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Evaluation and Analysis of the Rational Structure of Sources for Assets Formation

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The most important issue in analyzing financial sustainability is the assessment of the rationality of the balance of equity and debt capital. The structure of the sources of a company's assets is assessed both by internal and external users of the information.

The external users (banks, investors, creditors) analyze the ratio of own and borrowed assets of a company with the total sum of asset sources in terms of the acceptable financial risk assessment. Along with the decrease in the share of equity capital, the risk increases.

The internal analysis of the sources of structure is related with the assessment of alternative options for financing the enterprise activity. In addition, the main criterion for making a choice is conditions for attracting financial resources, their value, quality of risk, possible directions of applying it, etc.

The main characteristics of the structure of joint capital include financial independence coefficient, financial stability coefficient, coefficient of dependence on long-term debt capital, coefficient of financing, etc. The main purpose of these indicators is to define the quality of protection of the creditors and financial stability of a company. The formulas used to calculate these coefficients are given below. The following formula is used to calculate independence coefficient:

$$K = \frac{equity\ capital}{balance\ currency} \text{ x } 100\%.$$

Another coefficient used in financial structure analysis is the coefficient of financial sustainability (long-term liabilities coefficient). The following formula is used to calculate it:

$$K = \frac{equity\ capital + long-term\ liabilities}{balance\ currency} \text{ x } 100\%.$$

The importance of this coefficient is that it shows the shares of the sources of financing the company can use in its activities for a long period of time.

When analyzing long-term capital (includes equity capital and long-term liabilities), it is advisable to assess how much the company depends on long-term credits and loans. To this end, the coefficient of dependence on long-term borrowed sources is calculated. In addition, current liabilities are not considered and the focus is fully on stable sources of capital and their ratio.

$$K = \frac{long-term\ liabilities}{equity\ \ capital + long-term\ liabilities} \text{ x } 100\%.$$

The value and dynamics of the given indicator in the reporting period in the enterprise presented for analysis was insignificant. Therefore, we can discuss the absence of dependence on long-term sources of financing.

Financial leverage coefficient is used to assess the ratio of equity and debt capital:

$$K = \frac{debt\ \ capital}{equity\ capital} \text{ x } 100\%.$$

This coefficient shows what part of the enterprise's activity is financed from own assets and what part with borrowed assets. It is considered that if value of coefficient is more than one, this indicates to a significant financial risk that often makes it difficult to get a loan.

At the same time, we should be cautious about direct recommendations when interpreting the values of the discussed indicators. In case of individual enterprises, the share of the equity capital may amount to less than half of the total capital; however, such companies may maintain quite high financial stability. First of all, this refers to the enterprises with high turnover of assets, stable demand for products they sell, properly functioning supply and delivery channels, low level of permanent expenditures (for example, trade and intermediary enterprises).

For capital-intensive enterprises with lengthy period of assets turnover, which have considerable share of targeted assets (for example, machine-construction enterprises), borrowed assets in the amount of 40-50% of total assets may be dangerous for financial stability.

The coefficients characteristic for the structure of capital are usually considered as indicators of the quality of enterprise risk. The higher the share of the borrowed assets, the higher the demand for cash resources which is essential for serving the loan in case the financial situation deteriorates. The risk of insolvency in such enterprises is high.

Considering the above-said, these coefficients may be considered as a tool to reveal "troublesome moments" in production. The lower the share of loans, the lower the need for deepening the capital structure risk analysis. In case of high share of loans, it is necessary to review key issues, such as: the analysis of the structure and composition of debt capital (taking into account that the balance sheet data may be only part of enterprise liabilities), study of the enterprise's ability to generate cash resources needed for covering existing liabilities, as well as analysis of the income of activities and other essential factors. While assessing the structure of the sources of enterprise capital, particular attention should be paid to their positions in assets.

Let us discuss widespread cases of the ratio of assets and liabilities in a commercial enterprise:

Case I

Assets	Equity Capital and Liabilities
Current assets – 50%	Short-term liabilities – 20%
	Long-term liabilities – 0%
Long-term assets – 50%	Equity capital– 80%

The present table illustrating the ratio of assets and liabilities provides the possibility to discuss about the safe structure of equity and debt capital. Two main conditions are fulfilled: equity capital exceed long-term assets, current assets exceed short-term liabilities.

Case II

Assets	Equity Capital and Liabilities
Current assets– 70%	Short-term liabilities – 60%
	Long-term liabilities – 0%
Long-term assets – 30%	Equity capital– 40%

Despite not very high share of equity capital, the second case of the ratio of assets and liabilities does not cause a threat as well, as the share of long-term assets in a given enterprise is not high and is fully covered by the equity capital.

Case III

Assets	Equity Capital and Liabilities
Current assets– 50%	Short-term liabilities – 30%
	Long-term liabilities – 20%
Long-term assets – 50%	Equity capital– 50%

In case III, the ratio of assets and liabilities also demonstrates the surplus of long-term sources over long-term assets. While proper evaluation of assets and liabilities, no danger arises to financial stability.

Case IV

Assets	Equity Capital and Liabilities
Current assets– 40%	Short-term liabilities – 30%
	Long-term liabilities – 20%
Long-term assets – 60%	Equity capital– 50%

At first glance, the present balance structure points to the lack of equity capital. In addition, the existence of long-term liabilities provides a possibility to form long-term assets fully based on long-term sources of assets.

Case V

Assets	Equity Capital and Liabilities
Current assets– 40%	Short-term liabilities – 50%
	Long-term liabilities – 5%
Long-term assets – 60%	Equity capital– 45%

The given version of the structure is dangerous for financial stability of the company. Long-term sources of the analyzed enterprise are not enough to form long-term assets; as a result, it is forced to use short-term borrowed assets for the formation of long-term assets. Therefore, it is clear that short-term liabilities have become a major source, current and partial source for

the formation of non-turnover assets that is related to increasing financial risk of such an enterprise.

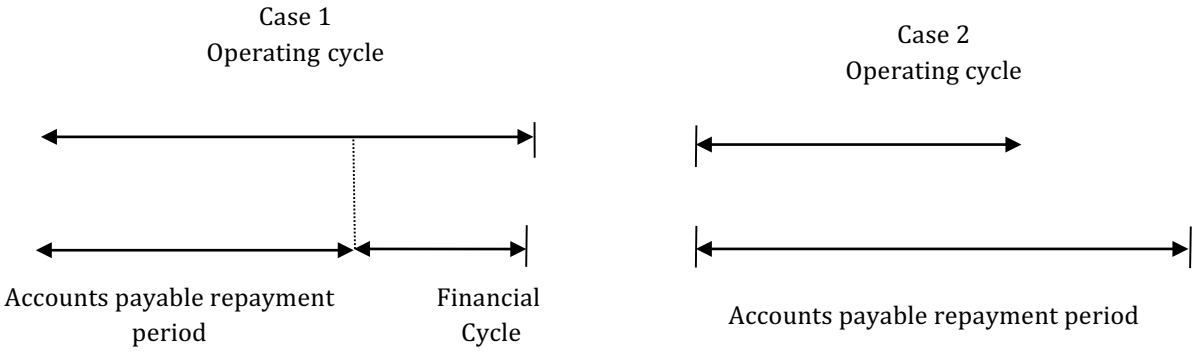
Therefore, a general rule for ensuring financial sustainability is as follows: long-term assets should be formed at the expense of own and borrowed long-term sources; if an enterprise does not have long-term borrowed assets, fixed assets and other non-turnover assets should be formed at the expense of the equity capital.

Another factor that affects the balance of own and borrowed assets is the structure of enterprise expenditures. The enterprises with high share of constant expenses in total expenses should have a large amount of equity capital.

When analyzing financial sustainability, the asset turnover rate should be necessarily considered. The enterprise with higher asset turnover rate may have a higher share of borrowed sources in total liabilities, so that it does not endanger its solvency and the risk of creditors does not increase (an enterprise having high capital turnover rate easily ensures the inflow of cash resources and as a result, payments on the liabilities); therefore, such enterprises are more attractive to creditors and lenders. Let us compare two approaches to the formation and service of operating cycle, presented on the figure.

As the figure shows, the enterprise whose duration of operating cycle exceeds the period of repayment of accounts payables has more demand for its own turnover capital (equity capital), and the larger its financial cycle is.

Different types of operating cycle of an enterprise



At the same time, the enterprise with a short operating cycle whose duration is less than the accounts payable repayment period does not require equity capital for serving the operating cycle at all.

Rationality analysis of the structure of sources should consider the outcomes of the borrowed assets attraction policy and their impact on $\boldsymbol{ROE}$ (return on equity) indicator. The dynamics of this indicator depends directly on debt attraction rate $\boldsymbol{r_d}$ and return on investments $\boldsymbol{ROI}$**.** The interconnection of these indicators, in terms of its impact on the equity capital, is reflected in a known equilibrium used to determine the effect of the financial leverage:

$$\boldsymbol{ROE = ROI + \frac{D}{E}\,(ROI - r_d)}$$

where:
$\boldsymbol{ROE}$– Return on equity;
$\boldsymbol{E}$ **–** Equity capital;
$\boldsymbol{D}$ – Debt capital;

$\boldsymbol{ROI}$ – Return on investment;
$\boldsymbol{r_d}$– debt attraction rate.

The basic essence of this equilibrium is that as long as $\boldsymbol{ROI}$ is higher than the borrowed assets attraction rate, the higher the equity capital and debt capital ratio is, the higher is the $\boldsymbol{ROE}$ increase rate (accordingly, the financial leverage is higher). However, the increase in the amount of the interest paid in accordance with the increase in borrowed assets reduces profit more and more. As a result, return on investment decreases as it becomes less than debt attraction rate, which, in turn, reduces return on equity.

Consequently, through managing the balance between the equity capital and debt capital the company can impact such key financial indicator as return on equity, in particular, to support its increase or hinder its reduction.

Another group of indicators is traditionally used to evaluate the risk in the structure of liabilities; more precisely, to determine the risk of deficiency; these indicators include coverage ratios. Among them, the ratio, which reflects the balance between operating profit and the amount of the interest payable on debt capital, is most commonly used.

$$\boldsymbol{K = \frac{EBIT}{interest\ payable\ on\ the\ debt\ capital}\ x\ 100\%,}$$

where $\boldsymbol{EBIT}$ is operating profit before paying interest and taxes.

The higher the indicator's value, the lower the risk of deficit. In practice, it is usually recommended to maintain the value of the indicator at least 2-3.

Final conclusions regarding the rationality of the structure of liabilities in the enterprise can be made based on complex analysis of the factors, which will include the specificity of the sector, speed of asset turnover, profitability, etc.

In assessing the rationality of the structure of liabilities, the main thing is to consider both short and long-term development strategy of a company. While assessing the structure of liabilities, the main target task in the long-term plan should be based on minimization of $\boldsymbol{WACC}$ (weighted average cost of capital). In other words, the discussion refers to such balance of the debt and equity capital, which will which will minimize the value of joint capital of the company. In the long-term strategic analysis, reduction of $\boldsymbol{WACC}$ is considered to be the most important factor for increasing the value of a company.