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USAGE OF MATRIX APPROACH TO EVALUATION OF FINANCIAL STABILITY OF ENTERPRISE

The main problem. Analysis of financial stability is the most important stage in the evaluation of the enterprise and the financial and economic well-being, as it reflects the results of the current, investment and financial development, provides the necessary information for investors and describes the company's ability to meet its debts and liabilities and increase its economic potential [5]. That's why the practical evaluation of financial stability is very actual.

Analysis of resent researches and publications.A wide range of publications of economists is dedicated to the matters of evaluation of financial stability based on the matrix approach (Litvin M.I.,Ryleev S.V., Yuriy S.M., Kosova T.D., Anisimova G.S., Smachylo V.V.). Analysis of scientific literature [1-8] showed that there are many methods to evaluate financial stability of the enterprise, which differ in their essential filling, the purpose of making and the final result of evaluation. One of the quite common is matrix approach, which allows to determine the relationship between assets and liabilities balance. However, the practical aspects of the design matrix balances require further study.

Problem statement.The aim of the article is building and practical usage of matrix balances for evaluating of financial stability of the enterprise.

The main material of the study.Matrix approach to the evaluation of financial stability involves presentation of the balance sheet of the enterprise as a matrix, where horizontally are positioned assets and vertically - liabilities. In the matrix of balance should be divided four quadrants: non-current and current assets, equity and liabilities.Then four tables are made up: matrix balance at the beginning and end of the year, the dynamic matrix balance and balance of cash revenues and expenditures [6, p. 21]. The matrix approach allows to determine the relationship between assets and liabilities of balance sheet, to calculate the structure and determine the qualityofbalance assets and the adequacy of their funding sources, to calculate the whole set of parameters and coefficients needed to evaluate the financial stability [1, 4, 6]. The matrix balance should be divided into four quadrants (see Fig. 1).

Assets	Liabilities
Non-current assets	Equity
Current assets	Obligations

Fig. 1.Matrix for analysis of financial stability of enterprise according to the method of KEN by M.I. Litvin

Source: [4; 3]

When completing the matrix balance it should be considered a set of financial rights and powers of the company, the economic nature of current and non-current assets, own and borrowed funds [7, p. 54].

Based on the balance of "KMT BLITZ" in 2010-2012 we shall calculate the aggregated balance for the period, which is static in nature and shows the status of the enterprise at the end of the year (see Table 1.).

In compiling the matrix balance model were used the following rules:

1. The size of the matrix is selected, assets are reflected across the matrix, and liabilitiesare reflected vertically.
2. The balance rowand column of the matrix are filled in strict accordance with the data of the balance sheet.
3. Successively, starting from the first row of the asset balance,are selected sources of funds that are available to businesses.
4. All balance sheet totals are checked up horizontally and vertically in matrix [6, 2, 5].

The most responsible in the preparation of matrix is the selection of sourcesof funds that are available to businesses. Here it is necessary to consider the range of financial rights and powers granted to the enterprise, the economic nature of current and non-current assets, equity and debt facilities, commercial and economic expediency and optimality.

Based on the construction of the matrix variable balance of "KMT BLITZ" can be identified sources of assets of enterprise, particularly during 2010-2012 non-current assets are financed entirely by equity, namely its component share capital.

Table 1

Matrix balance of LTD"KMT BLITZ" in 2010-2012

Assets	Years	Liabilities						Balance
		Capital	Equity	Long-term liabilities	Short-term loans and borrowings	Payables	Current portion of long term liabilities	
Non-current assets	2010	5915	5915					5915
	2011	5268	5268					5268
	2012	4653	4653					4653
Stocks	2010	4748	4748	408				5156
	2011	5803	5803	680	366			6849
	2012	4399	4399	561		307		5267
Receivables	2010			1072	0	1588		2660
	2011				178	2330		2508
	2012					1493		1493
Cash and cash equivalents	2010					140	40	180
	2011					106	214	320
	2012					15		12
Current assets	2010	4748	4748	1072		1728	40	7996
	2011	5803	5803	680	544	2436	214	9677
	2012	4399	4399	561		1815		6775
Prepaid expenses	2010						46	46
	2011						46	46
	2012					51		51
Balance	2010	10663	10663	1480	0	1728	86	13957
	2011	11071	11071	680	544	2436	260	14991
	2012	9052	9052	561	0	1866	0	11479

Source: is prepared by authors on base of financialaccounting

In 2010 Ltd "KMT BLITZ" financedstocks carried by stable sources of funding, namely the share capital by UAH 4748.000 and long-term liabilities at UAH408.000, in 2011 another source of stocks financing became short-term loans and bank loans of UAH 366.000, and in 2012 the stocks formed by share capital at UAH 4399.000, long-term liabilities at UAH 561.000, payable at UAH 307.000. Thus, in each subsequent period we see a change of stocks funding, but all of them are possible.

Accounts receivable during 2010-2012 was covered by the accounts payable for UAH 1588, 2330, 1493.000 accordingly. Nevertheless, in 2010 additional source of financing were long-term liabilities of UAH 1,072.000, and in 2011 they were short-term loans and bank loans in the amount of UAH 178.000.

If we shall consider cash and cash equivalents, they are derived from accounts payable, and in 2010-2011 another source is the current portion of long-term debt.

Prepared expenses in 2010-2011 were formed by the current portion of long-term debt of UAH 46.000, in 2012 - due to payable, the amount of which was UAH 51.000.

In general, if we consider the sources of current assets their structure changes, although within acceptable limits.

To evaluate the financial stability it is necessary to calculate the matrix of changes of sources of assets funding of Ltd "KMT BLITZ" (see Table 2).

Table 2

Change of matrix balance of LTD "KMT BLITZ" during 2010-2012

Assets	Years	Liabilities						Balance
		Capital	Equity	Long-term liabilities	Short-term loans and borrowings	Payables	Current portion of long term liabilities	
Non-current assets	2011	-647	-647					-647
	2012	-615	-615					-615
Stocks	2011	+1055	+1055	+272	+366			+1693
	2012	-1404	-1404	-119	-366	+307		-1582
Receivables	2011			-1072	+178	+742		-152
	2012					-837		-1015
Cash and cash equivalents	2011					-34	+174	+140
	2012					-91	-214	-308
Currents assets	2011	+1055	+1055	-392	+544	+708	+174	+1681
	2012	-1404	-1404	-119	-544	-621	-214	-2902
Prepaid expenses	2011							
	2012					+51	-46	+5
Balance	2011	+408	+408	-800	+544	+708	+174	+1034
	2012	-2019	-2019	-119	-544	-570	-260	-3512

Source: is prepared by authors on base of financial accounting

Constructing variable matrix balance, we see that their own sources of funding during 2011-2012 decreased at UAH 647 and 615.000 respectively, which may be due to the unprofitable activities of Ltd "KMT

BLITZ" because the uncovered loss is covered by share capital, as well as all the reserves are exhausted, and they are formed from nowhere.

A positive aspect is that Ltd "KMT BLITZ" has its own current assets and provides the financing stocks, both by its own and borrowed capital.

Negative phenomena in the enterprise's activity isthe reduction of the total amount of capital in 2011-2012 atUAH 3512.000.

Thus, building a matrix balance of Ltd "KMT BLITZ" we can group the main sources of the assets of the enterprise in Fig. 2.

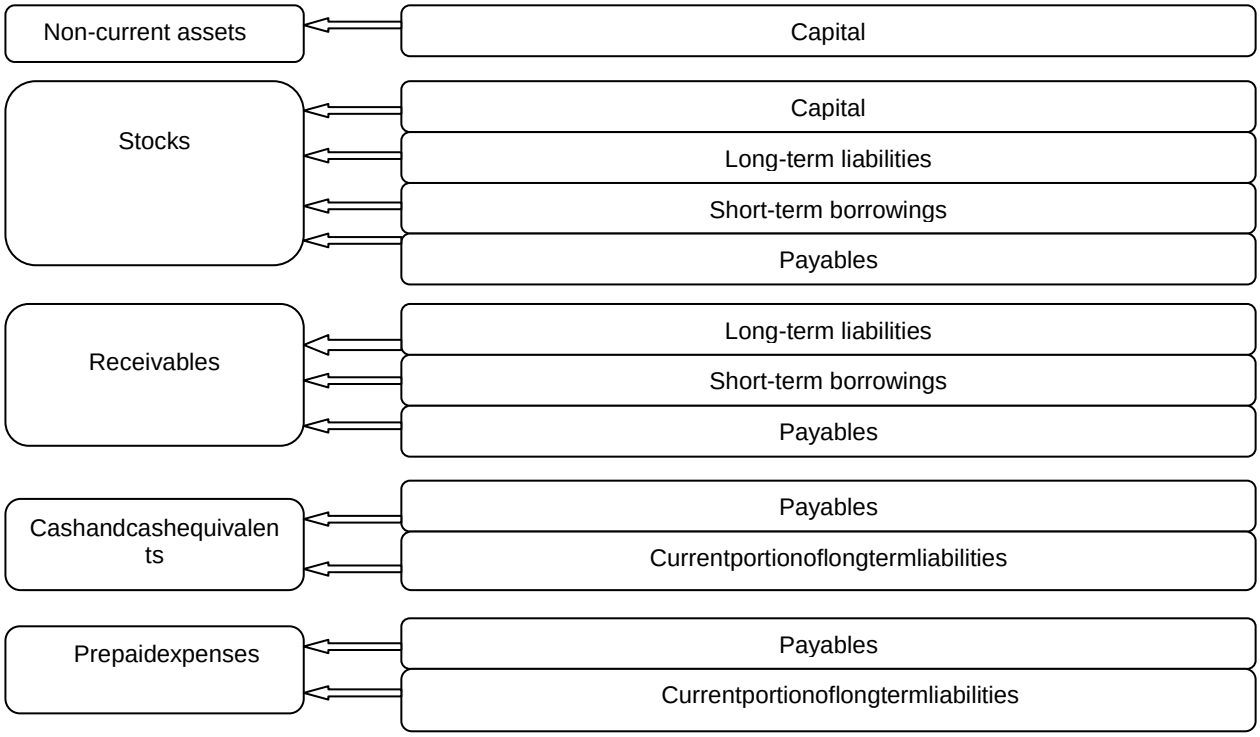

Fig. 2.Sources of assets forming of LTD"KMT BLITZ"

Source: is prepared by authors at the basis of calculated matrix balances

In this figure we have identified sources of assets financing of Ltd "KMT BLITZ" that have certain features, as non-current assets are financed only through the share capital, which is due to unprofitable operations of the company, stocks are financed by both own and borrowed capital (share capital, long-term liabilities, short-term loans, accounts payable), all other kinds of assets due to loan capital and debt capital.

Conclusions.Using the matrix method made it possible to determine the relationship between assets and liabilities of balance, to calculate the structure and determine the quality of assets balance and the adequacy of sources of their funding, to group sources of forming of assets of Ltd "KMT BLITZ", and draw conclusions about the positive and negative changes in the financial state of the company.

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Yurchyshena L.V., Tsymbal N.V. USAGE OF MATRIX APPROACH TO EVALUATION OF FINANCIAL STABILITY OF ENTERPRISE

Purpose. The aim of the article is to construct and practical use of matrix balances for evaluation of financial stability of enterprise.

Methodology of research. To solve the above defined target we used theoretical concepts and practical design, presented in modern economic literature in the field of economic and financial analysis. During the study it was used the following methods as abstract and logical – to form the aim and tasks of the study; analysis, synthesis, a combination of theory and practice, comparison and grouping (for constructing the matrix balance of enterprise and argumentation sources of forming of assets) horizontal analysis, analytical method and absolute deviations (for the construction of the matrix variable balance).

Findings. The matrix balance has been constructed of the limited liability company “KMT BLITS”, what making it possible to determine the interconnection of assets and liabilities, identify sources of forming and funding of assets, their changes and assess the quality. The mechanism of the practical use of the matrix method in dynamics has been justified, which makes it possible to determine not only the quality of assets, but also the characteristics of their funding on a particular enterprise.

Originality. It has been substantiated the use of a matrix approach that allows reliably to determine sources of financing assets and identify positive and negative changes in the financial condition of the enterprise.

Practical value. The results can be used in practice of the limited liability company “KMT BLITS” and other companies, in particular, to assess the financial viability and optimization of sources of enterprises assets.

Key words: enterprise, financial stability, matrix balance, assets, optimization.