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ASSESSMENT OF FINANCIAL EQUILIBRIUM OF CONSTRUCTION ENTERPRISES IN THE REPUBLIC OF MOLDOVA BASED ON THE RATIO OF FINANCIAL AND NON-FINANCIAL ASSETS

Alina STRATILA, Rina ȚURCAN
Technical University of Moldova, Republic of Moldova
alina.stratila@emc.utm.md, rina.turcan@emin.utm.md

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Abstract:
The issues of ensuring an acceptable level of financial sustainability of the enterprise are closely related to the key indicators of their performance. This article uses the method of assessing the financial stability of the enterprise on the basis of the ratio of financial and non-financial assets. The choice of the most appropriate method of analysis of financial stability allows to form the strategy of development of enterprises, in accordance with which management decisions are made and the reserves for improvement of financial condition are determined. The initial information for performing the analysis was the official data of the National Bureau of Statistics of the Republic of Moldova for 5 years (period 2017-2021) for the enterprises of the construction industry. The results of the performed research have shown that the financial stability of construction enterprises calculated on the basis of the ratio of non-financial and financial assets is characterized by acceptable financial tension in the presence of potential solvency of the analysed enterprises.

Key words: financial stability, methods of analysis of financial stability, guaranteed solvency.

JEL classification: G32, M21.

INTRODUCTION

Financial equilibrium is one of the possible manifestations of the financial stability of the enterprise, which provides a guaranteed solvency in the long term operation of the enterprise.

The ability of an enterprise to timely finance its current activities, including in conditions of unforeseen shocks (unstable economic situation in the country, consequences of Covid 19, etc.), determines its degree of financial stability.

To ensure the long-term development of the enterprise in the future on the basis of expanded production, it is necessary to continuously maintain a stable financial condition.

Issues of assessment of financial stability of enterprises are relevant at any stage of development of an economic entity, as in the process of implementation of economic and financial activities there is a constant circulation of capital.

LITERATURE REVIEW

In the specialized literature we can find a great variety of approaches to the assessment of the financial equilibrium of an enterprise: assessment on the basis of the equity to debt capital ratio, assessment on the basis of operating leverage, assessment on the basis of the assets to their sources of funding ratio, etc. This means that there is no unified concept of assessing financial stability [9, 7, 4].

In this scientific study it seems interesting to consider the concept of assessing financial stability proposed by M.S. Abryutina and A.V. Grachev [1, 5].

The essence of this methodology is that the authors propose to classify the assets of the enterprise in terms of their liquidity on financial and non-financial, which allows to determine the

degree of financial stability on the basis of the ratio of financial assets to debt capital, or the ratio of non-financial assets to equity capital.

The condition for achieving financial equilibrium is to cover non-financial assets with equity and financial assets with borrowed capital.

The division of assets according to various criteria is a common practice in the analysis of the economic activity of the enterprise. Based on the purposes of the analysis, assets can be classified according to the following criteria [10, 6]:

- On economic content;
- In terms of the period of use;
- By purpose;
- By right of ownership;
- On the ability to generate income;
- In terms of liquidity, etc.

The classification of enterprise property based on the level of liquidity proposed by the authors S. Abryutina and A.V. Grachev, is shown in Figure no. 1.

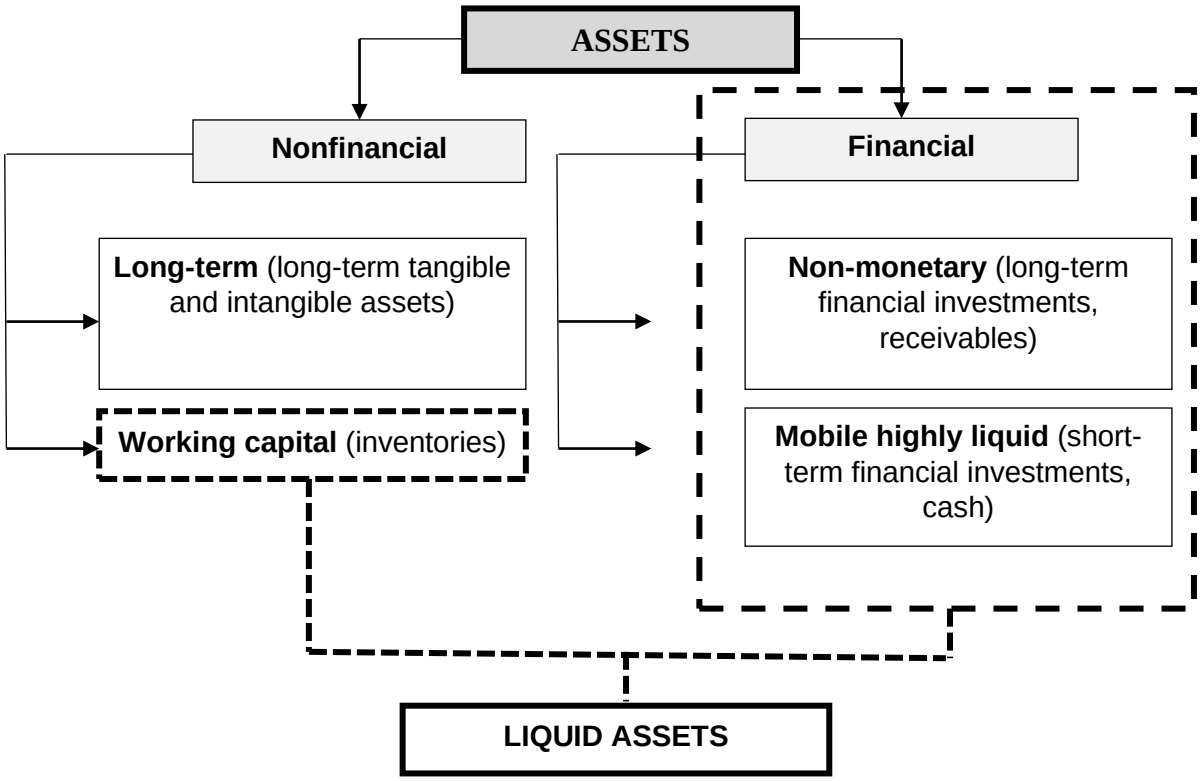

Figure no. 1. Classification of enterprise assets by liquidity level.

Source: compiled by the authors.

Based on the proposed classification of property, taking into account the relationship of asset groups with their sources of funding, you can identify several options for financial and economic condition of the company (Table no. 1).

Table no. 1. Variants of the financial and economic state of the enterprise

Option	Name of sustainability option	Characteristics
1	Absolute stability	Borrowed capital is less than financial mobile assets
2	Sufficient stability	Borrowed capital is less than the total amount of financial assets, but more than financial mobile assets
3	Financial equilibrium	Borrowed capital equals the total amount of financial assets, respectively, equity equals the total amount of non-financial assets

4	Allowable financial stress	Equity is greater than non-financial long-term assets, but less than the total amount of non-financial assets
5	Risk of loss of solvency	Equity is less than non-financial long-term assets

Source: compiled by the authors on the basis of [9, 3].

RESEARCH METHODS

In this scientific work were used fundamental methods of economic-statistical method of knowledge, in particular [8]: economic grouping, economic comparison, analysis of relationships between processes and phenomena through factor analysis, etc.

RESULTS AND DISCUSSION

The assessment of financial equilibrium based on the ratio of financial and non-financial assets is carried out for the construction enterprises of the Republic of Moldova for the period 2017-2021.

Input data for assessing the financial stability of construction companies are presented in Table no. 2 and Table no. 3.

Table no. 2. Value of assets of construction companies, mln. lei

Indicators	2017	2018	2019	2020	2021
Non-financial assets:	**16 574.98**	**18 987.58**	**20 741.06**	**22 905.42**	**26 603.10**
long-term	8046.4	8991.55	9153.09	9502.99	10271.8
working capital	8 528.58	9 996.03	11 587.97	13 402.43	16 331.30
Financial assets:	**11 568.42**	**12 881.07**	**14 784.54**	**15 469.98**	**17 635.40**
non-monetary	8 954.32	9 934.89	11 641.75	11 962.97	12 960.30
mobile highly liquid	2 614.10	2 946.18	3 142.79	3 507.01	4 675.10
TOTAL ASSETS	**28 143.40**	**31 868.65**	**35 525.60**	**38 375.40**	**44 238.50**

Source: compiled from [2].

On the basis of the data presented in table no. 2, we can conclude that there is a positive dynamics of growth in the total value of the property of construction enterprises. This growth is due to both a systematic increase in non-financial assets and a steady growth in financial assets. Non-financial assets prevail in the structure of assets.

Table no. 3. Value of sources of financing the property of construction companies, mln. lei

Indicators	2017	2018	2019	2020	2021
Equity	9 109,78	10 164,92	11 125,59	11 814,90	13 475,45
Borrowed capital	19 033,62	21 703,73	24 400,01	26 560,50	30 763,05
TOTAL ASSETS	28 143,40	31 868,65	35 525,60	38 375,40	44 238,50

Source: compiled from [2].

Based on the data presented in Table no. 3, we can conclude that the construction companies finance the property largely through borrowed sources of financing.

Assessment of the financial and economic position of construction companies by the example of 2021 is presented in Table no. 4.

Table no. 4. Assessment of the financial and economic position of construction companies in 2021

Assets	2021	Sources of asset funding	2021
Non-financial assets:	**26 603.10**	**Equity**	13 475.45

long-term working capital	10 271.80 16 331.30		
Financial assets: non-monetary mobile highly liquid	**17 635.40** 12 960.30 4 675.10	**Borrowed capital**	30 763.05
TOTAL ASSETS	**44 238.50**	**TOTAL ASSETS**	**44 238.50**
Type of financial stability	**4**	**Type of financial stability**	**4**

Source: compiled from data in Table 2, 3.

According to the data presented in Table no. 4, the financial equilibrium of construction enterprises corresponds to the 4-th type of financial stability - the presence of potential solvency. It is noteworthy that during the period under consideration the established type of financial stability of enterprises remained unchanged (type 4 financial stability for the period 2017-2021), which is graphically represented in Figure no. 2.

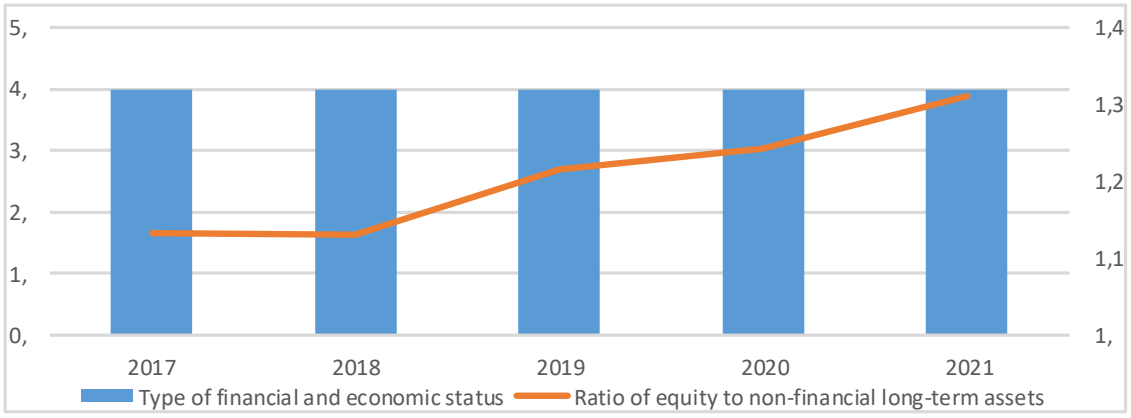

Figure no. 2. Evolution of financial stability of construction companies.
Source: compiled by the authors.

It is noteworthy that simultaneously with the previously formulated conclusions, we can note some strengthening of the financial position of construction companies, as the difference between equity and long-term non-financial assets during the period was positive and increased in dynamics. Thus, in 2021 the equity capital exceeded non-financial long-term assets by 31.2 % (table no. 5).

Table no. 5. Analysis of financial stability of construction companies

Indicators	2017	2018	2019	2020	2021
Ratio of equity to non-financial long-term assets, points	1.132	1.130	1.216	1.243	1.312
Autonomy coefficient, points	0.324	0.319	0.313	0.308	0.305

Source: compiled from data in Table no. 2, 3.

The dynamics of the second indicator (coefficient of autonomy), presented in Table no. 5, indicates its systematic decrease over the period under review. In particular, the share of equity in the total sources of financing assets in 2021 decreased to 30.5%.

Different interpretations in assessing the financial stability of construction companies for the period 2017-2021 allow us to conclude on the need to perform factor analysis of the autonomy coefficient on the basis of the previously considered concept of financial equilibrium, according to the following mathematical 4-factor deterministic model (1):

$$\frac{EC}{A} = \frac{EC}{NA} * \frac{NA}{FA} * \frac{FA}{BC} * \frac{BC}{A}, \text{ where:} \quad (1)$$

EC - equity capital;
A - total assets of the enterprise;
NA - non-financial assets;
FA - financial assets;
BC- borrowed capital;
EC/A – the equity capital concentration ratio (coefficient of autonomy);
EC/NA - the coefficient of non-financial assets coverage by own capital;
NA/FA - ratio of non-financial and financial assets;
FA/BC - the coefficient of debt capital coverage by financial assets;
BC/A - the borrowed capital concentration ratio.

Initial data for the factor analysis of the coefficient of autonomy are presented in Table no. 6.

Table no. 6. Input data for factor analysis

Indicators	2020	2021	Absolute change
Coefficient of non-financial assets coverage by own capital, points	0.516	0.507	-0.009
Ratio of non-financial and financial assets, points	1.481	1.509	+0.028
Coefficient of debt capital coverage by financial assets, points	0.582	0.573	-0.009
Concentration ratio of borrowed capital, points	0.692	0.695	+0.003
Autonomy coefficient, points	**0.308**	**0.305**	**-0.003**

Source: compiled from data in Table no. 2, 3.

The total change in the coefficient of autonomy (K_{aut}) is:

$\Delta K_{aut} = 0.305 - 0.308 = -0.003$.

Calculation of the influence of factors on the change in the autonomy coefficient is presented in Table no. 7.

Table no. 7. Calculation of the influence of factors on the change in the coefficient of autonomy

Indicators		Calculation number				
		1	2	3	4	5
FACTORS	1. Coefficient of non-financial assets coverage by own capital, points	0.516	0.507	0.507	0.507	0,507
	2. Ratio of non-financial and financial assets, points	1.481	1.481	1.509	1.509	1,509
	3. Coefficient of debt capital coverage by financial assets, points	0.582	0.582	0.582	0.573	0,573
	4. Concentration ratio of borrowed capital, points	0.692	0.692	0.692	0.692	0,695
Autonomy coefficient, points		**0.308**	**0.302**	**0.308**	**0.303**	**0.305**
Impact size, points		-	-0.006	+0.006	-0.005	+0.002
Factor number		-	1	2	3	4

Source: compiled by the authors based on data from Table no 6.

Check: $\Delta K_{aut} = (-0.006) + 0.006 + (-0.005) + 0.002 = -0.003$.

The calculations in table no. 7 show that the decrease of the autonomy coefficient by 0.003 points in 2021 compared to 2020 was due to a slight decrease in the amount of equity per 1 leu of the value of non-financial assets from 0.52 to 0.51 leu. This led to a decrease in the indicator under consideration by 0.006 points.

A negative impact on the dynamics of the financial stability of construction enterprises was also caused by a decrease in the degree of coverage of debt capital by financial assets by -0.009 points in 2021. In particular, the autonomy coefficient decreased by 0.005 points.

The negative impact of the factors was partially offset by a 0.028 point increase in the ratio of non-financial and financial assets in 2021, which led to a 0.006 point increase in the equity capital concentration ratio.

The increase in the borrowed capital concentration ratio is rational in conditions of high financial independence of enterprises, when with an adequate increase in the share of borrowed capital in the total sources of property financing the most optimal level of financial stability is achieved while achieving maximum efficiency in the use of this capital in the long term. In the study under consideration, the increase in the borrowed capital concentration ratio by 0.003 points led to an increase in the analyzed indicator by 0.002 points.

CONCLUDING REMARKS

1. Financial stability of construction enterprises for the period 2017-2021 (5 years) calculated on the basis of the ratio of non-financial and financial assets is characterized by acceptable financial tension in the presence of potential solvency of the analyzed enterprises.
2. The method of assessing financial equilibrium based on the ratio of non-financial and financial assets can reflect deeper qualitative changes in the financial stability of the enterprise compared to the results of calculating traditional capital structure ratios.
3. The different interpretations in the measurement of financial equilibrium indicate the lack of a unified concept of assessing financial sustainability.
4. During the period under consideration, positive structural changes were observed in the ratio between the property of construction enterprises and the sources of their financing. In particular, there was an improvement in the equilibrium of assets and sources of asset funding by the terms of use and by cycles.
5. To achieve the construction companies financial equilibrium (guaranteed solvency) is necessary to balance assets and liabilities, including on the basis of division of assets into non-financial and financial, which will allow in the future to eliminate the negative impact of various factors on the indicator under consideration.

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