

LIQUIDITY ANALYSIS OF NON-MANUFACTURING ENTERPRISES

Krasimir Kulchev¹

Abstract: Economic analysis is a basic tool of business management, financial analysis being one of its structural parts. When assessing the financial condition of business organizations, liquidity analysis indicators are important. They are also widely used in discriminating financially stable enterprises from business organizations at an increased risk of bankruptcy. The present paper aims to calculate mean values of some of the most commonly used liquidity analysis indicators. The research is based on information from the financial statements of non-manufacturing enterprises, some of which are financially stable, and some are declared bankrupt. As a result of the study, it is concluded that the usefulness of liquidity indicators depends on their individual capabilities, the socio-economic conditions in which the study is conducted, and the aims of the analysis.

Keywords: financial management, financial analysis, financial condition, financial ratios, liquidity

JEL: M41, C53.

DOI: <https://doi.org/10.58861/tae.bm.2026.3.04>

Introduction

Many management teams fail to build successful competitive strategies, and bankruptcy is a common phenomenon in modern business conditions. Its occurrence harms not only the debtor enterprise, but also its creditors, which is why assessing bankruptcy risk has emerged as a significant and topical problem of financial management. In a number of cases, the normal functioning of an enterprise is misbalanced by the inability

¹ Assoc. Prof., PhD, Department of Control and Analysis of Economic Activity, Faculty of Accounting, Tsenov Academy of Economics, Svishtov, Bulgaria, e-mail: k.kulchev@uni-svishtov.bg, ORCID: 0000-0003-4096-7016

to provide the necessary funds to meet current payments (Mihaylov & Koleva, 2013). This necessitates the inclusion of liquidity analysis indicators in the set of tools for assessing bankruptcy risk. The main aim of the study is to calculate mean values of some of the most commonly used liquidity indicators, thereby to determine their application capabilities and outline the changes in their usefulness depending on the conditions of the business environment and the nature of the analytical tasks being solved.

1. Literature review

The ratios for assessing the financial condition of enterprises are perceived as “guiding stars” in managing it, and approximately twenty indicators are determined as vital. This includes some liquidity analysis ratios, monitored because an enterprise that fails to cover its current liabilities risks ending up in bankruptcy, even when realizing relatively high profits. Among the most commonly used indicators are the current and quick liquidity ratios (Walsh, 2008).

Liquidity indicators can be studied as independent objects of analysis (Mihaylov et al., 2005; Kostova, 2010; Mihaylov et al., 2013; Mihaylov et al., 2013) or as key elements in making complex assessments, and in particular in assessing the bankruptcy risk of enterprises. One of the founders of studying financial ratios (including liquidity analysis ratios) as a component of assessing bankruptcy risk is Professor Edward Altman (Altman, 1968).

Due to the relevance of the issue under consideration, there are a number of studies in the specialized literature in this sphere. Some of them examine the prognostic capabilities of analytical models for assessing the bankruptcy risk of enterprises, and the degree of usefulness of financial ratios is determined in relation to the values of their weight coefficients, found empirically (Altman et al., 2016; Parkitna & Blaszczyk, 2012; Kulchev, 2019). Other studies examine the impact of liquidity on business failures (Li, 2023), capital structure and financial performance (Nam & Tuyen, 2024), as well as the role of liquidity in decision-making aimed at achieving various goals, including investment goals (Hussein et al., 2023).

It is important to emphasize that under different socio-economic conditions, financial ratios change their usefulness. For example, the current liquidity ratio, despite its relatively wide applicability, is not among the main components of two of the most popular models in Bulgaria for assessing bankruptcy risk – those of Prof. Altman and Prof. Springate. In these models,

the ratio between net working capital and total assets is used as a liquidity measure (Todorov, 2014).

Additional insight into the behaviour of liquidity analysis indicators and their usefulness in changing socio-economic conditions is gained from studies that are not directly aimed at assessing bankruptcy risk. One of these studies (Petrov, 2012) concludes that during a crisis, inventories, traditionally perceived as the slowest liquid current assets, may turn out to be more liquid than receivables, the collection of which may entail unforeseen expenses. The author of this study proposes using a ratio, in which the difference between current assets and receivables is related to the amount of current liabilities. The indicator is called crisis liquidity ratio, and a drop in its level could indicate a future decrease in revenues and profits.

A study by the World Bank Group states that there are many ratios for early detection of financial distress, but the current liquidity ratio is an effectively applicable indicator in liquidity analysis for Bulgarian enterprises (World Bank Group, 2021).

In a comparative analysis carried out of one hundred and thirty-seven analytical models for assessing bankruptcy risk, forty key financial ratios are identified. The first ten financial ratios are involved in over twenty models for assessing bankruptcy risk. A review of the ten ratios in question shows that four of them are designed to identify an increased risk of bankruptcy under the influence of liquidity, and three – under the influence of profitability. The remaining three ratios are designed to examine the indebtedness of the enterprise, the turnover of total assets and the ability of the business to self-finance, which is calculated as the quotient between retained earnings and total amount of assets. (Kostova, 2019).

The cited study is particularly useful in that it identifies profitability and liquidity as the two most important groups of indicators in assessing the risk of bankruptcy of enterprises. Among the liquidity indicators, the most widely used are: *current liquidity ratio*, which is used in fifty-one models for assessing the risk of bankruptcy; *working capital ratio*, used in forty-five analytical models; *quick liquidity ratio*, used in thirty models. Despite their variable usefulness (different weighting factors in each of the models for assessing bankruptcy), the relatively high applicability of these three ratios for analyzing liquidity in models for assessing the bankruptcy risk of enterprises is the main reason for them being examined in more detail in this article, with the emphasis on their individual discriminatory capabilities.

2. Research methodology

The above review of the specialized literature in this paper focuses on three liquidity analysis ratios, which are also used in discriminating financially stable enterprises from business organizations at an increased risk of bankruptcy. These ratios are:

- net working capital to total assets;
- current assets to current liabilities (current liquidity ratio);
- difference between current assets and inventory to current liabilities (quick liquidity ratio).

The levels of the presented liquidity analysis indicators are calculated as follows:

$$LI_1 = \frac{NWC}{A} = \frac{CA-CL}{A}, \quad (1)$$

where:

LI_1 is first liquidity analysis indicator;

NWC – net working capital;

A – total assets;

CA – current assets;

CL – current liabilities.

$$LI_2 = \frac{CA}{CL}, \quad (2)$$

where:

LI_2 is second liquidity analysis indicator (current liquidity ratio).

$$LI_3 = \frac{CA-I}{CL}, \quad (3)$$

where:

LI_3 is third liquidity analysis indicator (quick liquidity ratio);

I – inventory.

The liquidity analysis indicators are calculated for twenty financially stable enterprises, using information from their financial statements published on the website of the Bulgarian Stock Exchange (Bulgarian Stock Exchange, n.d.). The number of enterprises declared bankrupt is the same, their analysis indicators are calculated using information provided by the Commercial Register and the Register of Non-Profit Legal Entities (Registry

agency, n.d.). All enterprises included in the study are capital companies carrying out non-manufacturing activities².

3. Results

Table 1 calculates the values of the first liquidity analysis indicator (the ratio between net working capital and total assets) for financially stable enterprises. It must be noted that in some of the financially stable enterprises negative values of the studied indicator are observed during all four years of the analyzed period (enterprises 1, 2 and 9).

Table 1

Values of the first liquidity analysis indicator in financially stable enterprises

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	-0.0847	-0.1086	-0.0660	-0.1023
2.	-0.0228	-0.0159	-0.0354	-0.0362
3.	0.1634	0.2236	0.2154	0.2115
4.	0.1656	0.0023	0.0316	0.0356
5.	-0.1180	-0.0880	0.0971	0.1162
6.	0.1462	0.1376	0.3360	0.3733
7.	-0.1755	0.1450	0.1563	0.0817
8.	0.2477	0.2010	0.2352	0.3827
9.	-0.0794	-0.0991	-0.0917	-0.1099
10.	0.1388	0.1267	0.1761	0.6442
11.	0.3584	0.2500	0.3395	0.2955
12.	0.1436	0.1335	0.0894	0.0750
13.	0.1853	0.2140	0.1871	0.2138
14.	0.1346	0.1297	0.1425	0.0400
15.	0.0606	0.0606	0.0240	-0.0843
16.	-0.0155	-0.0556	-0.0117	0.0026
17.	0.0218	0.0244	0.1858	0.0271
18.	0.0020	-0.0162	0.0438	0.0596
19.	0.5548	0.5075	0.4420	0.1024
20.	0.6381	0.6409	0.6725	0.3456
Minimum value	-0.1755	-0.1086	-0.0917	-0.1099
Maximum value	0.6381	0.6409	0.6725	0.6442
Mean value	0.1232	0.1207	0.1585	0.1337

Source: Author's research

² For the specifics of providing an appropriate methodological apparatus, information and technical tools for assessing the risk of bankruptcy of enterprises, see Kulchev, 2023, pp. 26-108.

At the same time, in enterprises declared bankrupt (see Table 2), the financial ratio stays positive throughout the entire time interval (enterprises 4, 5, 9, 13, 14 and 15). Therefore, the independent use of the indicator may lead to erroneous conclusions about the financial condition of the enterprises, in particular about their liquidity, as well. However, this does not mean that the ratio is devoid of the necessary qualities for combining it with other indicators for analyzing the financial condition in order to construct analytical models applicable in the early discrimination of financially stable enterprises from business organizations at an increased risk of bankruptcy.

Table 2
Values of the first liquidity analysis indicator in enterprises declared bankrupt

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	-0.0435	0.0000	-0.0455	-0.0909
2.	0.7227	0.4693	-0.0428	-0.0462
3.	0.5625	0.5625	0.4762	-0.2500
4.	0.7778	0.7778	0.7778	0.0862
5.	0.9792	0.6038	0.6782	0.8683
6.	0.0000	0.0000	-0.4811	-0.0649
7.	0.3497	0.2441	0.1811	-0.4773
8.	-0.0385	-0.2600	-0.5000	-1.3704
9.	0.1068	0.2229	0.3176	0.2574
10.	-3.1454	-3.1454	0.0160	-0.2050
11.	0.1906	0.2377	0.0849	-0.1185
12.	0.4134	0.1349	-0.0437	-0.3099
13.	0.9227	0.7160	0.8337	0.6304
14.	0.8570	0.8280	0.6028	0.5369
15.	0.3182	0.3372	0.3333	0.8941
16.	0.0224	0.3127	0.1331	-0.1029
17.	0.5444	0.6047	-0.0448	0.0662
18.	-0.0579	-0.0577	0.0068	0.0241
19.	0.1191	0.0476	0.0783	-0.9059
20.	0.4379	0.3288	-0.6647	0.4168
Minimum value	-3.1454	-3.1454	-0.6647	-1.3704
Maximum value	0.9792	0.8280	0.8337	0.8941
Mean value	0.2019	0.1482	0.1349	-0.0081

Source: Author's research

Figure 1 presents the trends in the change in the mean value of the first liquidity analysis indicator for financially stable enterprises and enterprises declared bankrupt. The line of the examined ratio for financially stable enterprises moves within relatively constant limits. The curve of the indicator for enterprises declared bankrupt shows a downward trend, at the end of which its mean level is negative. The intersection of the two lines and the cases of their movement in close value intervals is further evidence of the risks of incorrect conclusions when using this indicator independently for liquidity analysis.

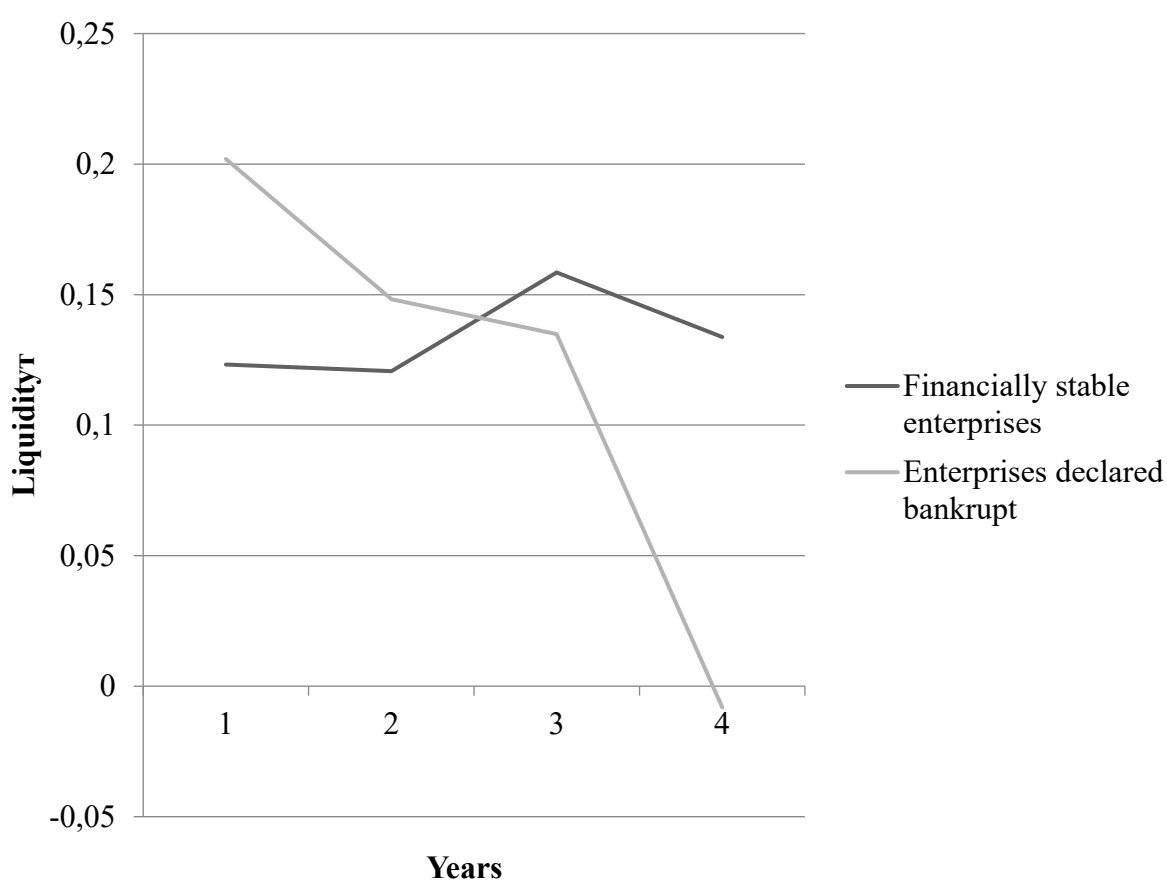


Figure 1. Change in the first liquidity analysis indicator

The values of the second liquidity analysis indicator (the ratio between current assets and current liabilities – current liquidity ratio) for financially stable enterprises are calculated in Table 3.

Table 3
Values of the second liquidity analysis indicator in financially stable enterprises

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	0.7806	0.7348	0.8066	0.7064
2.	0.5395	0.6996	0.3893	0.3087
3.	1.9376	2.8139	2.9585	2.6398
4.	<u>14.0129</u>	3.5000	<u>41.0000</u>	<u>41.6522</u>
5.	0.2422	0.3539	<u>37.8898</u>	<u>192.6296</u>
6.	2.0547	1.6131	2.5398	2.9179
7.	0.4708	<u>10.9832</u>	<u>37.2127</u>	<u>14.1599</u>
8.	<u>6.7457</u>	2.7762	3.1302	<u>5.4323</u>
9.	0.0318	0.1585	0.0635	0.1574
10.	<u>121.8462</u>	<u>232.0000</u>	<u>158.0833</u>	<u>4.6426</u>
11.	2.5882	1.7027	1.8104	1.6664
12.	1.1973	1.1794	1.1282	1.1056
13.	1.6649	1.9183	1.7024	1.8356
14.	2.3755	2.5330	2.4270	1.4754
15.	1.2595	1.0004	1.0859	0.7197
16.	0.7744	0.3927	0.8417	1.0439
17.	1.9021	<u>43.5227</u>	2.2855	2.8676
18.	1.0132	0.9146	1.2635	1.3712
19.	<u>10.4303</u>	<u>11.1478</u>	<u>52.4487</u>	<u>6.3823</u>
20.	<u>6.7716</u>	<u>6.9496</u>	<u>11.4250</u>	1.8913
Minimum value	0.0318	0.1585	0.0635	0.1574
Maximum value	121.8462	232.0000	158.0833	192.6296
Mean value	8.9319	16.3447	18.0246	14.2803
Adjusted mean value	1.2555	1.4861	1.6023	1.4791

Source: Author's research

Only three financially stable enterprises maintain a level of the current liquidity ratio below unity (enterprises 1, 2 and 9), which is similar to enterprises declared bankrupt (see Table 4). For 9 of the enterprises declared bankrupt (45%), even in the fourth year, the level of the current liquidity ratio is above unity, and for another three of them (15%) the value of the ratio in the last year of the analyzed period is slightly below unity.

LIQUIDITY ANALYSIS OF NON-MANUFACTURING ENTERPRISES

Table 4

Values of the second liquidity analysis indicator in enterprises declared bankrupt

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	0.5000	1.0000	0.5000	0.3333
2.	3.6856	1.9223	0.9568	0.9582
3.	2.2857	2.2857	2.2500	0.7667
4.	<u>8.0000</u>	<u>8.0000</u>	<u>8.0000</u>	1.1563
5.	<u>48.0000</u>	<u>9.0000</u>	4.4706	<u>37.2500</u>
6.	1.0000	1.0000	0.6752	0.9390
7.	1.9661	1.4844	1.3194	0.6769
8.	0.9583	0.7833	0.6324	0.3729
9.	1.1250	1.3004	1.4854	1.3539
10.	0.2407	0.2407	1.0162	0.8298
11.	1.3762	1.4030	1.1206	0.8754
12.	3.1597	1.4423	0.9064	0.4439
13.	<u>14.1842</u>	<u>5.4867</u>	<u>12.3600</u>	3.4923
14.	<u>20.7273</u>	<u>14.4054</u>	3.9113	4.0857
15.	1.4667	1.5088	1.5000	<u>9.4444</u>
16.	1.0794	2.6630	1.2987	0.8445
17.	4.3813	<u>11.6221</u>	0.9203	1.1877
18.	0.9345	0.9348	1.0080	1.0284
19.	1.1397	1.0508	1.0939	0.4380
20.	1.7790	1.5568	0.2391	3.7324
Minimum value	0.2407	0.2407	0.2391	0.3333
Maximum value	48.0000	14.4054	12.3600	37.2500
Mean value	5.8995	3.4545	2.2832	3.5105
Adjusted mean value	1.6924	1.3718	1.4058	1.3064

Source: Author's research

After excluding the highest levels of the ratio from the calculations, its adjusted mean value for *financially stable enterprises* and for *enterprises declared bankrupt* varies approximately within the same limits (see Fig. 2). In other words, the autonomous application of this liquidity indicator is not able to successfully discriminate financially stable enterprises from enterprises at an increased risk of bankruptcy.

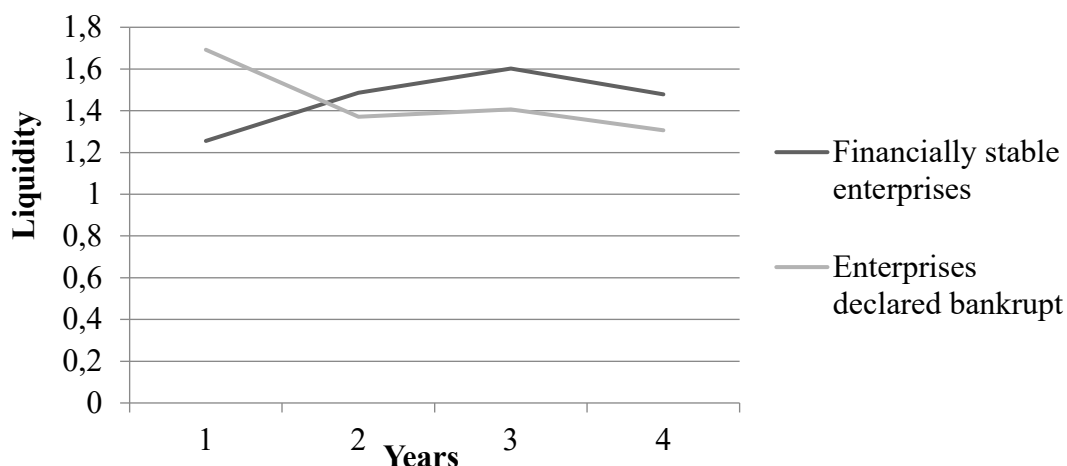


Figure 2. Change in the second liquidity analysis indicator

The values of the third liquidity analysis indicator (the ratio of current assets and inventory to total liabilities – the quick liquidity ratio) are presented in Table 5.

Table 5

Values of the third liquidity analysis indicator in financially stable enterprises

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	0.7806	0.7348	0.8066	0.7064
2.	0.4608	0.6135	0.2859	0.1977
3.	1.7165	2.5168	2.7276	2.5338
4.	14.0129	3.5000	41.0000	41.6522
5.	0.1677	0.2629	33.0593	172.2778
6.	2.0547	1.6131	2.5398	2.9179
7.	0.4708	10.9832	37.2127	14.1599
8.	6.7457	2.7061	3.0833	5.4021
9.	0.0318	0.1585	0.0635	0.1574
10.	121.8462	232.0000	158.0833	4.6426
11.	1.8012	1.1099	1.3704	1.2031
12.	0.8739	0.8776	0.8248	0.7728
13.	0.6777	0.8617	0.7130	0.7127
14.	2.3738	2.5314	2.4258	1.4746
15.	1.2309	0.9780	1.0752	0.7116
16.	0.7744	0.3927	0.8417	1.0439
17.	1.9021	43.5227	1.1584	2.7026
18.	1.0132	0.9146	1.2635	1.3712
19.	1.5273	0.6209	5.8959	6.3823
20.	6.7716	6.9496	11.4250	1.8913
Minimum value	0.0318	0.1585	0.0635	0.1574
Maximum value	121.8462	232.0000	158.0833	172.2778
Mean value	8.3617	15.6924	15.2928	13.1457
Adjusted mean value	1.1161	1.2764	1.3700	1.3141

Source: Author's research

LIQUIDITY ANALYSIS OF NON-MANUFACTURING ENTERPRISES

Both financially stable enterprises and business organizations declared bankrupt (see Table 6) are found to permanently maintain indicator levels deviating from the corresponding adjusted mean values.

Table 6
Values of the third liquidity analysis indicator in enterprises declared bankrupt

Enterprise №	Year 1	Year 2	Year 3	Year 4
1.	0.0000	0.0000	0.0000	0.3333
2.	2.8515	0.8262	0.0929	0.1774
3.	2.2857	2.2857	2.1563	0.7167
4.	0.0000	0.0000	0.0000	0.7813
5.	<u>37.0000</u>	<u>5.5000</u>	<u>4.4412</u>	<u>17.7500</u>
6.	0.0000	0.0000	0.0149	0.0000
7.	0.3559	0.0000	0.0000	0.0000
8.	0.2708	0.4667	0.3382	0.1186
9.	0.6932	0.7154	0.8112	0.6674
10.	0.2407	0.2407	1.0162	0.8188
11.	0.5177	0.4584	0.6843	0.6146
12.	2.6468	1.3151	0.7961	0.3842
13.	<u>9.5789</u>	<u>3.8733</u>	<u>9.8600</u>	2.5744
14.	<u>20.7273</u>	<u>14.4054</u>	<u>3.9113</u>	<u>4.0857</u>
15.	0.1500	0.0000	0.0000	0.1111
16.	0.2762	0.8864	0.3880	0.1231
17.	0.4313	1.9580	0.1309	0.1851
18.	0.0325	0.0306	0.0734	0.0959
19.	0.8872	0.5867	0.6033	0.4112
20.	0.7826	1.0804	0.2034	2.9336
Minimum value	0.0000	0.0000	0.0000	0.0000
Maximum value	37.0000	14.4054	9.8600	17.7500
Mean value	3.9864	1.7315	1.2761	1.6441
Adjusted mean value	0.7307	0.6383	0.4300	0.6137

Source: Author's research

The adjusted mean value of the ratio for financially stable enterprises varies within 1.1161 points and 1.3700 points, and for enterprises declared bankrupt it varies within 0.4300 points and 0.7307 points (see Fig. 3).

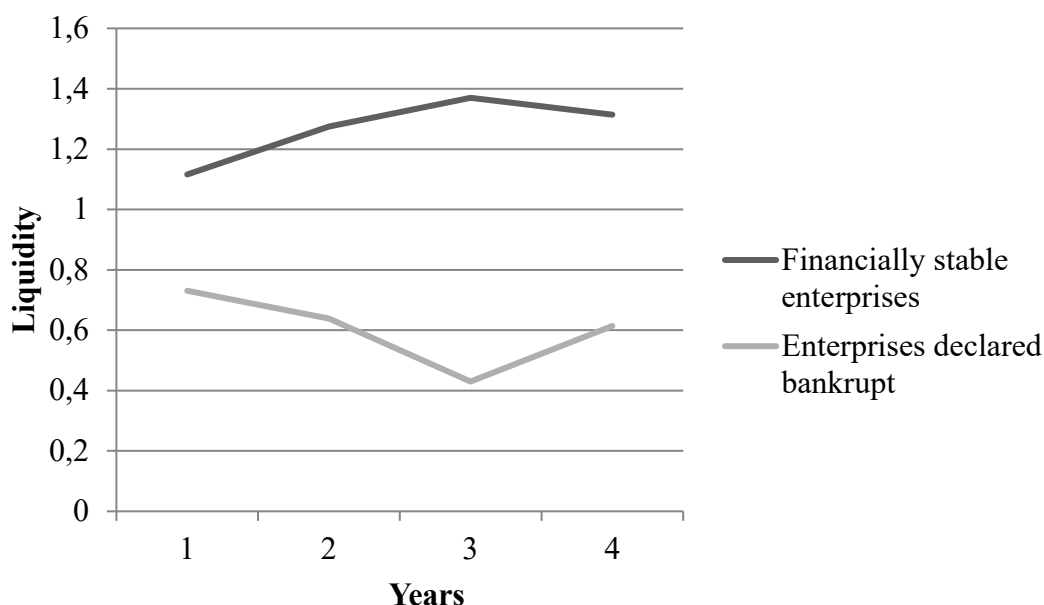


Figure 3. Change in the third liquidity analysis indicator

This liquidity analysis indicator shows the most significant differences between its values in financially stable enterprises and enterprises declared bankrupt. Therefore, it has relatively the highest capabilities to be applied independently compared to the other two indicators studied in this paper.

4. Discussion

The independent use of the ratio of current assets and inventory to current liabilities gives a relatively clear idea of the liquidity of the enterprise (compared to the other ratios presented in the study). However, in the early discrimination of financially stable enterprises from business organizations at an increased risk of bankruptcy, analytical models are used that include not only liquidity indicators but also a number of other important indicators for analyzing the financial condition, including indicators of profitability, indebtedness, etc. When constructing such models, it may turn out that ratios with relatively higher individual capabilities exhibit relatively lower abilities to combine with other indicators for analyzing the financial condition.

It should be noted that corroborating the assessments of current liquidity with an analysis of the other liquidity ratios and with the study of other financial indicators is justified both from the point of view of the theory of economic analysis (Mihaylov & Gergova, 2003), and the conclusions drawn as a result of practical research for investment purposes. For example,

according to one of the most successful investors in the world – Warren Buffett – in some cases the current liquidity ratio is almost useless. Enterprises with a sustainable competitive advantage maintain a ratio below unity, which is similar to businesses with financial difficulties. The difference between the two types of enterprises is that enterprises with a sustainable competitive advantage are able to generate profits that can easily cover their current liabilities even during periods of economic recessions (Buffett & Clark, 2011).

A similar conclusion is reached by Li, who finds a significant negative relationship between the current ratio and failures at low levels of the current ratio (Li, 2023). He argues that this finding helps to bridge the discrepancy between the academic literature, which generally finds that liquidity ratios have little predictive power for failures, and the practitioner literature, which emphasizes liquidity ratios as important tools for predicting failures.

The above cited opinions should not belittle the role of liquidity indicators in assessing the financial condition of enterprises. There are studies the authors of which even believe that liquidity is as important as profit in attracting investors. (Hussein et al., 2023). Nam and Tuyen summarize that the relationship between economic factors is extremely complex and that the impact of liquidity on financial performance is direct and indirect (Nam & Tuyen, 2024). The seemingly contradictory opinions and results presented are a prerequisite for assuming that not all features of liquidity indicators are fully understood, and the discussion on the topic provides a starting point for new research, because the usefulness of analytical indicators is a dynamic quantity, like the indicators themselves.

Conclusion

Based on the research conducted, it can be summarized that liquidity ratios are a fundamental element of the financial management toolkit, but when determining the scope of applicability of the indicators, the following important considerations should be taken into account:

- each of the analysis indicators has specific quantitative and qualitative characteristics (containing the absolute indicators by which the ratios are calculated; their recommended values and their respective interpretation), which affect their application capabilities;
- in different socio-economic conditions, the indicators change the level of their usefulness;

➤ the aims of the analysis also have an impact on the usefulness of the indicators (examining liquidity as an independent subject of research or including liquidity analysis indicators as components of models for assessing the risk of enterprise bankruptcy).

References

- Altman, E. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*. 23 (4), pp. 589-609. doi: 10.1111/j.1540-6261.1968.tb00843.x
- Altman, E., Iwanicz-Drozowska, M., Laitinen, E. & Suvas, A. (2016). Financial Distress Prediction in an International Context: A Review and Empirical Analysis of Altman's Z-Score Model. *Journal of International Financial Management & Accounting*. 28 (2), pp. 131-171. doi: 10.1111/jifm.12053
- Buffet, M., & Clark, D. (2011). *Warren Buffett and the Interpretation of Financial Statements (In Bulgarian: Uoran Bafet i analizat na finansovite otcheti)*. Sofia: Iztok-Zapad.
- Bulgarian Stock Exchange (n.d.). *Listing - trading instruments*. Available online: <https://www.bse-sofia.bg/bg/listed-instruments>
- Hussein, M., Saeed, N. & Ahmad, G. (2023). Financial ratios analysis and companies' liquidity evaluation. *Journal of Global Economics and Business*. 4 (14). doi:10.58934/jgeb.v4i14.173
- Kostova, N. (2019). *Finansov analiz (Financial analysis)* Varna: Biznes praktika aktiv OOD.
- Kostova, N. (2010). *Finansovo-schetovoden analiz (Financial and accounting analysis)* Varna: Aktiv-K.
- Kulchev, K. (2019). *Ocenka na riska ot nesastoyatelnost na predpriyatiyata (Assessment of the insolvency risk of enterprises)* Svishtov: Tsenov Academic Publishing House.
- Li, Ken (2023). Liquidity ratios and corporate failures. *Accounting & Finance*. 64 (1), pp. 1111-1134. doi:10.1111/acfi.13174
- Mihaylov, M., & Gergova, M. (2003). *Ikonomicheski analiz (Economic analysis)*. Svishtov: Tsenov Academic Publishing House.
- Mihaylov, M., Mitov, K., & Koleva, R. (2013). *Analiz na industrialniya biznes (Industrial Business Analysis)*. V. Tarnovo: Faber.

- Mihaylov, M., Mitov, K., Doncheva, L., & Koleva, R. (2005). *Analiz na trgovskiya biznes (Commercial business analysis)*. Veliko Tarnovo: Abagar.
- Mihaylov, M., Mitov, K., Koleva, R., & Doncheva, L. (2013). *Analiz na agrarniya biznes (Agribusiness analysis)*. V. Tarnovo: Faber.
- Mihaylov, M., Koleva, R. (2012). *Analiz na finansovite otcheti (Analysis of financial statements)*. Faber.
- Nam, Nguyen Hoang Phi & Tuyen, Tran Thi My. (2024). Impact of liquidity on capital structure and financial performance of non-financial-listed companies in the Vietnam stock market. *Future Business Journal*. 10. doi:10.1186/s43093-024-00412-7
- Parkitna, A., & Blaszczyk, M. (2012). *Otsenka effektivnosti ispolzovaniya diskriminantnih modeley diagnostiki bankrotstva. Bankrotstvo predpriyatij: problemi ucheta i analiza (Evaluating the effectiveness of using discriminant models for bankruptcy diagnostics. Bankruptcy of enterprises: problems of accounting and analysis)*, 227-276.
- Petrov, P. (2012). Tsikal na oborotniya kapital i likvidnost - nyakoi dopalnitelni analizi. *Kachestvo i poleznost na schetovodnata informatsia (Working capital cycle and liquidity - some additional analyses. Quality and usefulness of accounting information)*. (pp. 568-581). Varna: Nauka i iкономика.
- Registry agency. (n.d.). *Commercial Register and Register of Non-Profit Legal Entities: Reference bankruptcy*. Available online: <https://portal.registryagency.bg/CR/Reports/Bankruptcy>
- Todorov, L. (2014). *Savremenni modeli za otsenka na biznesa (Modern models of business assessment)*. Sofia: Nova zvezda.
- Walsh, C. (2008). *Key management ratios (In Bulgarian: Klyuchovite koefitsienti v menidzhmenta)*. Sofia: InfoDAR EOOD.
- World Bank Group. (2021). *Early warning tool Bulgaria: Technical Note*. Available online: <https://documents1.worldbank.org/curated/en/099545002112218494/pdf/P17378604866690809b9f05883ef8ed377.pdf>

BUSINESS **management**

D. A. Tsenov Academy
of Economics, Svishtov

Year XXXVI * Book 3, 2026

CONTENTS

MANAGEMENT practice

**THE IMPACT OF PRODUCT QUALITY ON GREEN TECHNOLOGY
PRODUCT CONSUMPTION BEHAVIOUR IN AN EMERGING MARKET:
EVIDENCE FROM URBAN CONSUMERS IN VIETNAM**

Tran Thi Hoa, Nguyen Van Hiep, Nguyen Hai Anh, Nguyen Thi Nga 5

**THE EFFECTS OF AI-WASHING ON CONSUMER'S TRUST,
ETHICS AND PURCHASE INTENTION**

Shovan Nasim Haider, Miloslava Chovancova24

**DIGITAL CAPACITY, RULE OF LAW, AND REGULATORY QUALITY
AS DETERMINANTS OF GOVERNMENT EFFECTIVENESS:
A POOLED OLS INTERACTION MODEL FOR EU MEMBER STATES**

Pavel Ivanov, Borislav Borissov49

LIQUIDITY ANALYSIS OF NON-MANUFACTURING ENTERPRISES

Krasimir Kulchev.....67

**IS SUSTAINABLE TOURISM VALID FOR THE BALKAN COUNTRIES?
EVIDENCE FROM THE ENVIRONMENTAL KUZNETS CURVE HYPOTHESIS**

Ayberk Seker, Mahmut Kadir Isguven,Taner Ismailov82

**CONTESTS OF HUMAN RESOURCE MANAGEMENT
AND PUBLIC ORGANIZATIONS: THE IMPACT OF ECONOMIC,
POLITICAL AND ORGANIZATIONAL FACTORS**

Arsim Gjino vci, Dren Gjino vci..... 114

Editorial board:

Prof. Krasimir Shishmanov, Phd - Editor in Chief, Tsenov Academy of Economics, Svishtov, Bulgaria

Assoc. Prof. Marin Marinov, PhD – Co-editor in Chief, Tsenov Academy of Economics, Svishtov, Bulgaria

Prof. Mariana Petrova, PhD - Managing Editor Tsenov Academy of Economics, Svishtov, Bulgaria

Assoc. Prof. Aleksandar Ganchev, Phd - Tsenov Academy of Economics, Svishtov Bulgaria

Assoc. Prof. Irena Emilova, Phd - Tsenov Academy of Economics, Svishtov Bulgaria

Assoc. Prof. Ivan Marchevski, Phd - Tsenov Academy of Economics, Svishtov, Bulgaria

Assoc. Prof. Simeonka Petrova, Phd - Tsenov Academy of Economics, Svishtov Bulgaria

Assoc. Prof. Taner Ismailov, Phd - Tsenov Academy of Economics, Svishtov, Bulgaria

International editorial board:

Olena Sushchenko, Prof., DSc (Ukraine)

Dariusz Nowak, Prof., PhD (Poland)

Nurlan Kurmanov, Prof., PhD (Kazakhstan)

Ryszard Pukala, Prof., PhD (Poland)

Yoto Yotov, Prof., PhD (USA)

Badri Gechbaia, Prof., PhD (Georgia)

Mahmut Kadir Isguven, Assoc. Prof., PhD (Turkey)

Stefan-Alexandru Ionescu, Assoc. Prof., PhD, (Romania)

Proofreader: Elka Uzunova

Technical Secretary: Zhivka Tananeeva

Web Manager: Martin Aleksandrov

The printing of the issue 3-2026 is funded with a grand from the Scientific Research Fund, Contract KP-06-NP7/18/05.12.2025 by the competition “Bulgarian Scientific Periodicals - 2026”. The Scientific Research Fund is not responsible for the content of the materials.

Submitted for publishing on 16.09.2026, published on 18.09.2026,
format 70x100/16, total print 80

© D. A. Tsenov Academy of Economics, Svishtov,

2 Emanuil Chakarov Str, telephone number: +359 631 66298

© Tsenov Academic Publishing House, Svishtov, 11A Tsanko Tserkovski Str

ISSN 0861 - 6604
ISSN 2534 - 8396

BUSINESS management

3/2026

BUSINESS management



PUBLISHED BY
D. A. TSENOV ACADEMY
OF ECONOMICS - SVISHTOV

3/2026

TO THE READERS AND AUTHORS OF “BUSINESS MANAGEMENT”

The journal of “Business Management” publishes research articles, methodological articles and studies, review articles, book reviews, commentaries and good practices reports.

1. Volume:

- Articles: between 12 – 20 pages;
- Other publications (review articles; book reviews, etc.): between 5 – 10 pages.

2. Submission of materials:

- On paper and electronically at one of the following e-mail addresses:
bm@uni-svishtov.bg or zh.tananeeva@uni-svishtov.bg

3. Technical requirements (the article template is can be downloaded from the webpage of the journal):

- Format – Word for Windows 2003 (at least);
- Font – Times New Roman, size 14 pt, line spacing 1,5 lines;
- Page size – A4, 29–31 lines and 60–65 characters per line;
- Line spacing 1,5 lines (at least 22 pt);
- Margins – Top – 2.54 cm; Bottom – 2.54 cm; Left – 3.17 cm; Right – 3.17 cm;
- Page numbers – bottom right;
- Footnotes – size 10 pt;

4. Layout:

- Title of article title; name, scientific degree and scientific title of author – font: Times New Roman, 14 pt, capital letters, Bold – centered;
- Employer and address of place of employment; contact telephone(s) and e-mail – Times new Roman, 14 pt, capital letters, Bold – centered.
- Abstract – up to 30 lines; Key words – from three to five;
- JEL classification code for papers in Economics (<http://ideas.repec.org/j/index.html>);
- Introduction – it should be from half a page to a page long. It should state the main ideas and/or objectives of the study and justify the relevance of the discussed issue.
- The main body of the paper – it should contain discussion questions, an outline of the study and research findings/main conclusions; bibliographical citation and additional notes, explanations and comments written in the footnotes.
- Conclusion – it should provide a summary of the main research points supported by sufficient arguments.
- References – authors should list first references written in Cyrillic alphabet, then references written in Latin alphabet.
- Graphs and figures – Word 2003 or Power Point; the tables, graphs and figures must be embedded in the text (to facilitate language correction and English translation); Font for numbers and inside text – Times New Roman, 12 pt;
- Formulae must be created with Equation Editor;

5. Citation guidelines:

When citing sources, authors should observe the requirements of **APA Style**. More information can be found at: <https://www.uni-svishtov.bg/default.asp?page=page&id=71#jan2017>, or: <http://owl.english.purdue.edu/owl/resource/560/01/>

6. Contacts:

Editor in chief: tel.: (+359) 631-66-201

Co-editor in chief: tel.: (+359) 631-66-395

Proofreader: tel.: (+359) 631-66-404

E-mail: bm@uni-svishtov.bg; zh.tananeeva@uni-svishtov.bg;

Web: bm.uni-svishtov.bg

Address: “D. A. Tsenov” Academy of Economics, 2, Em. Chakarov Str., Svishtov, Bulgaria