

## Financial Analysis as a Key Component of the Business Valuation

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### Abstract

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Corporate managers are responsible for acquiring material and financial resources and using them to create value for the company's investors. Value is created when a company realizes a return on its investment above the cost of capital. Managers formulate business strategies to achieve this goal and implement them through business activities. The business activity of the company is influenced by its economic environment and own business strategy. The economic environment includes the company's industry, its markets for incoming and outgoing products and the regulations under which the company operates. The analysis of the financial condition is used to assess the readiness of the company to take the financial risk and the ability to repay its debts. It is also used by creditors to assess the creditworthiness of the company. Methodology: The *purpose* of this article is to consider the possibilities of financial analysis in the valuation of enterprises. The main *task* of the article will be to highlight the key indicators, part of the financial analysis, which are applicable in the evaluation of operating enterprises. The *thesis* that is defended is related to the need to apply financial analysis in the evaluation of existing enterprises and for this purpose it is possible to derive an appropriate methodology based on the most appropriate financial indicators.

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## INTRODUCTION

The business strategy of the company determines how the company positions itself in its environment to achieve a competitive advantage. The financial statements of the company summarize the economic consequences of its business activities. The business activities of the company in each period are too numerous to be reported individually to outsiders. In addition, some of the activities undertaken by the company are of a property nature and their disclosure in detail may harm the company's competitive position. In this regard, the accounting system provides a mechanism by which business activities are selected, measured and summarized in the data from the financial statements.

The analysis of the financial condition is used to assess the readiness of the company to take the financial risk and the ability to repay its debts. It is also used by creditors to assess the creditworthiness of the company. The analysis is ubiquitous and includes a wide variety of ratios and a wide variety of consumers, including commercial providers, banks, credit agencies, investors and management, among others. Determining the right tools of indicators would help significantly in the evaluation of existing enterprises. Business valuation undoubtedly includes analysis based on financial statements, such as assessment of assets, liabilities, solvency, profitability, efficiency, etc. Financial analysis is the basis for what predictions will be made for the various input variables.

The analysis of the financial statements is the beginning of the investigation in the assessment of operating companies and J. Hooke (2010) likens it to detective work, asking questions such as: why sales have increased or decreased? Why do profit margins change? Is there a reason to increase the ratio of inventories to sales? The answers to this type of question are used in practice when the analyst prepares financial forecasts.

A fair assessment of an operating enterprise requires an in-depth organizational, financial and technological-retrospective analysis of the enterprise, as well as a forecast of the prospects for its development. The evaluation methodology requires continuous improvement and updating of the methods used due to the variability of business

conditions, integration and global trends in the global market. The value of an enterprise depends on several factors, both external and internal. Several such specific factors that are key to the assessment can usually be interpreted. Such are sales revenues, profitability, liquidity, financing costs, quality of management and others. A multi-layered framework of corporate value determinants was provided by Sander (2007). Therefore, valuation, the process of establishing the value of a company, can rely on a smaller or larger number of different factors, depending on the valuation approach used. Several important questions arise here:

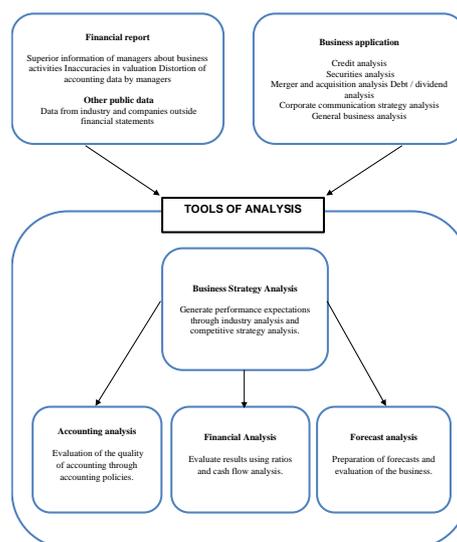
- What are the relevant indicators that are important in the assessment of an operating enterprise? Which aspects of the analysis will be affected?
- What is the degree of reliability of the provided information, i.e., what is the representativeness of the financial statements and to what extent it may be distorted due to the static nature of the data or intentionally due to the activities of managers?

In order to achieve the correct answers to these questions, a number of other questions may arise, which are asked by investors, creditors, consultants and corporate managers themselves, mainly related to financial performance and whether the expectations for the results are met, how the value of shares, what is the credit rating, how is liquidity and solvency managed, what are the levels of credit, business risk and additional risks associated with the dividend policy of the company, what is the structure of the industry in which the company operates, what are the strategies pursued by the competition, how did these factors affect the relative efficiency of the different companies in the industry? Managers ask other questions such as whether the company is properly valued by investors, whether there is an adequate program for communication with investors to facilitate this process, whether this company is a potential target for takeovers, how much value can be added if acquiring this company, how it can finance the acquisition and others. Therefore, it is extremely important to determine the most accurate types of analyzes, indicators and tools for the preparation of the most accurate and reliable assessment of an operating

enterprise. The financial analyst must choose the technology with which to evaluate, and diligent analysis requires the best technology (Penman, S., 2013). In this regard, the various possibilities for applying analyzes will be considered, but attention will be paid mainly to the analysis based on the financial statements.

**Opportunities for analysis in the evaluation of operating enterprises.**

In their study “Business Analysis & Valuation: Using financial Statement”, K. Palepu and P. Healy (2012) make a key division of the appropriate type of analysis based on the financial statements that are appropriate for the assessment of existing enterprises. According to the authors, the skills of financial managers are a source of both added value for the company and distortion of accounting data (intentionally or unintentionally). For this reason, it is difficult for external users of the financial statements to identify information distortions and they are not able to eliminate the accounting distortions completely. In this way, they have to make a probabilistic assessment of the extent to which the reported figures of the company reflect its economic results. As a result, investors often have an inaccurate assessment of the company's performance. Financial and information intermediaries can be helpful in making it easier for investors to assess the company's current performance and prospects. Effective analysis of financial statements is valuable as it attempts to obtain managers inside information from public financial data. As intermediaries do not have direct or full access to this inside information, they rely on their knowledge of the company's industry and its competitive strategies for interpreting the financial statements. Successful intermediaries have at least as good an understanding of the industry's economy as the company's managers, as well as a relatively good understanding of the company's competitive strategy. Figure 1 provides a schematic overview of how business intermediaries use financial statements to perform four key steps: (1) business strategy analysis, (2) accounting analysis, (3) financial analysis, and (4) forward-looking (forecast). analysis.



Source: Cengage Learning

**Figure 1.** Analysis and evaluation of operating enterprises using financial statements.

**Step 1: Business strategy analysis**

The purpose of the business strategy analysis is to identify key drivers of profit and business risks and to assess the company's profit potential at a quality level. The analysis of the business strategy includes an analysis of the company's industry and its strategy for creating a sustainable competitive advantage. This qualitative analysis is an essential first step as it enables the analyst to better improve the next accounting and financial analysis. For example, identifying significant success factors and business risks allows the identification of key accounting policies. The evaluation of the company's competitive strategy facilitates the evaluation and provides an answer to the question of whether the current profitability is sustainable. Business analysis also allows the analyst to make solid assumptions when forecasting the future results of the company.

**Step 2: Accounting analysis**

The purpose of accounting analysis is to assess the extent to which a company's accounting reflects its core business economy. By identifying areas where there is accounting flexibility and by assessing the appropriateness of the firm's accounting policies and evaluations, analysts can assess the degree of distortion in the firm's financial statements. Another important step in accounting

analysis is to eliminate all distortions by processing the company's accounting values to create unbiased accounting data. Sound accounting analysis improves the reliability of the conclusions of the financial analysis, the next step in the analysis of the financial statements.

### **Step 3: Financial analysis**

The purpose of financial analysis is to use financial data to assess the current and historical performance of a company and to assess its sustainability. There are two important skills related to financial analysis. First, the analysis must be systematic and effective. Second, it should allow the analyst to use financial data to research business issues. Ratio analysis and cash flow analysis are the two most used financial instruments. The ratio analysis focuses on the assessment of the company's product performance and financial policies, while the cash flow analysis focuses on the company's liquidity and financial flexibility.

### **Step 4: Forecast analysis**

Forecast analysis, which focuses on forecasting the future of the company, is the last step in business analysis. Two commonly used techniques for this analysis are forecasting and evaluating financial statements. Both tools allow the synthesis of conclusions from business analysis, accounting analysis and financial analysis to make predictions for the future of the company.

While the inherent value of a company is a function of future cash flow results, it is also possible to estimate the value of a company based on the current book value of equity and future return on equity (ROE) and growth. Business strategy analysis, accounting analysis and financial analysis provide an excellent basis for assessing the inherent value of the company. Business strategy analysis, accounting analysis and financial analysis provide an excellent basis for assessing the inherent value of the company. The analysis of the business strategy, in addition to enabling a solid accounting and financial analysis, also helps to assess the potential changes in the competitive advantage of the company and their consequences for the future return on investment and growth of the company. The accounting analysis provides an objective assessment of the current book value of the

company and ROE. Financial analysis allows an in-depth understanding of what drives a company's current ROE. The most significant attention in the present study will be paid to the financial analysis and will consider the different possibilities for application of indicators.

### **Financial analysis as a key component in the evaluation of operating enterprises.**

Financial analysis has different users and users of information. Financial statements are the main information that companies publish about themselves, and investors are the main users of financial statements. Companies, on the other hand, need and attract capital from investors and prepare their financial statements in such a way as to try to attract investors. Investors, on the other hand, expect the company to add value to its investment - to return more than invested, so they carefully read the financial statements to assess the company's ability to do so. The financial statements are also used for other purposes. Governments use them to formulate the socio-economic policy of the state and to regulate tax legislation and tax collection. Employees use them to negotiate and renegotiate their salaries. The court and the experts use the information in lawsuits, lawsuits, bankruptcy, etc.

Each user should obtain the necessary information from the reports and interpret it in the most correct way for him. In addition, the purpose of the financial analysis based on the reports is to assess the company's performance in the context of the stated objectives and strategy. Two main groups of financial analysis tools are used: financial ratio analysis and cash flow analysis. The analysis of the ratio includes an assessment of how the different items in the company's financial statements are related to each other. Cash flow analysis allows the analyst to examine their movement and assess the management of operating, investment and financial cash flows. Financial analysis can be used in a different context. The ratio analysis, which compares the company's current performance with the past and uses the results that provide the basis for forecasting future results, as financial forecasting is useful in assessing the company, creditworthiness, bankruptcy risks, and mergers and acquisitions.

All financial ratios are measured based on the company's financial statements. Given that they are prepared statically, i.e., as of a certain date, it should be borne in mind that the information they provide must be interpreted and examined carefully, as it may be manipulated by owners and financial managers to mislead users the most. For the evaluation of operating enterprises, some of the most appropriate indicators according to the authors will be indicated and explained.

### 2.2.1. Indicators for short-term liquidity and current indebtedness:

Every good appraiser has reduced the value of an enterprise if it is in a liquidity crisis or there are risks related to its solvency. To this end, he would apply several indicators that are an increasingly stringent test for this so important measure. Liquidity is one of the main financial indicators of equilibrium in the enterprise. According to G. Petrov (2000), cash is an asset that companies hold to provide liquidity, i.e., the possibility of immediate payment. The liquidity threshold decreases with the increase in cash over the amount required for payment. Larger stocks of cash than needs mean a loss of interest, as larger stocks of raw materials and supplies immobilize capital, and it ceases to generate income.

Liquidity (Breitkreuz, 2007) is one of the main prerequisites for the security and existence of the enterprise. Neither revenue growth, nor modern marketing strategy, nor exemplary management policy, nor the most modern product or production technology can avoid liquidation if a company is not solvent.

According to V. Stoyanov (2005) "liquidity or solvency is an extremely important and almost universal concept, because it refers to every business entity, every trader." Of course, it is important to clarify that there is a difference between the liquidity and the solvency of the company. Liquidity refers to the availability of cash soon, considering financial commitments during this period. Solvency refers to the availability of cash at a longer time to meet the company's financial obligations in a timely manner. The liquidity of an enterprise is directly related to the financing of its assets, as it represents its ability to

return foreign short-term capital to its owners in a timely manner.

O. Simeonov (2004) defines liquidity as "his ability to pay his debts at the expense of his assets". This is a function of the principal correspondence between available assets and existing liabilities. The liquidity problem is a problem of the correspondence between the size and structure of assets and liabilities. Liquidity is an indicator of the financial balance between assets and liabilities at any point in the money cycle. Liquidity has long-term and short-term expression. Long-term liquidity represents the equilibrium in the long run and considers the possibility of paying liabilities at the expense of assets. Short-term liquidity measures the ability of an enterprise to repay its short-term liabilities at the expense of its current assets.

There are various possibilities for measuring current liquidity, and the most used are the so-called liquidity ratios, which represent balance sheet ratios. Despite the variety of formulas and their many interpretations and recording in different ways, the most used are the following (Hristozov, 2018):

$$\begin{aligned} \text{Current Ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\ \text{Quick Ratio} &= \frac{\text{Currents assets} - \text{Inventories} - \text{Prepaid costs}}{\text{Current Liabilities}} \\ \text{Cash Ratio} &= \frac{\text{Cash and Cash Equivalents} + \text{Short-Term Investments}}{\text{Current Liabilities}} \\ \text{Operating Cash Flow Ratio} &= \frac{\text{Operating Cashflows}}{\text{Current Liabilities}} \\ \text{Net-working-capital-to-total-assets} &= \frac{\text{Net working Capital}}{\text{Assets}} \end{aligned}$$

All the above ratios attempt to measure a firm's ability to pay its current liabilities. The first four compare the company's current liabilities with its current assets, which can be used to repay these liabilities. The current ratio focuses on the company's ability to generate the resources needed to repay its current liabilities.

As current assets and current liabilities have a comparable duration, the current ratio is a key index for the company's short-term liquidity. Analysts believe that the current ratio greater than 1 is an indication that the company can cover its

current liabilities with cash generated from the sale of all their current assets. However, a firm may face a short-term liquidity problem, even at a current ratio exceeding one, when some of its current assets are not easy to liquidate. This is one of the main disadvantages, that only on this indicator it is difficult to judge how long an asset would turn into money.

Changes in the current ratio can be misleading (Brealey, R., Myers, S., Allen, F., 2010). Suppose, for example, that a company borrows a large amount from a bank and invests it in marketable securities. Current liabilities are growing, as are current assets. If nothing else changes, net working capital is not affected, but the current ratio changes. For this reason, it is sometimes preferable to compare net short-term investments against short-term debt when calculating the current ratio.

Current, quick and cash ratios show the company's ability to cover its current liabilities at the expense of more liquid assets than inventories. Rapid liquidity assumes that the company's receivables are such. This applies to industries where the creditworthiness of customers is undisputed or when receivables are collected for a very short period. When these conditions do not prevail, immediate and absolute liquidity, which reports only cash and securities, are a better indicator of the firm's ability to meet its current liabilities in emergency situations.

They eliminate receivables and short-term investments (marketable securities) to make a stricter test of the company's ability to repay short-term liabilities only at the expense of cash in absolute liquidity. What is the difference between immediate liquidity, which, although called a cash ratio, does not really include only money in the numerator? This is because the term cash according to S. Ross, R. Westerfield, J. Jaffe (2003) is surprisingly inaccurate as a concept. The economic definition of cash includes currency, deposits in checking accounts with commercial banks and non-deposited checks. However, financial managers often use the term cash to include short-term marketable securities. Short-term marketable securities are often referred to as "cash equivalents" and include treasury bills, certificates of deposit and repurchase agreements.

Operating cash flow is another measure of a firm's ability to cover its current liabilities from cash generated by the firm's operations. The ratio is a measure of how well current liabilities are covered by the cash flows generated by the company's operations. The use of cash flows as opposed to the use of net income is considered a cleaner or more accurate measure because profits are easier to manipulate. An indicator higher than one means that the company generates more cash for a certain period than necessary to pay current liabilities.

The ratio of net working capital to total assets is essential for managers, as it shows a possible lack of funds to continue the business (Brealey, R., Myers, S., Allen, F., 2010). If the value of this ratio is negative, it indicates that the company may face a debt crisis and fail to meet its short-term liabilities. The ratio mostly helps to compare companies operating in the same sector.

Businesses, as well as valuers, investors and analysts, are paying more and more attention to this liquidity, especially after the consequences of the severe financial and economic crisis of 2008 and the situation with Covid-19 from the beginning of 2020. However, cash management and control and liquidity have always been a significant part of the company's risk management, which has been imposed and regulated by companies with the implementation of the changes in the eighth EU directive (DIRECTIVE 2008/8 / EC). B. Heensen (2016) shares in his book "Cash- und Liquiditätsmanagement" that the adaptation to the new functions and requirements of the directive requires the application of enhanced measures regarding the control, auditing and management of this key indicator and it will be addressed more attention from creditors and investors.

#### **Indicators of indebtedness and long-term solvency**

Excessive indebtedness will lead to an underestimation of the value of a going concern. The assessor's skill is to be able to determine if risk factors are observed based on the use of several indebtedness indicators. A company's financial leverage is also influenced by its debt financing policy. There are several potential benefits of debt financing. First, debt is usually cheaper than equity because the firm promises predetermined payment terms to debt holders. Second, in most countries,

interest on debt financing is deductible from taxes, while dividends to shareholders are not taxable. Third, debt financing can impose discipline on the company's management and motivate it to reduce wasteful costs. Fourth, for private debt, it is probably easier for management to communicate its own information about the company's strategies and prospects to private creditors than to public capital markets. Such communication can potentially reduce a company's capital costs. For all these reasons, it is advantageous for companies to use at least some debt in their capital structure. Excessive reliance on debt financing, however, is potentially costly for the company's shareholders. The company will face a financial problem if it fails to meet its obligations to pay interest and principal. Debt holders also impose agreements on the company, limiting decisions about the company's activities, investments and financing (Palepu, K., Healy, P. 2012).

The optimal capital structure for a company is determined primarily by its business risk. A company's cash flows are highly predictable when there is little competition or little threat of technological change. Such companies have low business risk; therefore, they can rely heavily on debt financing. In contrast, if a company's operating cash flows are highly volatile and capital expenditure needs are unpredictable, it may need to rely primarily on its own financing. Managers' attitudes to risk and financial flexibility often determine a company's debt policies. There are several ratios that help the analyst in this area. To assess the combination of debt and equity in the capital structure of the company, the following ratios are useful (Nenkov, D., Hristozov, 2020), (Hristozov, 2020):

$$\text{Debt-to-equity Ratio} = \frac{\text{Total Debt}}{\text{Equity}}$$

$$\text{Total Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

$$\text{Debt-to-capital Ratio} = \frac{\text{Total Debt}}{\text{Capital}}$$

$$\text{Long-term-debt-to-capital Ratio} = \frac{\text{Long-term Debt}}{\text{Capital}}$$

$$\text{Long-term-debt-to-equity Ratio} = \frac{\text{Long-term Debt}}{\text{Equity}}$$

$$\text{Interest-coverage Ratio} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

The debt on the balance sheet of the enterprise represents certain financial obligations, which it has undertaken to develop its main activity. The Debt-to-Equity ratio helps the company's management and its creditors to assess the risk of the company's financial structure. The ratio helps in making financial decisions and can consider possible risks in repaying debts. The debt-to-equity ratio reveals the share of the company's debt as a percentage of its total market value. If a company has a debt-to-equity ratio of 50%, this means that it is half-financed with own funds and half with borrowed capital. The ratio shows the amount of debt that the company has used to finance its assets. Heavy industry and manufacturing companies often have higher rates. In this case, a higher debt ratio may be the industry standard and does not mean that the company has a higher financial risk or will have problems servicing its debt. Like most odds, this one suggests a comparison for different historical periods. If a company's ratio has increased dramatically over time, then the company may have an aggressive debt-financed growth strategy. This increasing leverage adds additional risk to the company and increases costs due to higher interest rates than the increase in debt. The debt-to-equity ratio does not consider whether much of the debt is due soon or in the long run. If the company has a large part of the debt that needs to be repaid within the year, the ratio may seem drastically variable. For this reason, comparing the same ratio from several different time periods will give a more meaningful view and information. In connection with the above, it can be summarized that the financial leverage (leverage) is represented by the ratios: borrowed capital to equity and attracted capital to invested capital. In practice, when expressing financial leverage, the first ratio is more applicable, because it directly measures the possibility with the available equity to recover (cover) the financial indebtedness of the enterprise. Equity, as mandatory in the capital structure of the enterprise, is not tied to maturity. Long-term borrowed capital is a relatively stable financial source, as its inherent liabilities are not required within the reporting period. It can also be measured only by the long-term debt in a numerator to show how much leverage is used by the company. A higher ratio means that the

company takes on more debt. This in turn often makes them more vulnerable to financial risk.

The Debt Ratio shows how much of the company's assets are financed by debt in one form or another and represents the ratio of borrowed capital (short-term long-term liabilities) to the total value of assets (short-term fixed assets). Total debt to total assets is a measure of a company's assets that are financed by debt rather than equity. This leverage ratio shows how a company has grown and acquired its assets over time. Investors use the ratio to assess not only whether the company has sufficient funds to meet current debt obligations, but also to assess whether the company can achieve a return on its investment. Lenders use the ratio to see how much a company owes and whether it can repay its debt, which determines the company's future lending. (Nenkov, D., Hristozov, J., 2020). Total debt to total assets is a measure of a company's assets that are financed by debt rather than equity. This leverage ratio shows how a company has grown and acquired its assets over time. Investors use the ratio to assess not only whether the company has sufficient funds to meet current debt obligations, but also to assess whether the company can achieve a return on its investment. Lenders use the ratio to see how much a company owes and whether it can repay its debt, which determines the company's future lending. The disadvantage of the debt-to-assets ratio is that it does not provide indications of asset quality, as it brings together all tangible and intangible assets.

The Debt-to-Capital ratio shows the relative share of debt in the value of total long-term financing and measures the company's financial leverage. The debt / equity ratio is calculated by taking the company's interest-bearing debt, both short-term and long-term liabilities, and dividing it by the total capital. Total capital is all interest-bearing debt plus equity, which may include elements such as ordinary shares, preference shares and minority interests. The ratio gives analysts and investors a better idea of the company's financial structure and whether the company is a suitable investment or not. All other things being equal, the higher the Debt / Capital ratio, the riskier the company. This is because the higher the ratio, the more the company is financed with debt than with equity, which means a greater obligation to repay

the debt and greater risk. However, while a certain amount of debt may threaten one enterprise it cannot affect another. In this way, the use of total capital gives a more accurate picture of the company's health, as it forms the debt as a percentage of the capital and not as an absolute amount.

Interest Coverage Ratio or Times Interest earned is often used in financial management and belongs to the group of debt indicators due to its ability to express the ability to repay financial interest liabilities, as well as to plan new debt. The indicator is on the one hand a debt ratio and on the other - a profitability ratio. Lenders, investors and lenders use it to know the level of risk of the company in relation to its current or future debt. The interest rate coverage ratio is a key measure of a company's ability to cope with its short-term financing costs. Represents the ratio of earnings before interest and tax (EBIT) to the annual amount of interest on loans. The ratio characterizes the ability of companies to meet their obligations to pay interest. The ICR is both a debt ratio and a profitability ratio used to determine how easily a company can pay interest on an outstanding debt. ICR can be calculated by dividing the company's EBIT by a certain period of the company's interest payments due within the same period. ICR measures how many times a company can pay its current interest payments at the expense of gross profit, it measures the safety margin that a company must pay interest for a given period to survive in the future. The ability of a company to meet its interest obligations is an aspect of the company's solvency and is therefore a very important factor for shareholder returns. EBIT is used in the calculation, not net profit, to provide the most accurate picture of what the company can afford to pay with interest. The use of net income would confuse the calculation, as interest expenses would be counted twice, and tax expenses would be adjusted according to the interest deducted. Therefore, this problem can be avoided by using EBIT. In addition, the interest expense is the interest that must be paid on all loans, such as bonds and others. This formula can be used for any interest period. For example, monthly or partial values for the year can be obtained by dividing EBIT and interest expense by the desired number of

months. If the interest coverage ratio is at least equal to 1, it means that the company earns enough to afford the interest. This scenario is as bad as the first because it means that while the company can pay interest, it still cannot cover its basic payments. If the business interest rate coverage ratio is greater than 1, it means that it earns more than necessary to settle its interest and principal liabilities. Naturally, lenders want this ratio to be at least 1.5 before granting a loan. Simply put, banks want to be sure that the borrower will make no less than 1.5 times more than their current interest payments.

### Profitability indicators

The more profitable an enterprise is, the higher its valuation should be. For this reason, profitability indicators are crucial for the valuer, but should be considered in great detail to avoid distortions based on accounting data that are static and sometimes adjusted by managers. Profitability reflects the competitive position of the company in the market, and hence the quality of its management. The income statement discloses the sources of income and the components of income and expenses. Profits can be distributed among shareholders or reinvested in the company. Reinvested earnings improve solvency and provide financial security against short-term problems (Robinson, T., van Greuning H., Henry, E., Broihahn, M., 2009). Profitability and efficiency indicators are also a key point in determining the financial condition of the company and are a possible and appropriate tool in the evaluation of existing companies. In this regard, some relationships that are often applied in practice can be presented:

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Revenue}}$$

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Equity}}$$

$$\text{ROIC} = \frac{\text{NOPAT}}{\text{Invested Capital}}, \text{ where NOPAT} - \text{net operating profit after Tax}$$

$$\text{Return on Capital Employed} = \frac{\text{EBIT}}{\text{capital employed}},$$

(Wahlen, J., Baginski, S., Bradshaw, M., 2014), where Capital employed = Total Assets – Current Liabilities

If the company's pre-tax margin increases mainly because of an increase in non-operating income, the analyst must assess whether this increase reflects a deliberate change in the company's business focus and therefore the likelihood that the increase will continue. Net income includes both recurring and non-recurring components. Overall, the net margin profile, adjusted for non-recurring positions, offers a better view of the company's potential future profitability. Profit margin measures the share of sales that falls into profits. According to R. Brealey, S. Myers, F. Allen, F. (2010) this definition can be misleading. When companies are partly financed by debt, part of the profit from sales must be paid as interest to the company's creditors. This does not mean that the company is less profitable than its competitors, simply because it uses debt financing and pays part of its profits as interest. Therefore, when calculating the profit margin, it is useful to add the interest rate on debt to net income. This gives an alternative measure of profit margin, which is called the Operating Profit Margin.

ROA measures an enterprise's return based on the value of total assets. The higher the ratio, the more revenue is generated from a given asset level. The problem with this calculation (Robinson, T., van Greuning H., Henry, E., Broihahn, M., 2009) is that net income is the return on equity holders, while assets are financed both by equity holders and by creditors. The cost of interest (creditors' return) is already subtracted from the numerator. That is why some analysts prefer to add interest costs back to the numerator. In such cases, interest must be adjusted for income taxes, as net income is determined after taxes. With this adjustment the ratio will be calculated by adding to the net income in the numerator the interest expenses adjusted with the corporate tax rate. Whatever form of ROA is chosen, the analyst should use it consistently when compared to other companies or time periods.

The starting point for a systematic analysis of the company's performance and valuation is the return on equity. ROE is a comprehensive indicator of a company's performance because it gives an indication of how well managers use the funds invested by the company's shareholders to generate returns. In the long run, the value of a company's equity is determined by the relationship between its

return on investment and the cost of equity. That is, those firms that are expected to generate ROE over the cost of equity in the long run must have market values above book value and vice versa. Comparing ROE with the cost of capital is useful not only for analyzing the value of the firm, but also for looking at the path to future profitability. Generating permanent supernatural profitability, in the absence of significant barriers to entry, will attract competition. For this reason, the return on investment usually moves over time from competing forces to a "normal" level - the cost of equity. In this way, the cost of equity can be thought of as setting a benchmark for ROE to be observed in long-term competitive equilibrium. Deviations from this level occur for two main reasons. One is the conditions in the industry and the competitive strategy that make the company generate supernatural (or subnormal) economic profits, at least in the short term. The second is accounting distortions. (Palepu, K., Healy, P. 2012). ROE is also influenced by whether, how much and in what form, the company pays dividends to its shareholders. In the case of distributed taxation, the amount of corporate tax due, and hence net income, depends directly on the company's dividend payment policy. Financial leverage allows a company to have an asset base greater than its equity. The company can increase its equity by borrowing and creating other liabilities such as liabilities, accrued liabilities and deferred taxes.

Financial leverage increases a company's ROE, while the cost of liabilities is less than the return on investment of those funds. In this regard, it is important to distinguish between interest-bearing liabilities such as notes due, other forms of short-term and long-term debt that carry an explicit interest charge, and other liabilities. Some of these other forms of liability, such as liabilities or deferred taxes, do not bear any interest. Others, such as capital lease obligations and pension liabilities, bear implicit interest. In addition, a company's ROE is also affected by how profitable it uses its assets and how large the company's active base is relative to shareholder investments. To understand the effect of these two factors, ROE can be broken down into return on assets (ROA) and a financial leverage measure. ROA provides

information on how much profit a company can generate for each lev invested in assets. And financial leverage shows how many levs of assets a company can use for every lev invested by its shareholders. In this case:

$$ROE = ROA \times \text{Financial Leverage} = \frac{\text{Net Income}}{\text{Assets}} \times \frac{\text{Shareholder's Equity}}{\text{Assets}}$$

$$ROA_{\text{net}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}}$$

This alternative measurement of ROE shows how research into the building blocks of these ratios can provide a deeper understanding of how a firm's strategic, investment, and financial decisions affect its ratios.

Although the above approach is widely used to measure a company's ROE, it creates some limitations. In calculating the ROA, the denominator includes the assets claimed by all capital providers of the firm, but the numerator includes only the gains available to equity holders. The assets themselves include both operating assets and financial assets such as cash and short-term investments. In addition, net income includes operating income as well as interest income and expense resulting from financing decisions. It is often useful to distinguish between these two performance indicators. Another important fact is that the financial leverage ratio used above does not recognize the fact that the company's cash and short-term investments are essentially 'negative debt', as they can be used to repay the debt in the balance sheet. company (Palepu, K., Healy, P. 2012).

ROE can be determined by operating profitability, financial leverage and operating spread (Penman, S. 2013; Palepu, K., Healy, P. 2012):

$$ROE = \frac{NOPAT}{\text{Equity}} - \frac{\text{Net Interest Expense after Tax}}{\text{Equity}} =$$

$$= \frac{NOPAT}{\text{Net Assets}} \times \frac{\text{Net Assets}}{\text{Equity}} - \frac{\text{Net Interest Expense after Tax}}{\text{Net Debt}} \times \frac{\text{Net Debt}}{\text{Equity}} =$$

$$= \frac{NOPAT}{\text{Net Assets}} \times \left(1 + \frac{\text{Net Debt}}{\text{Equity}}\right) - \frac{\text{Net Interest Expense after Tax}}{\text{Net Debt}} \times \frac{\text{Net Debt}}{\text{Equity}} =$$

= Operating ROA + (Operating ROA – Effective Interest Rate after Tax) =  
 = Operating ROA + Spread + Net financial Leverage

Where:

*Net interest expense after tax = (Interest expense - Interest income) x (1 - Tax rate)*

*NOPAT = Net income + Net interest expense after tax*

*Operating working capital = (Current assets - Cash and marketable securities) - (Current liabilities - Short-term debt and current portion of long-term debt)*

*Net long-term assets = Total long-term assets - Non-interest-bearing long-term liabilities*

*Net debt = Total interest-bearing liabilities- Cash and marketable securities*

*Net assets = Operating working capital + Net long-term assets*

*Net capital = Net debt + Shareholders' equity*

Operating ROA (Palepu, K., Healy, P. 2012) is a measure of how profitable a company is, provided it activates its operating assets to generate operating profits. This would be the company's ROE if financed entirely with equity. Proliferation is the additional economic effect of introducing debt into the capital structure. This economic effect of borrowing is positive, while the return on operating assets is higher than the cost of the loan. Firms that do not realize adequate operating returns to pay interest costs reduce their return on investment through loans. Both the positive and the negative effect increase from the extent to which the company uses borrowed capital. The ratio of net debt to equity provides a measure of this net financial leverage. Therefore, the company's spread multiplied by the net financial leverage provides a measure of the profit from the financial leverage of the shareholders.

ROCE is one of the profitability ratios that can be used in the analysis of the company's financial statements for profitability and valuation. ROCE is an indicator for potential comparisons of profitability levels between companies in terms of capital. ROCE (Barker, R., 2001) measures the efficiency of investing in assets and the income they will generate. There are two components needed to calculate the return on capital used: profit before interest and tax and invested capital. The capital

used is very similar to the invested capital used in calculating the ROIC. The capital used is found by subtracting total assets from current liabilities, which is ultimately equity plus long-term debt. Instead of including in their valuation capital used at any time, some valuers, analysts and investors may choose to calculate ROCE based on the average capital invested, which takes the average of the initial and closing capital used for the analysis period, which is analyzed. The formula for the return on capital used can also be interpreted as follows:

*ROCE = Profit Margin for ROCE x Assets Turnover x Capital Structure Leverage*

or

*ROCE =  $\frac{\text{Net Income Attributable in common Shareholders}}{\text{Sales}}$  x*

*$x \frac{\text{Sales}}{\text{Average Total Assets}}$  x  $\frac{\text{Average Total Assets}}{\text{Average common Shareholder's Equity}}$*

The disaggregation (breaking of the formula) of ROCE implies that the shareholders of ordinary shares benefit from an increase in leverage. However, there are two compensating effects of increasing the lever. First, the increase in leverage implies that the firm can position financing income in assets that maintain current levels of profitability and turnover (i.e., the first and second conditions). This implementation is certainly not instantaneous and further depends on the company's ability to expand operations without experiencing declining returns, market saturation and other strategic obstacles. Second, increasing leverage increases interest costs, which reduces profit margins. Thus, increasing the lever has potential benefits and risks. A disadvantage of the standard disaggregation of ROCE is the inability to directly assess the extent to which the company can strategically increase the leverage to increase the return of ordinary shareholders without compensating for profitability. J. Wahlen, S. Baginski, M., Bradshaw (2014) call this financial flexibility. To assess the financial flexibility of the company, they propose to disaggregate ROCE to separate the operational and financial impact on ROCE.

### Performance indicators

Performance indicators would help in the valuation of existing enterprises to guide the valuer in how the assets are used and for what period they are converted into money. Asset turnover is the second engine of the company's return on equity. As firms invest significant resources in their assets, their productive use is crucial to overall profitability. The detailed analysis of the asset turnover allows the analyst to evaluate the efficiency of the company's investment management. There are two main areas of investment management: (1) working capital management and (2) long-term asset management.

Working capital (working capital) is associated with current (current) assets and their financing and is defined as the difference between current assets and liabilities of the enterprise. However, this definition does not distinguish between operating components (such as receivables, inventories and liabilities) and financial components (such as cash, marketable securities and banknote liabilities). An alternative measure that makes this distinction is working capital. The following ratios (Brealey, R., Myers, S., Allen, F., 2010) are useful in the analysis of the company's working capital management:

$$\text{Assets turnover Ratio} = \frac{\text{Total Sales}}{\text{Average Value of Assets}}$$

$$\text{Inventory turnover Ratio} = \frac{\text{Costs of Goods sold}}{\text{Average Value of Inventory}}$$

$$\text{Receivables turnover Ratio} = \frac{\text{Net credit Sales}}{\text{Average Accounts Receivable}}$$

$$\text{Accounts payable turnover Ratio} = \frac{\text{Total supply Purchases}}{\text{Average Accounts payable}}$$

It is possible to measure the duration of one turnover in days as 360 days are divided by the obtained turnover results. The turnover of receivables, the turnover of stocks and the turnover of liabilities allow the appraiser to examine how effectively the three main components of working capital are used. The turnover ratios of receivables, inventories and liabilities help to highlight certain areas of inefficiency, but they are not the only

possible indicators. The rest, however, are in absolute terms. For example, daily receivables, daily inventories and daily liabilities are another way to assess the effectiveness of a company's working capital management.

When managing the efficiency of the use of current assets and when assessing the value of an existing enterprise, it is good for managers and appraisers on the other hand to ask themselves some of the following questions: How well does the enterprise manage its inventories? Does it use modern production techniques? Are there good supplier management and logistics systems? If inventory ratios change, what is the main business reason? Are new products planned? Is there a discrepancy between demand forecasts and actual sales? How well does the company manage its credit policies? Are these policies compatible with his marketing strategy? Does the company artificially increase sales by loading distribution channels? Does the company benefit from commercial credit? Does it rely too much on trade credit? If so, what are the implicit costs? Does the company's investment in machinery and equipment comply with its competitive strategy? Does the company have a stable acquisition and sales policy and others?

### CONCLUSION

As mentioned, a fair assessment of an operating enterprise requires an in-depth organizational, financial and technological-retrospective analysis of the enterprise, as well as a forecast of the prospects for its development. The indicators listed so far are one of the most appropriate in the evaluation of an existing enterprise, but of course others can be offered that are useful in the evaluation. Cash flow analyzes can also occupy a special place in the assessment. It turns out that identifying the right toolkit of indicators would help significantly in the assessment of existing businesses. Undoubtedly, the business valuation should include an analysis based on the financial statements, such as the given example with an assessment of assets, liabilities, solvency, profitability, efficiency, etc. Because financial analysis is the basis for what forecasts will be made for the various input variables, which in

turn is key to the financial development of the enterprise and to maximize its value.

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