

## FINANCIAL DIAGNOSIS OF A COMPANY’S ACTIVITIES

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***Rezumat:** Financial diagnosis consists of a number of instruments and methods which help to evaluate a company’s financial situation and performances. The financial diagnosis identifies the favourable and unfavourable factors which will affect the company’s future activity. The purpose of financial diagnosis is to draw a comparison with similar companies, in order to establish risk, profitability, and value parameters, by estimating the cost of capital (discount rate). The financial diagnosis helps to appreciate the past and present financial situation, and based on them to make projections for the future.*

***Cuvinte cheie:** financial diagnosis, financial position, profitability, risk, solvency, liquidity, sensitivity analysis.*

***Clasificare JEL :** G3*

### 1. Introduction and context

The purpose of this article is to bring well-documented information about the financial diagnosis of companies. The aim of the research is to analyze a company’s financial performance by looking at the data in the balance sheet and comparing the company’s values with those of the sector in which it operates. This analysis does not offer guarantees regarding future performances, but it shows clearly the company’s past and present financial situation, being very useful for the investors.

The advantage of financial diagnosis is that it is based on certain data, results from previous periods. Based on them one can make strategies related to future activities, taking into account the possibilities of the analyzed entity and also of the market on which it operates.

This paper was written after a thorough analysis of the literature referring to the company’s financial diagnosis.

### 2. Financial diagnosis

**The aim of financial diagnosis** is to appreciate the company’s financial situation. The new strategies to maintain and develop the company in the environment specific to local economy will be based on this diagnosis. In a general sense, the objective of financial diagnosis is to give financial information to those inside the company, but also to those outside it, with certain interests in the company.

The information needed for the financial diagnosis is taken from the developed financial situations (balance sheet, profit and loss account, treasury flow situation, changes in the ownership equity situation, annotations on financial situations) or simplified ones (balance sheet, profit and loss account, annotations on financial situations).

The users of the **internal financial diagnosis** can be the managers, shareholders or employees. The aim in this case is to detect possible situations of financial disequilibrium and to adopt new decisions to manage the company. These decisions are based on identifying the origin and cause of the disequilibrium, which will have to be solved.

The users of **external financial diagnosis** are: financial analysts, potential shareholders, banking or financial organisms or even the state. The objective is to follow the company’s financial capacity to generate profit, its capacity to honour long and short term obligations (the company’s liquidity and solvency), and also its value.

Most of the time external users need a financial diagnosis either to give credits to the companies (especially banks), or to take decisions about entering in a company’s capital.

Unfortunately, the diagnosis is done only during great difficulties or when someone asks for such a report. We believe that a financial diagnosis should be done periodically.

A financial diagnosis can have the following **components**:

- 1) Diagnosis of financial position;
- 2) Profitability analysis;
- 3) Analysis of intermediary management balance and of self-financing capacity;
- 4) Analysis of cash flow indicators;
- 5) Risk and bankruptcy indicators;
- 6) Conclusions regarding the company's general diagnosis.

### **1) Diagnosis of financial position**

The company's financial position will be analyzed by using multiple indicators: net situation, working capital, need for working capital, net treasury, own working capital, foreign working capital, rotation rates, structure rates (ownership equity/economic assets, financial debts/ownership equity).

The net situation represents the shareholders' property in the company's assets, discharged of debts. The financial diagnosis means that the financial equilibrium is analyzed on 2 levels:

- The upper part of the financial balance sheet between permanent resources and permanent needs (FR);
- The lower part of the balance sheet between the temporary resources and temporary needs (NFR).

**The working capital (WC)** shows the long term financial equilibrium and it is calculated as the difference between permanent capitals and net fixed assets. A positive working capital shows the existence of permanent capitals through which short term financing needs can be covered (those related to the operating cycle). A negative operating cycle shows a financing disequilibrium, because part of the fixed assets is covered by short term purchased resources.

**The need for working capital (NWC)** shows short term equilibrium and it is calculated as the difference between the sum of stocks and receivables on one hand, and operating debts on the other, represented by the debts towards the suppliers, employees, state and shareholders. A positive working capital shows that temporary resources cannot cover by themselves the temporary financing needs, thus new sources are necessary, either from the working capital (if it is positive) or from new loans. A negative working capital shows that temporary resources cover the temporary financing needs, thus showing a state of balance.

**The net treasury** shows the company's general equilibrium and it is calculated as the difference between WC and NWC. A positive net treasury indicates a state of balance, while a negative one indicates that the company needs other new financing sources.

**The turnover ratio** shows the company's capacity to make income. They reflect the operating activities' efficiency, and show the duration for collecting the receivables, for the suppliers' payments, for stocking materials, the days inventory outstanding of an operating cycle.

The capitals' structure rates express qualitative factors for increasing the profitability of capitals, but also show the company's capacity to cope with the amounts invested by the shareholders or creditors.

### **2) Analysis of the company's profitability**

A company's performance is measured by comparing the means used with the obtained results. Multiple indicators will be analyzed in a profitability diagnosis: the breakeven point, variable expense margin, the structure of the expenses (fixed and variable), net result, profitability rates (economic, financial).

**The breakeven point** (critical turnover) shows the level of income which covers all the expenses, so that the profit equals zero.

The variable expenses margin (VEM) is obtained by subtracting from the turnover the variable expenses. This value represents in fact the company's fixed expenses and profit. The higher the margins, the higher the profit.

The division of total expenses in variable and fixed is important to the production's variation. Thus, companies which have higher fixed expenses are more vulnerable to have a decrease in the company's level of activity.

### **3) Analysis of the intermediate management balance and of the self financing capability**

**The intermediate management balances** are indicators in the form of balances, also called margins, which highlight the stages in the making of the result of the accounting period, closely connected to the income and expenses structure related to a company's activity. Each intermediary balance of administration reflects the result of the financial management at an accumulation stage.

The intermediate management balances are:

- a. Commercial margin;
- b. Production of accounting period;
- c. Value added tax;
- d. Gross operating surplus (GOS);
- e. Operating result;
- f. Current result of the accounting period;

- g. Extraordinary result;
- h. Net result of the accounting period.

**The self financing capacity** expresses the company’s financial potential, its possibility to finance its development from its own resources produced by the current activity. It is calculated as the difference between the income receivables and payable expenses.

#### 4) Analysis of cash flow indicators

The cash flow indicators are represented by the available cash flow (ACF), the cash flow available to the shareholders (ACF<sub>sh</sub>) and the cash flow available for creditors (ACF<sub>cred</sub>). Cash flow can be calculated by using one of the two methods: direct or indirect.

#### 5) Indicators of risk and bankruptcy

The indicators used in this analysis can be grouped as:

##### A) solvency indicators

A company is sound if it has the capacity to pay all its debts on time. Solvency is established with the help of the balance sheet as a ratio between the company’s total assets and total debts. If the ratio is higher than 1.5, the company is sound, if the ratio equals 1, the assets are equal with the debts and the shareholders assets are equal to 0, and if the ratio is less than 1, the company is in bankruptcy.

The solvency indicators are: indebtness rate (financial debts/permanent capital), operating leverage (profit variation/turnover variation), net situation/total liabilities.

##### B) Liquidity indicators

**Liquidity** represents the elements’ capacity to transform into money and signifies the company’s possibility to pay its short term debts. The indicators used are: current liquidities (current assets/current debts), quick liquidity ratio (current assets without stock/current debts), immediate liquidity ratio (liquid assets/current debts).

##### C) Bankruptcy indicators

Bankruptcy indicators used in the financial diagnosis can be those indicators of the score function type. These functions have been used for some time by banks to evaluate the credit worthiness of clients and to establish possible bankruptcy conditions.

A score function starts from the values registered by certain financial indicators calculated for the companies that are being evaluated. It starts from a database with financial and accounting information from multiple companies from the same area of activity, with similar size and the same object of activity. One must choose both sound and vulnerable companies. The time frame for the analysis must be over 10 years. The financial analyst will try to find out which indicators are more tightly related to the company’s bankruptcy state.

The score function results from the statistical processing of financial indicators calculated for each company. One can opt for a multiple regression or for a uni or multidimensional discriminating analysis. **Regression** function refers to a mathematical expression, deduced after processing some experimental data, which estimates the dependencies from two or multiple variables of a system or process.

After estimating the regression function, it will be applied to a sample of companies. The adjusted values of bankruptcy risk will result from this. If the model is statistically validated, it can be used to predict bankruptcy risks.

The model developed Edward Altman in the 1960s and 1970s in the US has the following score functions:

$$Z = \frac{\text{Operating result}}{\text{Total assets}} + 1,2 \frac{\text{Net current assets}}{\text{Total assets}} + 1,0 \frac{\text{Turnover}}{\text{Total assets}} + 0,6 \frac{\text{Market value of equity}}{\text{Value of debts}} + 1,4 \frac{\text{Retained earnings}}{\text{Total assets}} \quad (1)$$

A Z score lower than 1.6 signifies that the company has a 95% chance to go bankrupt in one year. If the score is between 1.6 and 3, the company had a medium vulnerability risk, and if the score is higher than 3, the company has a low bankruptcy risk.

One must have great reservations when applying these functions in any company and under any circumstances.

##### D) Sensitivity analysis

Sensitivity analysis permits the breakdown of the profits’ variability into main risk factors which condition its level. In order to forecast the turnover and profit, one must start from the probable evolutions of multiple indicators:

- a) the market where the activity under diagnosis takes place;
- b) the market share of the company;
- c) price of goods;
- d) size of the turnover;

- e) margin of variable expenses;
- f) variable operating expenses;
- g) fixed operating expenses;
- h) operating result;
- i) interest related expenses (financial);
- j) profit tax;
- k) net profit.

By using the sensitivity analysis one can determine the variations in profit induced by the modification of one of the risk factors, considering the other factors as constants. The profit's coefficient of elasticity (e) in relation to that factor will be given by the formula:

$$e = \frac{\frac{\Delta PN}{PN}}{\frac{\Delta F}{F_0}} \quad (2)$$

where: e = coefficient of elasticity, it shows the percentage of variation of the net profit to a variation of one percent of the risk factor taken into account

$\Delta PN$  = the variation of net profit compared to the initial value

$PN_0$  = net initial profit

$\Delta F$  = variation of the risk factor taken into account

$F_0$  = initial value of the risk factor taken into account.

If the coefficient of elasticity of the factor taken into consideration has a high value, it must be carefully monitored because it has a significant influence on future results.

If the coefficient of elasticity has a positive value, it signifies a direct relationship between the profit and the analyzed factor. If, for example, the coefficient of elasticity of a unit price is 1.33%, this means that increasing the unit price with one percent will increase profit with 1.33%.

If the coefficient of elasticity has a negative value, it shows an inverse relationship between profit and the analyzed factor. For example, if the coefficient of elasticity of variable expenses has the value of 1.25%, this means that by increasing the variable expenses with one percent will lead to a decrease in profit of 1.25%.

### 6) Conclusion regarding the general diagnosis of a company.

The general conclusions regarding the company's diagnosis consisted in making a SWOT analysis, to point out the strong point, weak points, the opportunities that the company can benefit from, and the risks (threats) which can influence the company's future activity.

### 3) Case study regarding the analysis of assets, debts and ownership equity

In addition to the theoretical part, we present an example of a diagnosis of the accounting balance sheet for the company SC TOHAN SA, which operates in the industrial domain. The evolution of assets, debts and ownership equity is presented succinctly in table 1:

**Table 1 Evolution of assets, debts and ownership equity**

Name of the element	2011	2012
Fixed assets	66,853,227	68,841,760
Current assets, from which:	17,059,463	11,620,777
Stocks	6,098,435	4,361,755
Receivables	7,747,196	2,441,481
Liquid assets	3,213,832	4,817,541
Ownership equity	60,151,365	60,228,904
Debts higher than 1 year	4,325,500	3,935,000
Debts lower than 1 year	10,886,930	6,994,822

Source: Adaptation after the accounting balance sheet of SC TOHAN SA

#### Conclusions:

1) The fixed assets grew with about 2 million lei, as a result of the increase of intangible assets (development expenses and other intangible assets) with 1.2 million lei and of buying some office equipments for 0.8 million lei.

2) The current assets have decreased from 17 million lei to 11.6 million lei, due to a decrease in stocks with 1.7 million lei, in receivables with 5.3 million lei, while liquid assets increased with 1.5 million lei.

Comparing these data with the turnover index, which is 145% for the 2012/2011 period, the aspect is positive because the turnover increased, and stocks and receivables decreased, leading to an increase of liquid assets.

3) Ownership equity grew with 77.539 lei, a positive aspect because it suggests that, on the long term, the shareholders' assets can increase.

4) The capitals of over 1 year decreased with 390 thousand lei, and those of less than 1 year with 3.89 million lei, meaning that the company was able to pay these debts as a result of obtaining positive results.

The analysis of assets, debts and ownership equity can also be done by taking into account the balance of elements of assets and liabilities in the total assets, respectively total liabilities, according to the balance sheet presented in table 2:

**Table 2 Structure of the balance sheet according to the balance of elements**

Name of elements	2011	2012
Intangible assets	1.54	3.10
Tangible assets	77.46	81.76
Financial assets	0.66	0.7
<b>Total assets</b>	<b>79,66</b>	<b>85.56</b>
Stocks	7.27	5.42
Receivables	9.24	3.03
Liquid assets	3.83	5.99
<b>Current assets</b>	<b>20.34</b>	<b>14.44</b>
<b>In advance expenses</b>	<b>0</b>	<b>0</b>
<b>Total assets</b>	<b>100</b>	<b>100</b>
Subscribed and paid capital	20.13	20.99
Reserves from revaluations	58.72	61.00
Reserves	1.80	2.12
Reported loss (ct. 117)	- 9.23	- 9.43
Results of the accounting period (ct. 121)	0.26	0.17
<b>Total of ownership equity</b>	<b>71.68</b>	<b>74.85</b>
<b>Debts &gt; 1 year</b>	<b>5.15</b>	<b>4.89</b>
<b>Debts &lt; 1 year</b>	<b>12.97</b>	<b>8.69</b>
<b>In advance income (subventions for investments)</b>	<b>10.2</b>	<b>11.57</b>
<b>Total liabilities</b>	<b>100</b>	<b>100</b>

Source: Adaptation after the accounting balance sheet of SC TOHAN SA

#### Conclusions:

1) An increase of fixed assets in the total of assets from 79.66% to 85.56% can be beneficial if it will lead to an improvement in the company's activity, but the assets which bring profit from the current activity are the current assets which decreased from 20.34% to 14.44% in 2012. The decrease of current assets is beneficial if it is a result of a reduction of their rotation lifetime and not as a result of a lower production of the fiscal year.

2) Permanent capitals are lower than fixed assets, which show a long term financial disequilibrium, (negative WC). In fact, the reserves from revaluations are the ones that increase the ownership equity, because the reported result has negative values (losses in previous years).

3) Even though the company had profit in the analyzed years, the economic rate of return is under 1%, which shows a very low efficiency of the capitals employed by the company.

4) The investment subventions have a fairly significant share (10-11%), which means that without them the company would have even bigger problems in obtaining positive results.

5) Total debts have a low share in the total liabilities, showing a low level of indebtedness, and their decrease and the increase of liquid assets show that, in the short term, the company does not have problems with its cash flow.

The positive aspects in the financial diagnosis are: decrease of stocks and receivables, increase of liquid assets; the negative aspects are the low efficiency of the employed capital, and a surplus of tangible assets, which could be rented to third parties.

## 4. Conclusions

Each business area has certain peculiarities. Companies from the goods production area have a high level of tangible assets and stocks, but also a high degree of indebtedness. For the companies from the trade sector the level of tangible assets is lower, but the level of receivables is higher. The days inventory outstanding is higher for the companies that produce goods than the ones from the trade or service sector. A certain value of an indicator can mean a positive activity for a certain company, but a negative activity for another.

A pertinent diagnosis can be made only after analyzing as many financial indicators as possible, for multiple periods and when there is a standard to which one can report to.

## 5. Bibliography

- [1] **Anghel I., Oancea Negescu M., Anica Popa A., Popescu A.M.**, - Evaluarea întreprinderii, editura Economică, București, 2010;
- [2] **Dragotă V., Obreja Brașoveanu L., Dragotă I. M.**, – Management financiar, ediția a doua, vol. 1, Diagnosticul financiar al companiei, Editura Economică, București, 2012;
- [3] **Dincă M.S.** – Gestiunea financiară a firmei, Editura Universității Transilvania din Brașov, 2011;
- [4] **Gibson Charles H.**, Financial Reporting & Analysis, 11e, South – Western Cengage Learning, 2009;
- [5] **Halpern P., Weston F., Brigham E.** – Finanțe manageriale, Editura Economică, București, 1998;
- [6] **Niculescu M.**, - Diagnostic financiar, vol 2, editura Economică, București 2005;
- [7] **Subramanyam K. R., John J. Wild**, Financial statement analysis, 10e, McGraw – Hill/Irwin, 2009;
- [8] **Suciu G.** – Diagnostic financiar. Concepte. Metode. Aplicații. Editura Universitară, București, 2013;
- [9] **Vâlceanu G., Robu V., Georgescu N.**, Analiză economico-financiară, Editura Economică, București, 2007.