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METHODS FOR ASSESSING ENTERPRISE SOLVENCY

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Introduction. Assessing the solvent capacity of an enterprise is a critical aspect of financial analysis, reflecting its ability to meet short-term and long-term obligations. Various researchers have developed and refined methods to evaluate this capacity, incorporating diverse financial indicators and analytical frameworks. This literature review explores the key methodologies and contributions in the field.

Literature review. Traditional financial ratios are fundamental in assessing an enterprise's solvent capacity. Key ratios include the current ratio, quick ratio, and cash ratio, which measure liquidity by comparing assets to liabilities. The current ratio, for example, is the ratio of current assets to current liabilities, providing a broad measure of liquidity. The quick ratio refines this by excluding inventory from current assets, offering a more stringent liquidity measure (Brigham & Ehrhardt, 2013). In the course of this work, we examined the contributions of various researchers dedicated to this topic. For instance, Stone, S. B., Singla, A., Comeaux, J., and Kirschner, C. (2015) utilized indicators from Wang, Dennis, and Tu (2007), Rivenbark, Roenigk, and Allison (2010), and Johnson, Kioko, and Hildreth (2012) in their analysis, categorizing them into six financial indicator groups based on their developed framework. Kotane, I., and Kuzmina-Merlino, I. assert that by studying and evaluating the value of financial indicators, businesses can effectively tackle management challenges through the establishment of a unified financial evaluation system within the context of a comprehensive business performance analysis.

Economic Value Added (EVA) is a measure of a company's financial performance based on residual wealth. It is calculated by deducting the cost of capital from the company's net operating profit after taxes (NOPAT). Kotane, I., & Kuzmina-Merlino, I. emphasize EVA as an effective tool for assessing whether a company generates value beyond its cost of capital, thus providing insights into long-term solvency and financial health.

Financial ratios are extensively utilized in local governments, as demonstrated by the 42 financial ratios recommended by the International City/County Management Association. They believe that financial indicators can enhance the organizational capacity of essential service organizations. Dynamic Financial Analysis (DFA) is a forward-looking approach that uses simulations to project future financial conditions. By incorporating stochastic processes and varying assumptions, DFA models can predict potential future solvency scenarios. Ahrorov, Z., & Alieva, S. (2022) discuss the advantages of DFA in anticipating financial distress and preparing strategic responses.

Addressing the issues of improving the methodology and methods for analyzing financial indicators within resource management systems requires an interdisciplinary approach, incorporating insights from economic activity analysis, philosophy, higher mathematics, finance, management, and statistics. A structural approach to financial recovery involves preventing crises through the implementation of flexible technologies aimed at the innovative renewal of organizations.

Analysis and Results. The assessment of a company's financial condition is not solely its internal matter. Financial health is a crucial criterion that influences the attitude of banks, contractual partners, potential investors, and others towards the company.

The ability to obtain loans and other borrowed funds, as well as their cost to the enterprise, primarily depends on one of the most important aspects of financial health – the company's solvency. If a company wants to have borrowed funds in its turnover, it must ensure a sufficiently high level of solvency at which creditors are willing to provide these funds.

But what constitutes a sufficiently high level of solvency? How can it be accurately measured and assessed? There are traditional indicators known as solvency ratios: the absolute liquidity ratio, the quick ratio, and the current ratio. Each of these is calculated by dividing individual elements or the total amount of the company's current assets by the amount of its short-term liabilities. Thus, the level of these ratios indicates what portion of short-term liabilities can be covered by the company's available cash and short-term financial investments (i.e., more liquid current assets); each ratio shows the part that can be used for repayment, in addition to these means, accounts receivable; and finally, how many times all current assets exceed the company's short-term debts.

The last indicator, the ratio of current assets to short-term liabilities, should always exceed one, as it is assumed that after repaying debts, the company should retain enough current assets to continue its operations without interruption.

Until recently, it was generally accepted that a company is sufficiently solvent if its absolute liquidity ratio (the ratio of cash and short-term financial investments to short-term liabilities) is not lower than 0.2; the quick ratio (the ratio of cash, short-term financial investments, and receivables to short-term liabilities) is not lower than 0.7; and the current ratio is not lower than 2. However, in cases of very high turnover of current assets, a ratio of 1.5 was considered sufficient.

Based on these standards, a more or less stable structure of current assets is proposed: cash and short-term financial investments should comprise 10% of the total.

$(\frac{0,2}{2}$ x $100) = 10\%$,

accounts receivable – 25%

$(\frac{0,7-0,2}{2}$ x $100) = 25\%$.

The remaining 65% should be material current assets.

There are hardly any enterprises whose structure of current assets is currently close to this ideal. Generally, cash and short-term financial investments are

significantly below 10%, and material current assets account for less than half of current assets due to high accounts receivable. Additionally, the structure of current assets in enterprises can sharply decrease in certain periods.

This means that establishing any standards for the solvency ratio in current conditions is impossible. Criteria for solvency based on the absolute liquidity ratio and the quick ratio, as outlined, are absent. It is generally impractical to focus on their levels. The only real measure of a company's solvency is the current ratio: comparing the total amount of all current assets with the total short-term liabilities answers the question of whether the company can repay its short-term obligations without creating difficulties for its ongoing operations.

But this does not mean that meeting the specified condition requires maintaining a current ratio level of 2 or 1.5. For some companies, a lower ratio may be sufficient, while for others, it might need to be higher. It all depends on the structure of current assets, as well as the condition of material current assets and accounts receivable.

It is important to consider whether the company has excess material current assets and, if so, whether they are sufficiently liquid, i.e., can they be realistically sold and converted into cash. If a company, under specific operating conditions (delivery intervals, supplier reliability, sales conditions, etc.), requires more material assets than it has on its balance sheet, this also impacts the assessment of its solvency using the current ratio.

Furthermore, it is crucial to determine whether the company has any bad debts and, if so, how much. The assessment of the state of material inventories and accounts receivable can be made by the company's specialists. This assessment is important for justifying solvency to creditors.

Let's look at examples of how to assess the adequacy of a company's solvency level.

Enterprise No. 1 has the following amounts of current assets on its balance sheet:

- Material current assets: 50,000 sums;
- Accounts receivable: 60,000 sums;
- Cash and short-term financial investments: 40,000 sums.

There are no excess material current assets, no shortages, and no doubtful or bad debts in accounts receivable.

The total coverage ratio is equal to:

$$\frac{50000+60000+50000}{40000} = 2{,}875\ .$$

Is this level sufficient to consider the enterprise solvent? After the debt repayment, it should have remaining working capital of 50,000 sum for uninterrupted operations. Therefore, for continued activity with simultaneous debt repayment, the enterprise needs 90,000 sum. The normal level of solvency is:

$\frac{90000}{40000} = 2{,}250$.

The actual level is higher, therefore the enterprise can be considered fully solvent.

Enterprise No.2 has the same total amount of current assets and short-term liabilities as Enterprise No.1. However, its structure of current assets is different:

- Inventories - 80,000 sum;
- Accounts receivable - 30,000 sum;
- Cash and short-term financial investments - 50,000 sum.

The other conditions are the same as for Enterprise No.1.

The actual level of the total coverage ratio is the same as for Enterprise No.1 - 2.875.

The normal level is:

$\frac{80000+40000}{40000} = 3{,}0$.

Enterprise No.2 is insolvent, and this insolvency is solely due to the difference in the structure of its current assets compared to the structure at Enterprise No.1.

Returning to the data of Enterprise No.1, according to the expert assessment of specialists, the material current assets listed on its balance sheet are insufficient; taking into account the unreliability of supplies, they need to be increased by 20000 sum. Within the accounts receivable, 15000 sum is deemed hopeless. Under these conditions, the normal level of the total coverage ratio is:

$\frac{50000+20000+15000+40000}{40000} = 3{,}125$

The actual level of the coefficient remains the same - 2.875. The enterprise is insolvent.

Thus, the actual level of the total coverage ratio, even if it were sufficiently high by traditional standards, is insufficient to characterize the solvency of the enterprise. It requires comparison with the normative level. However, the normative level is not a standard but a specific value for this enterprise in this period.

Moreover, it cannot be considered more solvent for an enterprise to have a higher actual total coverage ratio than another enterprise. Let's consider enterprise №3 with a different structure of current assets and a different amount of debts:

- Current assets: $100,000
- Accounts receivable: $20,000
- Cash and short-term financial investments: $10,000
- Short-term liabilities: $20,000

The actual level of the total coverage ratio:

$$\frac{50000+20000+15000+40000}{40000} = 3{,}125 .$$

Normal level:

$$\frac{100000+50000+}{20000} = 7{,}5 .$$

Despite the very high level of the actual coefficient, the enterprise turned out to be insolvent. Thus, assessing solvency requires careful analysis of the structure and composition of current assets at each enterprise. The level of the traditional total coverage ratio, based on balance sheet data, does not yet characterize the solvency of the enterprise, as the same level of the coefficient may be sufficient for one enterprise and insufficient for another, with a different structure of current assets. What are the practical ways to increase solvency? They vary and depend on the condition of current assets. Let's go back to enterprise No. 1. Suppose that in the next quarter, the composition of current assets was as follows:

- current material assets - 70000 sum;
- accounts receivable - 80000 sum;
- cash and short-term financial investments - 5000 sum.

In these circumstances, it is natural for the enterprise's short-term liabilities to increase, but they may increase to a lesser extent than current assets if the enterprise has managed to increase its own current assets through retained earnings. Then, although short-term liabilities will increase, they will do so to a lesser extent than current assets. Let's assume it amounted to 50000 sum.

The actual total coverage ratio is:

$$\frac{70000+80000+5000}{50000} = 3{,}1 .$$

The normal coefficient provided that:

a) the enterprise does not have a shortage of inventories and hopeless accounts receivable:

$$\frac{70000+50000}{50000} = 2{,}4 .$$

b) the enterprise has a shortage of inventories - 20,000 sum, and hopeless accounts receivable - 15,000 sum (i.e. the conditions of the previous quarter are maintained):

$$\frac{70000+20000+15000+50000}{50000} = 3{,}1 .$$

This means that under these conditions, unlike the result of the previous quarter, the enterprise proved to be solvent.

Thus, one way to increase solvency is to increase the share of own working capital and correspondingly reduce the share of borrowed funds in the sources of

working capital coverage. In this case, the absolute amount of debt may increase, but the amount of own working capital should increase to a greater extent.

Another approach: own working capital does not increase, and a portion of working capital is used directly to repay debts, i.e., the absolute amount of both working capital and debts decreases by the same amount. This also leads to an increase in the level of solvency. However, this approach is not as universal as the first one. Currently, there are enterprises whose actual overall coverage ratio is below one.

Example:

- Inventories - 70,000 sum;
- Accounts receivable - 80,000 sum;
- Cash and short-term financial investments - 5,000 sum;
- Short-term liabilities - 200,000 sum.

The actual overall coverage ratio:

$$\frac{70000+80000+5000}{200000} = 0{,}775 .$$

Normal level of the coefficient:

$$\frac{70000+200000}{200000} = 1{,}35 .$$

The company received 30,000 sum from the customer and directed it to pay off debts to suppliers. Thus, the accounts receivable became 50,000 sum, and the accounts payable - 170,000 sum.

The actual overall coverage ratio:

$$\frac{70000+50000+5000}{170000} = 0{,}735 .$$

Normal coefficient:

$$\frac{70000+170000}{170000} = 1{,}412 .$$

The solvency of the enterprise has not improved but deteriorated, as there is an increasing gap between the actual and normative levels of solvency coefficient. For such an enterprise, only one way to increase solvency is acceptable – increasing its own working capital until the actual overall coverage ratio does not exceed one.

Thus, currently, assessing the solvency level of enterprises requires an individual approach to each of them. Without serious analytical work, neither the enterprise nor its partners, including banks and potential investors, can answer the question of whether the enterprise is solvent. And without an answer to this question, it is difficult to establish the correct economic relations with the enterprise,

decide whether it is expedient and on what terms to provide it with loans and credits, and make financial investments in its capital.

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