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ВЕСТНИК

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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы "ҚР ҰҒА Хабаршысы" ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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Address of printing house: «NurNaz GRACE», 103, Ryskulov str, Almaty.

S. SavinaFinancial University under the Government of the Russian Federation Moscow, Russia.
E-mail: ssavina@fa.ru**ARTIFICIAL INTELLIGENCE IN ANALYZING THE CAPITAL
STRUCTURE EFFECT ON FINANCIAL STABILITY**

Abstract. Financial stability is an important measure used by stakeholders to assess the financial situation of an entity concerned. Economic worries caused by internal business issues, global processes, and international economic (regional) integration may increase the entity's exposure to external factors. Financial stability considers the entity's dependence on creditors and investors, i.e. the debt-to-equity ratio. Significant liabilities that are not fully covered by the entity's own liquid funds create preconditions for bankruptcy should any large creditor demand settlement of any debts owed to it. However, borrowed funds can significantly increase the return on equity. Therefore, in analyzing financial stability, it is very important to use a system of indicators that indicate the entity's future risks and profitability.

Financial stability is the principal objective of financial analysis. The nature and scope of such economic analysis are aimed to determine the entity's internal capacities, means, and methods for improving the entity's financial stability. Thus, financial stability is understood as the entity's guaranteed solvency and creditworthiness resulting from the effective formation, distribution, and application of financial resources in the entity's business operations. Financial stability is assessed based on the working capital to inventory ratio and debt to equity ratio.

Business entities are independent in establishing business relationships with their contract partners; therefore, they are fully responsible for the decisions they make. The increasing importance of financial analysis for the entity's own financial situation and for its business partners is explained by the increasing demand for additional sources of business financing and the requirement to increase the productiveness of capital resources.

Entity's financial stability analysis should not focus on the current financial activities only. It should also determine what measures should be taken on a continuous basis to maintain and improve the entity's financial situation. Both current and future stability, i.e. the entity's sustainability, must be ensured to provide conditions for state-of-the-art competitive production.

An entity is a complex system consisting of many subsystems; therefore, a complex method must be applied to analyze its stability, i.e. using a system of financial stability indicators. Present-day diversity of financial stability indicators, including both absolute and relative indicators, makes the analysis difficult and overcomplicated, creating difficulties in combining the findings of the analysis to make conclusions about the entity's financial stability. Absolute indicators, namely equity, borrowed capital, assets, cash, accounts receivable and accounts payable, profit, play an important role in the analysis of an entity's financial stability. Equally important are absolute indicators calculated in the analysis of financial statements: net assets, working capital, working capital to inventory ratio, stable liabilities. These indicators are critical as they are used to establish the criteria used in the financial analysis.

An entity should have a flexible structure of financial resources and, if necessary, be able to borrow funds. Therefore, another manifestation of an entity's potential financial stability is its creditworthiness, i.e., the ability to settle its payment obligations when due. Thus, an entity is considered creditworthy if it meets a certain requirement for granting a loan and is able to repay the loan when due subject to any interest accrued. This concept is closely related to the concept of financial stability and shows whether the company is able to raise funds from different sources to repay its debts. Credit analysis may predict solvency and is closely related to the analysis of solvency, financial stability and return on equity. Entity's stable operation, high profitability and working capital turnover also guarantee loan repayment to a certain degree.

Keywords: automation, financial stability, liquidity, solvency, economic analysis.

Introduction. In the context of the developing market economy, analytical support has become increasingly important for decision makers, as financial stability is the basis for sustainable growth and financial solvency of a business entity in market conditions [4,5].

Methods. A. GENERAL DESCRIPTION.

Financial stability analysis allows external parties (primarily, contract partners) to assess the entity's long-term financial capacity as a function of the entity's capital structure, degree of creditors' and investors' participation, conditions for raising and servicing loans. Thus, many decision makers, including those in the public sector, prefer to use a minimum of equity to finance their business operations and choose to borrow funds to finance the activities. However, if the debt component in the debt-to-equity ratio significantly exceeds the equity component, the entity may go bankrupt if several creditors unexpectedly demand their money back. Short-term financial stability analysis is equally important to determine the entity's liquidity, current assets, and solvency [11,13,16].

Solvency and financial stability are the most important characteristics of the entity's business activities in a market economy. "Financial stability" is far more complex and broader than "solvency" and "creditworthiness" since it includes a number of aspects of the entity's business activities.

Financial stability is a certain state of an entity's accounts, guaranteeing its continuous solvency. Indeed, a business transaction can either improve or worsen the entity's financial situation or have no effect at all. Daily business transactions affect financial stability and cause its transition from one state to another. By knowing the margins of the sources of funds to cover capital investments in fixed assets or production costs, decision makers may generate such flows of business transactions that may improve the entity's financial situation and increase its stability. In financial stability analysis, a separate concept is distinguished - "solvency", which should not be confused with "financial stability". Solvency is an integral component of financial stability. Financial stability depends on the results of the entity's production, commercial, financial and investment activities, and, in turn, has a positive effect on the activities themselves. Entity's financial stability determines the shares of the inventory financed by own funds and borrowed funds and the value of the inventory itself. Working capital to inventory ratio and debt to equity ratio are essential characteristics of financial stability, while solvency is their external manifestation. Meanwhile, the working capital to inventory ratio determines the level of solvency as of a specific date. Therefore, solvency can be understood as a manifestation of financial stability [10,12].

Financial stability is the economic and financial condition of an entity in the process of allocation and use of resources, ensuring its continued development in order to gain profits and capital while maintaining solvency [6,9].

A stable financial condition is established through the entity's operations. However, partners and shareholders are not interested in the process, but in the results, i.e. indicators of financial stability. Every stakeholder analyzes financial activities and related sustainability from its own perspective: external partners are interested in financial stability as a result, while internal parties are interested in financial stability both as a result and a process.

B. ALGORITHM.

Financial stability analysis is based on an integrated system method of assessing the financial condition of a business entity by identifying and measuring the conflicting effects of individual factors. System analysis reviews an entity as a system of interconnected elements (components) and assesses their influence on the entity's situation and performance. An important feature of the system analysis is its complex nature, meaning that the entity's performance is analyzed as a product of all of the entity's operations and the totality of factors that influence them. Economic analysis uses a system of indicators to provide a comprehensive review of the entity's operations, analyzes the relationships between such indicators, identifies and analyzes the causes of changes in such indicators in order to determine the capacities for improving the entity's operational efficiency [1,2,14]. Since financial stability analysis is the most important area of economic analysis, it is characterized by all the features inherent to economic analysis.

In the process of such analysis, a general review of the entity's financial stability is made, then the individual factors affecting the financial stability are identified and their influence on the financial stability is measured, and, finally, the findings are summarized into conclusions and recommendations. In such case, all available information on the entity's performance must be used after proper processing [17,20].

The summary of the findings (the final stage of the analysis) includes conclusions containing an assessment of the entity's stability, a list of identified capacities and recommendations for their use. The summary identifies the relationship between operating results of individual divisions, determines their influence on the entity's overall performance, describes the possible ways to strengthen the effects of positive factors and eliminate or at least weaken the effects of negative ones.

Financial stability is measured based on the findings of financial analysis, i.e. to assess an entity's financial stability, its financial situation should be analyzed using various methods and approaches in accordance with the objectives, tasks, available time, information and human resources, technical support. Continuous business awareness is required to make managerial decisions affecting the entity's financial stability. Such business awareness arises from the proper selection, analysis, evaluation of information, as well as careful examination of the source data in accordance with the objectives of the analysis and management [3,7,8].

There are numerous and diverse factors that can influence an entity's financial stability or a specific factor of it. The major causes of changes in the financial stability indicators must be established. Since such indicators are connected logically, they cannot be reviewed on a standalone basis. However, they can be isolated for the purpose of economic calculations, if necessary.

Throughout the history of financial analysis, scholars and experts have developed the main methods for analyzing financial stability: horizontal, vertical, trend, ratio and factor analysis. In Russia, the following main methods of financial stability analysis are used:

- *Horizontal (dynamic) analysis* is used to compare historical data and determine absolute and relative deviations, variations, and rates of change over a number of years in order to make predictions for the future periods;

- *Vertical (structural) analysis* is used to analyze the structure of overall financial indicators and assess their variations. It can be used to conduct a comparative analysis with due account of the industry specifics. It also smooths out the negative impact of inflationary developments. In practice, analysts should combine horizontal and vertical analysis;

- *Trend analysis* is used to analyze the time series of data and define the trends to make predictions for the future periods; therefore, development trends are analyzed, i.e., a forward-looking analysis is performed. Trend forecasting includes two elements: point prediction when only one value is predicted, and interval prediction based on the confidence interval in which the actual value of the predicted indicator is likely to appear;

- *Ratio analysis* is used to calculate various financial ratios on the basis of reported data and conduct their factor analysis subject to parallel identification of the relationship and interdependence between various indicators that can be compared from a logical point of view;

- *Comparative (spatial) analysis* is intra- and inter-company analysis of the entity's indicators as compared with those of its competitors and the industry average. The advantage of comparative industry analysis is that it provides a deeper understanding of the business and allows to assess the entity's financial stability and solvency;

- *Factor analysis* is a comprehensive system analysis and assessment of the impact of individual factors on the performance, using deterministic or stochastic analysis models. It can be either direct or reverse. The factor indicator characterizes the entity, i.e. its performance.

The mathematical economic model is used to identify, analyze and forecast how various factors affect performance indicators. One of the ways to systematize factors is to develop deterministic factor models, i.e., represent the item (performance) analyzed as follows:

- 1) product for multiplicative relationships: $y = x_1 * x_2 * \dots * x_n$,
- 2) quotient for multiple relationships: $y = x_1 / x_2$,
- 3) sum for additive relationships: $y = x_1 + x_2 + \dots + x_n$, various combinations for complex relationships: $y = x_1 / (x_2 + x_3)$.

In modeling, various methods are used: increasing, decomposition, contraction, expansion. A classic example of the expansion method is the well-known DuPont model (return on assets ratio), which can be represented as a multiplicative relationship by multiplying the numerator and denominator by the same indicator, i.e. sales revenue, and determining the influence of two factors, i.e. return on sales and asset turnover:

Return on Assets = Profit / Assets = Profit / Sales Revenue * Sales Revenue / Assets = Return on Sales * Asset Turnover.

Relative indicators smooth out the negative impact that any inflationary developments may have on the reported values, therefore, they are extremely important for the financial stability analysis in the present-day environment. They are more popular than absolute indicators because they allow comparing items that are incomparable in absolute values. They are more stable over time; therefore, they characterize homogeneous variation series and improve the statistical properties of indicators. Proper choice of indicators for the financial stability analysis can help find a solution to the problem, evaluate its financial stability on the basis of financial statements. Unfortunately, there are no universally recognized unambiguous criteria for assessing financial stability [15,17,18,19].

Following the rationality and adequacy review of different methods of analysis and assessment of the financial stability of business entities, the following system of main indicators for assessing an entity's financial stability was chosen (table 1).

Table 1 – System of Financial Stability Indicators

Item No.	Indicator	Formula	Explanation
<i>Group 1. Solvency Ratios</i>			
1	2	3	4
1	Cash Ratio	Cash + Securities Current Liabilities	Measures the company's ability to pay off its short-term liabilities when they become due using its liquid assets only
2	Quick Ratio	Current Assets - Inventory Current Liabilities	Measures the company's ability to pay off its short-term liabilities when they become due using its quick assets only
3	Current Ratio	Current Assets Current Liabilities	Measures the company's ability to pay off its short-term liabilities when they become due using its current assets only
4	Working Capital	Current Assets - Current Liabilities	Measures the company's current assets financed from the company's equity
<i>Group 2. Capital Structure Ratios</i>			
5	Equity-to-Assets Ratio	Equity Total Assets	Measures the share of equity in the total assets
6	Stable Liabilities Ratio	Equity + Long-Term Liabilities Total Assets	Measures the share of assets financed by stable liabilities
7	Debt to Equity Ratio	Total Liabilities Equity	Measures the ratio of borrowed funds to equity
8	Long Term Debt to Equity Ratio	Long-Term Liabilities Equity + Long-Term Liabilities	Measures the share of long-term debts in all long-term sources of financing
9	Net Assets	Eligible Assets – Eligible Liabilities	Measures the availability and adequacy of equity
10	Surplus (shortage) of inventory coverage by specific sources of funds	Sources of Funds - Inventory	Measures the inventory coverage by specific sources of financing
<i>Group 3. Fixed and Current Assets Ratios</i>			
11	Working Capital to Current Assets Ratio	Working Capital Current Assets	Measures the share of current assets financed by equity
12	Working Capital to Inventory ratio	Working Capital Inventory	Measures the share of inventory financed by working capital
13	Working Capital to Equity Ratio	Working Capital Equity	Measures the share of working capital in the equity

<i>Table continuation</i>			
1	2	3	4
14	Current Assets to Non-Current Assets Ratio	Current Assets	Measures the share of current assets per 1 RUB of non-current assets
		Non-Current Assets	
15	Asset Real Value Ratio	Fixed Assets + Inventory + Work in Progress	Measures the share of factors of production in the assets value, productive capacity
		Assets	
<i>Group 4. Turnover and Return Ratios</i>			
16	Current Assets Turnover Ratio	Sales Revenue	Measures the efficiency of use of current assets
		Current Assets	
17	Inventory Turnover Ratio	Manufacturing Costs	Measures the efficiency of use of Inventory
		Inventory	
18	Accounts Receivable Turnover Ratio	Sales Revenue	Measures the rate of payment of debtors' invoices
		Accounts Receivable	
19	Accounts Payable Turnover Ratio	Manufacturing Costs	Measures the rate of turnover of creditor's invoices
		Accounts Payable	
20	Equity Turnover Ratio	Sales Revenue	Measures the rate of equity turnover
		Equity	
21	Return on Assets Ratio	Sales Revenue	Measures the portion of revenue per monetary unit of fixed capital
		Fixed Capital	
22	Return on Assets	Profit	Measures the portion of profit per monetary unit invested in assets
		Assets	
23	Return on Equity	Profit	Measures the portion of profit per monetary unit invested in assets by shareholders
		Equity	
24	Return on Sales	Profit	Measures the portion of profit per monetary unit of revenue
		Sales Revenue	
25	Return on Net Assets	Profit	Measures the portion of profit per monetary unit of net assets
		Net Assets	

For the purpose of comprehensive assessment, the following financial stability indicators were selected: Current Ratio, Equity-to-Assets Ratio, Financial Stability Ratio, Working Capital to Current Assets Ratio, Asset Real Value Ratio, Current Assets Turnover Ratio, and Return on Assets.

The proposed financial stability indicators allow to:

- perform financial analysis of the entity's operations;
- develop a sound balance structure;
- find the main factors affecting financial results;
- develop measures to increase the profit and its growth rate.

The deep analysis identifies any unutilized resources and capacities to improve the entity's financial stability.

Results. Entity's financial stability determines the portions of the inventory financed by equity and borrowed funds and the value of the inventory itself. Working capital to inventory ratio and debt to equity ratio are the essential characteristics of financial stability. For the purpose of analyzing an entity's financial condition, the entity's accounts must be provided in such form so as to ensure that any estimations concerning the entity's ability to maintain its economic viability in the near future, i.e., continue its business activities and meet its liabilities, as well as a significant curtailment of its business activities or required liquidation are based on the reported data [7].

To analyze the dynamics and structure of the entity's financial standing, comparative analytical tables should be drawn based on the entity's financial statements. For the purpose of financial analysis, a variety of comparison methods, groupings, and summaries are applied to summarize information into such analytical tables.

Horizontal (dynamic), vertical (structural), ratio, and factor analysis methods are used to analyze the condition, structure, and dynamics of indicators, as well as to identify the trends and patterns of their changes.

To analyze assets, liabilities, and capital, a comparative analytical balance sheet is drawn for the entity concerned (table 2).

Table 2 – Company “A” 2018 Analytical Balance Sheet

Indicator	Absolute value, thousand RUB		Structure, %		Change (+,-)			
	As of 31/12/2017	As of 31/12/2018	As of 31/12/2017	As of 31/12/2018	thousand RUB	n points	As of the beginning of the year, %	To the balance Δ, %
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6=3-2</i>	<i>7=5-4</i>	<i>8=6/2</i>	<i>9=6/Σ6</i>
ASSETS								
1. Non-current assets	173	799	0.78	.97	626	1.19	361.85	3.41
Fixed assets	173	799	0.78	.97	626	1.19	361.85	3.41
2. Current assets	22,102	39,831	99.22	98.03	17,729	-1.19	80.21	96.59
Inventory	4,114	10,047	18.47	24.73	5,933	6.26	144.21	32.32
Accounts receivable	17,780	22,007	79.82	54.16	4,227	-25.66	23.77	23.03
Short-term financial investment	0	3,500	0.00	8.61	3,500	8.61	0.00	19.07
Cash	208	4,277	0.93	10.53	4,069	9.59	1,956.25	22.17
Total Assets	2,2275	40,630	100.00	100.00	18,355	0.00	82.40	100.00
LIABILITIES								
3. Equity	1,309	11,646	5.88	28.66	10,337	22.79	789.69	56.32
4. Long-term liabilities	0	0	00	0.00	0	0.00	0.00	0.00
5. Current liabilities, including	20,966	28,984	94.12	71.34	8,018	-22.79	38.24	43.68
Accounts payable	20,775	26,974	93.27	66.39	6,199	-26.88	29.84	33.77
Total Liabilities	22,275	40,630	100.00	100.00	18,355	0.00	82.40	100.00

According to table 2, over the year, Assets have grown by 18,355 thousand Russian Rubles (82.40%) owing to the growth of Non-Current Assets by 626 thousand Russian Rubles (3.41%) and Current Assets by 17,729 thousand Russian Rubles (96.59%). As of the end of the year, the majority of Assets was represented by Current Assets (98.03%), with Non-Current Assets constituting only 1.97% of the entity's Total Assets, which is explained by the specifics of the company's business of selling and maintaining boiler equipment. As for the Assets structure, the largest percentage is that of Accounts Receivable (54.16%). However, the share of Accounts Receivable does not exceed the share of Accounts Payable, which is a positive point since it doesn't threaten the company's financial stability. Inventory in the total structure of Assets at the end of the year amounted to 24.73%, i.e., its share grew by 6.26% or 5,933 thousand Russian Rubles, compared to the beginning of the year. It should be noted that the majority of Inventory is represented by goods for resale.

The company's Equity as of the end of the year is 28.66%, Current Liabilities – 71.34%, i.e. stable (long-term, recurrent) liabilities do not prevail in the structure of liabilities, which is a negative point. However, an increase in Equity by 10,337 thousand Russian Rubles is a positive trend in terms of financial stability.

As for the company's production facilities in 2018 (see table 3), a rather low Asset Real Value Ratio should be noted. But an increase in its volume (from 0.06 to 0.29) is a positive moment for the company's

financial stability. The Current Assets to Non-Current Assets Ratio indicates a decrease in the share of Current Assets from 127.76% to 49.85%, i.e., the share of Current Assets per 1 RUB of Non-Current Assets is smaller at the end of the year. A change in the Current Assets to Non-Current Assets Ratio in the review period indicates a growing share of Current Assets in the company's Total Assets, but with an obvious increase in Non-Current Assets. A smaller share of Non-Current Assets is explained by the specifics of the company's business of selling and maintaining boiler equipment. Moreover, it should be borne in mind that the Current Assets to Non-Current Assets Ratio limits the Debt to Equity Ratio, provided that the minimum financial stability is achieved, i.e. the company's liabilities are fully covered by its Current Assets. Financial stability is guaranteed if the following condition is met:

Table 3 – Dynamics of Company “A” Relative Financial Stability Indicators in 2018

Item No.	Indicator	As of 31/12/2017	As of 31/12/2018
Group 1. Solvency Ratios			
1	Cash ratio	0.01	0.27
2	Quick ratio	0.86	1.03
3	Current ratio	1.05	1.37
Group 2. Capital Structure Ratios			
4	Equity to Assets Ratio	0.06	0.29
5	Financial Stability Ratio	0.06	0.29
6	Debt to Equity Ratio	16.02	0.25
7	Long-Term Debt to Equity Ratio	0	0
Group 3. Fixed and Current Asset Ratios			
8	Working Capital to Inventory Ratio	0.05	0.27
9	Working Capital to Equity Ratio	0.87	0.93
10	Current Assets to Non-Current Assets Ratio	127.76	49.85
11	Asset Real Value Ratio	0.19	0.27
Group 4. Turnover and Return Ratios			
12	Assets Turnover Ratio	1.88	1.8
13	Current Assets Turnover Ratio	1.9	1.84
14	Inventory Turnover Ratio	8.27	3.79
15	Accounts Receivable Turnover Ratio	2.36	3.33
16	Accounts Payable Turnover Ratio	1.64	1.41
17	Equity Turnover Ratio	32.02	6.28

Current Assets to Non-Current Assets Ratio > Debt to Equity Ratio,

According to Table 3, this condition is met in the review period:

- as of 31/12/2017: $127.76 > 16.02$,

- as of 31/12/2018: $49.85 > 0.25$.

Due to financial correlations between assets and liabilities, the financing arrangements should be as follows: short-term borrowings are intended for the replenishment of Current Assets, while long-term borrowings are intended for the acquisition of real estate and capital investments. In financial analysis, special attention should be paid to the capital structure and its improvement. The main criterion in such analysis is the minimization of financial risks, which is associated with the differential selection of sources of financing for various components of the entity's Assets. For this purpose, all assets are divided into 3 groups:

- Non-Current Assets;

- Permanent Current Assets, an invariable part of an entity's Current Assets that do not depend on seasonal and other fluctuations in the company's business and is considered the minimum Current Assets required by an entity to continue its current activities;

- Variable Current Assets, a variable part of an entity's Current Assets that depend on seasonal and other fluctuations in the company's business, with the average and maximum Current Assets requirements falling within the variable part of an entity's Current Assets.

There are three fundamental approaches to asset financing:

1) The conservative approach assumes that Non-Current Assets, Permanent Current Assets and half of Variable Current Assets should be financed by equity and long-term borrowed capital, while the other half of Variable Current Assets should be financed by short-term borrowed capital. This model of asset financing provides a high level of the entity's financial stability in the process of its growth;

2) The moderate (compromise) approach assumes that Non-Current Assets, Permanent Current Assets should be financed by equity and long-term borrowed capital, while Variable Current Assets should be financed by short-term borrowed capital. This model of asset financing provides an acceptable level of the entity's financial stability;

3) The aggressive approach assumes that only Non-Current Assets should be financed by equity and long-term borrowed capital, while all Current Assets should be financed by short-term borrowed capital (according to the following principle: Current Assets should correspond to short-term liabilities). This model creates serious obstacles for ensuring solvency and financial stability of the entity, although it allows to carry out current activities with minimum equity involvement [10].

Table 4 – Company "A" Assets Financing in 2018

As of December 31, 2017		As of December 31, 2018	
Assets	Asset Financing Approach	Assets	Asset Financing Approach
	Aggressive		Aggressive
Variable Current Assets	Current liabilities 94.12	Variable Current Assets	Current liabilities 71.34
19.4		35.26	
Permanent Current Assets	Equity and Long-Term Liabilities 5.88	Permanent Current Assets	Equity and Long-Term Liabilities 28.66
79.82		62.77	
Non-Current Assets		Non-Current Assets	
0.78		1.97	
Financial Stability Level	Disturbing	Financial Stability Level	Disturbing

In 2018, the company took an aggressive approach to finance its assets by using equity capital to finance Non-Current Assets and a small number of Permanent Current Assets, while short-term borrowed capital was used to finance almost all Permanent Current Assets and all Variable Current Assets. However, by the end of the year there was a change in the relation between the sources of financing and various assets. There is also a trend of increasing share of permanent sources (equity) used to finance most of Current Assets. Nevertheless, this model of asset financing can only ensure disturbing level of financial stability and can create serious obstacles for ensuring the company's solvency and financial stability, although it allows to carry out current activities with minimum equity involvement. Insufficient equity financing leads to an increase in Variable Current Assets and a decrease in Permanent Current Assets, suggesting higher financial dependence and instability of the company.

Discussions. This paper reviews theoretical methods of financial stability analysis: it defines the concept of financial stability and examines the factors affecting an entity's financial stability. Financial stability is the principal objective of financial analysis. The nature and scope of such economic analysis are aimed to determine the entity's internal capacities, means, and methods for improving its financial stability. Thus, financial stability is understood as the entity's guaranteed solvency and creditworthiness resulting from the effective formation, distribution, and application of financial resources in the entity's business operations. Financial stability is assessed based on the working capital to inventory ratio and debt to equity ratio.

It is proved that an entity's financial activities depend on numerous interrelated external and internal factors. It is noted that the effectiveness of financial analysis as an element of the management system and the level of financial stability largely depend on the quality of the database established and used, and the methods of evaluating its analytical capacity.

С. Савина

Ресей Федерациясы Үкіметінің жанындағы Қаржы университеті, Ресей

ҚАРЖЫ ТҰРАҚТЫЛЫҒЫ ҮШІН КАПИТАЛДЫҚ ҚҰРЫЛЫМ ТӘУЕКЕЛДІГІН ТАЛДАУДАҒЫ ӨНЕРЛІКТІЛІК

Аннотация. Қаржылық тұрақтылық – мүдделі тараптар тиісті кәсіпорынның қаржылық жағдайын бағалау үшін қолданатын маңызды шара. Ішкі бизнес мәселелерінен, жаһандық процестерден және халықаралық экономикалық (аймақтық) интеграциядан туындаған экономикалық алаңдаушылық субъектінің сыртқы факторларға әсерін арттыруы мүмкін. Қаржылық тұрақтылық субъектінің несие берушілер мен инвесторларға тәуелділігін, яғни қарыздан-капиталға қатынасын қарастырады. Кәсіпорынның меншікті өтімді қаражаттарымен толық қамтылмаған маңызды міндеттемелер кез-келген ірі несие беруші өзінің кез келген қарызын өтеуді талап еткен жағдайда банкроттық үшін алғышарттар жасайды. Алайда, қарыз қаражаттары меншікті капиталдың кірістілігін едәуір арттыруы мүмкін. Сондықтан қаржылық тұрақтылықты талдау кезінде ұйымның болашақ тәуекелі мен кірістілігін көрсететін көрсеткіштер жүйесін пайдалану өте маңызды.

Қаржылық тұрақтылық – қаржылық талдаудың негізгі мақсаты. Мұндай экономикалық талдаудың сипаты мен көлемі ұйымның ішкі тұрақтылығын, оның қаржылық тұрақтылығын жақсарту тәсілдері мен әдістерін анықтауға бағытталған. Осылайша, қаржылық тұрақтылық дегеніміз – субъектінің іскери операцияларында қаржы ресурстарын тиімді қалыптастыру, бөлу және қолдану нәтижесінде пайда болатын ұйымның кепілдік берілген төлем қабілеттілігі мен несие қабілеттілігі. Қаржылық тұрақтылық айналым қаражаттары мен қорлардың қатынасы мен қарыздардың меншікті капиталға қатынасы негізінде бағаланады.

Шаруашылық жүргізуші субъектілер келісімшарт бойынша серіктестермен іскерлік қатынастар орнатуда тәуелсіз; сондықтан олар қабылдаған шешімдері үшін толықтай жауап береді. Қаржылық талдаудың субъектінің жеке қаржылық жағдайы мен оның серіктестері үшін өсіп келе жатқан маңыздылығы бизнесті қаржыландырудың қосымша көздеріне деген сұраныстың артуымен және капитал ресурстарының өнімділігін жоғарылату талабымен түсіндіріледі.

Кәсіпорынның қаржылық тұрақтылығын талдау тек ағымдағы қаржылық қызметке бағытталмауы керек. Сондай-ақ, ұйымның қаржылық жағдайын сақтау және жақсарту үшін тұрақты негізде қандай шараларды қабылдау керектігін анықтауы керек. Қазіргі және болашақтағы тұрақтылық, яғни кәсіпорынның тұрақтылығы қазіргі заманғы бәсекеге қабілетті өндіріс үшін жағдай жасау үшін қамтамасыз етілуі керек.

Кәсіп - бұл көптеген ішкі жүйелерден тұратын күрделі жүйе; сондықтан оның тұрақтылығын, яғни қаржылық тұрақтылық көрсеткіштері жүйесін қолдана отырып талдаудың кешенді әдісін қолдану қажет. Абсолютті де, салыстырмалы көрсеткіштерді қоса алғанда, қаржылық тұрақтылық көрсеткіштерінің қазіргі заманғы әртүрлілігі талдауды қиын және асқындырады, бұл кәсіпорынның қаржылық тұрақтылығы туралы қорытынды жасау үшін талдау нәтижелерін біріктіруде қиындықтар туғызады. Абсолютті көрсеткіштер, атап айтқанда меншікті капитал, қарыз капиталы, активтер, ақша қаражаттары, дебиторлық және кредиторлық берешек, пайда кәсіпорынның қаржылық тұрақтылығын талдауда маңызды рөл атқарады. Қаржылық есептілікті талдау кезінде есептелген абсолютті индикаторлар: таза активтер, айналым қаражаттары, айналым қаражаттарының тауарлы-материалдық қорларға қатынасы, тұрақты міндеттемелер. Бұл көрсеткіштер критерий болып табылады, өйткені олар қаржылық талдау кезінде қолданылатын өлшемдерді белгілеу үшін қолданылады.

Кәсіпорын қаржы ресурстарының икемді құрылымына ие болуы керек және қажет болған жағдайда қаражаттарды қарызға ала алады. Осылайша, ұйымның қаржылық тұрақтылығының тағы бір көрінісі оның несие қабілеттілігі, яғни төлем міндеттемелерін уақытында өтеу мүмкіндігі болып табылады. Осылайша, егер ол несие беруге қатысты белгілі бір талапты қанағаттандырса және кез келген есептелген пайыздар ескерілсе, несиені қайтара алатын болса, несие қабілетті деп саналады. Бұл тұжырымдама қаржылық тұрақтылық тұжырымдамасымен тығыз байланысты және компания өзінің қарыздарын өтеу үшін әртүрлі көздерден қаражат жинай алатындығын көрсетеді. Несиелік талдау төлем қабілеттілігін болжауы мүмкін және төлем қабілеттілігін, қаржылық тұрақтылықты және меншікті капиталдың тиімділігін талдаумен тығыз байланысты. Субъектінің тұрақты жұмысы, жоғары рентабельділігі және айналым қаражаттары айналымы белгілі бір дәрежеде несиені қайтаруға кепілдік береді.

Түйін сөздер: автоматика, қаржылық тұрақтылық, өтімділік, төлем қабілеттілік, экономикалық талдау

С. Савина

Финансовый университет при Правительстве Российской Федерации, Россия

ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ В АНАЛИЗЕ ВЛИЯНИЯ СТРУКТУРЫ КАПИТАЛА НА ФИНАНСОВУЮ УСТОЙЧИВОСТЬ

Аннотация. Финансовая стабильность является важной мерой, используемой заинтересованными сторонами для оценки финансового положения соответствующего предприятия. Экономические проблемы, вызванные внутренними проблемами бизнеса, глобальными процессами и международной экономической (региональной) интеграцией, могут увеличить подверженность предприятия внешним факторам. Финансовая стабильность учитывает зависимость предприятия от кредиторов и инвесторов, то есть отношение долга к собственному капиталу. Значительные обязательства, которые не полностью покрываются за счет собственных ликвидных средств предприятия создают предпосылки для банкротства, если какой-либо крупный кредитор потребует урегулирования любых долгов перед ним. Однако заемные средства могут значительно увеличить рентабельность собственного капитала. Поэтому при анализе финансовой устойчивости очень важно использовать систему показателей, которые указывают на будущие риски и доходность предприятия.

Финансовая стабильность является основной целью финансового анализа. Характер и сфера охвата такого экономического анализа направлены на определение внутренних возможностей, средств и методов организации для повышения ее финансовой устойчивости. Таким образом, финансовая стабильность понимается как гарантированная платежеспособность и кредитоспособность предприятия в результате эффективного формирования, распределения и применения финансовых ресурсов в деловых операциях предприятия. Финансовая устойчивость оценивается на основе соотношения оборотного капитала и запасов и отношения долга к собственному капиталу.

Хозяйствующие субъекты независимы в установлении деловых отношений со своими контрагентами; поэтому они несут полную ответственность за принимаемые ими решения. Возрастающая важность финансового анализа для финансового положения предприятия и его деловых партнеров объясняется растущей потребностью в дополнительных источниках финансирования бизнеса и необходимостью повышения продуктивности капитальных ресурсов.

Анализ финансовой устойчивости предприятия не должен фокусироваться только на текущей финансовой деятельности. Следует также определить, какие меры следует принимать на постоянной основе для поддержания и улучшения финансового положения предприятия. Должна быть обеспечена как текущая, так и будущая стабильность, то есть устойчивость предприятия, чтобы обеспечить условия для современного конкурентоспособного производства.

Сущность - это сложная система, состоящая из множества подсистем; поэтому для анализа его устойчивости необходимо применять сложный метод, т.е. использовать систему показателей финансовой устойчивости. Современное разнообразие показателей финансовой устойчивости, включая как абсолютные, так и относительные показатели, делает анализ сложным и чрезмерно сложным, создавая трудности при объединении результатов анализа, чтобы сделать выводы о финансовой устойчивости предприятия. Абсолютные показатели, а именно собственный капитал, заемный капитал, активы, денежные средства, дебиторская и кредиторская задолженность, прибыль, играют важную роль в анализе финансовой устойчивости предприятия. Не менее важными являются абсолютные показатели, рассчитанные при анализе финансовой отчетности: чистые активы, оборотные средства, соотношение оборотных средств и запасов, стабильные обязательства. Эти показатели являются критериальными, так как они используются для установления критериев, используемых в финансовом анализе.

Предприятие должно иметь гибкую структуру финансовых ресурсов и, при необходимости, иметь возможность занимать средства. Следовательно, еще одним проявлением потенциальной финансовой устойчивости организации является ее кредитоспособность, то есть способность своевременно погашать свои платежные обязательства. Таким образом, предприятие считается кредитоспособным, если оно удовлетворяет определенным требованиям по предоставлению кредита и способно погасить кредит в установленный срок с учетом начисленных процентов. Эта концепция тесно связана с концепцией финансовой устойчивости и показывает, способна ли компания привлекать средства из разных источников для погашения своих долгов. Кредитный анализ может прогнозировать платежеспособность и тесно связан с анализом платежеспособности, финансовой устойчивости и рентабельности капитала. Стабильная деятельность предприятия, высокая прибыльность и оборотный капитал также в определенной степени гарантируют погашение кредита.

Ключевые слова: автоматизация, финансовая устойчивость, ликвидность, платежеспособность, экономический анализ.

Information about author:

Savina S., Ph.D., Associate Professor, Department of Business Informatics, Financial University under the Government of the Russian Federation, Moscow, Russia; ssavina@fa.ru; <https://orcid.org/0000-0002-8640-027X>

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