

DETERMINATION OF ENTERPRISE EXCESSIVE LIABILITIES AT ITS FINANCIAL AND ECONOMIC PERFORMANCE EVALUATION

Problem definition. Different features and ratios are used for defining financial and economic performance of the enterprises. We can outline common liquidity ratios, current assets to equity ratio, current assets coverage, autonomy, debt load. Correct definition of above-mentioned ratios is very important for the enterprise because it confirms its credit worthiness and efficiency. Peculiarity of the given indices is the fact that they use enterprise liabilities in their calculation formulas.

For example, index of debt load is correlation of sum of enterprise liabilities and EBITDA index. It means that it shows the extent to which it is possible to discharge liabilities of the enterprise at the cost of income amount and depreciation. However it is required to mention repayment of all volume of obligations is not necessary in order to achieve performance standards of economic status: it is enough to liquidate that part of the liabilities which overcomes standards. It means that excessive liabilities shall be liquidated and their size shall be correctly defined.

Review of last research and publications. Many research papers, written by both foreign and Ukrainian scientists are devoted to the assessment of financial and economic performance of the enterprises. Among them we would like to emphasize research works of such scientists as R. Braely, S. Myers [1], J.K. Van Horne [2], V.V. Kovalev [3], G.V. Savitskaya [6], V.P. Savchuk [7], Y.S. Stoyanova [8], K. Walsh [9], A.D. Sheremet, M.V. Melnik, M.I. Bakanov [10]. Main assessments of financial and economic performance of the enterprises and also methods and estimation practice and evaluation of financial and economic indices and ratios have been considered in the research of the given authors and also in many other works in the given field.

Many of the financial ratios proposed by these authors apply index of enterprise liabilities in their formulas. Standards of financial ratios are given in the research of these authors. Standards increasing by ratios, using enterprise liabilities in their formulas have been estimated as insolvency of the enterprise and its financial instability. Accordingly ratios shall comply with standards in order to make enterprise stable and solvent. To achieve stable financial status of financial ratios it is required to decrease its liabilities to the certain standard level.

The concept of excessive liabilities is considered in the works of V.Y. Nusinov, L.A. Burkova [4] and V.Y. Nusinov, O.V. Nusinova, Y.O. Kurakina [5]. However methods of definition of excessive liabilities that are mentioned in the works have some drawbacks and need some adjustments. One of such drawbacks, for example, is failure to take account of emergency ratio of repayment of different types of liabilities. This article is devoted to eliminating drawbacks in the existing methods of defining of excessive liabilities and their improvement.

Task definition. To improve existing methods of defining of size of excessive liabilities of the enterprise for the assessment of its current economic status on the basis of liquidity ratios, current assets to equity ratio, current assets coverage, autonomy, and to develop ratio of assessment of current economic status of the enterprise.

Statement of original material. Based on the thesis, that it is necessary to liquidate only excessive liabilities for achieving stable financial and economic performance of the enterprise we propose to calculate the coefficient of current economic performance as follows:

$$C_{current} = \frac{EBITDA}{4 \times L_{ex}}, \quad (1)$$

where L_{ex} – excessive liabilities of the enterprise that shall be liquidated during the quarter.

Due to the fact that index of excessive liabilities for quarter is used in the formula, annual rate EBITDA is taken to average quarter rate by dividing by four.

It is clear that the less is the meaning of the ratio of current performance the closer is economic performance of the enterprise to crisis performance.

Method of defining of excessive liabilities that is given in papers of V.Y. Nusinov, O.V. Nusinova, Y.O. Kurakina [5], proposes to define them as a value to which actual liabilities shall be decreased in order financial ratios to be equal to standards. As for our opinion this method is unacceptable, because liabilities have different liquidation terms. For example in relation to long term liabilities we shall consider only that part of them that is related to current period. That is the reason why emergency ratio of liabilities repayment shall be applied. This ratio helps defining that part of liabilities that shall be liquidated in the current period.

We propose to classify liabilities by liquidation terms and to define urgency coefficient (C_{urg}) as follows: 1) the most urgent (up to 3 months, $C_{urg}=1$); 2) urgent (3-6 months, $C_{urg}=0.8$); 3) middle-term (6-12 months, $C_{urg}=0.5$); 4) long-term (over 12 months, $C_{urg}=0.3$).

Definition of excessive liabilities is possible with the help of assets and liabilities separation procedure by liquidity level. In this case the balance is considered liquid, if all types of assets are sufficient for covering corresponding liabilities types. On this basis, adjusted liquid ratios have been proposed in papers of V.Ya. Nusinov, L.A. Burkova [4] and at calculation of adjusted liquid ratios assets and liabilities are used that have the same relevant implementation and liquidation terms. Then excess of assets is defined on the basis of these adjusted ratios. However we can similarly define excessive liabilities by each type of them from the formula:

$$L_{ex_i} = L_{ac_i} - \frac{A_i}{N_{liq_i}}, \quad (2)$$

where L_{ex_i} – excessive liabilities of i-st liquidity type, UAH; L_{ac_i} – actual value of liabilities of i-st liquidity type, UAH; A_i – assets value of i-st liquidity type, UAH; N_{liq_i} – normative of adjusted liquidity coefficient of i-st type, proportion of units.

As a normative derived from the adjusted liquidity coefficients, we can take, for example, their maximum values in the mining enterprises during the last 3-5 years.

On the basis of excessive liabilities calculated by each type of liquidity we can compute the total excessive liabilities by liquidity coefficients: they are equal to the sum of multiplications of excessive liabilities of each type and appropriate urgency coefficient:

$$L_{ex.liq.} = \sum_{i=1}^4 L_{ex_i} \times C_{urg_i}, \quad (3)$$

where L_{ex_i} is excessive liabilities of “i” type, UAH; C_{urg_i} is an urgency coefficient of “i” type, UAH.

Some financial ratios, such as current assets to equity ratio, current asset coverage ratio and equity to total asset ratio are used in formulae for calculation of current debts and current assets as a whole. While the total excessive liabilities may be calculated by formula (3), then to take into account the factor of different degree of asset liquidity, we propose to determine the weighted average urgency coefficient of all current assets of the enterprise ($C_{urg.cur}$) by formula:

$$C_{urg.cur} = \frac{\sum_{i=1}^3 L_{ex_i} \times C_{urg_i}}{\sum_{i=1}^3 L_{ex_i}}, \quad (4)$$

Only three types of short-term liabilities are taken into account in formula (4). The fourth type is long-term liabilities compared to fixed assets; therefore, they are ignored in calculation of urgency current asset coefficient.

V.Ya.Nusinova, O.V.Nusinov, Yu.O.Kurakina in their work [5] provide the formula to determine the excessive liabilities using current assets to equity ratio ($L_{ex.mob}$):

$$L_{ex.mob} = L_{cur} - (A_{cur} - EC \cdot N_{mob}), \quad (5)$$

where L_{cur} is an actual value of current liabilities of the enterprise, UAH; A_{cur} is a value of current assets of the enterprise, UAH; EC is an equity capital of the enterprise, UAH; N_{mob} is a normative current assets to equity ratio, proportion of units.

We believe that the present indicator (5) should be adjusted to the weighted average urgency coefficient (4):

$$L_{ex.mob} = L_{ex.mob}' \times C_{urg.cur}, \quad (6)$$

We can likewise calculate the excessive liabilities using the current asset coverage ratio ($L_{ex.cur}$):

$$L_{ex.cur} = L_{ex.cur}' \times C_{urg.cur}, \quad (7)$$

where $L_{ex.cur}'$ is excessive liabilities on current asset coverage ratio excluding of urgency coefficient, UAH.

For calculation of equity to total asset ratio it is necessary to take into account the four types of debts when calculating of weighted average urgency coefficient ($C_{urg.weighted}$):

$$C_{urg.weighted} = \frac{\sum_{i=1}^4 L_{ex_i} \times C_{urg_i}}{\sum_{i=1}^4 L_{ex_i}}, \quad (8)$$

As a result, the excessive liabilities on coefficient of autonomy ($L_{abn.aut}$) can be determined by formula:

$$L_{ex.aut} = L_{ex.aut}' \times C_{urg.weighted}, \quad (9)$$

where $L_{ex.aut}'$ - is excessive liabilities on autonomy coefficient excluding urgency coefficient, UAH.

The excessive liabilities calculated on the different ratios may markedly differ. In order to make a general conclusion on an economic status of the enterprise, we advise to take a pessimistic approach, which provides for taking into account a maximum value of excessive liabilities when assessing the economic status:

$$L_{ex.max} = \max\{L_{ex.liq}; L_{ex.mob}; L_{ex.cur}; L_{ex.aut}\}, \quad (10)$$

where $L_{ex.max}$ is total excessive liabilities considered when assessing the economic status of the enterprise, UAH.

The current economic status ratio can be used as an integral index, since the excessive liabilities are determined by all key financial ratios.

In view of expert assessment made by the economists of the Ukrainian mining companies, a scale has been developed for assessment of this ratio and determination of the economic status level as follows:

- $C_{cur} > 1,5$ – absolutely sound financial condition;
- $0,3 < C_{cur} < 1,5$ – normal financial condition;
- $0,06 < C_{cur} < 0,3$ – allowable unstable financial condition;
- $C_{cur} < 0,06$ – critical financial condition.

Conclusions from research. Thus, the methodology for calculation of excessive liabilities based on the ratios of liquidity, current assets to equity, current asset coverage and equity to total assets is improved in this work. An approach to determination of the total excessive liabilities is proposed. Based on the liabilities ratio formula for calculation of the current economic status ratio, which takes into account only excessive liabilities of the enterprises and, as a consequence, an assessment scale were developed.

The further elaborations should be made with reference to adjustment of the liabilities of an enterprise in order to improve accuracy of financial and economic ratios and quality assessment of its current economic status. For mining enterprises, these adjustments are associated with the internal accounts payables, which result from underfunded mandatory programs and lead to further cost escalation.

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Annotation

Ishchenko M.I. DETERMINATION OF ENTERPRISE EXCESSIVE LIABILITIES AT ITS FINANCIAL AND ECONOMIC PERFORMANCE EVALUATION

Purpose. Development of enterprise financial and economic performance evaluation methods by improving methods of its excessive liabilities size determination.

Methodology of research. The analysis of enterprise financial and economic performance evaluation methods and methods of excessive liabilities size calculation was carried out. The coefficient of current economic condition was developed on the basis of the leverage coefficient, which doesn't use the entire volume of enterprise liabilities, but only their excessive part that must be repaid within a quarter. Coefficient of maturity was recommended to be used in determining the excessive liabilities of enterprise.

It was offered to determine excessive liabilities by liquidity ratios cum assets allocation according to the liquidity level, and liabilities – according to the repayment terms, on the basis of the fixed standards in proper assets and liabilities types' ratio. Calculation formulas of excessive liabilities were developed according to liquidity ratios separately and entirely.

Taking into account the factor of different assets liquidity levels which are used in calculating own equity manoeuvrability coefficient, in providing own working assets and autonomy it was offered to be implemented by calculation of the weighed average coefficient of maturity.

The maximal value of excessive liabilities from those, which were calculated according to different coefficients, was recommended to be used while calculating the index of current economic performance.

The scale for the evaluation of this coefficient and for the determination of the appropriate level of enterprise economic performance was developed on the basis of expert assessments of economic department representatives of Ukrainian mining and ore-dressing enterprises.

Findings. In the paper we obtained subsequent development of excessive liabilities calculation methods according to liquidity ratios, own equity manoeuvrability, own working assets provision, autonomy. The calculation formula of the current economic performance coefficient was also developed considering the excessive liabilities total value, and the scale for its assessment was developed as well.

Academic novelty. The calculation methods of enterprise excessive liabilities were improved by taking into account maturity factor. The coefficient of current economic performance assessment was developed.

Practical importance. The proposed calculation methods of excessive liabilities size allow to define, which part of liabilities must be repaid by enterprise so, that it could be considered solvent, financially stable and able to economic activity.

Key words. Excessive liabilities, financial coefficients, evaluation of enterprise financial and economic performance.