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Analysis of the Reasons behind the Deteriorated Standing of Engineering Companies during the Financial Crisis

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Abstract**—**In this paper, we discuss the deteriorated standing of engineering companies, some of the reasons behind it and the problems facing engineering enterprises during the financial crisis. We show the part that financial analysis plays in the detection of the main factors affecting the standing of a company, classify internal problems and the reasons influencing efficiency thereof. The publication contains the analysis of municipal engineering companies in post-Soviet transitional economies. In the wake of the 2008 world financial crisis the issue became even more poignant. It should be said though that even before the problem had been no less acute for some post-Soviet states caught up in a lengthy transitional period. The paper highlights shortcomings in the management of transportation companies, with new, more appropriate methods suggested. In analyzing the financial stability of a company, three elements need to be considered: current assets, investment policy and structural management of the funding sources leveraging the stability, should be focused on. Inappropriate management of the three may create certain financial problems, with timely and accurate detection thereof being an issue in terms of improved standing of an enterprise. In this connection, the publication contains a diagram reflecting the reasons behind the deteriorated financial standing of a company, as well as a flow chart thereof. The main reasons behind low profitability are also discussed.

Keywords**—**Efficiency, financial management, financial analysis funding structure, financial sustainability, investment policy, profitability, solvency, working capital.

I. INTRODUCTION

TODAY, an enterprise draws attention from a number of market players (organizations and entities) showing interest in its performance (results). A company's financial standing is assessed on the basis of available accounting information. In a market economy, financial stability is vital to the survival of a business and a good standing gives it a free hand in terms of disposal of its financial resources, which if spent efficiently, secure smooth production and sale of products. A stable enterprise can afford allotment of finances for expansion and upgrading.

In a transitional economy, the definition of the financial stability of an enterprise is a big issue since if volatile, it can hardly increase production, may become insolvent or even bankrupt. On the other hand, financial over stability, with its excessive, cost-ineffective supplies may turn into an obstacle on the path to expansion.

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Financial stability of an enterprise calls for analysis of its standing embracing the indexes such as availability, allocation and exploitation of resources. In a competition-based market economy, not only does efficient business management require the viable strategy of top management, but state-of-the-art IT, as well. Integrated automation systems, which inter alia, imply computerization of paperwork and settlement, make it easier for an enterprise to duly assess its financial and economic position. The financial standing of an enterprise is a crucial factor with regard to its operation in a certain environment, as it defines its competitiveness, partnership potential, own economic interests and those of its financial partners, etc. In market relationships, given the increasing number of users of financial information, the above indexes are relevant to customers.

The objective of this paper is to research the terms of assessment for the financial standing of an enterprise and recommendations for its upgrading. The aim of the analysis is not merely evaluation of the financial standing of a business, but to identify paths for its continuous improvement. The results of the analysis answer the question about the best way in which the financial standing of an enterprise may improve in a certain period of its operation.

The 2008 world financial crisis resulted in a production and consumption slump, the crash of the stock markets and bust of some of the major corporations. In this regard, the business executives have to take resolute financial and economic actions so that their companies do not land in the "recessionary hole". The corporate action relies on the financial and economic analysis of performance for the purpose of tracking changes in the standing of a company. Financial stability of a company is a key index.

The crisis posing a threat to the financial stability of companies is an inherent aspect of development. One has to realize the part an economic crisis plays in terms of the stability of a commercial institution, and take timely and due actions for its management. Economic experts have recently singled out a new kind of management, which they branded as financial stability management.

On the one hand, financial stability management during a crisis is a general concept implying research into the management skills and processes, preventing bankruptcy, while on the other hand, it is interpreted as a microeconomic process combining the forms and methods of implementing the crisis-combat procedures that make it possible to maintain the stability of an institution.

Throughout the operation of an institution, its financial stability management is a key issue on the management's agenda. It makes the institution environment-proof (external financial stability) and allows asset coverage by means of financing sources (internal financial stability).

In pursuing its main objective in the run-up to the financial crisis, financial management of a company implies timely detection of its indications and taking the relevant measures, such as insolvency prevention and the minimization of the negative effects.

At the time of a financial crisis, the level of a company's financial stability is what secures its survival. Financial stability is not only a key financial, but economic issue for that matter. A financial or economic crisis puts businesses to the test, since only those whose management has been able to adapt to the changing macro and microeconomic conditions will survive. For the detection of weaknesses and their elimination, businesses need to analyze performance prospects for the next few years.

Analysis of the stable financial standing of a company calls for a functional approach based on differential calculus methods. It should be said though that not infrequently, the principle of grouping indexes into economically homogeneous groups is also applied to determine the financial stability of an enterprise. However, a functional principle may also be applied for the same reason. Grouping indexes differing in terms of their economic content, which help to determine the production type, in line with the changing structure and dynamics thereof, is characteristic to the functional analysis.

There are two main types of production: intensive and extensive or various combinations of the two.

In order to describe the production type, the indexes are categorized into qualitative (attributive) and quantitative (extensive). If the development of a business involves more efficient utilization of the former and a bigger output thereof, the production intensifies at the expense of the attributive factors. In the case of the utilization of resources, development is propelled by the extensive factors.

Comparison of the production gain rate and that of the utilized resources makes it possible to assess the production type in qualitative terms. Consequently, the functional approach allows not only determination of conditions favorable to profit maximization but its type in terms of financial stability.

In order to be competitive, a business needs to set up an international standard quality control system. A national certificate of conformity to international quality management standards is valid globally. The quality control system is a much broader term than the production quality. Today, it implies an efficient, evolutionary system of management. The budget system, one of the most popular management tools involving accumulation of the information required for implementation of the managerial decisions. Nowadays, budgeting (development and implementation of budgets, algorithms of information gathering and reconciliation of the target and actual values) is regarded as an important leverage in terms of the management of business units and motivation of staff.

In an industrial enterprise, integration of the quality control system and that of budgeting, caters for planning, comparison of target and actual values, as well as information supply necessary for making managerial decisions.

Today, most of engineering companies apply *responsive* financial management (i.e. the management decisions are made in response to emerging problems – "patching"). However, a permanently changing market situation calls for a regular analysis of financial activities and an application of brand new management methods [8].

At various stages, an engineering company has different objectives and tasks, such as ***solvency or higher return on equity (ROE)***.

Today, a number of engineering companies facing an insolvency crisis caused by the shortage of financial resources are desperately seeking ways to generate income. Consequently, higher return on equity is sidelined and placed on the next stage development agenda [1]. However, some of the companies that have gone through the insolvency crisis are now tackling the next stage development challenges. The management's task now is the adjustment of the financial policies.

Analysis of company standing is an essential element of the financial management of an enterprise aspiring for success.

Financial analysis involves revealing the reasons behind the deterioration of its standing and finding ways to make it more efficient [2]-[4].

There are three main elements of the financial management – management of the current assets (working capital), investment policy and of the funding structure.

1) **Management of the current assets –** inappropriate management of current assets is the reason behind the financial problems of a number of engineering companies. In other words, current assets are not managed in line with the changing economic conditions. The term "Management of the current assets" embraces maintenance support, sales, determination and control over the terms of offsetting among the company, its customers and suppliers [11].
2) Description of the principles of working capital management requires the results of balance sheet analysis, the negotiability index of the current assets and liabilities, as well as the report on the flow of funds.
3) **Investment Policy** – is allocation of own and borrowed funds to various fields of activities of a company. Investment policy implies the determination of priorities in terms of funding the company's main business, investment activities, etc. and the relevant volumes of the allocated financial resources. Description of the investment policy calls for assessment of self-financing and fundraising, as well as computation of the net working capital (NWC) ratio along with the report on the inflow of funds [10].
4) **Evaluation of the Impact of Funding Sources (Structure of Liabilities) on the Return on Equity**

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(ROE) – can be assessed by means of *financial leverage analysis*. Management of the funding sources may be formulated as follows: after achieving the desired level financial stability, the structure of liabilities favorable to the growth of own capital should be selected. The problems regarding the financial standing of a company are as follows:

- low degree solvency (shortage of funds): in the foreseeable future or even at present, a company is unable to meet its due liabilities;
- low return on the capital invested into the company (poor profits), means that the owner's return from the investments is inadequate, leading to negative assessment of the Management's activities and the owner's withdrawal from the company; and,
- lower degree financial of independence or sustainability.

In practice, a company may face debt payment problems, become dependent on its creditors, which generally results from meager funding of its current operations through its own funds [5]-[9].

The low marketability indexes are insufficient liquidity ratio, overdue bills payable, the budget, staff and crediting organization debt overhang.

A low profitability ratio indicates insufficient return on the capital invested in a company. In this case, the return on equity (ROE), as the indicator of satisfaction of the company owners, is vital.

Two major problems affect the financial standing of an engineering company:

- potential inability to maintain the acceptable level financial standing (or small profits); and,
- inappropriate management of the company performance (inappropriate management of funds).

During decision making about the optimization of a company's standing, it is crucial to detect which of the aforementioned reasons has brought about its deterioration [6]-[8].

Problems		**Reasons**
Problems with meeting the liabilities (low liquidity)	→	Poor performance (small profits)
Low return on the invested capital, low satisfaction of the owner's interests (insufficient ROE)	→	
Questionable sustainability of a company, dependence on creditors (low degree standing)	→	Inappropriate disposal of the financial results (Inappropriate disposal of the generated funds)

Fig. 1 Main reasons behind the deteriorated financial standing of an engineering company

Figs. 1 and 2 depict the reasons behind the deteriorated financial standing of a company, as well as determination thereof [12].

The volume of potential profit is relevant in terms of the determination of its ability to achieve (maintain) acceptable standing. The profits of a company depend on the sale prices and volume of its products, production losses and revenue from all of its activities.

Analysis of the revenue and costs associated with the main activities, etc., of the company relies on the financial result, profitability ratio and accumulated capital report. The margin analysis is applied for determination of the permanent and fluctuating costs, as well as the balance between the exploited resources and prices of saleable products.

Problems		Problems
Low degree solvency (scarcity of funds) *Essence*: difficulties in meeting the current liabilities. *Indicators*: the liquidity and net working capital coefficients are unacceptable, negative net working capital, the budget, staff and creditors debt overhang (overdue bills payable)	**Inappropriate management of funds**	1. Inappropriate management of current assets. Analysis: the balance structure and negotiability analysis and that of the report on the flow of funds. 2. Inappropriate investment policy (fixed assets/working capital) Analysis of the report on the balance structure, self-financing index and flow of funds. 3. Inappropriate management of the funding sources. The balance structure, negotiability, financial leverage, self-financing analysis
Small return on equity (ROE) *Essence*: insufficient return from the capital invested in the company *Indicators*: decreased profitability ratio Poor financial sustainability *Essence*: potential problems in meeting the liabilities, loss of financial independence *Indicators*: shrinking and negative the equity; lower degree independence and below the acceptable net working capital	**Poor performance results (Low profitability)**	1. **Small volumes of sale** – the profit-loss report, flow of funds and margin analysis; 2. **Negative revenue/costs ratio** - small sale prices; - high fluctuating costs; - high permanent costs. Margin analysis – no loss report analysis. 3. **Unprofitability of the other kinds of activities** profit-loss report analysis

Fig. 2 Reasons behind the deteriorated financial standing of the company

Poor performance (small profit/loss)		
Small volume of sales	**High production costs**	**Loss from the other kinds of activities**
Low demand for products Inefficiency of marketing services	High raw material supplier prices Poor control over the resource spending High permanent costs inadequate to volume of sales	Fines, penalties and forfeits Non-production expenses from net profit

Fig. 3 Main reasons behind poor performance of an engineering company

Anticipated profit forms the basis in terms of the definition of an engineering company's financial standing. Understandingly, aspiration for greater profits is key to the optimization of company standing. Fig. 3 depicts the main reasons behind the poor performance of an engineering company.

As mentioned above, inappropriate management of current assets is one of the reasons behind the poor financial standing of engineering companies. Fig. 4 depicts the main problems associated with working capital management [3]-[6].

Focus on of the working capital is an efficient, albeit a temporary way in terms of dealing with the shrinking funds. Smaller demand for the net working capital results in the availability of the idle funds, which will soon drain in an unprofitable enterprise.

Inappropriate management of current assets
Long-term inadequate purchase of materials – overstocking
Discrepancy between the sale and production plans – overstocking of finished products, raw materials
Delayed delivery, production irregularities – Excess, incomplete production
Unfavorable acquisition and unloading conditions (prepayment, final settlement)

Fig. 4 Main problems regarding the management of the working capital

II. Conclusion

Investments may result in the decrease of nearly all the coefficients, such as liquidity, financial sustainability and profitability indexes [7].

Detection of the problems calls for the assessment of the engineering company's standing (sustainable, unsustainable, and critical). To this end, one should know the performance index relevant to the operation of the company in a specific environment.

The financial analysis should result in the management decisions appropriate for boosting the company's standing.

Finally, it should be said that indexes of the financial and economic stability of a company are its key performance indicators underlying management decisions. Achieving financial stability is important for inter- and intra-corporate dealings. Prior to public funding or crediting, a company is tested for financial and economic stability. Employment of refined methods of corporate stability is one of the key conditions of investing.

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