POSSIBILITIES OF ASSET RATIO MANAGEMENT USING SYSTEM APPROACH

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The necessity of asset structure optimization is dictated by the implementation of economic and business interests of the enterprise with the aim to make maximum profit with least resources used. The asset structure is influenced by not only generally known performance of financial indicators but also by other substantial factors such as the accounting policy implemented in the enterprise, interests of various structural units of the company, external and internal environment etc. Some alternative methods of the asset structure optimization are proposed in this research.

Keywords: asset structure, long-term investments, current assets, system approach.
JEL codes: M210, G300.

Introduction

The main goal of financial activities of an enterprise is reduced to one strategic objective – an increase in equity and sustainable market position. In order to accomplish this goal, the enterprise must constantly maintain solvency and profitability as well as the optimal structure of balance assets. The problem of optimal assets ratio in financial management is suggested to be solved by modelling the maximum return on assets. This will make it possible in calculation of optimization to consider not only financial indices of accounting, but also non-finance-related indices. They are not included in the range of financial accounting, although they indirectly influence the formation of assets ratio of the enterprise. Thus, it is possible to include in the calculations of optimization the basic and alternative factors for building assets, at the same time evaluating the optimal proportion of long and short-term funds in a detailed way.

The main aim of this research is to offer possibilities for the system approach implementation, concerning the company's asset management perspective, maintaining maximum stability of financial indices, the company's continuous activity principle, as well as taking into account the management interests. Theoretical and methodological basis of this research is the study of classical and modern approaches regarding the possibilities of company's asset ratio management. This research is based on qualitative (literature, scientific publications and analysis of case studies, empirical method) and quantitative research methods (economic and mathematical modelling techniques).

System approach to management of assets ratio taking into account financial ratios

Traditional or mathematical methods in determining the assets proportion of enterprises must be used within a system of indices of the economic activity of enterprises. The need for systematic optimization of assets primarily comes from internal and external economic interests of enterprises, which sometimes come in contradiction with each other. Consequently, a system approach to asset management on the
one hand fully considers a variety of financial factors of business activity and on the other hand, smoothes the opposing business interests within limits.

The growth of certain financial indices counteracts the improvement of others. Accordingly, if the equity share of long-term assets increases, financial autonomy of the enterprise increases as well, but at the same time the liquidity of the balance decreases. Furthermore, the increase in reserves performed in order to ensure the continuous business activity, may lead to decrease in company's solvency, which is accompanied by the lack of funds. Consequently, it is suggested to use the economic counterbalance in the assets ratio management in the way that would maintain financial stability, profitability, autonomy and entrepreneurship as far as possible satisfying the interests of financial situation at the same time.

If solvency is an external manifestation of the financial situation of the enterprise, then financial stability is its internal side, which reflects the balance of cash and product flows, revenues and expenses, assets and sources of their formation. In order to ensure its financial stability the enterprise should have a flexible capital structure, be able to organize its flow in the way that would ensure the continuous surplus of revenues over expenses in order to maintain solvency and create conditions for normal performance. The main goal of financial activities of the enterprise is reduced to a single strategic objective - building the equity and ensuring sustainable market position. In order to accomplish it the enterprise must maintain solvency and profitability as well as the optimal structure of balance assets.

The proposed mechanism of financial interest harmonization in determining the assets ratio represented in the following diagram.

Figure 1 The proposed diagram of assets management on the basis of financial counterbalances

The given diagram of assets management operates on the basis of the following principles.

- while determining the assets ratio, financial stability and business activity of enterprises are taken into account at the same time,
• economic counterbalances are used in such a way that the defined assets ratio would as far as possible provide financial stability of enterprises and maintain the level of business activity at the same time,
• an open system of financial indices is formed, it allows to include new economic counterbalances in order to maintain optimal balance of assets and liabilities ratio in the changing internal and external environment.

Let us imagine the proposed scheme of asset management on the example of an enterprise, which possesses the equity of 310 thousand LVL and has 112 thousand LVL of long-term and 28 thousand LVL of short-term liabilities. In addition, the volume of sales in the enterprise (S) comprises 800 thousand LVL, the cost price of production (PC) – 770 thousand LVL. It is required to define the optimal assets ratio. (see table 1)

Table 1 Information used in defining the optimal enterprise asset ratio

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Assets</th>
<th>LVL</th>
<th>Symbol</th>
<th>Passive</th>
<th>LVL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>Fixed assets</td>
<td>$X_1$</td>
<td>SK</td>
<td>Share capital</td>
<td>310</td>
</tr>
<tr>
<td>M</td>
<td>Money</td>
<td>$X_2$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Debtors</td>
<td>$X_3$</td>
<td>LL</td>
<td>Long-term liabilities</td>
<td>112</td>
</tr>
<tr>
<td>S</td>
<td>Stock</td>
<td>$X_4$</td>
<td>SL</td>
<td>Short-term liabilities</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>450</td>
<td>Total</td>
<td></td>
<td>450</td>
</tr>
</tbody>
</table>

Using the data from table 1, let us imagine the opposing business interests in building the assets balances.

Finance manager of the enterprise in order to increase the autonomy tries to maintain the situation when the specific weight of basic funds in relation to long-term liabilities does not exceed 50%. Meanwhile, marketing manager introduces the goal to provide the return on funds of not less than 1.35 LVL as well as tries to reduce the basic funds of the enterprise.

Using the counterbalance mentioned above, the balance of fixed assets in the enterprise can be defined in these limits:

\[
\begin{align*}
&\frac{LL}{FA} < 0.5 \\
&\frac{S}{FA} > 1.35 \\
&\frac{112}{X_1} < 0.5 \\
&\frac{800}{X_1} > 1.35
\end{align*}
\]

(1)

Accordingly, taking into account the following restrictions from various units of management, the average value of basic funds in the balance sheet can be formed in the limits:

\[
224 < \text{average debtor liabilities} < 592
\]

\[
(-184) \quad 408 \quad (+184)
\]

Chief accountant of the enterprise in order to improve the solvency of the enterprise tries to achieve the situation when the specific weight of the funds in relation to short-term liabilities does not exceed 70%. Meanwhile, finance manager introduces the goal to accelerate the turnover of funds, which comprises not less than 35 days and reaches the decrease in the balance of funds of the enterprise.
Using the counterbalances mentioned above, the balance of funds of the enterprise can be defined in these limits:

\[
\begin{align*}
\text{M/SL} & > 0.7 \\
M \times 360/FA & > 1.35 \\
X_2/SL & > 0.7 \\
X_2 \times 360/FA & > 1.35
\end{align*}
\]

(2)

Accordingly, taking into consideration the following limitations of different units of management the average value of funds in the balance sheet of the enterprise will be formed in the limits:

\[
19.6 < \text{average debtor liabilities} < 78
\]

\[
\text{-29} \quad 49 \quad \text{(+29)}
\]

In order to provide the necessary level of sales and enlarge the circle of customers, the enterprise should form at least 15% of the debtor liabilities from the volume of sales: (average debtor liabilities) / volume of sales > 0.15, (average debtor liabilities) / 800 > 0.15, average debtor liabilities > 120.

On the other hand, in order to ensure the necessary minimum inflow of funds the enterprise set the period of not less than 65 days to compensate debtor liabilities: (average debtor liabilities x 360) / volume of sales < 65, (average debtor liabilities) / 800 < 65, average debtor liabilities < 144.

Thus, taking into consideration the following restrictions of different units of management, the average value of debtor liabilities in the balance sheet can be formed in the limits:

\[
120 < \text{average debtor liabilities} < 144
\]

\[
\text{-12} \quad 132 \quad \text{(+12)}
\]

In order to ensure the continuous business activity, the minimum balances of commodity material supplies must comprise not less than 0.05% from the cost of sales: Average balance of goods / cost of sales > 0.5, Average balance of goods / 770 >0.5, S >38.5.

Simultaneously, finance management of the enterprise has set the maximum cycle of supplies of 40 days: (Average balance of goods x 360) / cost of sales <40, (Average balance of goods x 360) / 770 <40, S < 85.5.

Thus, considering the following restrictions from different units of management, the average value of balances of commodity material supplies in the balance sheet of the enterprise can be formed in the limits:

\[
38.5 < \text{balance} S < 85.5
\]

\[
\text{-23.5} \quad 62 \quad \text{(+23.5)}
\]
Consequently, taking into consideration different economic counterbalances in building assets, based on requirements of separate units of management of the enterprise, the optimal ratio of long-and short-term balance sheet items is as follows. (see table 2)

Table 2 Optimal ratio of enterprise assets based on financial counterbalances

<table>
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<tr>
<th>Symbol</th>
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<td></td>
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<td>450</td>
</tr>
</tbody>
</table>

The offered optimization mechanism of company’s assets, on the basis of economic counterweight, has some advantages.

First of all, a system approach in optimization is implemented in such a way, so that the interests of different units of company’s internal management are fully taken into consideration.

Secondly, economic opposition between financial stability and business activity of the enterprise is smoothened as far as possible.

Thirdly, the proposed optimization mechanism of assets using financial ratios differs with its simplicity in calculations and implementation in practice.

Financial ratios in the traditional analysis are easily applied in practice and at the same time create conditions for comparative analysis. Standard financial ratios, which are characterised by the simplicity of calculations, allow making comparisons with not only normative values, but also with the actual uniform indices of other organisations, at the same time evaluating financial "threats" or advantages of the enterprise in the market competition.

However, financial ratios, as tools of traditional analysis, have some drawbacks. In particular, market competition requires periodical revision of the standards of financial sustainability of the enterprise that gives a reason for revaluation of normative values of financial ratios and complicates a comparative analysis of financial indices of multiple reporting periods. In addition, the normative values of financial ratios vary greatly across sectors, due to the specific business environment, the degree of competition, distribution, and allocation of financial resources. Consequently, comparison of financial factors of enterprises in different sectors is not reasonable.

One of the reasons for the ungrounded implementation of traditional analysis of financial ratios is the existing "accounting risk" of the compilation of published financial statements. Not always the enterprises comprehend the accounting policy, which, in its turn, creates conditions for inaccuracies in calculation of financial ratios. Therefore, depending on what method of depreciation is used in the enterprise, the balance of long-term assets can vary between 20–30%. Thus, depending on the method of evaluation applied, the costs of current assets can significantly distort the balance of short-term assets in the balance sheet. For this reason, the use of financial ratios does not provide the real picture of the financial situation of enterprises without the study of the accounting policy of the enterprise.
In literature the limitations of financial ratios are discussed, bearing in mind that financial ratios reveal weaknesses and evaluate the situation, without a causal relationship. In other words, financial ratios ascertain "what happened", but do not analyse "why", which is very important in the process of decision implementation in management (Edited, 1992).

It should be also noted that (Грачев, 2002):
- the formulae of calculations of the coefficients used and recommended limits of variation of these indices are not absolute;
- accounting policy—according to the method of shipment or the method of payment – has a significant influence on the value of these coefficients;
- calculation of the coefficients at the beginning and at the end of the reporting period and the identification of the deviations from the normative values does not reveal a mechanism that would allow to reach the normative values;
- evaluation of financial and economic conditions of the company only at the beginning and at the end of the reporting period does not represent the performance of the enterprise of the entire reporting period.

It is obvious that these particular and other conclusions arise from the fact that the dynamic analysis is replaced by the static analysis and the lack of intermediate information (from the second to the penultimate day of the reporting period) sometimes leads to a distorted evaluation of the financial and economic condition of the company.

In the case of static analysis, balances of accounting are observed in a more detailed way than the turnover on these accounts (although exactly the turnover determines the balances of the account not vice versa). If we consider that the balances of particular accounts may be insignificant, but the turnover is fairly substantial (for example, on the accounts of funds accounting), then it is almost impossible to get an objective evaluation.

It goes without saying that achievement of the accepted values of the coefficients is a significant but insufficient step, since the estimated coefficients determine only the balance sheet structure. Even a favourable balance sheet structure cannot deliver the economic growth and solvency in only financial terms, if there is not any interconnection between them.

**Conclusions**

1. In order to optimize the assets with the help of the system approach, it is offered to apply the following principles:
   - when the asset ratio is being set up, simultaneously the financial stability and business activity of the enterprise are taken into consideration;
   - the economic counterbalance is used in such a way that the determination of the asset ratio can provide the financial balance of the enterprise and simultaneously maintains the appropriate level of business activity;
   - the open system of financial indicators, which allows to set new economic counterbalance, in order to keep the optimum balance of the asset and liabilities ratio in the changing external and internal environment, is developed.
2. Optimization mechanism of the enterprise assets proposed by the author, based on the economic counterbalance has several advantages:
   • in the optimisation process the system approach is used is such a way, that different links of the enterprise’s internal management are comprehensively considered;
   • whenever possible it squares the economic opposition between the business activity of the enterprise and financial stability when it is set;
   • the offered mechanism of asset optimization, using financial coefficients, differs in simplicity of calculations and is easily implemented in practice.

Scientific novelty of the research.

The major results of the research lead to the development of new approaches in optimization of asset ratio at the enterprise level. Particularly:
   • factors of the enterprise’s asset ratio optimisation are revealed, proceeding from motivation of different links of management and the financial counterbalance influencing the structure of fixed assets and means of circulation is developed;
   • the technique of system analysis of the asset structure is developed on the basis of financial ratios, allowing to estimate the degree of the optimal structure of fixed assets and means of circulation, from the point of view of financial stability and profitability of business activity;
   • the model developed for the determination of the optimal asset ratio by maximising the asset profitability that will allow to apply both traditional financial, and mathematical ways calculating the optimization in a combined way, as a result creating conditions of the all-round approach to an estimation of an optimal ratio of long-term and short-term means.

Literature

TURTO SANTYKIO VALDYMO GALIMYBĖS PANAUDOJANT SISTEMINĮ POŽIŪRĮ

Iluta Arbidane

Rezekne aukštoji mokykla, Latvija


Raktiniai žodžiai: aktyvų struktūra, investicijos, aktyvų santykis, sisteminis požiūris.

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