

ASSESSMENT OF ENTERPRISE BASED ON THE METHOD OF RATIOS

***Abstract:** In order to develop its strategy, any enterprise is required to thoroughly know its financial situation in terms of the correlation between the financial efforts and the financial results, by the aid of the financial indicators. They are significant reports that regard the balance sheet or income statement of the company and enable the assessment of the financial situation, which has an essential role in the decision-making process. When developing the indicators, the basic idea is to capture the correlations between two variables characterized by a causal relationship; the indicators need to be significant for the phenomenon under study and to enable comparisons that reveal the trends in terms of their dynamics.*

***Key words:** financial performance, financial banking, company's profitability.*

1. Introduction

The company's profitability is assessed using a system of ratios that are determined as the ratio between the economic and financial effects obtained by the company and the efforts made in this regard.

The method of ratios is used both for the internal management of the enterprise, for comparisons with other companies, as well as in order to assess the financial structure of the enterprise and set the financial diagnosis and adopt the short term and long term strategies. At the same time, the method of ratios enables the assessment of the company's situation, by comparing the values of the calculated ratios with the benchmarks.

The requirements regarding its implementation have been updated and deepened due to the combined action of three factors [2, p. 163]:

1. The analysis has benefited from the improvement of the sources of accounting and financial information, which enabled the accumulation of reliable benchmarks for calculating the ratios associated with an enterprise or a population of enterprises;
2. The applications in the field of computer science have led to an accumulation of data and accelerated the calculations;
3. The development of the advanced statistical methods allows the efficient usage of these data and the systematic analysis of the ratios.

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The objectives of the method consist in determining the thresholds, the norms that enable the assessment of a company's situation by comparing the ratios calculated for that company with the benchmarks. These benchmarks correspond to the ratios that are calculated based on statistics (for example, for all the companies with the same object of activity), or based on the values set for an enterprise which is considered to be exemplary.

The ratios express the tendencies in the evolution of the enterprise, its self-financing and its development capacity; they are useful for the financial banking and money market because they provide an insight into the financial situation of the company, its market position, its position in relation to the customers and suppliers and in relation to the creditors and shareholders.

The method of ratios is used both for examining the balance sheet in order to assess the structure of the assets and liabilities, as well as for studying the income statement in order to analyze the operating structure and the profitability. Using the method of ratios as a tool for financial decisions requires complying with the following conditions:

- The evolution of the ratios will be studied based on several balance sheets and income statements;

The company's field of activity will be measured in order to compare the ratios with a norm, which is usually the sector average of various ratios.

“Ratios can provide the profile of the enterprise, its economic features and competitive advantages, as well as the specific operating, financial and investment characteristics” [8, p. 141]. For the banks, the firm's liquidity is a fundamental indicator which is analyzed during the process of lending, given that unprofitable actions lead to the decrease in the assets' value. For the investors, long term profitability and efficiency are the main criteria, as well as the forecasting of future profits and the company's dividends.

2. The main categories of financial ratios

The main categories of financial ratios are:

- ◆ *Liquidity ratios*, which show the company's capacity to meet its short term payment obligations;
- ◆ *Leverage ratios*, which enable the comparison between equity and borrowed capital;
- ◆ *Asset management ratios*, which measure the firm's effectiveness in terms of asset usage;
- ◆ *Return ratios*, which measure the overall effectiveness of the company;
- ◆ *Growth ratios*, which show the company's capacity to maintain its position in the context of economic expansion;
- ◆ *Market value ratios*, which measure the ability of the management team to create a market value that exceeds the costs involved.

According to IAS (International Accounting Standards), the ratios are structured in four groups:

Liquidity indicators:

a) Current liquidity indicator = $\frac{\text{Current assets}}{\text{Current debt}}$

- Recommended acceptable value – around 2;
- Provides the guarantee of covering de current debt from the current assets.

b) Immediate liquidity indicator (acid test) = $\frac{\text{Current assets-Inventories}}{\text{Current debt}}$

Risk indicators:

a) Leverage indicator:

$$\frac{\text{Borrowed capital}}{\text{Equity}} \quad \text{or} \quad \frac{\text{Borrowed capital}}{\text{Employed capital}}$$

where: Borrowed capital = over one year loans;

Employed capital = borrowed capital + equity.

b) Times interest earned indicator; the lower the value of this indicator, the riskier is the position of the economic agent:

$$\frac{\text{Earnings before interest and taxes}}{\text{Interest expenses}}$$

Activity (management) indicators, which provide information regarding:

- The speed of the economic agent's cash inflows and outflows;
- Its ability to control the current capital and its main commercial activities
- Inventory turnover

$$\frac{\text{Cost of sales}}{\text{Average inventory}}$$

– Days of inventory

$$\frac{\text{Average inventory}}{\text{Cost of sales}} \cdot 365$$

– Days sales outstanding (Average collection period), which shows the effectiveness of the legal entity in collecting the receivables. A rising value of the indicator may indicate certain problems related to the loans granted to customers.

$$\frac{\text{Customers average inventory}}{\text{Turnover}} \cdot 365$$

– Days payable outstanding approximates the number of days a legal entity takes to pay its suppliers.

$$\frac{\text{Suppliers average inventory}}{\text{Purchases of goods (services excluded)}} \cdot 365$$

- Long term assets turnover

$$\frac{\text{Turnover}}{\text{Long term assets}}$$

- Total assets turnover

$$\frac{\text{Turnover}}{\text{Total assets}}$$

Return indicators, which show the efficiency of the legal entity in obtaining profit by using the available resources:

- a) *Return on capital employed*

$$\frac{\text{Earnings before interest and taxes}}{\text{Capital employed}} = \text{Re},$$

where the capital employed includes equity and long term debt.

- b) *Gross margin*

$$\frac{\text{Gross profit from sales}}{\text{Turnover}} \cdot 100$$

A decrease in the percentage indicates the fact that the company is not able to control its production costs or achieve the optimal selling price.

A fundamental objective of financial management is “maintaining a minimum level of the profitability ratio (...). The opposition between profitability and liquidity is valid in the short term and belongs to treasury management, which aims at reducing excess liquidity. In reality, profitability and liquidity are complementary goals: maintaining a minimum level of liquidity is possible only if the generated profitability is acceptable. Only a minimal volume of the monetary surplus enables the generation of liquidity, which is necessary for purchasing new assets and pay back the debt” [7, p. 115]. The importance attached to each of these two objectives, profitability and liquidity, depends on the strategy of each company, which defines its relationship with the economic and financial environment and its development plans. Thus, solvability and profitability are the bases of the company’s policy and the objectives of its financial management.

3. Analysis of liquidity ratios

Between the company’s profitability and its liquidity there is an inter-conditioning relationship in the sense that the improvement of the profitability level, relieved by additional profits, has a positive effect upon the funding of the

investment process and the remuneration of the factors of production. On the other hand, accelerating the recovery of the expenses associated with the use of the factors of production involves the increase in the employed capital turnover and the level of liquidity, which leads to increased profitability. The fundamental condition for financial balance is the financing of the cyclical needs from the permanent capital. In case the necessary working capital (which expresses the temporary financing needs that are continuously renewable and are not covered from temporary sources) is higher than the working capital, the inefficiency of the current activity generates financial imbalances. These imbalances entail additional risks in terms of the profitability of the following financial years and the integrity of the equity.

Positive net treasury is the most explicit form of achieving the company's financial balance [3, p. 175]. It indicates a monetary surplus which can be found under liabilities as net profit. In the case of a negative treasury, the financing deficit is usually covered based on new operating liabilities, discounts or treasury loans.

The analysis of a company's liquidity based on ratios involves comparing the current assets (which include cash, liquid securities, bills of exchange receivable and inventories) with the current financial liabilities (including bills of exchange payable, the part of the long-term loans whose maturity is within the time frame taken into consideration (present), short-term loans and taxes payable and other expenses, particularly salaries).

Specific literature [4, p. 26] recommends the current ratio and the quick ratio as commonly used ratios in assessing short-term solvability.

The *Current ratio*, also called *general liquidity ratio*, indicates the extent to which the rights of short-term creditors are covered from the value of the assets that are likely to be converted into cash within the time frame corresponding to the maturity period of the debt.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets include cash, highly liquid securities, bills of exchange receivable and inventories, while current liabilities consist of bills of exchange payable, short-term bank loans, the part of the long-term loans whose maturity is within the time frame taken into consideration (present), income taxes payable and other expenses (particularly salaries).

The current ratio is the most common way of assessing short-term solvability due to the fact that it indicates the extent to which the rights of short-term creditors are fully covered from the value of the assets that are likely to be converted into cash within the time frame corresponding to the maturity period of the debt.

The current ratio obtained by ALFA Company (table 1) at the end of financial year N is the following:

$$\text{Current ratio} = \frac{4429002}{2930043} = 1.51 \text{ f } 1$$

Table 1

Patrimonial Balance Sheet of ALFA COMPANY

ACTIV	N		N + 1		PASIV	N		N + 1	
	RON	%	RON	%		RON	%	RON	%
Total assets	30042477	100.00	34861496	100.00	Total liabilities	30042477	100.00	34861496	100.00
Long term assets	19636056	65.36	21692044	62.22	Equity	14287481	47.55	13809210	39.61
Intangible assets	30632247	1.56	416487	1.92	Social capital	8858238	62.00	10537808	76.31
Tangible assets	19243334	98.00	20867746	96.19	Reserves	3216112	22.51	2239854	16.22
Financial assets	8639865	0.44	407811	1.89	Profit (loss) for the period	2213131	15.49	1031548	7.47
Current assets	7406421	34.64	1016945	37.78	Provisions for risks and expenses	1294830	4.31	805301	2.31
Inventories	3540270	47.80	4637270	45.60	Debt > 1 year	6572400	45.45	7938843	39.21
Customers	2310803	31.20	4444051	43.70	Deferred income	114235	0.73	9921023	0.49
Other claims	171088	2.30	274575	2.70	Suppliers	1953568	13.51	3500704	17.29
Investments	977648	13.20	294914	2.90	Fiscal and social debt	1998395	13.82	14820793	7.32
Liquid assets	406612	5.50	518642	5.10	The part < 1 year of the long-term loans	380302	2.63	3336703	16.48
					Current loans	3441266	23.80	19271081	19.21
					Total debt	14460166	52.45	20246985	60.39

The supra-unitary value of the current ratio is the expression of a financial working capital that ensures the overcoming of eventual difficulties which can be caused by the movement or depreciation of the current assets.

The sub-unitary value of the current ratio, which indicates that the liquidity is insufficient for covering the potential outstanding debt, requires the inventory reduction for paying the short-term outstanding debt.

In the field of industry, the values of the current ratio undergo significant variations from one company to another; the causes of these variations are one of the key issues that financial analysis is supposed to solve.

The inverted current ratio shows the percentage of the assets' book value whereat they can be liquidated, in case of the need to pay the debt towards the creditors:

$$\frac{1}{\text{Current ratio}} = \frac{2930043}{4429002} = 0.66 = 66\%$$

Thus, the current assets of ALFA Company that are close to maturity may be liquidated at 66% of their book value. The current ratio suggests that the firm may reduce its bills of exchange receivable (which reduces the value of the numerator) by reducing the loan period offered to its customers or may increase the value of its bills of exchange payable (which modifies the denominator of the current ratio), making maximum use of the loans offered by the suppliers. Interpreting the current ratio is relatively difficult because a high value may indicate a liquid position as well as the existence of a surplus of liquid funds, which is a negative aspect since the current bank account funds are an asset that does bring profit for the company.

The quick ratio [1, p. 655] expresses the company's ability to meet its short-term liabilities from receivables and liquid assets.

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}}$$

Unlike the case of the current ratio, the numerator also includes the inventories, which are the least liquid current assets; thus, the issue of liquidating the inventories usually drags along losses. Therefore, the ratio taken into consideration is a quick test for measuring the firm's ability to meet its short-term liabilities.

For ALFA Company, the value of the quick ratio is the following:

$$\text{Quick ratio} = \frac{4429002 - 3109421}{2930043} = 0,45 < 0,8 \text{ (industry average)}$$

$$\frac{\text{Quick liabilities} - \text{Cash}}{\text{Bills of exchange receivable}} = \frac{2930043 - 428540}{2891041} = 86\%$$

The values of the current ratio and quick ratio show that in financial year N the company under analysis has an acceptable level of short-term liquidity; short-term

liabilities can be met by liquidating the bills of exchange receivable at more than 86% of their book value.

4. Analysis of leverage ratios

Two of the most used ratios regarding debt (credit) management are the leverage ratio and the times interest earned, given that they use balance sheet ratios in order to show the extent to which the assets were funded from borrowed funds, and ratios based on the income statement in order to determine how many times the value of the fixed costs (such as those related to interest payment) is the value of the operational profits" [6, p. 105].

The *leverage ratio* measures the share of the loans in the total funds employed by the firm in the productive activity.

$$\text{Leverage ratio} = \frac{\text{Total Debt}}{\text{Total liabilities}}$$

Creditors prefer low values of this ratio, as they indicate a greater protection against the potential losses of the creditors in case of bankruptcy. For managers, a high financial leverage is preferred both because of the increase in the anticipated earnings, as well as in order to keep control over the company in case new shares are issued. For ALFA Company, in the financial year N, the leverage ratio had the following value:

$$\text{Leverage ratio} = \frac{8626024 - 4485532}{8626024} = 48\%$$

Since the industry average is 68%, we can say that the company does not face financing problems (48% of the assets have been financed based on loans); however, getting new loans in order to acquire new assets involves the growth of the leverage ratio, which could lead to substantially higher interest rates.

In the financial analysis, debt management also involves using the ratio between debt and equity or variations of this ratio under the following forms:

- Debt – to- Assets (debt relative to assets) D/A ;
- Debt – to- Equity (debt relative to equity) D/E.

Between them, the following relationships can be established, starting from:

$$\left. \begin{array}{l} P = D + E \\ P = A \end{array} \right\} \Rightarrow A = D + E \Rightarrow D / A = \frac{D / E}{1 + D / E} \text{ and } D / E = \frac{D / A}{1 - D / A}$$

The value of both reports increases along with the increase in the loan share; the D/A ratio increases linearly towards 100%, and the D/E ratio increases exponentially and asymptotically towards $+\infty$.

The *Times Interest Earned (TIE)* is the ratio between the company's Earnings before interest and taxes (EBIT) and interest expenses. TIE shows the extent to which the firm's revenues can decrease without causing financial problems.

$$TIE = \frac{EBIT}{\text{Interest expenses}} = \frac{\text{Earnings before tax} + \text{Interest expenses}}{\text{Interest expenses}}$$

$$TIE = \frac{2995909 + 1340832}{1340832} = 3,23 > 2,4 \text{ (industry average)}$$

Since the average industry is 2.4, we can say that the operational net profit of the company available for interest related payments is 4,336,738 thousand lei; thus, the interest is covered 3.23 times. A level of TIE higher than the industry average indicates a safety margin of ALFA Company in terms of interest coverage.

5. Analysis of turnover ratios

These ratios show the effectiveness of the company's assets; they regard comparisons between the turnover and different asset positions.

Inventory turnover ratio is the ratio between turnover and the inventory value.

$$\text{Inventory turnover ratio} = \frac{\text{Sales turnover}}{\text{Inventory value}}$$

$$\text{Inventory turnover ratio} = \frac{4695751}{1109421} = 4,23 < 8 \text{ (industry average)}$$

A significantly lower value than the industry average is explained by the fact that ALFA Company operates with a larger amount of inventory than necessary or the stocks include raw materials, consumables and finished goods that are defective or obsolete and their real value is lower than the book value.

The correlated analysis of a current ratio which is close to the industry average, a low value acid test and an inventory turnover which is lower than the industry average leads to the conclusion that the firm may hold used or obsolete inventory.

The interpretation of this ratio raises several related to the fact that the turnover is expressed at the market price, while the inventories are expressed at their book value, which is usually represented by the historical costs; therefore, it is recommended to use the cost of goods sold (COGS) for the ratio's numerator. Another problem refers to the fact that the methods of assessing the costs differ among firms. Usually the FIFO method (first in, first out) is used; however, some companies prefer the LIFO method (last in, first out), which includes the calculation of older stocks, with lower values; this results lead to an increased speed of the inventory turnover.

The fact that what is taken into account are the annual sales, while the inventories are taken into consideration at the value that corresponds to a certain moment in time, is generating controversy; therefore, it is recommended to use an annual average of the inventories and to analyze the seasonal aspects that may affect the company's activity.

Days Sales Outstanding Ratio measures the bills of exchange receivable turnover. It determines the daily sales that are blocked into bills of exchange receivable, or the time frame expressed in days between the time of sale and the receipt of the counter value.

$$DSO = \frac{\text{Bills of exchange receivable}}{\text{Daily sales}} = 365 \cdot \frac{\text{Bills of exchange receivable}}{\text{Turnover}}$$

$$DSO = 365 \cdot \frac{2891041}{4695751} = 224,72 \text{ days} > 30 \text{ days (average value)}$$

The fact that the value of DSO is significantly higher than the industry average shows that the payments made by the customers are behind schedule; however, we must also take into account the issue related to the payments in installments. This situation requires the adoption of measures that should improve the methods of collecting the payments, all the more so since during the last 3 years the DSO has had an upward trend, although the credit sale terms have not been significantly changed.

Fixed assets turnover is expressed using the fixed assets turnover ratio:

$$\text{Fixed assets turnover ratio} = \frac{\text{Sales turnover}}{\text{Net value of fixed assets}}$$

$$\text{Fixed assets turnover ratio} = \frac{4695751}{4197022} = 1,18 < 7,5 \text{ (industry average)}$$

The significant difference compared to the industry average shows that ALFA Company does not use the fixed assets efficiently. For intra-sector comparisons, this ratio raises issues related to the effect of inflation on the assessment of the assets, which are booked at their historical value (with the exception of cash and commercial receivables).

The interpretation of the fixed assets turnover ratio is difficult due to the fact that a high value of this ratio may indicate the efficient use of the fixed assets, as well as the fact that the company is not sufficiently capitalized and does not have the necessary funds for asset purchases. Thus, it is recommended to analyze the net effects of a group of financial ratios as well; banking and credit organizations use the linear discriminant analysis for this purpose. LDA is a statistical method that analyses the financial ratios of companies; it enables the classification of the companies in terms of the probability of facing financial difficulties.

Total assets turnover or capital turnover [5, p. 183]

$$\text{Total assets turnover} = \frac{\text{Sales turnover}}{\text{Total assets}}$$

$$\text{Total assets turnover} = \frac{4695751}{8626024} = 0,54 < 2,5 \text{ (industry average)}$$

The value below the industry average shows that ALFA Company does not generate enough sales corresponding to the assets used. The most frequent cause is the mismanagement of the inventories; the improvement acti

The lower value compared to the industry average shows that ALFA Company does not generate enough sales corresponding to the assets used. The most frequent cause is the mismanagement of stocks; the remedy measures should lead to the increase in the sales figure and the disposal of unprofitable assets.

6. Conclusions

Financial ratios, widely used tools for diagnostic analyses, enable the comparability between enterprises of various sizes and from different fields of activity in terms of their profitability and risk. The usefulness of financial ratios both within the company's internal decision-making process and the external one regarding the creditors, investors, the exchange or the fiscal authorities is provided both by their significance as well as by the information contained by them.

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