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ZNAČAJ FINANSIJSKE ANALIZE U IDENTIFIKACIJI SNAGA I SLABOSTI FIRME: STUDIJA SLUČAJA

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Abstract
The purpose of this paper is to illustrate the use of several ratio-accounting measures to analyze the performance of the selected firm. Financial statement analysis using accounting ratios has been one of the most commonly used models of assessing business performance. Financial analysis outcomes can be used to help the owner of a small enterprise in making financial and investment decisions to maximize the wealth of the owner. These measures indicate different conditions of the firm - liquidity, profitability, solvency, efficiency and productivity.

Key words: small enterprise, financial statements, financial performance, ratio analysis, owner.

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Abstract

Svrha ovog rada je da ilustruje upotrebu nekoliko racio-računovodstvenih mera za analizu učinka izabrane firme. Analiza finansijskih izveštaja pomoću računovodstvenih pokazatelja

jedan je od najčešće korišćenih modela procene poslovnih performansi. Ishodi finansijske analize mogu se koristiti za pomoć vlasniku malog preduzeća u donošenju finansijskih i investicionih odluka kako bi se maksimizovalo bogatstvo vlasnika. Ove mere ukazuju na različite uslove preduzeća - likvidnost, profitabilnost, solventnost, efikasnost i produktivnost.

Ključne reči: malo preduzeće, finansijski izveštaji, finansijski rezultati, analiza odnosa, vlasnik.

INTRODUCTION

The first quarter of 2020 was very challenging for companies in many parts of the world due to the impact of the consequences of the COVID-19 pandemic on their business. There have been restrictions on economic activities for certain business activities or even their complete closure. There were serious disruptions in business for certain activities, as well as in the supply chain itself. It will be possible to see the full amount of lost profit and sales revenues in 2020 only after the publication of the company's financial reports for 2020 on the website of the Business Registers Agency of the Republic of Serbia. The financial health of many companies is very difficult to maintain today, "in a new reality". "Companies play a role in a society that clearly goes beyond mere economic interest, and their contribution to the social development and sustainability of the territory in which they are located seems unquestionable" [1, p. 1]. It seems that today, for small companies, more than ever, it is of special importance to carefully manage financial companies. According to Gulliet & Chu [2, p. 605] "the global COVID-19 pandemic has had a devastating impact on the entire travel and tourism industry, including the hotel industry". Financial sustainability is a very complex issue for companies operating in the industries most affected by the effects of the pandemic.

Financial statements are a key source of information on financial indicators of business activities, and as such, are a significant source of financial information for various groups of users. In other words, financial statements are the result of an accounting process that provides financial (accounting) information and company performance. In addition to financial, in assessing the performance of small businesses, non-financial ones are also used. They are of great importance for the purpose of informing about the financial position and business success of the company to the extent that the main goal has been achieved, to generate profit. It is emphasized that financial reports are the basic carriers of financial information, and it is known that without adequate information, interested users cannot properly make assessments and various business and financial decisions [3]. According to Kotane & Kuzmina-Merlino [4, p. 216], "assessing the performance of small enterprises and financial condition play a significant role in making financial management decisions, as they help assess risks and potential benefits when planning a company's performance perspective". For the purposes of financial analysis, financial measures can be used based on income statement data created as a product of accounting application of GAAP or IFRS standards or non-standardized (alternative) financial metrics that are often used in a practical environment, especially in a company valuation. One such indicator is Earnings before interest, taxes, depreciation and amortization - EBITDA.

The popularity is due to the fact that distortive accounting and financial effects on the company's earnings are not included in the calculation of this indicator, i.e., financial measures.

The paper is organized into three sections. The first section provides an overview of the literature related to the observed issues. The second section deals with case study design and results analysis. Finally, the third section presents concluding remarks, after which the used literature is given.

LITERATURE REVIEW

"Financial statement analysis using ratios has been one of the most commonly used primary models of assessing business performance" [5, p. 233]. The financial performance of a company is a primary concern for every stakeholder especially for investors, both aspiring and current ones.

Aftab et al. [6, p. 74] point out how important the analysis of the impact of Covid-19 on small and medium enterprises is for proactive planning, as well as that financing schemes, youth entrepreneurship loans, retention of skilled staff and proactive planning are some of the recommended measures to revitalize the SME sector. Beraha & Đuričin [7, p. 15] emphasize that due to sensitivity to supply and demand shocks, SMEs are in a much more difficult position than large companies due to the stronger consequences they felt. Nurunnabi [8, p. 7] states that companies should also form strategic alliances with their supply chains, customers, government and other stakeholders, all in the function of achieving and ensuring a sustainable business.

The financial analysis identifies the relative strengths and weaknesses of the firm and suggests measures that the firm could take to take advantage of its strengths and correct its weaknesses in the future. It includes various techniques, and among the most famous that are treated as traditional measures, are horizontal analysis, vertical analysis and ratio analysis. Regardless of the fact that financial analysis has several limitations, in the case of its application in practice with adequate attention and judgment, it comes from useful insights into the business and financial performance of the company.

THE CASE STUDY

The enterprise on which the case study method was applied was registered in 2014 as a limited liability company, and it deals with non-specialized wholesale trade. It has a cash capital of RSD 3.545.000,00. In 2015, it was classified as a micro-enterprise, and in the period from 2016-2019 as a small enterprise.

For the purposes of evaluating financial performance, ratio analysis was applied as a technique of financial analysis, and in addition, some other analyses were conducted in order to obtain broader data on the enterprise's operations. Liquidity, solvency, profitability and efficiency testing were conducted as part of the ratio analysis. Even though ratios were seen as less significant due to the introduction of more sophisticated statistical analysis tools, authors still believe that they are still a

useful tool in measuring performance [5, p. 233]. Further, Altman's Z-Score model was applied to test the company's ability to go bankrupt. The results of the analysis are presented below, followed by their interpretation. Empirical data were data from publicly published financial reports of the selected company on the website of the Business Registers Agency [9]. For the purposes of ratio analysis, liquidity testing (Table 1, Figure 1), solvency testing (Table 2), profitability testing (Table 3, Figure 2), efficiency testing (Table 4) were performed, and the obtained results were discussed.

a)   Liquidity ratio analysis

Effective cash management is crucial to ensure the sustainable financial performance of a company. In the conditions of a pandemic, it is a key source of anxiety for financial managers of many small and medium enterprises. Awareness of cash reserves or deficits, together with the state of liquidity, is the starting point for identifying opportunities to protect and improve the position. Previous studies have discussed issues of endogeneity between liquidity and profitability, as previous studies have shown that liquidity affects profitability [10, p. 1581].

Table 1. **Liquidity analysis**

Indicators	2015	2016	2017	2018	2019
Current liquidity ratio	3,31	1,54	1,75	2,15	1,97
Accelerated (Quick) liquidity ratio	1,30	0,60	0,55	0,32	0,62
Cash liquidity ratio	0,58	0,12	0,16	0,17	0,12

Source: author's work based on financial reports for the period from 2016-2019 [9]

Looking at the data from Table 1, it can be seen that the current liquidity ratios in 2015 and 2018 are in line with the reference value (2: 1), unlike in 2016, 2017, 2018, 2019 where this is not the case. Accelerated (Quick) liquidity ratios are below the orientation norm of 1:1 in all observed years, except in 2015, where the reference value (1:1) was reached. The cash liquidity ratio shows fluctuations for the observed period (Figure 1). More precisely, for 2015, each dinar of short-term liabilities is covered with 3.31 dinars of current assets and thus for the following years with 1.54 dinars (2016), 1.75 dinars (2017), 2.15 dinars in the 2018 year, and 2.15 dinars for the last observed year (2019). In addition, the accelerated (quick) liquidity ratio in 2015 indicates that each dinar of short-term liabilities is covered with 1.30 dinars of liquid assets, i.e., in the following years with 0.60 dinars (2016), 0.55 dinars (2017), 0.32 dinars (2018) and 0.62 dinars in the last year.

By searching the data on the analysed company on the website of the National Bank of Serbia, it was determined that the company has not been blocked in the last five years. In addition, the inspection of the Report on liquidity flows showed that the cash flow from operating activities was positive in the observed five-year period, which is certainly good information if we take into account the sustainable financing of operating operations.

Figure 1. Liquidity analysis (2015-2019)
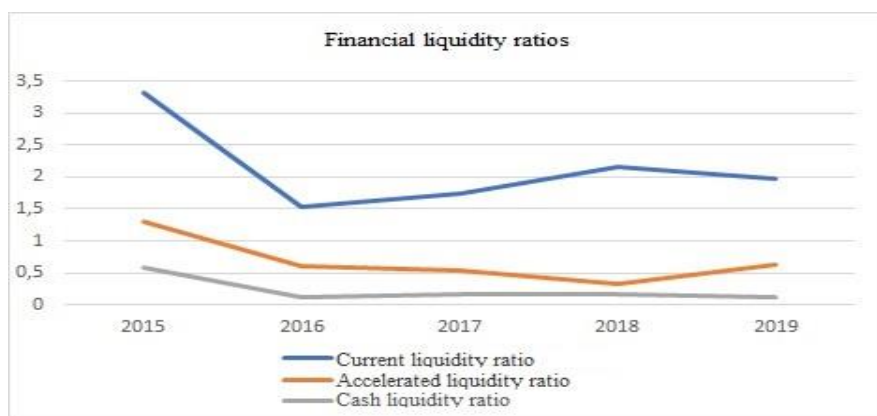
Source: Table 1

a)   Solvency analysis

Insolvency does not necessarily represent the end of business life, even insolvent business can still attract new investors or obtain new loans [11, p. 1]. However, how realistic this possibility is in these changed business conditions is a matter for discussion. In any case, the financial structure of the entity is of special interest to creditors due to the amount of capital in relation to liabilities, which indicates the risk in relation to creditors [12, p. 173]. Many companies that have a small problem with the lack of funds to conduct regular business activities have been forced to turn to lenders, so that the borrowed funds allow them to go through the crisis without major consequences. In this context, it is said that companies can use short-term operating lines, long-term borrowed resources and long-term capital financing. In that sense, it is emphasized that the financial solvency ratio is important because too much burden on loans can lead to serious financial problems in the company at some point. The solvency analysis for the observed enterprise is presented below (Table 2).

Table 2. The solvency analysis (2015-2019)

Indicators	2015	2016	2017	2018	2019
Financial leverage ratio	5,62	6,61	5,52	4,26	4,20
Interest coverage ratio	3,08	171,77	826,58	2155,85	167,67
Indebtedness ratio	0,86	0,84	0,80	0,73	0,79
Ratio of total liabilities to equity (%)	626,08	530,55	406,55	271,88	366,68

Source: authors' work based on financial reports for the period from 2016-2019. years [9]

Based on the data shown in Table 2, it can be seen that the lowest value of financial leverage ratios in 2019 (4,20), and the highest in 2016 (6,61), there are no significant changes in the financial leverage indicator, and the same applies for the debt ratio and for the ratio of total liabilities to equity. The interest coverage ratio is very high in all observed years with the exception of 2015, where it was 3,08 times.

This could also be a signal that it may not be a matter of the company missing the opportunity to increase earnings (yield) through financial leverage.

      b)   Profitability analysis

      The fact is that making a profit is of primary importance for the company. Profitability refers to the ability of a company to generate profit [12, p. 84]. "Profitability refers to the ability of a firm to generate revenues in excess of expenses" [13, p. 334]. Profitability ratios (performance ratios) are used when determining the earning capacity of a company at different levels. One of the very commonly used in financial analysis is the raid related to the profitability of assets and capital. Thus, two important rates are shown below (Table 3 and Figure 2): return on assets (ROA) and return on equity (ROE).

Table 3. The profitability analysis (2015-2019)

Indicators	2015	2016	2017	2018	2019
Return on Assets rate (ROA) (%)	4,68	10,69	9,75	9,55	3,27
Return on Equity rate (ROE) (%)	26,30	70,74	53,80	40,64	13,74

Source: authors' work based on financial reports for the period from 2016-2019 [9

By analysing the ROA of this enterprise, we can conclude that per 100 dinars of average engaged business assets in 2015, 4.68 dinars of net profit was realized, i.e., 10.69; 9.75, 9.55, 3.27 dinars in the following years, respectively observed. ROE shows that in 2015, this company made 26.30 dinars of net profit, i.e., 70.74 dinars per 100 dinars of average engaged capital; 53.80; 40.64; 13.74 dinars in the following years, respectively observed Profitability analysis showed that Return on Assets (ROA) is the lowest in 2019 compared to the observed five-year period (3.27%). It showed the highest value in 2016 (10.69%). Return on equity (ROE) showed the highest value in 2016 (70.74%) and the lowest in 2019 (13.74%).

Figure 2 Dynamics of ROA and ROE (profitability indicators); (2015-2019)
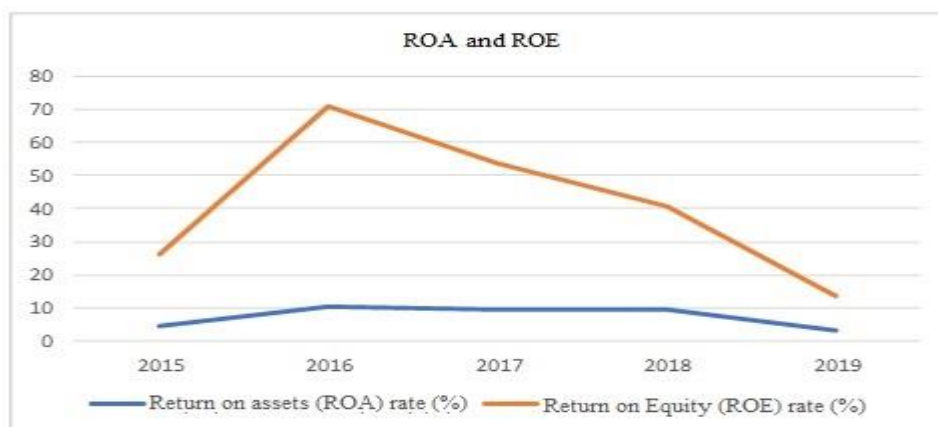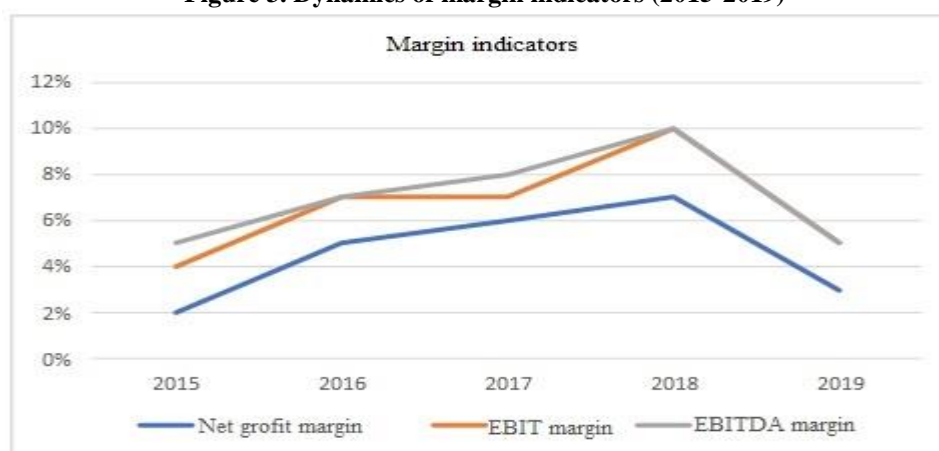

Source: Table 3

EBITDA margin, EBIT margin and net profit margin indicate the share of certain types of earnings (profit) in total sales revenue. The following table and graph show the values of margins and their dynamics (Table 4 and Figure 3).

Table 4. Margin indicators (2015-2019)

Margin indicators	2015	2016	2017	2018	2019
Net profit margin	2%	5%	6%	7%	3%
EBIT margin	4%	7%	7%	10%	5%
EBITDA margin	5%	7%	8%	10%	5%

Source: authors' work based on financial reports for the period from 2016-2019 [9]

Figure 3. Dynamics of margin indicators (2015-2019)

Source: Table 4

Based on the data in Table 4 and Figure 4, it can be seen that all three margins - Profit Margin, EBIT Margin and EBITDA Margin are decreasing in 2019 compared to 2018. Further, it can be noticed that all three margins showed their maximum in 2018 (7%, 10%, 10%).

d)   Efficiency analysis
The ratio analysis of the efficiency of asset and resource management in the economic world is identified with the analysis of turnover, which as such is at the heart of the ratio analysis of financial statements. Turnover coefficients measure the rate of return on investment in certain assets and the time of binding of individual parts of the company's assets. There is a wide range of financial ratios for efficiency testing, and some of them are presented below (Table 5, Figure 4).

Table 5. Efficiency analysis (2015-2019)

Indicators	2015	2016	2017	2018	2019
Average inventory turnover time (in days)	77,41	90,67	133,94	196,07	206,57

Average time of collection of receivables (in days)	14,65	39,18	49,61	31,17	37,69
Average payment time to suppliers (in days)	31,64	74,52	135,02	125,84	172,23

Source: authors' work based on financial reports for the period from 2016-2019 [9]

Figure 4. Dynamics of efficiency ratios (2015-2019)
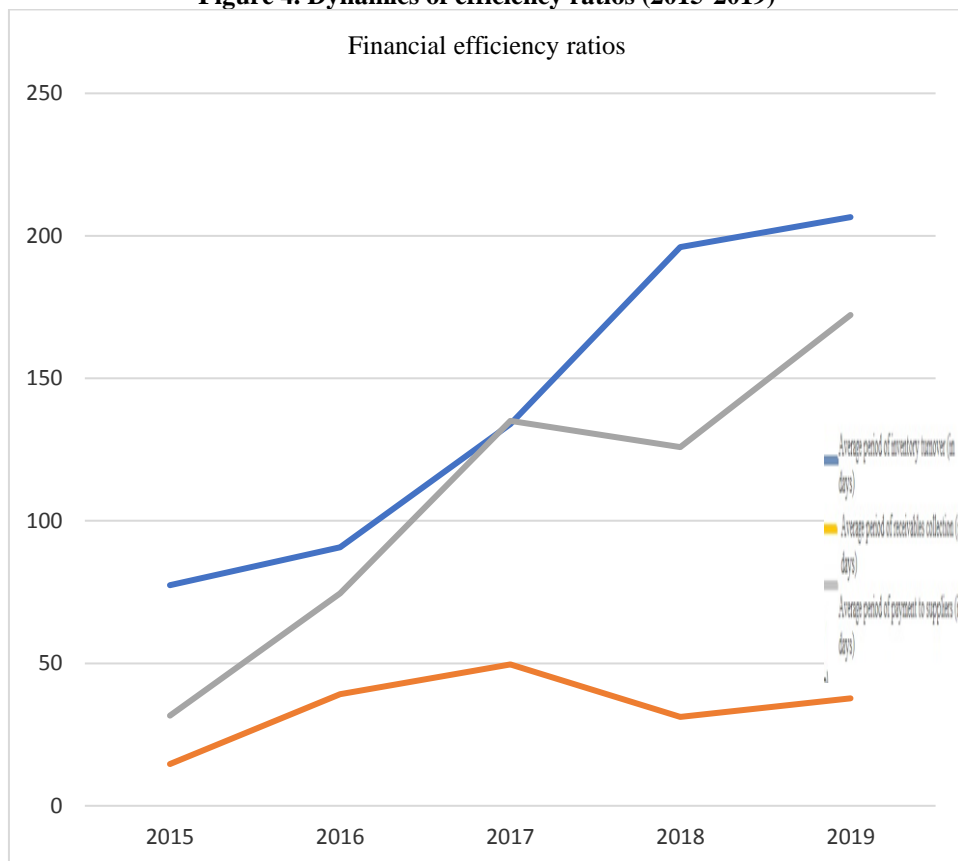
Source: Table 5

Observing the results of efficiency testing, it was noticed that the average time for collection of receivables was the shortest in 2015, and the longest in 2017. The average time for settling obligations to suppliers is the shortest in 2015, and the longest in 2019. When looking at the average turnover time, it is seen to grow over the years, to which management should pay attention, and it would be useful to compare these indicators with key competitors, which would more accurately assess the efficiency of managing the company's assets.

e) Productivity analysis

The inclusion of the number of employees in the financial analysis is important if we keep in mind that the number of employees is a factor of strategic thinking. If we add to that the fact that intellectual capital is a factor of strategic importance, it

comes to the point that it is important to adequately monitor different forms of earnings in relation to the average number of employees. The following table (Table 6) shows the productivity indicators, and Figure 5 the dynamics of the productivity factors.

Table 6. Productivity indicators (2015-2019)

Elements	2015	2016	2017	2018	2019
Number of average employees	35	61	48	49	52
Net profit	2.726	12.123	17.075	20.544	8481
EBIT	6.950	16.490	19.838	28.026	14.587
EBITDA	8.080	18.385	21.833	29.486	14.587
Total revenue	156.522	249.921	289.719	285.551	310.776
EBIT per employee	198,571	270,328	413,292	571,959	280,519
EBITDA per employee	230,86	301,39	454,85	601,76	280,53
Income per employee	4472,06	4097,07	6035,81	5827,57	5976,46
Net profit per employee	77,89	198,74	355,73	419,26	163,10

Source: authors' work based on annual report for the period from 2016-2019 [9]

Figure 5. Productivity dynamics (2015-2019)
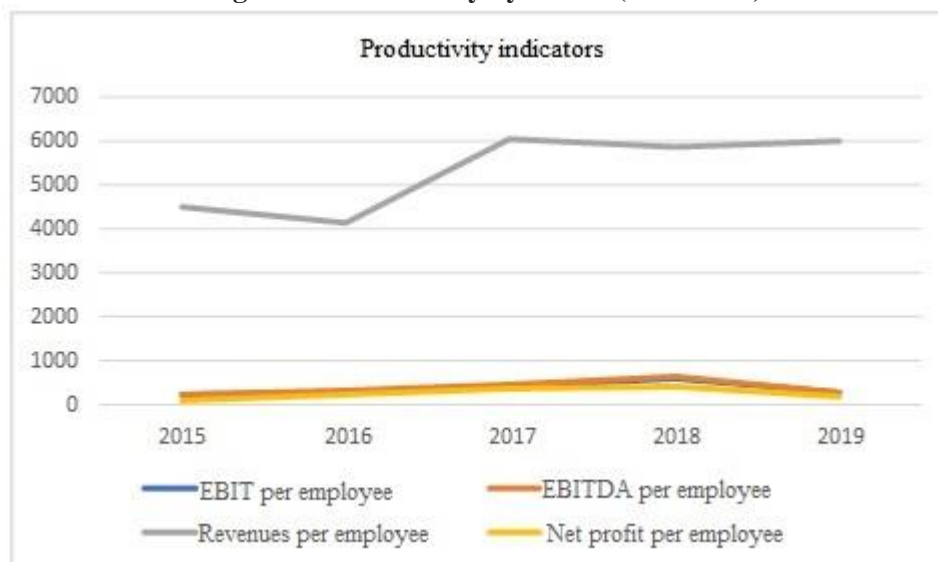
Source: Table 6

There is a sharp decline in net profit in 2019 compared to 2018, which led to a decline in net profit per employee in 2019 (from 419.26 RSD to 163.10 RSD). EBIT in 2018 reached the highest value in relation to the observed period, and the situation is the same with EBIT per employee. The highest value of EBITDA is stated in 2018 (RSD 29,486), and the same applies to EBITDA per employee (RSD 601.76). Although the highest revenues were realized in 2019 (310,776 RSD), revenues per employee are the highest in 2017.

f)   Testing the bankruptcy probability

In order to get a broader picture of the (un)successfulness of the company's business, Z-statistics were applied. The goal is not to predict when the enterprise will go bankrupt, but to try to estimate the probability of bankruptcy. The application of the bankruptcy test for companies operating in emerging markets is presented below (Table 7).

Table 7. Bankruptcy test (2015-2019)

The enterprise bankruptcy testing	2015	2016	2017	2018	2019
Altman Z' Score	2,6587	2,3673	2,1071	2,1471	1,645
Interpretation	Unwanted zone	Unwanted zone	Unwanted zone	Unwanted zone	Unwanted zone

Source: authors' work based on financial reports for the period from 2016-2019 [9]

Based on the application of the custom formula of the original version of the Z3-Score Bankruptcy Model [12, p. 131;14]:

Z3 = 3,25 + 6,56 x T1 + 3,26 x T2 + 6,72 x T3 + 1,05 x T4

where T4 is the book value of equity.
According to the model:

• Safe zone > 5,85
• Grey zone is in the interval 3,75-5,85
• Unwanted/problem zone < 3,75

The results of the application of the bankruptcy test show that the company was in the problem zone in all the observed years.

CONCLUSION

In order to understand the real trend of financial performance on the example of a selected trading enterprise, the method of ratio analysis and bankruptcy test was applied in the paper. In that way, the financial performance of the enterprise, which is

classified in the group of small companies, is considered. Based on the obtained results, key points were obtained that the owner of the small enterprise should pay attention to, and try to improve his financial position and performance. What is a particularly warning signal is that the company is in a problem zone in all the observed years. The uncertainty that remains regarding the current COVID-19 epidemic further affects the inevitability of careful financial performance planning, especially in the segment of profitability, solvency and liquidity.

The disadvantage of this analysis is that it was not possible to do an evaluation of financial performance for 2020, because the reports of companies have not yet been published on the website of the Business Registers Agency. In addition, it should be borne in mind that the issue of separating the COVID-19 pandemic as a pattern of poor or weak performance from factors affecting the company itself (weak capacity of its management, etc.) is very complex. Further, it is necessary to compare the obtained data with the average of the branch in which the observed company operates, with the leader in the branch, as well as with the planned performance. In economic circumstances where it is difficult to increase sales revenue, it is important to raise the efficiency of resource management.

REFERENCES

1. [1] Montesdeoca, M.R., Medina, A.J.S. and Santana, F.B. (2019) Research Topics in Accounting Fraud in the 21st Century: A State of the Art Monica, Sustainability, 11(1570), pp 1-31, doi:10.3390/su11061570.
2. [2] Guillet, B.D. & Chu, A.M.C. (2021) Managing hotel revenue amid the COVID-19 crisis, International Journal of Contemporary Hospitality Management, 33(2), pp. 604-627, DOI 10.1108/IJCHM-06-2020-0623.
3. [3] Mitrović, A., Milašinović, M. (2019) Financial report as sources of financial information for the purposes of financial report analyse, Scientific Conference „Accounting and audit in theory and practice", Banja Luka College, Banja Luka, 2019. 25.maj 2019. godine, pp. 9-21.
4. [4] Kotane, I. & Kuzmina-Merlino, I. (2012) Assessment of financial indicators for evaluation of business performance, European integration studies. July 2012. No. 6, ISSN 1822–8402, DOI: 10.5755/j01.eis.0.6.1554.
5. [5] Mbona, R.M. and Yusheng, K. (2019) Financial statement analysis: Principal component analysis (PCA) approach case study on China telecoms industry, Asian Journal of Accounting Research, 4(2), pp. 233-245, https://doi.org/10.1108/AJAR-05-2019-0037.
6. [6] Aftab, R., Naveed, M. and Hanif, S. (2021) An analysis of Covid-19 implications for SMEs in Pakistan, Journal of Chinese Economic and Foreign Trade Studies, 14(1), pp. 74-88, https://doi.org/10.1108/JCEFTS-08-2020-0054.
7. [7] Beraha, I. and Duricin, S. (2020) The impact of COVID-19 crisis on medium-sized enterprises in Serbia, Economic Analysis, (53):1, pp. 14-27.
8. [8] Nurunnabi, M. (2020) Recovery planning and resilience of SMEs during the COVID-19: experience from Saudi Arabia, Journal of Accounting & Organizational Change, 16(4), pp. 643-653, https://doi.org/10.1108/JAOC-07-2020-0095.
9. [9] Annual report, www.apr.gov.rs.

10. [10] Wasiuzzaman, S. (2018) Determinants of Liquidity in Malaysian SMEs: A quantile regression approach. International Journal of Productivity and Performance Management, 67(9), pp. 1566-1584, doi:10.1108/ijppm-12-2017-0354.

11. [11] Park, S.B., Kim, S. and Lee, S. (2021) Earnings Management of Insolvent Firms and the Prediction of Corporate Defaults via Discretionary Accruals, International Journal of Financial Studies, 9(17), pp. 1-24, https://doi.org/10.3390/ijfs9020017.

12. [12] Knežević, S., Mitrović, A., Vujić, M., Ggrur, A. (2019) Analysis of financial statements + CD, Author's edition, Belgrade, ISBN: 9788690133604.

13. [13] Jones, S. (2005) Financial Analysis: Applications to Australian Toll Road Entities. Handbooks in Transport, pp. 325–357, doi:10.1108/9780080456041-019.

14. [14] Altman, E.I. (2000) APREDICTING FINANCIAL DISTRESS OF COMPANIES: REVISITING THE Z-SCORE AND ZETA MODELS, July 2000, pp.1-54, http://pages.stern.nyu.edu/~ealtman/Zscores.pdf

REZIME

U cilju sagledavanja realnog trenda finansijskih performansi na primeru izabranog trgovinskog preduzeća, u radu je primenjena metoda racio analize i testa stečaja. Na taj način se razmatra finansijski učinak preduzeća koje je svrstano u grupu malih preduzeća. Na osnovu dobijenih rezultata dobijene su ključne tačke na koje vlasnik malog preduzeća treba da obrati pažnju i da pokuša da poboljša svoj finansijski položaj i učinak. Ono što je posebno upozoravajući signal jeste da se kompanija svih posmatranih godina nalazi u problemskoj zoni. Neizvesnost koja ostaje u vezi sa aktuelnom epidemijom COVID-19 dodatno utiče na neizbežnost pažljivog planiranja finansijskog učinka, posebno u segmentu profitabilnosti, solventnosti i likvidnosti.

Nedostatak ove analize je što nije bilo moguće uraditi procenu finansijskog poslovanja za 2020. godinu, jer izveštaji preduzeća još nisu objavljeni na sajtu Agencije za privredne registre. Pored toga, treba imati u vidu da je pitanje odvajanja pandemije COVID-19 kao obrasca lošeg ili slabog učinka od faktora koji utiču na samu kompaniju (slab kapacitet njenog menadžmenta i sl.) veoma složeno. Dalje, potrebno je uporediti dobijene podatke sa prosekom grane u kojoj posmatrano preduzeće posluje, sa liderom u grani, kao i sa planiranim učinkom. U ekonomskim okolnostima u kojima je teško povećati prihod od prodaje, važno je povećati efikasnost upravljanja resursima.