



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

MONTENEGRIN AGRICULTURE: DIAGNOSIS AND POLICY RECOMMENDATIONS

Nikola Fabris¹, Igor Pejović²

“The world has more than enough food to feed everyone, yet 850 million are food insecure”³

Summary

Montenegro has turned to the service sector in the last two decades and agriculture is largely neglected. The neglect of agriculture has a negative effect on the creation of GDP, employment, current account deficit (of balance of payment) and starting of migrations from rural to urban areas of the country. The authors of this paper set up two goals. First to do an analysis of the situation in agriculture from macroeconomic and accounting aspect. Second goal is to provide policy recommendations for improving situation in agriculture of Montenegro on the bases of the obtained results. The authors used the base of the final accounts of Central Bank of Montenegro for the calculation of the most important ratio indicators. Key recommendations relate to the credit support to agricultural sector; increasing amount of subventions, granting of tax benefits, raising the degree of technical equipment and application of agro-technical measures, as well as the improvement of general living conditions in rural areas.

Key words: Montenegro, agriculture, ratio numbers, recommendations.

JEL: O13, Q10, E60

Introductory remarks

Montenegro is a small, highly open economy, which is dominantly service-oriented. Since the end of World War II, Montenegro has undergone through several major structural changes. At the end of the Second World War, it was backward, underdeveloped country dominated by agriculture. Then in accordance with a socialist concept of accelerated development the industrialization was forced, so at the beginning of the transition process

1 Associate profesor, Faculty of Economics, Belgrade University, Kamenicka Street no. 6, and Chief Economist, Central Bank of Montenegro, Phone: +381 65 5192 105, E-mail: fnikola@eunet.rs

2 Lecturer, R&B College, Professional Studies in Accounting and Financial Markets, Imotska Street no. 1, 11000 Belgrade, Phone: +381 69 600 896, E-mail: prof.pejovicigor@gmail.com

3 World Bank 2007, p. 94.

the industry has created nearly half of GDP. However, with the transition process, the emphasis shifted toward the service sector, so at the end of the year 2010, the service sector created almost two-thirds of GDP. In the whole observed period agriculture was unjustifiably neglected and there was the tendency of agriculture share decreasing in the creation of GDP. So after the Second World War, the agriculture created 40% of Montenegro's GDP, but in 2010 it was reduced to only 7.7%. Even larger changes were present in change of population structure, because for instance in year 1948 agricultural population represented 71.6% of total population, and according to results from population census in year 2003, the agricultural population represented only 5.3% of total population (Žugić, 2012: 46).

The authors believe that it is about time to stop this trend of Montenegrin agriculture neglect and that economic policy should support more agriculture. In the next period, on the global scales, agriculture will face more favourable conditions. As Detthier and Effenberger (2011: 2) point out that after two decades of neglect of agriculture (on global level - remark by authors) high rise of food prices and food shortages put agriculture back in the centre of interest. Also, McNeely and Scherr (2002: 4) estimate that over the next two to three decades, the demand for food will be higher by 40% to 60% from current production.

One of the main causes of lack of competitiveness in the Montenegrin agriculture is low productivity, as a result of lack of equipment, diminished properties, and a large part of soil with poor fertility (Ministry of Agriculture, 2008: 43). Agricultural farms due to unfavourable economic and social situation are not in position to provide sufficient funds for the modernization of production. Production is very diverse and the degree of utilization of agricultural area is very low (Jovanovic, Despotovic, 2012: 207).

The neglect of agriculture had a large number of other associated negative consequences. First obvious result was the growth of food import, which contributed to a significant deterioration of already high current account deficit. Another direct consequence was a considerable emigration from rural areas to Podgorica and the coastal region. With this also came to too much pressure on the infrastructure of these cities and the incensement of social problems, because a large number of newcomers did not find employment. The third result was that the decline in GDP during the Global financial crisis was extremely high. Specifically, it appeared that in the crisis service sector had a rapid decline, while agriculture on the other hand achieved positive high rates of GDP.

Agriculture and forestry are the fields that should not be viewed solely from aspect of creating of GDP, but also from aspect of initiating rural development, development of processing industries, particularly food and wood processing, reduction of regional disparities, and also as support to the development of tourism. As outlined in the *Regional Development Strategy of Montenegro* (2010: 14), most of the development potential is located in areas that are least developed, and therefore agriculture, especially production of healthy food and available forest potential should be adequately valorised in the future period.

In this paper authors have set two main goals. The first goal relates to the analysis of the financial position of agriculture (ratio numbers), as well as other indicators of agricultural

business. The second goal of work relates to the creation of policy recommendations for improvement of situation in the Montenegrin agriculture.

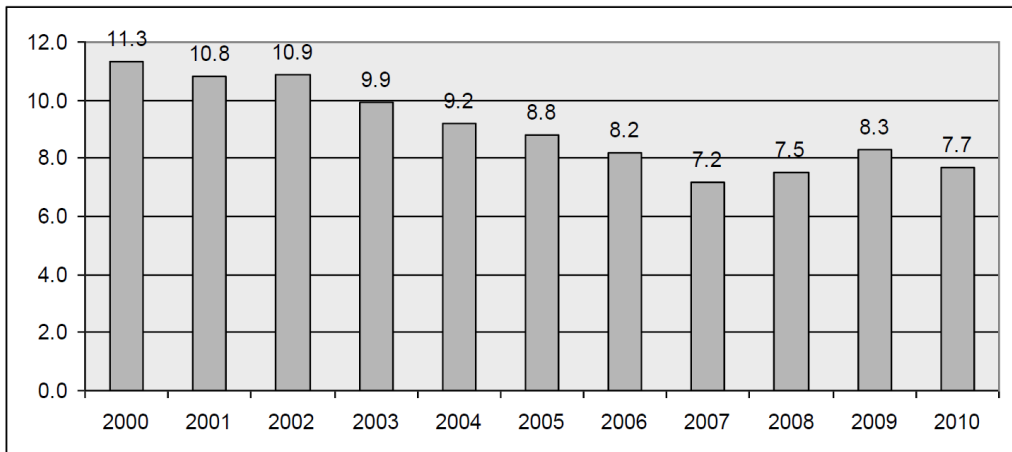
Analysis of financial and other business indicators of agriculture is based on the final accounts. The authors have used as a source base of the final accounts of the Central Bank of Montenegro (CBM). To provide comparative conclusions same indicators are used for the entire Montenegrin economy that were taken from a study of the CBM “Information on the business of the Montenegrin economy” (2011). Observation subject in this paper is time period between years 2005 and 2010, for which the financial accounts were available.

The paper consists of three parts. The first part analyses the macroeconomic aspects of agriculture that is the share in Montenegrin GDP, importance for Montenegrin economy, as well as tendencies. In the second part of the paper empirical analysis of agricultural business indicators in the period between year 2005 and 2010 is given. The third part of the paper concerns the policy recommendations on what should be done in following period to improve the agriculture position in Montenegro.

The Change of position of agriculture in the Montenegrin economy

After World War II Montenegro was a backward agrarian area, with traditional organisation of economic life, 85% of the population lived from agriculture, and yet, fifteen percent of the population was engaged in handicrafts, trading and other activities. However, following the socialistic concept of industrialization, there are major structural changes in the creation of GDP. During this period the emphasis was on encouraging the development of ‘heavy industry’ (energetic, mining, metal industry) and the rapid development of traffic. With this comes to rapid growth of industry share in the creation of Montenegrin GDP.

Graph 1. Share of agriculture in Montenegrin GDP (period 2000-2010)

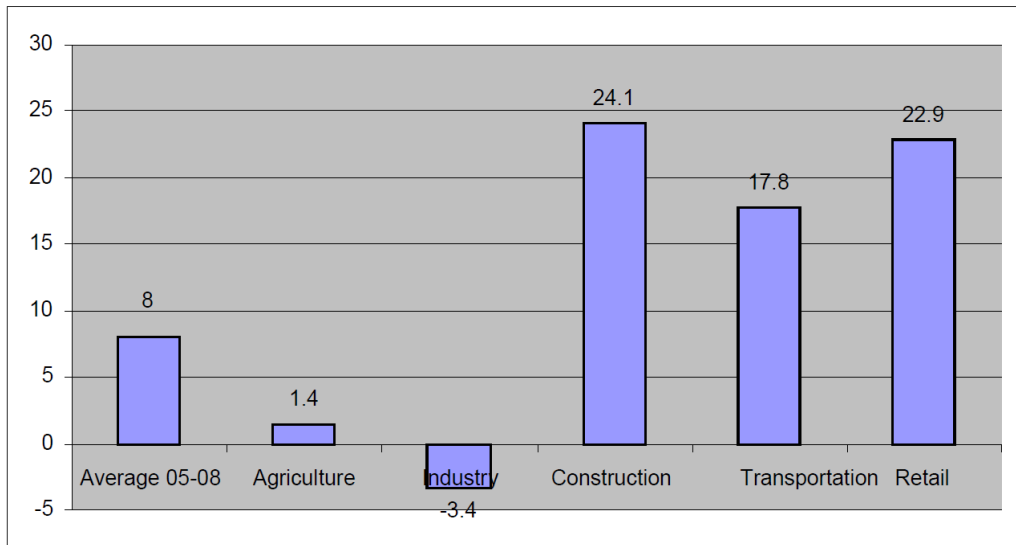


Source of data: Author’s calculations based on data of the Statistical Yearbook for year 2011.

From the graphics it can clearly be seen that in the observed period there is a tendency of further decreasing in the share of agriculture in GDP that in year 2010 was almost 50% lower than in year 2000.

In the period of transition there was a major structural change in the creation of Montenegrin GDP, when the economy shifted toward service sector. There is the impression that the most significant structural changes occurred in the three years period of economic boom, when the average high rate of Montenegrin GDP was 8% (Fabris, Jandrić, 2011: 120). During this period a rapid growth of service sector was achieved, and industry and agriculture were completely neglected. Industry achieved negative growth, and agriculture a modest growth that was significantly behind the average high rate of economy growth. It is obvious that the three observed service sectors - construction, transportation and retail (Graph 2) grew at a more rapid pace than their potential, experiencing a plunge in the post-crisis years and thus contributing to a sharp decline (2009) and/or slow recovery of GDP (2010 and 2011).

Graph 2. High rates of selected sectors of the Montenegrin economy (period 2005- 2008)



Source: Fabris, N., Mijatović, M. (2011): *Critical Overview of Montenegro's Growth Model*, Europe and the Balkans: Economic Integrations, Challenges and Solutions, University of Orleans.

At the same time as a result of neglect of agricultural production (impoverishment of the agricultural population), which was for decades a traditional activity in the north of Montenegro, it had come to the significant population migrations to Podgorica and coastal towns. Although between the two population censuses in Montenegro the number of inhabitant increased by 0.8% (Monstat, 2011a), the table clearly shows that the number of population in the northern region decreased drastically, while in the other two regions it increased.

Table 1. Migration of the Montenegrin population between two censuses

Territory	North Region	Central Region	Coastal Region
Change in number of population (between the two census)	- 7.4%	8.3%	1.9%

Source: Author's calculations based on data Bases of the final accounts of the Central Bank of Montenegro and MONSTAT (2011a). Prvi rezultati popisa stanovništva, domaćinstava i stanova u Crnoj Gori, Podgorica.

World Bank study (2007: 2) showed that agricultural development can be an effective instrument that would reduce poverty and with that migrations. Also, Loayza and Raddatz (2010) show for a cross-section of developing countries that growth in more labour-intensive sectors such as agriculture has a larger impact on poverty reduction than less labour-intensive activities. The logical consequence of migration of population from rural areas was a reduction in the number of employees in agriculture and reduction of their share in total employment.

Table 2. Share of employees in agriculture and forestry in total number of employees

Indicator	2003	2011
Total employees	142,679	161,742
Agriculture and forestry	3,926	2,347
% share of agriculture in total no. of employees	2.8	1.5

Source: Author's calculations based on a database of the Employment agency and census results from 2003 and 2011.

The table shows that since the census in year 2003 share of employees in agriculture, forestry and water management in total is decreasing, which represent a confirmation that the part of agricultural population sought employment in other industries that have developed quickly in the observed period. Data on the number of agricultural population according to census from year 2011, are not yet available, but comparing the data of the number of agricultural households (Monstat, 2010) we can notice that in the period between years 2003 and 2010 the number of agricultural households has increased by 5,631 (from 43,216 to 48,847). At first glance these results seem contradictory, but given the motion of the average wage of 484 Euros (Monstat, 2012a) and the minimum consumer basket of 770 Euros (Monstat, 2012) at the end of year 2011, one number of population was forced to seek additional sources of income, which they found in carrying out the agricultural activity. These data suggest that agriculture in Montenegro has a perspective and that a part of the population is once again turning towards agriculture. How big the potential of agriculture for employment is can best be seen from the FAO study (2006), which has estimated that agriculture provides employment for 1.3 billion workers. This data has clearly showed that Montenegro has share of employments in agriculture significantly below world average.

The analysis of accounting indicators

Analysis subject will be motion of chosen accounting ratio. The aim of this analysis is to determine the profitability, liquidity, indebtedness and solvency of agriculture and on the basis of these indicators to formulate policy recommendations for agriculture.

Agriculture in the entire observed period operated with profit, even in year 2009 when the Montenegrin economy was severely hit by the global financial crisis, which confirms the previously outlined hypothesis that the Montenegrin economy would felt the crisis less if it had a greater support in the agriculture.

Table 3. Profitability in Montenegrin agriculture and economy (in EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Net profit / loss	758,689	2,733,959	2,082,051	3,087,386	2,269,396	2,706,866
2. Total income	30,423,748	57,865,079	51,912,882	54,435,379	48,360,992	85,463,951
3. Net profit rate of agriculture (1:2) x100	2.50	4.73	4.01	5.68	4.70	3.17
Net profit rate of the Montenegrin economy	-3.2	2.0	2.47	0.15	-1.79	0.48

Source: Author's calculations based on final accounts

Comparing to the rate of net profits of Montenegrin agriculture, it can be seen that profit rate in the entire observed period was higher than for the Montenegrin economy. Such findings suggest that agriculture has significant perspective in Montenegrin economy. Similar conclusion can be made if rate of capital income and total reserves are observed (Table 4).

Table 4. Return on capital and total reserves in Montenegrin agriculture and economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Net profit / loss	759	2,734	2,082	3,087	2,269	2,707
2. Capital and reserves	29,786	105,588	119,662	118,471	112,049	140,553
3. Return on capital and total reserves in agriculture (1:2)x100	2.55	2.59	1.74	2.61	2.03	1.93
4. Return on capital and total reserves of MN economy	-6.20	1.55	3.88	0.12	-1.56	0.41

Source: Author's calculations based on final accounts

The assets of Montenegrin agriculture in the observed period rose steadily.⁴ However, at the end of 2010 the asset share of agriculture in total assets of the Montenegrin economy is lower than it was year 2006. This clearly indicates that the increase in total agriculture assets (of 45.7%) over the period 2006 – 2010 was lower than the average for the entire country (103%).

Table 5. Motion of agriculture assets and Montenegrin economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
Total assets agriculture	45,838	137,782	142,419	147,955	149,140	200,870
Total assets MN	5,579,300	7,267,059	10,928,566	13,548,695	13,671,041	14,795,214
Share of assets of agriculture in total assets	0.82	1.90	1.30	1.09	1.09	1.36

Source: Author's calculations based on final accounts

The question how in the observed period the liquidity of agriculture moved is of great importance. The liquidity coefficient of first degree (liquidity ratio or rigorous liquidity ratio) is obtained by putting into relation cash and cash equivalents with short-term liabilities. This indicator of current liquidity shows the ability (degree) of settling short-term liabilities (Table 6).

Table 6. Motion of liquidity ratio first degree in the Montenegrin agriculture and economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Cash and cash equivalents	908	2,703	5,216	2,990	822	1,176
2. Short-term liabilities	13,645	27,050	15,688	20,974	23,840	39,515
3. Liquidity ratio I degree of agriculture (1:2)	0.07	0.10	0.34	0.15	0.04	0.03
Liquidity ratio of Montenegrin economy	0.09	0.14	0.17	0.13	0.09	0.10

Source: Author's calculations based on final accounts

The observed table shows that the liquidity of agriculture is unsatisfactory and that in the last four years the tendency of its continuing deterioration is present. Also, except in the period 2007-2008 the liquidity of agriculture was worse than the average for the Montenegrin economy.

To get a complete picture of the liquidity of agriculture we will calculate indicators of liquidity of II and III degree. Liquidity indicator of the second degree ((working capital - supplies)/ short-term liabilities) indicates whether or not company covers or do not cover its short-term liabilities by liquid funds and collectible receivables. As Matz (2005: 53) emphasizes preferred value of this ratio is between 1 and 1.2.

4 The value of agriculture assets was not largely affected by the growing real estate prices in Montenegro during the observed period. The highest real estate price increase was in coastal municipalities and Podgorica.

Table 7. Motion of the liquidity coefficient of the second degree in the Montenegrin agriculture and economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Working capital	17,703	36,215	31,868	37,430	42,396	68,411
2. Supplies	3,141	14,766	12,686	17,777	21,499	33,097
3. Short-term liabilities	13,645	27,050	15,688	20,974	23,840	39,514
Liquidity indicator of the second degree of agriculture [(1-2) : 3]	1.07	0.79	1.22	0.93	0.87	0.89
Liquidity indicators of the II degree of Montenegrin economy	1.31	1.24	1.35	0.72	0.72	0.74

Source: Author's calculations based on final accounts

As seen from the table neither the Montenegrin economy nor agriculture are capable that from the liquidity funds, as well from short-term claims settle short-term liabilities. Until the appearance of the global financial crisis the liquidity of the Montenegrin agriculture was worse than the average economy liquidity, and after the crisis the situation has changed, which once again confirms the hypothesis that agriculture is more resistant to shocks.

Liquidity coefficient of the third degree, or better known as general liquidity coefficient, is obtained by putting in relation the working capital and short term liabilities. The critical value of this indicator is 1 and if this indicator is higher than 1 it indicates that current assets can cover the short-term liabilities. The value of the indicator below 1 indicates that fixed assets cover part of the short-term liabilities, which is considered as an unfavorable indicator. However, it is recommended that this ratio should be at least 1.2, and preferably even to be over 2 (Matz, 2005:54).

Table 8. Liquidity Coefficient of the third degree for the Montenegrin agriculture and economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Working capital	17,703	36,215	31,868	37,430	42,396	68,411
2. Short-term liabilities	13,645	27,049	15,688	20,974	23,840	39,515
3. Liquidity Coefficient of the third degree in agriculture (1:2)	1.30	1.39	2.04	1.78	1.77	1.73
Coefficient liquidity III degree of MN economy	1.03	1.06	1.09	1.05	1.04	1.07

Source: Author's calculations based on final accounts

As we can see from the table Montenegrin agriculture in the observed period had a higher value than 1, indicating that the working capital covered short-term liabilities. Also, during the whole observed period this indicator is favorable than in the overall economy.

Asset turnover ratio shows the relation between income and asset, that is the amount of income per euro of engaged assets. In the literature there is no general recommendation on how much should be a desirable value of this coefficient, so that the desired value should be found in comparison with the branch value and the nearest competitor (Spasić, 2012: 21). Theoretically, higher value of this indicator shows better performance.

Table 9. Asset turnover ratio for Montenegrin economy and agriculture (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Total income	30,424	57,865	51,913	54,435	48,361	85,464
2. Total assets	45,838	137,782	142,419	147,955	149,134	200,870
3. Asset turnover ratio of agriculture (1:2)	0.67	0.42	0.37	0.37	0.33	0.43
Asset turnover ratio of MN economy	0.59	0.63	0.57	0.56	0.44	0.44

Source: Author's calculations based on final accounts

The value of the observed coefficient and for the whole economy and for agriculture cannot be rated as satisfactory, because they indicate small investment ability comparing to total appropriation. Situation in agriculture can be estimated quite unsatisfactory considering that the value of this indicator in the whole observed period was lower than the average for the Montenegrin economy with exception in year 2005.

As the liquidity of agriculture proved to be inadequate and considering the low profitability, there is the question of degree of indebtedness of agriculture. As an indicator of indebtedness of agriculture we may use debt ratio, that is ratio of capital to total liabilities (capital and reserves / (short + long-term liabilities)). As emphasized by Investopedia encyclopedia, this ratio is used for assessing the risk profile of the company (Investopedia, 2012). Value less than 1 suggests that the company has more liabilities than the amount of its capital.

Table 10. Motion of indicator of indebtedness of Montenegrin agriculture and economy (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Capital and reserves	29,786	105,588	119,662	118,471	112,049	140,553
2. Long-term liabilities	2,407	5,145	7,069	8,509	13,251	20,802
3. Short-term liabilities	13,645	27,050	15,688	20,974	23,840	39,515
4. Indebtedness ratio of agriculture [1:(2 +3)]	1.86	3.28	5.26	4.02	3.02	2.33
Indebtedness ratio of Montenegrin economy	1.38	1.13	0.96	0.79	0.90	0.92

Source: Author's calculations based on final accounts

The table shows that Montenegrin agriculture is not high indebted unlike the Montenegrin economy (which has a level of debt higher than capital and reserves in observed period with the exception of 2006). The reasons for lower indebtedness of agriculture should also be sought in the banks reluctance to grant loans to agricultural producers due to a lower quality of collateral, the inability to put administrative ban on salary (agricultural producers are treated as self-employed), high fluctuations in production due to weather conditions, the lack of income statements and balance sheets, and so on. However, a certain level of concern creates the fact that in the last four years value of this indicator deteriorates.

As an approximation of solvency indicator that represents the relation of capital can be used (with included reserves) and fixed assets. Solvency indicators are important, because they show financial security of company, that is reflect the long-term risks of investments in the

company (Jakšić, 2006:725). However, unlike banking, where the value of the solvency ratio (coefficient of capital adequacy) is strictly regulated and is subject to the strictest controls (Kozarić, Fabris, 2012:47) for non-financial sectors there is no strict control and solvency management is left to the companies. The value of this indicator of 1 suggests that fixed assets are fully covered with capital and this is usually considered as the minimum of desirable value. Otherwise part of fixed assets is covered from funds of lower quality and shorter maturity. The following table shows the motion of solvency coefficient for the Montenegrin economy and agriculture.

Table 11. Motion of relation of capital and fixed assets in Montenegrin economy and agriculture (in 000 EUR)

Indicator	2005	2006	2007	2008	2009	2010
1. Capital and reserves	29.785	105.588	119.661	118.471	112.048	140.553
2. Fixed assets	28.134	101.567	110.551	110.524	106.743	132.459
3. Capital in relation to fixed assets in agriculture (1:2)	1,06	1,04	1,09	1,08	1,05	1,07
Capital in relation to fixed assets MN economy	0,80	0,76	0,70	0,63	0,68	0,69

Source: Author's calculations based on final accounts

In the case of agriculture we can see that in all observed years solvency ratio was greater than 1 and that fixed assets was covered by capital increased by the reserves. On the other hand the economy of Montenegro had the value of this coefficient below 1 in the entire observed period.⁵

Compared to Montenegro's economy, most of agriculture ratios are more favourable. Nevertheless, labour force outflow remained, as well as a declining share of agriculture in GDP of Montenegro. The reasons for such a trend are to be found, inter alia, in less favourable living conditions in rural areas with prevailing agricultural activity, a more difficult nature of labour in agriculture, the aspiration of younger generations to better education (faculties are primarily concentrated in urban areas) and living in cities, the belief that best opportunities for personal progress can be achieved in major cities and coastal towns, better wage opportunities in urban areas, and the like.

Policy recommendations for improvement in the Montenegrin agriculture

Previous analysis showed that agriculture has a low degree of profitability, but higher than average for Montenegrin economy. Ratio analysis showed that the key problem of Montenegrin agriculture is liquidity, while agriculture is not highly indebted and has no problem with solvency. Therefore, the priority for improvement of condition in the field

⁵ The reasons for a more favourable solvency ratio in agriculture than the average in the Montenegrin economy should also be sought in the fact that a great number of companies with the initial capital of 1 EUR have been established in recent years, operating in rented premises and without any significant available capital.

of agricultural production should be the providing the credit for liquidity. In a situation of insufficient interest of the banking sector for support of agriculture, the alternative is that state through the Development-Investment fund encourages agriculture to a greater extent or to directly subsidize bank loans for agriculture. This recommendation is in accordance with the findings of Croppenstedt et al. (2003) that credit constraints severely restrict fertilizer adoption by farmers. Increased use of fertilizer is one of the important conditions of increasing yields in Montenegrin agriculture.

Montenegro's agriculture should be intensified and land should be agglomerated. However, it should be taken into account that there are significant areas where agglomeration will not be possible due to geographical and socioeconomic reasons and these areas will remain with prevailing extensive production. On the other hand, a significant room for growth both in agricultural production and employment lies in the exploitation of vast uncultivated land.

Montenegro has no potential for becoming a significant agricultural exporter, but surely there is room for reducing agricultural imports. Subsidies to agricultural producers are given worldwide.⁶ Therefore, the state must continue to support agricultural production in the future period, as it done in the developed countries. Otherwise, if a smaller amount of subventions is approved than to foreign competitors, that selling their product on Montenegrin market, agricultural producers will be in disadvantaged position in comparison with its main competitors on domestic market (CBM, 2011a: 15). In year 2011, 14 million was approved on behalf of the agrarian budget, which is a decrease comparing to year 2008 when the agrarian budget was 16.5 million Euros (Agricultural Budget, 2011). Also, it is almost twice lower amount than what it was projected by National program of food production and rural area development (2008: 93). In addition, it should be noted that a mere allocation of subsidies without structural changes will not significantly improve Montenegro's agriculture.

Incentives for development of agriculture are important for reducing poverty and stopping the migrations. A large number of empirical studies confirmed the link between agricultural development and poverty reduction (Dethier, Effenberger 2011, Loayza et. al. 2010, Datt, Ravallion 2008, Mellor 2001 and others). Christiansen and Demery (2007) estimate that 1 % per capita agricultural growth reduces poverty more than 1.6 times the growth in the industry and three times more than growth in the service sector.

It is obvious that Montenegro should not just leave agriculture to the market, but that an entire program of support is needed that would be based on three pillars:

- Improving the competitiveness of producers,
- Sustainable resource management and
- Improving the quality of life in the countryside.

A special issue of Montenegrin agriculture is extremely low incomes as a result of inadequate mechanization application and agro-technical measures. As emphasized by

6 One should bear in mind that agriculture is one of the few activities in which the WTO allowed the subvention of export production (Trajčevska, et al, 1999).

Pretty (1995: 3), as high as 70% to 90% increase in agricultural production in the early nineties was due to increasing incomes, rather than increasing agricultural land. This is a clear guideline to Montenegrin economic policy makers, that credit and technical assistance for this purpose is needed. Also, the World Bank (2009: 21) points out that a key direction of increasing incomes in developing countries should rely on an increased level of mechanization. World Bank suggests the purchase of equipment on lease to minimize risks, and it for the period 2010 - 2012 significantly increased funding for the credit support to countries in development for this purpose. Montenegro needs to consider the possibility of use of these funds. Grabowski and Self (2007) came to similar conclusion and they have established a positive relation between different measures of agricultural productivity and average growth of real GDP per capita over 1960 - 1995 for a cross-section of countries.

In the future period it is necessary to change the structure of production and redirect it toward cultures that carry higher profit potential, like growing early fruits and vegetables and increase the production in greenhouses (CBMN, 2011: 15). It should go to the option of forming clusters, as they in some countries have given excellent results, while in Montenegro there is none (not just in agriculture).

As it mentioned by Dragos (2012: 143) in order to accelerate the development process of rural and agri-food economy, the financial-banking institutions and the state have come to support the holders of fixed and circulating capitals by creating certain credits warranty funds aimed at taking over the financing risk where collateral warranties are not enough. Also, bearing in mind that Montenegro is a small country and its limited resources to support agricultural production it seems inadequate to use budget funds to encourage 34 different programs. In this way lack of resources disperse too much not providing adequate support for most of the programs. Budget support should concentrate on those programs in which Montenegro could achieve competitive advantages, and they are certainly: vineyard, olive, fruit and early vegetables production, cattle breeding and production of ecological food. Montenegro has good natural conditions for development of these agricultural industries.

The support system is focused almost exclusively on small producers. However criteria for support allocation will not facilitate the creation of large and mechanized agricultural households, which should be the basis for the development of competitive agricultural production. As Dethier and Effenberger (2011:23) emphasized increasing farm size is key for improved incomes in agriculture because it allows for the use of mechanization that has indivisibilities (with differences in access to credit by small and large farms favouring the latter), implying increasing returns to scale and higher profitability per hectare.

It is also important to resolve the issue and redemption of seasonal surpluses of agricultural products. This issue is particularly complicated in conditions when Montenegro does not have public warehouses for this purposes, nor stockpiles. Therefore, in the following years Montenegro should begin creating stockpiles.

Furthermore, Montenegro is a large importer of meat besides excellent conditions for cattle breeding. Thus, in the structure of agricultural production an important place should be given to the meat production, so it is necessary further improvements in finding solutions for the repurchase of meat, livestock fund extension, with parallel adoption of EU standards, to provide the export of meat to the EU market and to substitute imports. Increase of the funds for subvention of the production of meat has an effect on the competitiveness on the market of meat production, the opening drive of the meat industry, which strengthens the sub-sector of food production within the overall processing industry in Montenegro. Also, it is necessary to secure large livestock fund before joining the EU, in order to obtain subventions on that basis.

Since the previous analysis showed the continued downward trend in employment in agriculture, as well as population decline in traditional agricultural areas, as a result of the impoverishment of the agricultural population, a special set of measures should be aimed at stopping this trend. The measures that in this context should be taken relate to provide direct financial support to elderly households, which based their existence on agriculture, improvement of infrastructure quality (roads, water supply, electric energy) and improvement of quality of life in rural areas (construction of sports and cultural facilities, health centers, etc.).

Climatic conditions (droughts, floods, hail and the like) often cause significant damage to agricultural products and crops, livestock and other resources. Although some of these risks can be ensured within the regular system security, producers rarely use that option because of high insurance premiums, and damages of larger scale exceed capabilities of recovery by the producers themselves (National Programme for Food Production and Rural area development, 2008:41). Therefore it would be useful for state to participate in the cost of insurance.

The state should also consider tax incentives to agricultural producers. Considering that total amount of taxes levied on agriculture accounts for a small share in total taxes collected in the budget, tax relief could be a substantial support to agriculture, without any significant impact on the budget. World Bank study (2007: 98) has clearly shown that in countries where there is high taxation of agriculture there is a low growth of agriculture and the slow growth of whole economy.

An important condition for the improvement of agricultural production is a high quality product and the “conquest” of international quality standards. Bearing in mind that only a few Montenegrin manufacturers have international quality standards, government support would be beneficial to other producers to conquest these standards. Also, the state should engage in promotional activities and the creation of a special national brand, that is trademark (for products of high quality), which would allow that products to achieve greater recognition and greater success in the market.

Finally, of particular importance is to take special set of measures that would relate to harmonizing Montenegrin agriculture with EU rules. Through these measures it is necessary to start the activities on the harmonization of legal framework, policy reforms support and

restructuring, and institutional reform that would primarily entail the establishment of the Agency that would be responsible to implement incentive measures of agrarian policy, international programs support, administrative control measures etc. Also, Montenegro needs to be in the future more engaged in the use of available EU funds to support agricultural production, and that are for sure the funds provided by IPARD program.⁷

Concluding Remarks

Agriculture has been completely neglected for decades in Montenegro. The share of agriculture in creation of GDP decreased from 40% (after the World War II) to 7.7% in year 2010. As a result of agriculture neglect there is a range of negative effects: slower GDP growth, migration from rural to urban areas of the country, worsening of current account deficit, rising unemployment, the impoverishment of the countryside etc. On the other hand, many analysis show that in the following decades we can expect growth in demand for agricultural products and also increase of prices.

Accounting analysis showed that the key problem of agriculture is low degree in liquidity. Agriculture is not heavily indebted and has no problem with solvency. Also, in the last five years, the Montenegrin agriculture operated with a profit.

The key problems of Montenegrin agriculture are small farms, outflow of agricultural labor force to the cities, the low level of mechanization use and agro-technical measures, and low incomes as a consequence of the above-mentioned. Therefore the authors provide policy recommendations for improvement of Montenegrin agriculture.

Key recommendations relate to increased credit support to agriculture, increasing the amount of subvention, the granting of tax incentives, raising the level of technical equipment and application of agro-technical measures, and also improvement of general living conditions in countryside.

References

1. Centralna Banka Crne Gore (2011): *Informacija o poslovanju crnogorske privrede*, Podgorica.
2. Centralna Banka Crne Gore (2011a): *Preporuke za ekonomsku politiku u 2012 godini*, poglavlje Preporuke u domenu poljoprivredne proizvodnje i šumarstva, Podgorica.
3. Christiaensen, L. J., Demery, L. (2007): *Down to Earth: Agriculture and Poverty in Africa*, World Bank, Washington.
4. Croppenstedt, A., Mulat, D., Meschi, M. (2003): *Technology Adoption in the*

⁷ Montenegrin agriculture and European Union strategy has estimated that based on the criteria of agricultural production share in GDP, the number of active agricultural population and surface of used land area, Montenegro could get about 8 million annually. This is more than half of the agrarian budget from year 2011.

- Presence of Constraints: The Case of Fertilizer Demand in Ethiopia*, Review of Development Economics, Blackwell Publishing, vol. 7, issue 1:58–70, New Jersey.
5. Datt, G., Ravallion, M. (1996): *How Important to India's Poor is the Sectoral Composition of Economic Growth?*, The World Bank Economic Review, World Bank, vol. 10, issue 1:1–25, Washington.
 6. Dethier, J. J., Effenberger, A. (2011): *Agriculture and Development*, World Bank Policy Research Working Paper no 5553, World Bank, Washington.
 7. Dimitrijević, B., Fabris, N. (2007): *Ekonomska politika*, Ekonomski fakultet, Beograd.
 8. Dragos, I. (2012): *Financing Rural and Agri-food Economy in the Conditions of World crisis*, Economics of Agriculture, Institute of Agricultural Economics, Vol. 59, Special issue – 1, p. 142 -148.
 9. Fabris, N., Jandrić, M. (2011): *Crnogorski model tranzicije: ex post analiza*, Kontroverze ekonomskog razvoja u tranziciji, 7. maj 2011, Beograd, Naučno društvo ekonomista, str. 109-124.
 10. Fabris, N., Mijatović, M. (2011): *Critical Overview of Montenegro's Growth Model*, Europe and the Balkans: Economic Integrations, Challenges and Solutions, February 3 and 4, Orleans, University of Orleans, p. 112-126.
 11. FAO (2006): *World Agriculture: Towards 2030/2050*, Interim Report, Rome.
 12. *Investopedia*, Debt Ratio, available at: <http://www.investopedia.com/terms/d/debratio.asp#axzz1ozIZrRY1>
 13. Jakšić, M., Redaktor (2006): *Ekonomski rečnik*, Ekonomski fakultet, Beograd.
 14. Jovanovic, M., Despotovic, A. (2012): *The Analysis of Socio-Economic Conditions for Organic Production in Montenegro*, Economics of Agriculture, Institute of Agricultural Economics, Belgrade, Vol. 59, issue 2, p. 207-216.
 15. Kozarić, K., Fabris, N. (2012): *Monetarno-kreditna politika*, Fojnica štamparija, Sarajevo.
 16. Loayza, N. V., Raddatz, C. (2010): *The Composition of Growth Matters for Poverty Alleviation*, Journal of Development Economics, Elsevier, vol. 93, issue 1:137–151.
 17. Matz, L. (2005): *Liquidity Risk Management*, Sheshunoff, New York.
 18. McNeely, J., Scherr, S. (2002): *Ecoagriculture: Strategies to Feed the World and Save Wild Biodiversity*, Island Press, Washington.
 19. Mellor, J. W. (2001): *Irrigation Agriculture and Poverty Reduction: General Relationships and Specific Needs*, Pro-Poor Intervention Strategies in irrigated Agriculture in Asia, August 9-10, 2001, Colombo, Sri Lanka, International Water Management Institute.
 20. Ministarstvo Ekonomije Crne Gore (2010): *Strategija regionalnog razvoja Crne Gore 2010–2014*, Podgorica.

21. Ministarstvo poljoprivrede, šumarstva i vodoprivrede Crne Gore (2010): *Agrarni budžet za 2011 godinu*, Podgorica.
22. Ministarstvo poljoprivrede, šumarstva i vodoprivrede Crne Gore (2008): *Nacionalni program proizvodnje hrane i razvoja ruralnih područja 2009 – 2013*, Podgorica.
23. Monstat (2005): *Nacionalna ili etnička pripadnost – Podaci po naseljima i opštinama*, Knjiga 1, Podgorica.
24. Monstat (2010): *Popis poljoprivrede – prvi rezultati*, Podgorica.
25. Monstat (2011): *Statistički godišnjak 2011*, Podgorica.
26. MONSTAT (2011a): *Prvi rezultati popisa stanovništva, domaćinstava i stanova u Crnoj Gori*, Podgorica.
27. Monstat (2012): *Minimalna potrošačka korpa u Crnoj Gori*, Saopštenje br. 3/2012, Podgorica.
28. Monstat (2012a): *Prosječne zarade*, Saopštenje br. 4/2012, Podgorica.
29. Pretty, J. (1995): *Regenerating Agriculture: An Alternative Strategy for Growth*, Earthscan Publications Limited, London.
30. Self, S., Grabowski, R. (2007): *Economic Development and the Role of Agricultural Technology*, Agricultural Economics, International Association of Agricultural Economists, vol. 36, issue 3:395–404.
31. Spasić, I. (2012): *Fundamentalna analiza akcija i finansijska analiza*, Ekonomski fakultet, Beograd, www.ekof.bg.ac.rs/nastava/trgovina_HOV/FUNDAMENTALNA_ANALIZA_AKCIJA%20I.ppt#256,1,FUNDAMENTALNA_ANALIZA_AKCIJA_I, retrived march 2012.
32. Trajčevska, R., Galic, J., Fabris, N. (1999): *Wheter rules of WTO will Broaden Gap between the Least and the Most Developed Countries?*, The 12th World Congress of International Economics Association, 23-27 August, 1999, Buenos Aires, available at <http://pdc.ceu.hu/archive/00001415/01/gal99-e.pdf>
33. World Bank (2007): *World Development Report 2008: Agriculture for Development*, Washington.
34. World Bank (2009): *Agriculture Plan for 2010 – 2012*, Washington.
35. Žugić, R. (2012): *Medjuzavisnost strukturnih promjena i efikasnosti investicija na primjeru Crne Gore*, Neobjavljena doktorska disertacija, (neobjavljena doktorska disertacija), Beogradska banakarska akademija, Beograd.

POLJOPRIVREDA CRNE GORE: DIJAGNOZA I PREPORUKE ZA UNAPREDJENJE STANJA

Nikola Fabris⁸, Igor Pejović⁹

Rezime

Crna Gora se u poslednje dve decenije okrenula uslužnom sektoru i poljoprivreda je u velikoj meri zapostavljena. Zapostavljanje poljoprivrede se negativno odrazilo na kretanje BDP-a, zaposlenosti, deficita tekućeg računa platnog bilansa i pokrenulo je migracije iz ruralnih ka urbanim delovima zemlje. Autori su u radu postavili dva cilja. Prvi, da se uradili analizu stanja poljoprivrede sa makroekonomskog i računovodstvenog aspekta. I drugi, da se na bazi dobijenih rezultata daju preporuke za unapredjenje stanja u poljoprivredi Crne Gore. Autori su koristili bazu završnih računa Centralne banke Crne Gore za obračun najvažnijih ratio indikatora. Ključne preporuke se odnose na kreditnu podršku poljoprivrednom sektoru, povećanje iznosa subvencija, odobravanje poreskih olakšica, podizanja stepena tehničke opremljenosti i primene agrotehničkih mera, kao i poboljšanja opštih uslova života na selu.

Ključne reči: *Crna Gora, poljoprivreda, ratio indikatora, preporuke.*

8 Vanredni profesor, Ekonomski fakultet, Kamenicka 6, Beograd, Glavni ekonomista Centralne banke Crne Gore, Telefon: +381 65 519 21 05, E-mail: fnikola@eunet.rs

9 Predavač, Visoka škola strukovnih studija za računovodstvo i berzansko poslovanje, Imotska 1, Beograd, Telefon: +381 69 600 896, E-mail: prof.pejovicigor@gmail.com

CONTENT

1. Biberdžić Milan, Maksimović Goran, Barać Saša, Jovović Zoran
**ECONOMIC EFFECTS OF TRITICALE
PRODUCTION ON ACID SOILS. 579**
2. Nešković Slobodan
**AN AGRICULTURAL PRODUCTION AS A SIGNIFICANT AREA
OF A STRATEGY OF ECONOMY DIPLOMACY OF SERBIA 589**
3. Prentović Risto, Gačić Dragan, Cvijanović Drago
**AGRICULTURAL LAND IN VOJVODINA AS ROE DEER HABITAT -
HUNTING - TOURISM ASPECT 603**
4. Stevanović Simo, Đorović Milutin, Milanović Milan
**THE DEVELOPMENT OF THE MARKET PRODUCTION
OF CEREALS IN SERBIA: EXAMPLE WHEAT AND CORN 617**
5. Ševarlić Miladin, Raičević Vuk, Glomazić Rade
**SUSTAINABLE AGRICULTURE POLICY IN SUPPORT
OF FARMERS' COOPERATIVE SYSTEM. 633**
6. Zekić Vladislav, Tomović Vladimir, Milić Dragan, Lukač Dragomir
**COMPARISON OF ECONOMIC CHARACTERISTICS
OF PORKERS OF MANGALITSA AND YORKSHIRE RACE 649**
7. Fabris Nikola, Pejović Igor
**MONTENEGRIN AGRICULTURE:
DIAGNOSIS AND POLICY RECOMMENDATIONS. 657**
8. Janković Dejan
**TERRITORIAL APPROACH TO REGIONAL
RURAL DEVELOPMENT. 675**
9. Krstić Snežana, Vukša Slavko, Andžić Slobodan
**THE ROLE OF THE NATIONAL BANK IN CREATION
OF PUBLIC DEBT OF INDEPENDENT KINGDOM OF SERBIA 687**
10. Kwasek Mariola
**THREATS TO FOOD SECURITY AND COMMON
AGRICULTURAL POLICY 701**

11.	Lukač Bulatović Mirjana, Rajić Zoran, Ljubanović Ralević Ivana ECONOMIC FEATURES OF PROCESSED FRUIT PRODUCTION IN SERBIA	715
12.	Nikezić Srđan, Bataveljić Dragan, Matić Milutin DEVELOPMENT INITIATIVE OF MANUFACTURING AND SERVICE CLUSTERS IN THE REPUBLIC OF SERBIA CORRIDOR 10 ZONE. . . .	727
13.	Rusali Mirela EU ACCESSION IMPACTS ON THE COMPARATIVE ADVANTAGES IN AGRICULTURAL TRADE: ROMANIA'S CASE	747
14.	Savić Ljubodrag, Bošković Gorica, Mičić Vladimir ASSUMPTIONS AND POSSIBILITIES OF THE DEVELOPMENT OF THE SERBIAN FOOD INDUSTRY	753
15.	Stojanović Žaklina, Gligorijević Mirjana, Rakonjac Antić Tatjana THE ROLE OF THE MARKETING MIX IN THE IMPROVEMENT OF AGRICULTURAL INSURANCE.	769
16.	Subić Jonel, Jovanović Marijana, Potrebić Velibor EVALUATION OF REALIZED INVESTMENTS IN AGRICULTURE IN AREA OF UPPER DANUBE REGION	781
17.	Subošić Dane, Cvetković Dragan, Vuković Slaviša FORMS OF ENVIRONMENTAL CRIME IN AGRIBUSINESS.	793
18.	Zakić Vladimir, Vasiljević Zorica, Zarić Vlade RELEVANCE OF DIVIDEND POLICY FOR FOOD INDUSTRY CORPORATIONS IN SERBIA	809
19.	ZAKLJUČCI SA MEĐUNARODNOG NAUČNOG SKUPA „ODRŽIVA POLJOPRIVREDA I RURALNI RAZVOJ U FUNKCIJI OSTVARIVANJA STRATEŠKIH CILJEVA REPUBLIKE SRBIJE U OKVIRU DUNAVSKOG REGIONA - očuvanje ruralnih vrednosti“	823
20.	Prikaz monografije LAVIRINTI MENADŽMENTA	827
21.	Zapisnik sa V sednice Skupštine Naučnog društva agrarних ekonomista Balkana (NDAEB)	829