave 76% of the total production. It is interesting because Montenegro and FYROM are geographically similar countries characterised by mountains. The value of this ratio is 2/3 in the three biggest countries (Serbia, Croatia and Bosnia and Herzegovina). Only the Albanian output was dominated by livestock products from 1994 to 2007, when the line was below 50%. Taking a look at the sectoral production of the EU, that is balanced over the years despite the huge differences among the countries (e.g. crops are dominant in France or Italy, while UK or Denmark can be characterised by the dominancy of livestock production).

The comparison between the outputs of the sectors is carried out by using base indexes normalised to 1992. The following figure shows these values (Figure 8.).

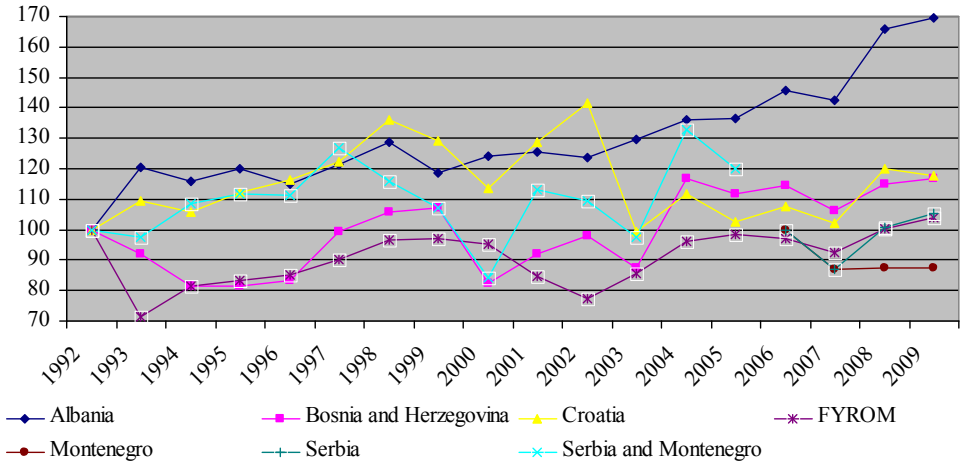


Figure 8. The development of crop production [initial year = 100]

Source: Author's composition based on FAO database

Albania showed the most dynamic growth, while FYROM was able to surpass its initial value only in 2009. Compared to the development of total output, it is clearly visible that its engine was the crop production as the dominant sector. But one might notice that these curves show higher amplitudes than the total outputs' ones. The above mentioned droughts in 2000 and 2003 caused 45% and 33% loss respectively.[1] As the biggest producers are dominated by crops, the lack of irrigation can cause huge losses in production under unfavourable natural conditions. From this aspect FYROM has the best position, where 2.7% of UAA is irrigated, while in case of Croatia and Serbia this share is only 0.25% and 0.51% respectively (World Bank database). But even the Macedonian value is fairly low. According to the Eurostat database, irrigation is more common in the EU (around 10%), especially in the Mediterranean countries (e.g. 40% in Greece). The lack of irrigation is the main reason behind the higher fluctuation of crop production, while in case of livestock production an almost linear trend can be obtained (Figure 9.).

[1] The drought in 2007 affected mostly Serbia. Due to that, the production went down from 6 million to 3.9 million tonnes.

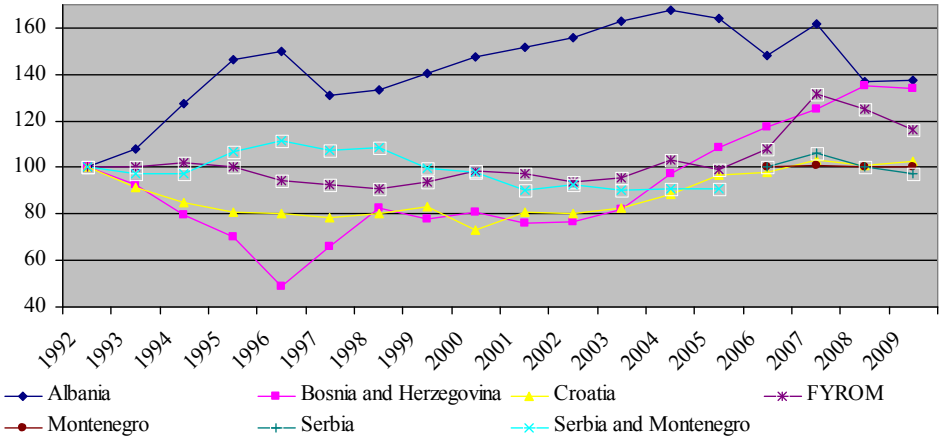


Figure 9. The development of livestock production [initial year = 100]

Source: Author's composition based on FAO database

Again not surprisingly, Albania showed the highest growth, but what is really worthy of note is the development of Bosnian turnover. After reaching its bottom with 49% in 1996, the livestock output went up to 134% of the base value in 2009.

4. The Development of Efficiency

One of the possible tools to measure efficiency in agriculture is the value added per worker. Moreover it can be compared directly without further calculations. Table 5. gives an overview of it.

Table 5. Value added per worker [constant 2000 USD]

Countries	1992	2000	2008
Albania	958	1542	1663*
Bosnia and Herzegovina	3216**	4902	11647
Croatia	5545	8798	16123
FYROM	2413	3371	4644
Montenegro	-	-	2196
Serbia	-	-	N/A

* Data for 2006
** Data for 1994

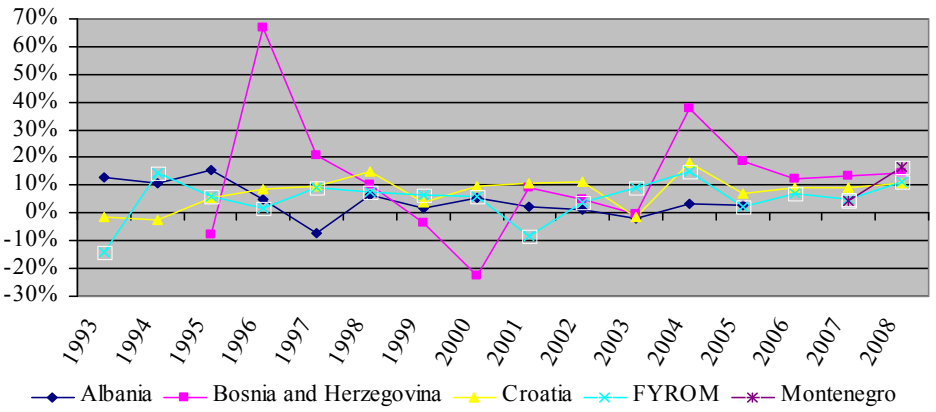
Source: World Bank database

Where data was available for all three selected years, a continuous increase can be registered. As it could be anticipated by the previous datasets, Albania has the

worst situation followed by Montenegro (1663 and 2196 USD respectively). It indicates enormous efficiency problems. Bosnia and Herzegovina showed the most notable growth but even that was not enough to catch up with the best performing country, Croatia. According to the World Bank database, the Croatian 16123 USD value counts really high as the average of the euro zone is 23700 USD. On the other hand it is more than two fold of the Hungarian or Romanian values (7006 and 6952 USD respectively).

Examining the changes of the value added per worker, the whole picture is less favourable. The indexes show large fluctuations over the years (Figure 10.). It is closely related to the turnover of the sectors. Natural disasters can significantly influence crop production and reduce efficiency. Moreover, it is aggravated by the dominancy of crops and the low level of irrigation.

Figure 10. The changes of the value added per worker [%]



Source: Author's composition based on World Bank database

It can be seen on the figure above that all countries faced declines at some time except Montenegro, which has only two years of data as a separate country. The highest declines can be linked to Bosnia and Herzegovina. The first one in 1995 was the consequence of the Yugoslav war, while the second one in 2000 was caused by the earlier mentioned drought. It would have had so serious effect because crop productions gave two thirds of total production. Again the drought was the reason of low or even negative growths in the region in 2003.

The key areas of efficiency of the agricultural performance are agricultural production and yields of the main commodities. In the following part the three main products (maize, pork and cow milk) of the countries will be examined. The reason of choosing these commodities is their dominancy in production in the

region.[1] First of all maize production of the Western Balkan countries will be checked upon. Table 6. provides detailed data on maize production and yields.

Table 6. Maize production and yields

Countries	Production (1000 t)			Yield (t/ha)		
	1992	**2000**	**2009**	**1992**	**2000**	**2009**
Albania	156.1	205.7	265.1	2.49	3.88	5.57
BiH	630.0	472.0	962.9	3.99	2.27	5.10
Croatia	1537.7	1526.2	2182.5	4.15	3.93	7.35
FYROM	130.3	125.4	154.2	2.98	3.38	4.75
Montenegro	-	-	6.9*	-	-	2.52
Serbia	-	-	6396.3	-	-	5.29
Serbia and Montenegro	4513.0	2968.0	-	2.98	2.46	-
Total/Average	8139.4	6425.7	11356.1	3.32	3.18	5.10

* Data for 2008.

Source: Author's calculations based on FAO database

As it can be seen from table 6, the most significant cereal producer of the region is Serbia. According to data for 2009, this country produced 64% of maize production of the region. The next highest one for maize is Croatia with production over 2 million tonnes and Bosnia and Herzegovina with almost 1 million tonnes. The "war effect" can be clearly seen when the Serbian production fell by one third. Due to the drought in 2000 the Bosnian and Serbian maize production halved. The other drought in 2003 caused 34% decline in production. Despite these negative effects, the maize production has significantly increased in the last 18 years by 30% compared to 1992 and by 47% compared to 2000.

Maize yields show huge differences in the countries. The highest numbers were observed in Croatia (7.35 t/ha), while the smallest ones were in Montenegro (2.52 t/ha) in 2009. With similar endowments to Montenegro, FYROM were able to reach higher yield (4.75 t/ha). The three other countries (Albania, Bosnia and Herzegovina and Serbia) can be characterised by yields around the regional

[1] On country level there are some differences: wheat production is higher in Albania and FYROM than maize; beef is more significant in Albania, BiH and Montenegro than pork. Cow milk is dominant in every Western Balkan country. Goat and sheep are important in Albania and FYROM but they have only a bit more than 10% share in total milk production (FAO database).

average. According to the data, only Albania was able to continuously increase its yields. One of its reasons is the small initial value. Every other country faced with declines over the years. Compared to year 2000, the average yield of maize went up by 60%. But these values are relatively low, even the Croatian one, they are far below the average of the EU-15, which were 9.26 t/ha in 2009 (Eurostat database). It indicates that use of proper production techniques (quality seeds, proficiency, high-tech machinery, etc.) can result higher output via increased yields even if the agricultural area is not extended.

The second important output to discuss is pork production. In order to take a deeper look into the production of the countries, it is important to examine the livestock headcounts of pig. As the cattle population provides the basis of milk production, it is important to show them too (Table 7.).

Table 7. Headcounts of cattle and pig population in the Western Balkans [1000 animal]

	Cattle			**Pig**		
Countries	**1992**	**2000**	**2009**	**1992**	**2000**	**2009**
Albania	616	728	494	90	103	160
BiH	550	462	458	430	450	529
Croatia	590	427	447	1 183	1 233	1 250
FYROM	282	270	253	171	226	194
Montenegro	-	-	109*	-	-	10*
Serbia	-	-	1 002	-	-	3 631
Serbia and Montenegro	1 975	1 427	-	3 844	4 087	-
Total	4 013	3 313	2 763	5 718	6 099	5774

* Data for year 2008

Source: Author's calculations based on FAO database

The cattle population decreased by 30% (from 4 million to 2.8 million) in the last 18 years. Its main reason was the huge Serbian decline. On the contrary, the pig population seemed to be stable; the initial value was more or less the same as the final one. Although the Serbian stock declined, the increase in the other countries' population compensated that. Besides the later analysed milk, the pig sector was able to avoid the "war loss".

In accordance with the headcount data, Serbia was the most dominant pork producer in the Western Balkans. Table 8. shows pork production and yields.

Table 8. Pork production and yields in the Western Balkan countries

Countries	Production (1000 t)			Yield (kg/animal)		
	1992	**2000**	**2009**	**1992**	**2000**	**2009**
Albania	10.6	7.8	12.5	65	67	67
BiH	10.0	6.3	9.7	70	53	67
Croatia	65.0	63.7	131.0	74	72	76
FYROM	10.4	9.3	8.3	95	93	98
Montenegro	-	-	2.4	-	-	102
Serbia	-	-	528.0	-	-	98
Serbia and Montenegro	591.7	634.5	-	77	78	-
Total/Average	687.7	721.6	691.9	76	73	85

* Data for year 2008

Source: Author's calculations based on FAO database

Pork production showed high correlation with the headcount data, after a small increase in the middle of the observed period, it went back to its initial value. The production structure changed a bit, the lower Serbian production was replaced by the doubled Croatian one. Yields of pork production declined in 2000, but increased by 12% at the end of the period. The high Serbian, Montenegrin and Macedonian values should be mentioned. Essentially they contributed to the remarkable growth from 73 to 85 kg/animal. This value is around the average of the EU where only Italy could realize 125 kg, but for instance Belgium and the Netherlands remained under 100 kg/animal (FAO database).

As third point, the cow milk production of the countries will be discussed. Among the Western Balkan countries Serbia produced the largest amount of milk, but Albania were able to continuously increase its production and almost reached one million tonnes output in 2009 (Table 9.). In the light of decreasing Serbian and increasing Albanian production, Albania would become the biggest milk producer of the region.

Table 9. Cow milk production and yields in the Western Balkan countries

	Milk (1000 tonnes)			Milk yield (kg/animal/year)		
Countries	**1992**	**2000**	**2009**	**1992**	**2000**	**2009**
Albania	486	807	908	1 542	1 801	2 572
BiH	450	544	757	1 257	1 810	2 580
Croatia	708	607	818	1 920	2 382	3 850
FYROM	121	220	343	1 248	2 318	2 636
Montenegro	-	-	169*	-	-	2 305
Serbia	-	-	1 509	-	-	2 647
Serbia and Montenegro	1858	1803	-	1 789	2 126	-
Total/Average	3 623	3 981	4 504	1 551	2 087	2 765

* Data for year 2008

Source: Author's calculations based on FAO database

The region showed a growing tendency: 24% more milk was produced in 2009 than in 1992. The FYROM had the most significant increase with 2.8 times more production, but Albania and Bosnia and Herzegovina had also more than 60% growth from 1992 to 2009. The main reason of this large expansion in production was due to the 80% growth of average milk yield. There were no exception from this trend and FYROM and Bosnia and Herzegovina topped this list. The Croatian yield is by far the highest (3850 kg/animal/year), but even this topping value was below the average of the EU. It was 6707 on the level of EU-27 and 5567 for the new member states (EC, 2010). It also indicates enormous efficiency reserves which could be activated by using leading-edge technologies.

5. The Agricultural Trade of the Western Balkans

Basically trade issues can be analysed by export, import and the trade balance. The export increased in every country but this process speeded up spectacularly in the second half of the examined period. The least product to sell abroad was available in Albania, but this country also more than doubled its export value. Altogether the region exported 3 times more in 2009 than in 1996 and its value was almost 5000 million USD. Although there is no separated Serbian data before 2005, but taking into consideration the latest available Montenegrin data, which was 127 million USD in 2007 (WTO database), this impressive growth can be linked mostly to Serbia (Table 10.)

Table 10. Agricultural export of the Western Balkan countries [Mio USD]

Countries	**1996***	**2003**	**2009**
Albania	42	48	94
BiH	N/A	189	546
Croatia	727	1010	1727
FYROM	283	245	504
Montenegro	-	-	N/A
Serbia	-	-	2031
Serbia and Montenegro	592	662	-
Total	1643	2155	4903

* There were only a few data available for the earlier years.

Source: Author's calculations based on WTO database

Of course the export shows high correlation with the production, therefore the Serbian export was able to be increased only after the end of Yugoslav war. This process was so successful that Serbia became the number one exporter of the region by 2007 depriving this title from Croatia. Serbia exported 300 million dollar more than Croatia in 2009. Taking a look at the individual data, all Western Balkan countries could maintain growing export from 2000 to 2008. But the world financial crisis remarkably affected all of them, which caused a brake in their export expansion.

As the value of the agricultural export, the value of import also increased significantly in all countries but it was less dynamic. The import level became 2.8 times more in 2009 than it was in 1996. From the overall 6860 million USD in 2009, Croatia itself imported 2373 million USD and with this amount it was the leading agricultural importer of the region, while the smallest one was FYROM with 728 million USD (Table 11.).

Table 11. Agricultural import of the Western Balkan countries [Mio USD]

Countries	**1996**	**2003**	**2009**
Albania	332	384	822
BiH	N/A	702	1771
Croatia	1020	1414	2373
FYROM	318	361	728
Montenegro	-	-	N/A
Serbia	-	-	1164
Serbia and Montenegro	752	872	-
Total	2422	3733	6860

Source: Author's calculations based on WTO database

The growth rate of import was around the same as export's one, but its initial values were much higher. The negative tendencies were stronger in the second half of the period. The Croatian import was the biggest even from 1996, while Bosnia and Herzegovina came before Serbia in 2004 and became the second biggest importer of the Western Balkans.

The import expansion was also broken by the global financial crisis, but its decline was bigger than what could be observed for the export (-18% compared to -6%). In value it resulted better trade balance by almost 1.2 billion USD compared to the previous year.

Based on the analyses above, it is worthy to calculate agricultural trade balances for the countries. It is clearly visible that only Serbia was able to gain a surplus from its agricultural trade, but only in the second half of the examined period. Before the disintegration, the trade balance of Serbia and Montenegro was negative, but Serbia as an independent country had positive trade balance already in 2005 with the value of 123 million USD. It increased to 867 million USD in 2009 which makes more offsetting the growing trade deficit of the region. But it should be mentioned that Bosnia and Herzegovina made 63% of it with the value of -1225 million USD (Table 12.)

Table 12. Agricultural trade balance of the Western Balkan countries [Mio USD]

Countries	**1996**	**2003**	**2009**
Albania	-291	-336	-728
BiH	N/A	-512	-1225
Croatia	-294	-404	-646
FYROM	-35	-115	-224
Montenegro	-	-	N/A
Serbia	-	-	867
Serbia and Montenegro	-160	-210	-
Total	-780	-1578	-1957

Source: Author's calculations based on WTO database

The overall deficit of the region was 1957 million USD in 2009. Besides Serbia, all the other countries were net importers of agricultural goods in all the selected years. Their deficit was growing continuously. It is remarkable that Serbia's surplus more than doubled compared to 2008. It means that its agriculture was undoubtedly the winner of the global financial crisis. To have a clearer picture on the net importer countries position, figure 11. gives an overview of the development of their agricultural trade deficit.

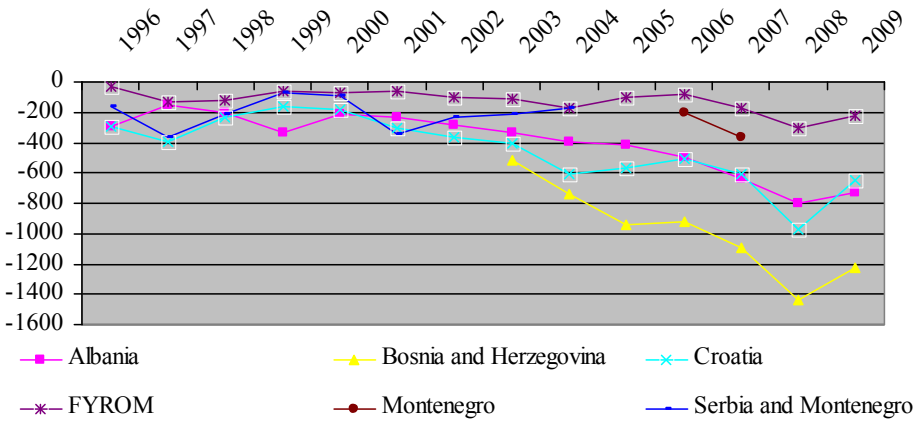


Figure 11. The development of agricultural trade deficit [Mio USD]

Source: Author's composition based on WTO database

Trade data were available for Bosnia and Herzegovina only from 2003 in the WTO database, but this country had the largest agricultural trade deficit from the very beginning. Regarding both export and import, EU is the most important trading partner of the region. From this aspect it is worth highlighting that out of six Western Balkan countries three is not yet member of the WTO. Bosnia and Herzegovina, Montenegro and Serbia have observer status. The EU pays special attention to the WTO's Sanitary and Phytosanitary Measures, so need to do these countries. Upon the high relevance of the European Union, the earliest implementation of the EU rules on food hygiene and official quality control is essential for these candidate and possible candidate countries (Mizik, 2010). It is a question of market access and export competitiveness. A special pricing system, which encourages farmers to produce high-quality products, could be an element of it (EBRD, 2007). However remarkable steps have been made, there are independent food safety agencies in some countries (Croatia, Bosnia and Herzegovina, FYROM) and some of them have already been acknowledged by the EU (Mizik, 2010). For example the Croatian Food Agency got the ISO 9001:2008 certificate in January 2009. Serbia seems to be lagging behind as the food safety law has not been adopted yet and the food safety agency is not established (Rasavac – Cuk, 2009). But is should be kept in mind that the establishment of food safety agency itself can not solve the food safety problems if it does not have sufficient resources like qualified and well-paid staff, financial resources for testing, well-equipped laboratories with satisfactory capacity, etc.

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