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ANALYSIS OF PROFITABILITY OF SELECTED AGRICULTURAL
ENTERPRISES IN THE AUTONOMOUS PROVINCE
OF VOJVODINA, REPUBLIC OF SERBIA

The paper presents the analysis of profitability of agricultural enterprises. This research can serve to agricultural sector analysts as one of the models for agricultural enterprises profitability analysis, with necessary appreciation of ex ante and ex post specifications. Financial analysis was done for the period of 2011–2013. We have defined what profitability indicators are significant for various groups of analysts, such as: owners of agricultural enterprises, business partners, commercial banks and the state.

Keywords: financial analysis; agricultural enterprises; financial reports; profitability indicators.

JEL classification: G21; G31; G32; Q12; Q14.

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АНАЛІЗ ПРИБУТКОВОСТІ ОБРАНИХ
СІЛЬСЬКОГОСПОДАРСЬКИХ ПІДПРИЄМСТВ АВТОНОМНОЇ
ПРОВІНЦІЇ ВОЄВОДИНА (РЕСПУБЛІКА СЕРБІЯ)

У статті проаналізовано прибутковість підприємств сільського господарства. Дослідження може стати моделлю для аналітиків, що займаються даним питанням, воно враховує як прогнозовані, так і фактичні показники. Фінансовий аналіз проведено за даними 2011–2013 років. Виявлено, які індикатори прибутковості є найбільш значущими для різних груп стейкхолдерів, залучених до аналізу: для власників агропідприємств, бізнес-партнерів, комерційних банків та держави (податкової адміністрації).

Ключові слова: фінансовий аналіз; сільськогосподарські підприємства; фінансова звітність; показники прибутковості.

Табл. 9. Літ. 17.

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АНАЛІЗ ПРИБЫЛЬНОСТИ ИЗБРАННЫХ
СЕЛЬСКОХОЗЯЙСТВЕННЫХ ПРЕДПРИЯТИЙ АВТОНОМНОЙ
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В статье проанализирована прибыльность предприятий сельского хозяйства. Исследование может стать моделью для аналитиков, занимающихся данным вопросом, оно учитывает как предполагаемые, так и фактические показатели. Финансовый анализ проведён по данным за 2011–2013 годы. Выявлено, какие индикаторы прибыльности являются наиболее значимыми для различных групп стейкхолдеров, вовлечённых в анализ: для собственников агропредприятий, бизнес-партнёров, коммерческих банков и государства (налоговой администрации).

Ключевые слова: финансовый анализ; сельскохозяйственное предприятие; финансовая отчётность; показатели прибыльности.

Literature review. Some studies find that the key drivers of net profit margins are education, farm size and typology, specialization, and government payments. Profitability change can be decomposed into the product of total factor productivity (TFP) index and index measuring changes in relative prices. Many TFP indices can

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be further decomposed into measures of technical change, technical efficiency change, scale efficiency change and mix efficiency change (O'Donnell, 2012: 527).

Especially in times of global crisis, it is extremely important to provide more favorable credit conditions and thus stimulate loans for investments in agriculture. On the other hand, financial support to agriculture through the agrarian budget, even under more favorable credit conditions, is not enough for self-sustainability.

Lack of financial resources is the key limiting factor for the efficient use of agricultural resources, both in transitional and developed. Despite rich tradition and natural resources, the agriculture of Serbia is financially incapable of investing in new technologies, equipment, knowledge and innovations and, consequently, its competitiveness is seriously impaired, not only at international but at domestic market as well. Surely, financial mix in the sector of agriculture is significantly different from those in other industries, due to sectoral specificities (Veselinovic and Drobnjakovic, 2014: 771–772).

Definition of the target research problem. Basic research problem it to determine the reasons for diverse profitability of similar agricultural enterprises engaged in primary agricultural production filed in APR under the group 0111 Cultivation of wheat (except rice), legumes and oilseeds, medium size, which have similar arable lands and which operate on the same limited geographical area (West-Backa County).

Definition of the research goal. Using the calculated indicators of profitability, liquidity and ownership structure for the period of 2011–2013, our goal is to define the optimal structure of financial reports with which best possible results in business are accomplished.

Definition of the research hypothesis. With optimal structure of financial reports and the way we implemented it in practice, it is possible to formulate measures for improvement of financial reports for certain enterprises which operate under the average of the sector to which they belong:

H1 (general hypothesis): Financial analysis is an important part of the decision-making process.

H2 (partial hypothesis): Financial analysis is a powerful tool for a variety of users, various projections, predictions and estimations.

H3 (partial hypothesis): Financial analysis determines the level of company's health, stability and success.

H4 (partial hypothesis): Financial analysis helps internal team members and external partners make decisions based on relevant information.

H5 (partial hypothesis): Financial analysis has the following limits: mere manipulation of historical data hides the actual state of the company; also the power of financial analysis also weakens due to "creative" accounting.

Methodology of the research. Method of comparison which we used is the comparison of 23 medium-sized agricultural enterprises which operates in West-Backa County. All enterprises have similar characteristics of agricultural goods, all were privatized in the same period or have unchanged ownership structure; also presented in the work is the individual analysis of these enterprises in the period 2011–2013. During the research we have used the methods of analysis, synthesis, quantitative (mathematical) methods and case study. Foundation of our research is the method of

partition and comparison of profitability indicators, structure and liquidity and their correlation.

Expected results of the research. After the initial definition of parameters for measuring and grading the financial condition and profitability of 23 enterprises in agricultural business, expectations regarding the results are related to the aspects of financial reports overview for 3 years, 2011 to 2013. In this context, interpretation of reports varies. Financial reports of the analysed enterprises are observed from two viewpoints:

- the relation between indicators of enterprises as compared to the average of all analysed enterprises in the agricultural sector in West-Backa county;
- the relation between the indicators of enterprises as compared to the average of the entire sector by the following criteria: agricultural enterprises registered under activity 0111 – Cultivation of wheat (except rice), legumes and oilseeds, medium-sized enterprises (considering the difficulty to confine medium from small and large enterprises).

Based on the conducted quantitative and qualitative horizontal and vertical financial analysis, certain expectations regarding forthcoming results are formed:

- calculated financial indicators will vary between enterprises (the research goal is to determine all the factors that affect variations in indicators, as well as the level of this variation);
- calculated financial indicators will vary in the given period of 2011–2013 (the research goal is to determine periods in which the variation of financial indicators comes to maximum and minimum and also potential causes which stimulate these oscillations and lastly, how these variations affect profitability);
- critical examination of certain "convictions" should be conducted, which is an integral part of financial analysis basic setup (during the interpretation of calculated financial indicators, usually are common premises to begin with, for example, such as assertion that diversity is one of the most important components which affect the level of operating income; on the other hand, during the financial analysis of the agricultural production sector we should "adjust" these interpretations of calculated financial indicators, opposite to the fact that in this sector it is extremely hard to maintain this diversity due to inherent specificity of the sector itself);
- using the calculated financial indicators over the three-year period of 2011–2013, it will be significantly easier to establish business trends including risks and sources of financing;
- theoretical and practical experience of an analyst significantly affects the direction and the "fullness" of financial analysis (analyst's mindset directly affects the level and the success of assessment);
- recognition of certain deficiency and limitations of financial analysis (the usage of historical data, the existence of "creative" accounting);
- defining measures which could lead to improvement of the value of calculated financial indicators in the forthcoming period.

Introductory remarks. Using the acknowledged analysis of financial reports, which are basically functional relations between positions in balance sheet and income statement, we explore financial and economic results at a given enterprise.

From the microeconomic point of view, we have conducted property ownership structure analysis to define its influence of profitability; also we have considered indi-

vidual effects of inventories turnover and liquidity indicators on profitability of each observed company.

In this research, we have used the reports gained from 23 enterprises in agricultural sector. By observing the financial reports of these enterprises we have noted that significant differences occur in calculated financial indicators, these variations apparently suggest certain problems in business operations. By realizing these problems, an assignment is created for an analyst who provides possible solutions for reducing or total removal of the problem, which can ultimately lead to upgrading business operations of the observed companies.

Analysis of the financial statements. In our financial analysis, we have used common methods and techniques, namely: horizontal analysis, vertical analysis, ratio analysis, analysis of net working capital and debt ration analysis. Material assumptions of the analyzes are based on providing usable data from financial statements. Usable financial statements are those which are free of bias and offer adequate basis for financial analysis. In Serbia, financial reports are done based on International Accounting Standards (IAS), which according to the Framework of International Accounting Standards of Financial Reports have the task to give information about company's ability to create money. Accounting analysis is the analysis of historical data that financial analysis puts in relations to assess future trends.

Financial ratio indicators are tools used for analysis of financial state and success. These ratio indicators (for a selected period) are calculated to create comparison which can be more useful than "raw" value (Van Horne and Wachowicz, 2007: 153).

It is important to determine:

1. the actual value of assets, that is, how much of land, buildings and equipment actually belongs to owners and how much is still financed by other resources;
2. whether the company's assets generate profit;
3. whether the company is exposed to financial risks;
4. direct influences on enterprise profit as one of the basic tenets of its operations.

All the given indicators are arranged by size of EBITDA margin in past 3 years and in relation to it, others indicators of profitability are observed, with inventories turnover analysis and enterprise liquidity, also EBITDA margin in relation to equity and assets and finally ROA and ROE.

Key research findings. EBIT (*Earnings Before Interest and Taxes*) is the difference between operating income and operating expenses. That is operating profit, the indicator focused solely on operational business and if defined in % we get EBIT margin. EBIT margin shows which percentage from company's income remains before interest and taxes.

Obviously, higher EBITDA and EBIT are more favorable for an enterprise.

In this research all medium-sized enterprises in agricultural manufacturing in West-Backa County are regrouped by EBITDA margin and it is established that the average EBITDA margin has dropped from 15.6% in 2011 to 13.8 in 2012, but also managed to climb to 14,8 in 2013. The average EBIT margin has declined from 12.6% in 2011 to 10.3% in 2012 and remained on that level in 2013 – 10.9%. This is the evidence of impact and increase of operational expenses on profitability of agricultural

enterprises. On the other hand, additional problem is the number of enterprises which achieve the above average EBITDA and EBIT margin in 2011 (11 enterprises, or 47%) while in 2013 9 enterprises or 39% achieved the above average indicators.

Among the observed enterprises, we have Duro Strugar Kula, PP Ratkovo and AD Bezdán, which have the best structure of funds sources which allow them get the best financial results, but on the other hand, they have the worst asset turnover ratio. They also have a good structure of inventory period days (from 231 to 258 in 2011), and if we look at the period in which best prices are achieved in 2012 we can see they match the period in which Duro Strugar Kula sold its stocks. This means that these enterprises choose the moment of sale for their products which enables them achieve best results. In 2012 the corn price from August to October was cca 27 RSD, which related to January of the same year (when the price was 15 RSD) is 80% higher. In a similar way, soy and its prices are monitored, which increased from 66% to 100% and that average was achieved by Duro Strugar Kula. In 2013 the total average was 192 which is similar to the one Duro Strugar Kula achieved that year.

Basing on the conducted research, we can with some certainty state that the speed of inventory turnover ration is not a defining moment which affects enterprise profitability, but rather a well chosen moment for sale.

Table 1. Inventories period for corn, authors' calculations

Statements	Definitely agree	Rather agree	Rather disagree	Definitely disagree
A. Traditional gender roles (man as a breadwinner and woman as a housewife) should be kept	13	110	179	102
B. Women have the same ability to hold the same professions as men do	50	173	136	45
C. Discrimination of women in the private sector does not concern Czech women	19	144	195	56
D. Job applicants are only evaluated by skills and practice but not by gender	27	136	201	40
E. Men and women have the same salary at the same position	9	109	171	135
F. The number of managers is almost the same when it comes to gender	4	52	205	143
G. Women-entrepreneurs should be more supported by the state	50	43	60	30

Enterprises with the profitability indicators EBITDA and EBIT below average do not entirely control the moment of sale, but rather sell them when they need to improve their liquidity, but then they do not achieve best market conditions, which affect profitability. It is obvious that inventory period at these enterprises are uneven and varies from 93 to 750 days.

Profit margin. We use this indicator when we want to find out what % of income turns into profit. Profit margin = net profit / income from sales.

EBITDA and EBIT margin also achieve the above average profit margin. Duro Strugar Kula has stable profit margin above 40% in the observed period, which proves

that good organization, financial mix and good production structure along with extraordinary yields agriculture can be very profitable. This specially applies when compared to enterprises which have negative profit margin or under 1%.

Table 2. Inventories period for soy, authors' calculations

SOY			
2011			
Harvest (September-October)	Lowest price (October)	Highest price (October)	Inventories period
31–37 RSD	37.5 RSD	37.5 RSD	35
2012			
Harvest (September-October)	Lowest price (January)	Highest price (July)	Inventories period
70.7–62 RSD	34.7 RSD	72 RSD	305
2013			
Harvest (September-October)	Lowest price (September)	Highest price (April)	Inventories period
41–46.5 RSD	41 RSD	62.2 RSD	217

Table 3. Inventories period for wheat, authors' calculations

WHEAT			
2011			
Harvest (June-July)	Lowest price (July)	Highest price (March)	Inventories period
17–18 RSD	17 RSD	30 RSD	330
2012			
Harvest (June-July)	Lowest price (January)	Highest price (September)	Inventories period
21–23 RSD	18.6 RSD	30 RSD	91
2013			
Harvest (June-July)	Lowest price (August)	Highest price (January)	Inventories period
15.7–17 RSD	15 RSD	27.5 RSD	210

Asset structure and financing sources. Basing on the vertical analysis of balance sheets we can bring out several conclusions about asset structure and financing sources or assets and liabilities and equity.

In this research it was proven that the most profitable agricultural enterprises which have EBITDA margin over 30% also have own sources of financing (equity) over 88% in the total sources of financing, which enables them achieve pure profit in the range of 22–47%, far above the average (for all observed 23 enterprises in all 3 years it is around 9.7%). This shows that most enterprises in primary agricultural manufacturing finance at the expense of high-cost obligations toward suppliers or banks, thus directly jeopardizing profitability. Only well-structured enterprises achieve the above average profit.

Return on assets (ROA). $ROA = \text{net income} / \text{average total assets}$. With this indicator we can calculate company's assets profitability. Average assets are the sum of average assets at the beginning and end of a year, divided by 2. We can see exactly how

much return does enterprise achieves per 100 RSD average invested assets. Increase of return rate on assets can be performed through the increase of net profit or of assets turnover rate.

Table 4. Financial indicators of the analyzed enterprises, 2011, authors' calculations

2011							
Enterprise	EBITDA	EBIT	Assets turnover ratio	Inventory turnover ratio	Inventories period	Profit margin	Gross margin
Duro Strugar DOO	52.15	48.05	0.4	1.55	235.45	46.61	70.03
PP Ratkovo DOO	42.62	33.26	0.27	1.59	229.56	40.11	59.12
Bezdan AD Bezdan	33.53	27.12	0.49	1.45	251.38	27.86	42.93
Backa DOO Veternik	32.28	30.04	n.p.	4	91.24	n.p.	55.65
ZZ Agrolika B. Gracac	28.3	25.44	0.41	1.81	201.54	16.8	64.41
Per-Agro DOO	27.75	25.52	n.p.	6.8	53.69	n.p.	35.93
Agroplus DOO	24.9	19.81	0.61	0.99	369.43	21.2	31.33
PP Agroplod DOO	22.57	19.25	1.25	1.81	201.27	n.p.	26.44
Agrooffice DOO	17.56	13	0.78	2.32	157.22	14.26	26.46
PP Feketic AD	15.73	10.88	0.36	2.93	124.56	6.76	47.76
PP Miletic AD	15.7	12.74	0.55	3.38	107.96	4.13	40.2
Lucic Prigrevica AD	10.03	5.28	0.25	0.92	396.23	1.66	37.29
ZZ Agro MV Sivac	8.5	6.38	2.28	1.5	242.95	8.71	15.41
PP Novo Plus DOO	7.18	4.33	1.98	1.71	213.18	2.16	15.16
Boskovic Agrar DOO	6.04	5.19	1.79	1.04	352.61	2.27	12.13
Agroglobe Agrar	5.75	3.67	0.61	0.46	801.43	1.25	11.81
Bukovica doo	3.6	3.58	3.52	1.8	202.68	3.01	6.85
ZZ Sekulic-Agrar	3.55	2.61	2.04	1.48	246.03	0.06	6.93
PP Vojvodina AD	3.43	2.45	0.67	3.69	98.87	11.93	24.05
PP Kolut AD Kolut	2.84	0.97	0.51	0.78	470.68	3.51	13.95
ZZ Nagy Ret	0.55	0.54	3.49	0.49	752.08	0.09	2.57
PP Sombor AD	-1.15	-3.17	0.51	4.01	90.92	-2.15	29.54
AVERAGE	15.62	12.60	1.21	1.65	221.37	9.75	28.82

We have concluded here that enterprises with favorable EBITDA and EBIT margin have better return on assets, there is a stable trend of the given indicator (5–7 of the observed companies have the average value, or 21–30%, while all other companies have below average return on assets).

Return on equity (ROE). Return on equity is also one of profitability indicators, referring to return from own sources (capital). Return on equity = net income / average shareholder's equity.

We have deduced here that for enterprises engaged in primary agriculture this particular indicator is not of particular importance, because agricultural manufacturing demands high capitalization, given that return on equity is not correlated with EBITDA margin, because it is possible that enterprises with lower EBITDA margin have better ROE, based on low equity.

Table 5. Financial indicators of the analyzed enterprises, 2012, authors' calculations

2012							
Enterprise	EBITDA	EBIT	Assets turnover ratio	Inventory turnover ratio	Inventories period	Profit margin	Gross margin
Duro Strugar DOO Kula	51.19	45.69	0.35	1.5	244.02	42.47	68.26
PP Ratkovo DOO	31.92	23.46	0.27	1.63	224.04	23.37	52.39
Bezdan AD Bezdan	31.53	24.98	0.36	1.27	287.67	30.43	41.89
Agroplus DOO Sombor	25.82	21.56	0.76	0.76	481.09	20.23	31.81
Agrooffice DOO	22.97	17.46	0.56	1.2	305.22	9.81	30.61
PP Miletic AD Sombor	21.28	17.35	0.36	3.68	99.13	14.09	44.13
PP Kolut AD Kolut	20.72	18.96	0.36	0.61	593.83	0.31	33.61
PP Agroploid DOO	20.71	16.07	0.93	1.54	237.21	55.81	25.72
Per-Agro DOO Crvenka	16.04	12.52	n.p.	3.83	95.35	1.02	26.2
PP Sombor AD Sombor	15.04	12.45	0.35	3.18	114.76	0.61	30.6
PP Feketic AD Sombor	10.88	6.16	0.28	2.92	125.16	8.77	38.63
ZZ Agrolika B. Gracac	10.41	6.27	0.44	1.5	243.74	11.27	50.13
PP Vojvodina AD	8.98	7.08	0.24	3.02	120.91	2.31	34.6
Lucic Prigrevica AD	7.76	2.89	0.28	1.14	320.4	4.37	31.66
PP Novo Plus DOO	7.69	3.82	1.72	1.31	277.72	1.04	12.83
Bukovica doo Sombor	6.14	6.07	2.98	0.91	402.08	4.92	9.43
Boskovic Agrar DOO	4.88	3.54	1.64	0.85	429.94	1.64	12.02
ZZ Agro MV Sivac	4.85	2.99	1.65	0.67	548.59	3.45	12.99
ZZ Sekulic-Agrar	4.41	1.96	1.55	1.53	237.99	0.02	7.44
Agroglobe Agrar DOO	3.55	1.4	0.59	1.77	206.52	0.74	36.19
ZZ Nagy Ret Doroslovo	0.7	0.69	5.33	0.77	471.59	0.01	4.38
Backa DOO Veternik	0.42	0.12	n.p.	2.66	137.22	-7.68	38.68
AVERAGE	13.81	10.38	1.09	1.5	243.88	9.71	28.36

Liquidity ratio. Liquidity indicators show company's ability to service its payment obligations, while maintaining the necessary structure of assets and preserving credit solvency.

Liquidity ratio = current assets / current liabilities.

When we consider the mutual correlation of liquidity and profitability ratios, it is evident that only most profitable enterprises have liquidity ratios well above average and prescribed norms, while enterprises which have under average EBITDA margin in all observed 3 years tend to have below average liquidity ratio (except for one enterprise in 2013).

This correlation becomes even more obvious with the following fact. Enterprises which throughout the entire period of our research have top profitability indicators (EBITDA, EBIT and profit margin), and those are Duro Strugar, PP Ratkovo and AD Bezdan, have previously mentioned indicators at least two times greater than the average of all enterprises, but also have liquidity ratios at least two times greater than the average.

Table 6. Financial indicators of the analyzed enterprises, 2013, authors' calculations

2013							
Enterprise	EBITDA	ЕВІТ	Assets turnover ratio	Inventory turnover ratio	Inventories period	Profit margin	Gross margin
Duro Strugar DOO Kula	45.35	39.65	0.23	2.08	175.34	41.09	63.27
Agroplus DOO Sombor	42.79	34.49	0.4	0.7	518.6	29.87	47.11
PP Ratkovo DOO	31.97	23.4	0.31	1.47	249.14	22.08	47.82
Bezdan AD Bezdan	29.74	22.78	0.42	0.75	488.87	25.02	39.3
PP Miletic AD Sombor	23.01	20.5	0.41	3.51	103.87	19.05	40.69
Backa DOO Veternik	20.15	17.8	0.05	2.88	126.72	18.85	42.83
PP Agroplood DOO	19.44	15.17	0.57	1.54	236.48	14.18	24.93
Agrooffice DOO	18.75	13.35	0.66	1.44	252.66	9.79	35.52
PP Sombor AD Sombor	18	14.97	0.25	4.91	74.28	9.15	49.28
PP Feketic AD Sombor	14.68	6.87	0.37	3.43	106.38	4.77	40.1
PP Vojvodina AD	14.02	12	0.24	2.82	129.49	8.86	33.82
Per-Agro DOO Crvenka	12.56	7.34	0.32	2.84	128.3	1.2	22.86
ZZ Agrolika B. Gracac	11.53	7.39	0.43	1.74	210.25	4.05	47.75
Lucic Prigrevica AD	7.27	3.89	0.21	2.09	174.48	4.23	29.5
PP Novo Plus DOO	5.99	3.11	1.99	1.1	332.75	1.01	13.13
ZZ Sekulic-Agrar	5.96	2.71	1.69	2.18	167.39	0.02	12.95
Agroglobe Agrar DOO	5.81	3.21	0.59	1.78	204.5	0.26	37.85
Bukovica doo Sombor	5.21	5.08	1.84	0.66	554.97	4.11	8.17
Boskovic Agrar DOO	4.46	2.29	1.34	0.55	663.97	2.29	9.18
ZZ Agro MV Sivac	3.59	2.19	2.48	0.96	381.95	4.38	12.23
ZZ Nagy Ret Doroslovo	0.71	0.61	3.17	0.22	1.675.6	0.02	2.1
PP Kolut AD Kolut	-3866.63	-4028.79	0.17	0.53	691.74	-2.055.7	-4132.12
AVERAGE	14.78	10.96	0.89	1.64	223.36	9.16	29.86

Sadly, most enterprises, which EBITDA margin is more than twice lower than the average, have also liquidity ratios twice lower than the average and less than defined minimal acquired values, causing severe liquidity threat. Next fact pointing to liquidity problem and ways of financing agricultural companies is that even 69.9%, or 16 of the observed enterprises achieves under average general liquidity. Same number of enterprises have general liquidity ratio under prescribed standards in 2011.

Liquidity situation of agricultural enterprises in 2012 and 2013 observed through liquidity indicators emits clear signal of liquidity problems in domestic agriculture.

The average liquidity indicators are above anticipated standards, which blur the realistic state of liquidity in agriculture in 2012 which has recorded the average increase of general liquidity from 2.6% to 3.05%, but it should be noted that these high ratios have been achieved by only 4 enterprises, which are in all indicators (including this one) well above average. Other 19 observed companies, or 82% agri-

cultural enterprises have general liquidity ratio as well as quick liquidity ratio below average and below defined standards, and that is the real reflection of general insolvency which consequently directly affects profitability. This negative trend maintained in 2013 as well.

Table 7. Liquidity indicators of the analyzed enterprises, 2011, authors' calculations

2011							
Enterprise	EBITDA	Liquidity ratio	Quick liquidity ratio	ROA	ROE	Equity structure	Assets structure
Djuro Strugar DOO Kula	52.15	9.31	7.2	22.65	25.99	88.92	42.45
PP Ratkovo DOO	42.62	7.45	4.27	12.83	13.95	92	75.41
Bezdan AD Bezdan	33.53	8.81	6.93	14.67	15.39	94.81	42.67
Backa DOO Veternik	32.28	8.66	7.49	n.p.	n.p.	n.p.	n.p.
ZZ Agrolika B. Gracac	28.3	6.71	0.97	8.8	10.39	86.91	74.08
Per-Agro DOO Crvenka	27.75	4.41	4.13	n.p.	n.p.	n.p.	n.p.
Agroplus DOO Sombor	24.9	1.85	0.8	14.63	21.02	72.2	55.71
PP Agroplod DOO	22.57	1.18	0.42	n.p.	n.p.	46.08	66.98
Agrooffice DOO	17.56	1.46	0.72	12.6	32.69	40.78	53.64
PP Feketic AD Sombor	15.73	0.56	0.43	2.9	13.28	22.69	56.77
PP Miletic AD Sombor	15.7	0.74	0.61	2.46	9.02	26.48	45.27
Lucic Prigrevica AD	10.03	1.71	1.33	0.51	1.53	33.25	32.63
ZZ Agro MV Sivac	8.5	1.99	1.29	20.76	39.82	54.81	15.59
PP Novo Plus DOO	7.18	0.79	0.48	4.22	91.13	6.83	35.08
Boskovic Agrar DOO	6.04	1.06	0.92	4.09	61.11	7.91	10.3
Agroglobe Agrar DOO	5.75	0.69	0.23	0.84	2.32	39.23	58.82
Bukovica doo Sombor	3.6	1.03	0.77	10.97	40.42	28.07	46.62
ZZ Sekulic-Agrar	3.55	1.06	1.01	0.13	0.76	17.47	15.15
PP Vojvodina AD	3.43	1.64	1.49	9.21	19.29	51.15	24.57
PP Kolut AD Kolut	2.84	1.01	0.15	2.64	8.35	42.05	64.66
ZZ Nagy Ret Doroslovo	0.55	0.91	0.58	0.31	2.97	10.38	14.87
PP Sombor AD Sombor	-1.15	1.7	1.52	-1.42	-2.46	52.66	18.54
AVERAGE	15.62	2.69	1.75	7.21	22.56	42.95	43.82

Conclusions:

1. Through the comparative financial analysis of 23 enterprises in the same sector (agriculture) we can conclude that enterprises which have in the past 3 years exhibited excellent profitability measured by all profitability indicators (EBIT, EBITDA, net profit) also have excellent structure of material costs and wage costs as well as financing sources structure, similar level of inventory turnover and liquidity indicators. EBITDA margin in agricultural enterprises over 30% and capitalization over 88% provide safe profitability for these companies, which proves that at domestic market external funding sources are extremely expensive alternatives, and beside realized return it is essential for profit-making at agricultural enterprises. It is clear that these sources include loans from banks and commitments toward suppliers. If we

strive to achieve stable and profitable agriculture, it is mandatory to strategically solve these issues. The fact that Serbia has high reference interest rates, because the state is financed from this income (seignorage), also means large expenses of financing, especially agriculture (according to some studies – the highest in Europe). High level of risk in agriculture is spurred by non-existence of important regulations, as well as high administrative expenses, which are also the factor of negative impact on agricultural enterprises profitability. High input prices are compensated by subventions in agriculture, but problem with subventions in Serbia is that they are used to cover losses, not for growth.

Table 8. Liquidity indicators of the analyzed enterprises, 2012, authors' calculations

2012							
Enterprise	EBITDA	Liquidity ratio	Quick liquidity ratio	ROA	ROE	Equity structure	Assets structure
Djuro Strugar DOO Kula	51.19	10.51	9.28	17.44	19.55	89.46	36.19
PP Ratkovo DOO	31.92	8.48	4.88	7.17	7.74	93.17	73.12
Bezdan AD Bezdan	31.53	22.13	13.85	13.93	14.45	97.79	39.78
Agroplus DOO Sombor	25.82	1.95	1.14	16.61	22.31	76.29	55.42
Agrooffice DOO	22.97	1	0.34	7.5	17.46	44.32	45.63
PP Miletic AD Sombor	21.28	0.84	0.72	6.66	22.84	31.67	42.26
PP Kolut AD Kolut	20.72	0.89	0.21	0.18	0.5	31.88	52.74
PP Agrolod DOO	20.71	1.28	0.44	51.08	85.43	67.9	44.96
Per-Agro DOO Crvenka	16.04	3.22	2.62	n.p.	n.p.	74.16	28.88
PP Sombor AD Sombor	15.04	2.15	2.06	0.26	0.45	63.89	21.39
PP Feketic AD Sombor	10.88	0.74	0.56	3.7	15.19	25.98	56.05
ZZ Agrolika B. Gracac	10.41	7.15	2.08	5.3	5.99	89.92	70.74
PP Vojvodina AD	8.98	1.59	1.48	0.85	1.65	51.46	24.06
Lucic Prigrevica AD	7.76	1.49	1.33	1.26	3.99	29.91	30.68
PP Novo Plus DOO	7.69	0.93	0.6	1.85	22.57	9.76	28.25
Bukovica doo Sombor	6.14	1.33	0.89	14.6	42.14	40.89	44.8
Boskovic Agrar DOO	4.88	0.96	0.71	2.75	20.81	17.59	17.77
ZZ Agro MV Sivac	4.85	2.02	0.93	5.76	10.39	56.1	13.44
ZZ Sekulic-Agrar	4.41	1.19	1.1	0.02	0.13	20.18	13.44
Agroglobe Agrar DOO	3.55	0.84	0.39	0.52	1.3	40.93	59.09
ZZ Nagy Ret Doroslovo	0.7	0.9	0.52	0.05	0.6	8.25	13.73
Backa DOO Veternik	0.42	3.08	2.63	n.p.	n.p.	38.99	53.25
<i>AVERAGE</i>	<i>13.81</i>	<i>3.05</i>	<i>1.84</i>	<i>7.37</i>	<i>15.58</i>	<i>48.60</i>	<i>38.81</i>

2. It is evident that enterprises which achieve the above average profitability indicators do not have any problems with or liquidity, but this only refers to 17–26% of enterprises in given period, with obvious trend of decline, while all other enterprises in this sector have liquidity problems. Those which are far below the average liquidity indicators, at least try to maintain daily liquidity, at the spending of business expenses and suitable moment of inventory sale, which manifests through lower profit achievement.

Table 9. Liquidity indicators of the analyzed enterprises, 2013,
authors' calculations

Enterprise	2013						
	EBITDA	Liquidity ratio	Quick liquidity ratio	ROA	ROE	Equity structure	Assets structure
Djuro Strugar DOO Kula	45.35	11.98	10.48	10.99	12.26	89.71	70.54
Agroplus DOO Sombor	42.79	3.1	1.58	14.57	18.19	83.59	50.6
PP Ratkovo DOO	31.97	11.46	7.52	7.55	8.01	95.4	67.49
Bezdan AD Bezdan	29.74	13.43	9.6	10.63	11	95.61	35.2
PP Miletic AD Sombor	23.01	1.05	0.76	12.18	31.41	46.37	43.55
Backa DOO Veternik	20.15	0.87	0.83	1.62	5.61	33.53	91.57
PP Agroplood DOO	19.44	1.13	0.34	8.9	14.65	55.72	56.95
Agrooffice DOO	18.75	0.65	0.2	6.44	15.72	38.38	59.18
PP Sombor AD Sombor	18	3.05	2.78	3.14	4.62	72.15	22.48
PP Feketic AD Sombor	14.68	0.78	0.56	2.55	9.26	29.11	57.49
PP Vojvodina AD	14.02	1.86	1.6	3.52	6.28	60.97	28.21
Per-Agro DOO Crvenka	12.56	1.42	1.35	0.48	0.88	49.71	26.83
ZZ Agrolika B. Gracac	11.53	10.76	4.66	1.69	1.86	91.71	72.95
Lucic Prigrevica AD	7.27	1.49	1.35	1.16	2.36	60.85	53.53
PP Novo Plus DOO	5.99	0.9	0.59	2.02	22.71	8.29	27.69
ZZ Sekulic-Agrar	5.96	1.23	1.07	0.03	0.14	26.36	11.19
Agroglobe Agrar DOO	5.81	0.62	0.2	0.15	0.33	51.59	71.94
Bukovica doo Sombor	5.21	1.63	1.24	7.74	16.55	53.19	49.13
Boskovic Agrar DOO	4.46	1	0.73	3.24	17.14	20.12	15.88
ZZ Agro MV Sivac	3.59	4.59	3.31	11.21	16.74	80.13	15.12
ZZ Nagy Ret Doroslovo	0.71	0.93	0.57	0.08	0.95	8.19	13.17
PP Kolut AD Kolut	-3866.63	0.47	0.23	-30.42	-83.32	39.58	78.93
PROSEK	14.782	3.0975	2.042	4.945	10.2205	53.0485	43.5075

3. One of the factors which has positively influenced the profitability of agricultural enterprises in the sector of primary agricultural manufacturing is stable and precise defined level of inventory turnover and inventories period. This is opposite to the basic assumptions of faster inventory turnover theory, and it can only be acceptable for enterprises in primary agricultural manufacturing which sell only once a year, choosing the right and suitable moment for sale in order to achieve the highest profitability.

References:

- Amarender, R. (2013). Farm profitability and Labor Use Efficiency. Indian Journal of Dry land Agricultural Research Development, 28(2): 1–21.
- Babovic, J., Veselinovic, B. (2010). Agrarna politika EU i prilagodavanje agrara Srbije. In: Društveni izazovi evropskih integracija Srbije i uporedna iskustva (Ss. 195–206). Fakultet za pravne i poslovne studije, Novi Sad.
- Chukwunweike, E. (2014). The Impact of Liquidity on Profitability of Some Selected Companies: The Financial Statement Analysis (FSA) Approach. Research Journal of Finance and Accounting, 5(5): 81–90.
- D'Antoni, J., Mishra, A., Chintawar, S. (2009). Predicting Financial Stress in Young and Beginning Farmers in the United States, Southern Agricultural Economics Association, Annual Meeting, Atlanta, Georgia // ageconsearch.umn.edu.

- Detre, D., Mishra, A.* (2012). Drivers of agricultural profitability in the USA: An application of the Du Pont expansion method. *Agricultural Finance Review*, 72(3): 325–340.
- Investment and Development Fund of Montenegro, 2014, December 24 // www.irfcg.me.
- Katchova, A.* (2010). An Analysis of the Financial Performance of Beginning Farmers, Agricultural and Applied Economics Association, Annual Meeting, Denver, Colorado // ageconsearch.umn.edu.
- Malesevic, D.* (2013). Relevantnost racio analize za odlucivanje o likvidnosti i rentabilnosti. *Racunvodstvo*, 57(5–6): 38–50.
- Mishra, A., Wilson, C., Williams, R.* (2009). Factors affecting financial performance of new and beginning farmers. *Agricultural Finance Review*, 69(2): 160–179.
- O'Donnell, C.* (2010). Measuring and decomposing agricultural productivity and profitability change. *Australian Journal of Agricultural and Resource Economics*, 54(4): 527–560.
- Racic, Z., Barjaktarovic, L., Zeremski, A.* (2011). Analiza uticaja zaduzenosti na profitabilnost uspesnih domacih kompanija u uslovima ekonomske krize. *Industrija*, 39(3): 45–60.
- Rankovic, M.J.* (2004). Upravljanje finansijama preduzeca. *Enterprise Financial Management*, Proinkom, Belgrade.
- The National Bank of Serbia, 2014, December 24 // www.nbs.rs.
- The Serbian Business Registers Agency, 2014, December 24 // www.apr.gov.rs.
- Van Horne, J.C., Wachowicz, J.M.* (2007). *Fundamentals of Financial Management*. 12th ed. Data Status, Belgrade.
- Veselinovic, B., Drobnjakovic, M.* (2014). Qualitative and quantitative analysis of micro and macro aspects of agricultural finance. *The Economics of Agriculture*, 61(3): 771–786.
- Veselinovic, B., Vunjak, N.* (2014). *Poslovne finansije – teorija i praksa*. Fakultet za ekonomiju i inzenjerski menadzment, Novi Sad.

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