

CHALLENGES IN IMPROVING METHODOLOGIES FOR COMPANY LIQUIDITY ANALYSIS

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Abstract

This study refines and advances methodologies for analyzing corporate liquidity and solvency, addressing limitations in traditional approaches and proposing practical improvements to strengthen financial stability. Drawing on theoretical foundations and established practices in financial analysis, the research employs comparative, analytical, and factor-analysis techniques to evaluate liquidity ratios – absolute, intermediate, and current – and examines the influence of accounts receivable and payable structures on financial resilience. Findings demonstrate that conventional liquidity indicators alone are insufficient for a comprehensive assessment, highlighting the need for factor models and qualitative insights into asset and liability composition. The study further reveals that misclassification of certain components, such as investments in other companies' shares or interfirm loans, can distort liquidity measures. The proposed methodology offers significant practical value for analysts and corporate managers by enhancing solvency assessment, optimizing cash-flow management, and mitigating financial risks. The originality of this work lies in its critical reassessment of classical liquidity analysis and its introduction of a factor-model-based approach that emphasizes the internal structure of balance sheet items, thereby contributing both to academic discourse and practical application.

Keywords: *Intermediate liquidity, current liquidity, own working capital, solvency balance, current assets.*

JEL Classification: *M41, G32, G33, C38, G30*

I. INTRODUCTION

In today's economic environment, marked by heightened instability and increasing financial risks, the analysis of corporate liquidity and solvency has become especially important. These indicators reflect a company's ability to meet its obligations on time and sustain uninterrupted operations.

Various financial analysis methods are applied for assessing liquidity and solvency. These methods allow for evaluating a firm's efficiency in managing cash resources and the robustness of its financial stability (Effendie et al. 2022; Pham et al. 2017). However, analytical practice often reveals methodological shortcomings, frequently stemming from the misclassification of balance sheet items and misinterpretation of indicators. Consequently, enhancing liquidity analysis methodologies and adopting models that more accurately reflect a company's financial capacity is of particular importance.

The purpose of this study is to examine the existing methodology, identify its weaknesses, and propose practical recommendations for strengthening corporate financial stability. The relevance of this topic lies in the fact that a sound analytical approach not only mitigates financial risks but also enhances a company's investment appeal and long-term sustainability.

II. METHODS

The methodological foundation of this study is grounded in the theoretical principles of financial analysis and the application of modern analytical tools. Both quantitative and qualitative research methods are employed to ensure the depth of analysis and the reliability of results. The study applies several key methods. The theoretical-analytical method is used to examine the essence of liquidity and solvency concepts, to establish their interrelationships, and to define their economic content. Comparative analysis is employed to evaluate various liquidity ratios (absolute, intermediate, and current liquidity), allowing for the assessment of the company's financial stability both dynamically and against industry benchmarks. Factor analysis identifies the main drivers of changes in liquidity indicators and quantifies their impact. Structural analysis investigates the internal composition of assets and liabilities, with particular attention to the qualitative structure of accounts receivable and accounts payable. Benchmarking compares actual financial ratios with internationally recommended standards (e.g., the normal range for the current liquidity ratio is 0.8–1.0, and for the absolute liquidity ratio 0.2–0.3). Finally, synthesis and conclusion integrate the results obtained to present a

comprehensive picture of the company's financial condition. The methodological approach combines internal tools, based on balance sheet data, with external analytical instruments, thereby enabling a multifaceted assessment of the enterprise's financial stability.

III. LITERATURE REVIEW

The Impact of Liquidity Indicators on Financial Performance – Jessica Madeline Efendi and colleagues (2022) examined traditional indicators such as the Current Ratio (CR), Debt-to-Equity Ratio (DER), Inventory Turnover (InvTO), and Total Asset Turnover (TATO). Their findings suggest that each of these indicators, both individually and collectively, positively influences a company's financial performance, particularly its Return on Equity (ROE). *ResearchGate*.

Comparison between traditional and cash flow ratios – A study of companies listed in Vietnam reveals that traditional indicators, such as the Current Ratio, often fail to capture actual liquidity. In contrast, cash-flow-based measures provide a more accurate assessment. The research further shows that traditional ratios are frequently higher than cash flow ratios, which can lead to analytical misinterpretation.

Liquidity Management Strategies and Financial Performance - Research conducted by Gregor Zimon and colleagues (2021) on Polish construction firms demonstrates that effective liquidity management positively influences a company's financial outcomes. The study highlights that liquidity management strategies should be adapted to industry-specific characteristics and prevailing economic conditions. *MDPI*.

Liquidity Forecasting Using Deep Learning Models – The study by Zhen Xiu and colleagues (2024) demonstrates that deep learning models, such as Gated Recurrent Units (GRU), deliver more accurate forecasts of the Liquidity Coverage Ratio (LCR) compared to traditional methods. This approach proves particularly effective for risk management and the formation of regulatory policies. *arXiv*.

Current Issues in Product (Service) Pricing Methods – The study by Merab Jikia and Lia Kozmanashvili (2025) explores modern pricing methodologies for products and services and evaluates their effectiveness in financial management. The authors place special emphasis on the fundamentals of price formation, the impact of the business environment, and the consideration of company costs and profitability. *J. "Economist", Vol. XXI, No. 1, 2025*

IV. RESULTS AND DISCUSSION

Traditional indicators, such as current and quick liquidity ratios, often fail to capture the true financial position of a company, as they do not reflect the dynamics of cash flows. In contrast, cash flow-based measures, including the critical needs coverage ratio and the cash flow coverage ratio, provide a more accurate assessment of liquidity.

Effective liquidity management strategies should be tailored to industry-specific characteristics and economic conditions to positively influence financial performance. Modern technologies, particularly deep learning models, enable more precise forecasts of liquidity indicators, supporting both risk management and the development of regulatory policies.

A key criterion for evaluating an enterprise's financial condition is its solvency. Financial analysis distinguishes between long-term and current solvency (Jikia 2018; Chiladze 2024). Long-term solvency refers to an enterprise's ability to meet obligations over an extended period directly affects financial stability (Efremova et al. 2022). Current solvency, or liquidity, reflects the enterprise's capacity to repay its short-term obligations. In other words, an enterprise is considered liquid when its current assets, once converted into cash, are sufficient to cover its short-term liabilities.

Analytical balance sheet data – specifically the sections *Current Assets* and *Short-Term Liabilities* – are used for the preliminary assessment of an enterprise's liquidity (Jikia 2018; Xu et al. 2024). It is essential to accurately determine the size of current assets included in the liquidity ratio calculation, because, as previously noted, the automatic use of figures from the first section of the balance sheet may distort coefficients values (Grzegorz Zimon et al. 2021).

A company may demonstrate either a high or low degree of liquidity, since current assets encompass a wide range of components. These include both easily realizable items and less liquid components, which differ significantly in their ability to cover external obligations (Effendie et al. 2022; Pham et al. 2017). For analytical purposes, it is advisable to classify current assets into three conditional groups according to their degree of liquidity:

1. Highly liquid assets that are immediately realizable (cash, highly liquid securities) (ACCA 2019a);
2. Liquid assets available to the enterprise (accounts receivable from customers, inventories of goods and materials) (ACCA 2019b);
3. Illiquid assets (long-term receivables, work in progress, prepaid expenses) (Jikia 2019).

The proportion in which the ratios of these groups should relate to one another is determined by several factors: the nature and scope of the enterprise's activities; the turnover rate of its assets; the balance between current and long-term

assets; the maturity of liabilities and the extent to which they must be covered by corresponding asset items; and the overall degree of liquidity of current assets (Jikia 2018; Chiladze 2020).

The classification of current asset items into various groups may vary depending on specific circumstances. For example, an enterprise's accounts receivable often consists of diverse items: some may fall into group 2, while others belong to group 3; Similarly, depending on the length of the production cycle, work in progress may be assigned to either group 2 or group 3.

Short-term liabilities also encompass obligations that differ in terms of maturity. Therefore, one effective way to assess an enterprise's liquidity at the preliminary analysis stage is to compare specific asset items with individual liability items. For this purpose, liabilities are grouped according to their maturity dates or the timing of their origin, while assets are grouped according to their degree of liquidity or realizability.

The essence of the approach is that, during the analysis process, the enterprise's most urgent liabilities –those due for repayment within the current month – should be compared with the amount of assets possessing maximum liquidity (cash, highly liquid securities) (Efremova, Ermakova, and Kerimova 2022). In addition, less liquid assets such as receivables from financially stable counterparts, easily realizable tangible assets, and other current assets that may, depending on the enterprise, be recognized as highly liquid, can be considered as a sources for repaying the portion of urgent liabilities that remains outstanding.

The following types of assets may serve as a source for covering short-term liabilities: other receivables, finished goods, and industrial inventories. The company's solvency largely depends on the extent to which the correspondence between these asset items and liability items is maintained.

To increase the reliability of the external liquidity analysis, it is crucial to clarify the following issues:

- The possibility of disposing assets (e.g., whether they are pledged as collateral);
- The risk of assets losing value rapidly due to their moral and physical depreciation – particularly relevant in industries such as food, pharmaceutical, and trade;
- The accessibility of assets for current operations (for example, frozen cash accounts);
- The controllability of assets, which is important for creditors seeking information about the borrower's ability to transfer or cover assets (e.g., transferring cash between accounts not visible to creditors);
- The existence of contingent (potential) liabilities, which may pose a serious threat to current solvency. These include guarantee obligations and potential liabilities arising from unfavorable court decision.

A system of liquidity ratios is applied in financial analysis. Among the most important is the absolute liquidity ratio (quick liquidity), calculated as the ratio of cash and highly marketable securities to short-term liabilities (Savitskaya 2023; Xu et al. 2024). An analytical balance sheet serves as the basis for calculating this indicator.

$$K \text{ absolute liquidity} = \frac{\text{cash} + \text{highly marketable securities}}{\text{short - term liabilities}}$$

The quick liquidity ratio indicates what portion of current liabilities can be covered as of the balance sheet date or any other specified date.

In practice, certain difficulties arise when determining the amount of highly marketable securities. Generally, the inclusion of such assets in the calculation of the quick liquidity ratio depends on the meeting conditions such as a minimum circulation period and the absence of risk of losing the principal amount.

Moreover, in analytical practice this group of assets is often mistakenly equated with the balance sheet item *short-term financial investments*. This item typically includes short-term investments in subsidiaries, investments in other companies' securities, government securities, and loans issued to other enterprises.

It is inappropriate to classify investments in another company's shares – or loans extended to other enterprises – as highly liquid assets. Share values are subject to fluctuations, while the likelihood of urgent loan repayment may be quite low.

All of this highlights the need for caution when calculating the quick liquidity ratio. If the analysis is conducted by someone with complete information about the composition and "quality" of financial investments, the issue can be resolved based on available data and the goals of the analysis. However, when the analysis is performed by an external user (for example, a creditor bank), and the balance sheet item under review contains a substantial amount, it is essential to determine what exactly is included, and whether it involves investments with low convertibility into cash. As a guideline, the value of this indicator is considered normal (acceptable) when it ranges between 0.2 and 0.3.

The intermediate (adjusted) liquidity ratio is calculated as the ratio of cash, short-term financial investments, and accounts receivable (from Section one of the balance sheet assets) to short-term liabilities (Jikia and Kozmanashvili 2025; Grzegorz Zimon et al. 2021).

$$K \text{ intermediate liquidity} = \frac{\text{cash} + \text{short} - \text{term investments} + \text{short} - \text{term accounts receivable}}{\text{short} - \text{term accounts receivables}}$$

This indicator reflects the portion of current liabilities that can be covered not only by cash but also by expected revenue from goods shipped, work performed, and services provided (Effendie et al. 2022). It is generally recommended that the value of this ratio falls within the range of 0.8 and 1.

The accuracy of results derived from the calculation of this coefficient and its dynamics largely depends on the quality of accounts receivable (e.g., date of origin, the debtor's financial condition). A significant share of "low-quality" receivables may threaten the financial stability of the enterprise.

In practice, applying this indicator requires examining the structure of accounts receivable within their total volume. For example, the item *Advances issued to suppliers* demands special consideration, since such receivables are settled not in cash but in materials, goods, or services. It is therefore reasonable to exclude them from the category of highly marketable assets and instead classify them as production inventories.

Additionally, current liabilities often include advances received from buyers. Under normal production conditions, such debt should be covered by the enterprise's products (goods or services). Consequently, when calculating the adjusted liquidity ratio, advances received from buyers may be excluded from current liabilities.

The item *other receivables* also requires careful attention. It combines a diverse range of amounts, including receivables from financial and tax authorities, loans issued to employees, compensation for material losses, and more. Most of these receivables are not quickly realizable. For instance, overpaid amounts to tax authorities are typically offset against future tax obligations; employee loans are usually recovered gradually through payroll deductions; loans to former employees may be written off after the statute of limitations expires; and settlements under claims may remain uncollected for extended periods.

Therefore, based on the available information, it is essential to assess the content of *other receivables* and determine whether they should be included among liquid assets. Given the importance of this item, significant amounts – along with other balance sheet items – should be explained in the accompanying notes.

When the analysis is conducted by someone with full knowledge of the composition and structure of this item, the assessment can be performed with a high degree of accuracy. In particular, unreliable or unrealistic accounts receivable should be excluded entirely from the calculation. Under international accounting standards, such issues should not arise, since one of the fundamental requirements for recognizing a resource as an asset is the expectation of future economic benefits. If such benefits cannot be obtained, the item should not be recognized as an asset at all.

For external users of financial information, attention should be directed toward clarifying the composition of receivables included in the financial statements. If such information is not available, a cautious approach is advisable when evaluating the reliability of unexplained amounts within accounts receivable.

The objectivity of the results derived from the intermediate (adjusted) liquidity ratio is significantly influenced by the relationship between receivables and payables. It is important to consider not only the proportion of their aggregate amounts but also the interactions among their internal components.

The current liquidity ratio (coverage ratio) represents the ratio of total current assets to short-term liabilities. This indicator shows the extent to which current assets are capable of covering short-term obligations. The higher the ratio of current assets to current liabilities, the greater the assurance that the existing assets are sufficient to meet current and maturing obligations (ACCA 2019a; ACCA 2019b; Savitskaya 2023).

$$K \text{ current liquidity} = \frac{\text{current assets}}{\text{current liabilities}}$$

A substantial excess of current assets over short-term liabilities indicates that the enterprise possesses a significant amount of free resources formed from its own sources. This method of financing working capital is the most attractive from the perspective of creditors. However, from the standpoint of operational efficiency, excessive accumulation of inventories, funds tied up in accounts receivable, and a high share of cash under conditions of low turnover all indicate inefficient asset management and a decline in the effectiveness of invested capital.

The values of the current liquidity ratio vary across industries and depend on many factors, primarily the size and liquidity of current assets. Analysts often exaggerate the role of this ratio in assessing the solvency of enterprises. Although it is one of the most widely applied analytical indicators, its main advantage lies in the simplicity of calculation rather than in the comprehensiveness or universality that it is often attributed to it.

The main usefulness of the current liquidity ratio is closely tied to the assessment of its dynamics. A continuous decline in this indicator is a warning signal for analysts. A more in-depth analysis of current solvency requires additional tools, which help clarify the following aspects (Chiladze 2020; Xu et al. 2024):

- The qualitative composition of current assets and short-term liabilities;

- The turnover rate of current assets and its correspondence to the turnover rate of liabilities;
- The consistency between indicator values calculated from end-of-period data and those calculated throughout the period – an especially important consideration for seasonal enterprises;
- The accounting policy applied to asset and liability items.

The current liquidity ratio alone cannot provide a complete assessment of a company's financial stability, as this process is complex and cannot be fully characterized by just two or three indicators. Being a relative measure, the ratio may remain unchanged if both the numerator and denominator increase proportionally, even though the company's financial condition may deteriorate –for example, through declining profit, profitability level, or turnover ratio. Therefore, for a more comprehensive evaluation of liquidity, the following factor model can be applied:

$$K = \frac{\text{current assets}}{\text{profit}} * \frac{\text{profit}}{\text{current liabilities}} = X_1 * X_2$$

Where X_1 is an indicator that reflects the value of current assets per GEL 1 of profit.

X_2 is an indicator that confirms the company's ability to cover its liabilities from the results of its operations. It characterizes financial stability: the higher its value, the better the company's financial condition.

V. CONCLUSION

It is inappropriate to classify certain items in highly liquid assets, such as investments in other companies' shares or loans granted to other enterprises. Share values are subject to fluctuations, while the likelihood of urgent loan repayment is often low.

The accounts receivable item *advances issued to suppliers* requires a special approach, since such receivables are settled not in cash but in materials, goods, or services. Accordingly, it is reasonable to exclude them from highly marketable assets and instead classify them as part of inventory.

Current liabilities also include debts arising from advances received from customers. Under normal production conditions, these obligations should be covered by the enterprise's products (goods or services). Therefore, when calculating the adjusted liquidity ratio, advances received from customers may be excluded from current liabilities.

The item *other receivables* demands particular attention. It encompasses a diverse set of amounts, including receivables from financial and tax authorities, loans issued to employees, compensation for material losses, and more. Most of these receivables are not quickly realizable. For example, overpaid amounts to financial and tax authorities are typically offset against future obligations; employee loans are recovered gradually through payroll deductions; loans to former employees may be written off after the statute of limitations expires; and settlements under claims may remain uncollected for extended periods.

The current liquidity ratio alone cannot provide an accurate assessment of a company's financial stability, as this process is complex and cannot be fully captured by just two or three indicators. Being a relative measure, the ratio may remain unchanged if both the numerator and denominator increase proportionally, even though the company's financial condition may deteriorate – for example, through declining profit, profitability levels, or turnover ratios. Therefore, for a more complete evaluation of enterprise liquidity, the factor model propose by Jikia (2025) can be applied.

$$K = \frac{\text{current assets}}{\text{profit}} * \frac{\text{profit}}{\text{current liabilities}}$$

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