

Basics for the financial analysis

Lecture for Corporate Finance



**SILESIAN
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SCHOOL OF BUSINESS
ADMINISTRATION IN KARVINA

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Corporate Finance

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Outline of the lecture

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 - Activity ratios: production and operational cycles
 - Activity ratios: Days Payable Outstanding and Cash Conversion Cycle
 - Indebtedness ratios
 - Profitability
 - Profitability ratios
 - Working with ratio analysis

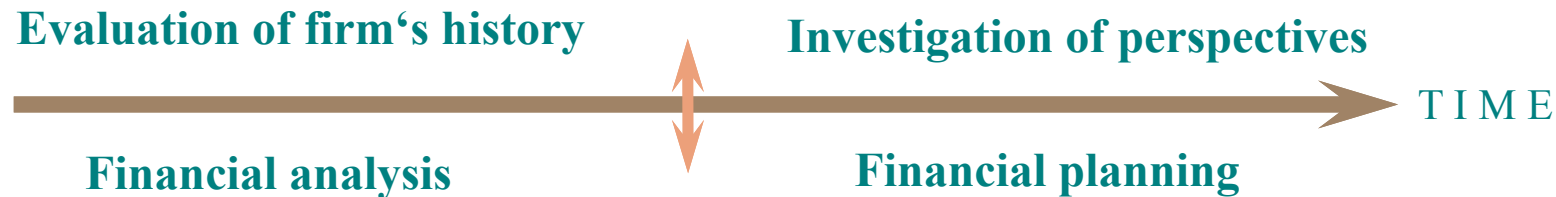


Why it is important?



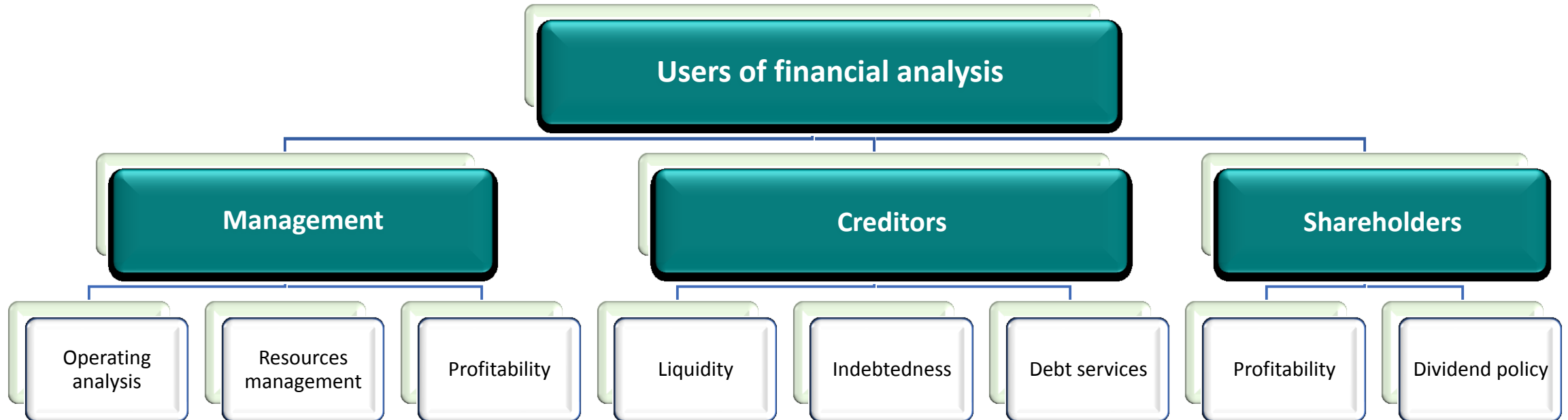
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Financial analysis is a systematic analysis of the obtained data, which are contained mainly in the financial statements, their items, aggregated data and analyze relationships and trends. Financial analysis incorporate evaluation of corporate past, present and predicting the future financial conditions.



Objectively, it is to identify weaknesses in the company's financial health, which could in the future lead to problems and strengths related to possible future appreciation of the assets of the company.

Users of financial analysis and their interest





Types of financial analysis of balance sheet statement

- **Horizontal analysis – trend analysis - evaluation of year-on-year development trend.** The result as a percentage allows the comparison between enterprises.

$$\frac{(\text{the value of balance sheet items in } n - \text{ year}) - (\text{the value of balance sheet items in } (n - 1) - \text{ year})}{(\text{the value of balance sheet items in } (n - 1) - \text{ year})} * 100$$

- **Vertical analysis – structure of assets, liabilities and equity - evaluation of asset structure and financial sources.** Vertical analysis allows you to evaluate the structure of items in relation to the main business activity.

$$\frac{\text{Balance sheet item}}{\text{Total assets}} \times 100$$

Ratio analysis

Ratios are widely used as a tool in the interpretation of financial statements. The ratios selected and the use of the resulting information depend on the needs of the person using the information.

In monitoring performance the expert analysts and fund managers will use ratios rather than absolute amounts.

Ratios show changes in relationships of figures which start to create a story and start to generate questions. They do not provide answers.

Ratio analysis

Property state

Liquidity

Activity

Indebtedness

Profitability

Market ratios



Ratio analysis: Property state



Ratios of the property state show the degree of wear (or suitability) of different parts of the fixed assets to the production process, sale of goods and services or for administrative purposes.

$$1.1. \text{ Coefficient of tangible (intangible) assets wear, \%} = \frac{\text{accumulated depreciation of tangible (intangible) assets}}{\text{original value}} * 100\%;$$

Balance value of tangible (intangible) assets = Original value – accumulated depreciation;

Original value of tangible (intangible) assets = Balance value + accumulated depreciation;

Recommended value of the coefficient: decreasing (at least stable level) year after year

$$1.2. \text{ Coefficient of tangible (intangible) assets retirement, \%} = \frac{\text{value of retired tangible (intangible) assets}}{\text{original value at the beginning of the year}} * 100\%;$$

$$1.3. \text{ Coefficient of tangible (intangible) assets renewal, \%} = \frac{\text{value of arrived tangible (intangible) assets}}{\text{original value at the end of the year}} * 100\%;$$

Recommended value: coefficient 1.3 must be more than coefficient 1.2

The concept of liquidity is used in the following terms:

- *the liquidity of certain components of assets* - as an expression of the properties of the components of the assets as quickly and without much loss of value can be converted into cash
- *the liquidity of the company* - as an expression of the ability of the company to pay its payment obligations on time; pay-ability is one of the basic conditions for successful business existence.

LIQUIDITY reveals the ability of an enterprise to repay current liabilities completely on time with the help of different current assets

Liquidity ratios: Cash Ratio and Acid Test



2.1. Cash ratio (L1) - only the most liquid items in the balance sheet enter into cash ratio. Ability to satisfy current liabilities using only cash and cash equivalents. In addition, in the case of cash ratio, non-compliance with the prescribed values does not necessarily mean financial problems for the company at all costs, because even in corporate conditions there is relatively frequent use of spreadsheets, overdrafts or cash pooling, which may not be apparent from the balance sheet data.

$$\text{Cash ratio (L1)} = \frac{\text{Cash} + \text{Short-term financial investments}}{\text{Current liabilities}}$$

Recommended value L1 ... from 0,2 to 1

2.2. Acid test (or quick test (L2)) - ability to satisfy current liabilities using the most liquid of current assets.

$$\text{Acid test (L2)} = \frac{\text{Cash} + \text{Short-term investments} + \text{Receivables}}{\text{Current liabilities}}$$

Recommended value L2 ... from 1 to 1,5

Liquidity ratios: Current Ratio and Net Working Capital



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2.3. Current ratio (L3) - The current ratio indicates the extent to which current assets are available to meet current liabilities..

$$\text{Current ratio (L3)} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Recommended value L3 ... from 1,5 to 2

2.4. Net working capital - is current assets section, which is financed by long-term financial resources and the company it may freely dispose of the implementation of their plans. The amount of net working capital has a significant impact on the company's solvency. NWC required amount depends largely on the length of the turnover cycle of money, but also to competition, market stability, fiscal and customs regulations etc.

$$\text{Net working capital} = \text{Current assets} - \text{Current liabilities} \quad \text{Recommended value: } > 0, \text{ increasing}$$

Activity ratios: production and operational cycles



3.1. Days Inventory Outstanding (or Inventory holding period or production cycle) - tells us how long the current assets are tied in the form of inventory; how long is the process of production at the enterprise. In general, a shorter DIO means the better situation. However, it is necessary to remember the optimum inventories (stock) size.

$$\text{Days Inventory Outstanding (or production cycle), days} = \frac{\text{Annual average inventories (stock) held}}{\text{Cost of sales}} \times 365$$

3.2. Days Sales Outstanding (Customer collection period) measures the average period of credit allowed to credit customers. An increase in this measure would indicate that a company is building up cash flow problems, although an attempt to decrease the period of credit allowed might deter customers and cause them to seek a competitor who gives a longer period of credit.

$$\text{Days Sales Outstanding, days} = \frac{\text{Annual average accounts receivable (trades receivable)}}{\text{Credit sales (net revenue)}} \times 365$$

3.3. Operational cycle - the time period from the moment of purchasing of raw materials to receiving money from the sale of finished products made from these raw materials. Duration of the operating cycle depends on the technology and credit policy of the customers; enterprise should optimize and decrease it

$$\text{Operational cycle, days} = \text{Days Inventory Outstanding} + \text{Days Sales Outstanding}$$

Activity ratios: Days Payable Outstanding and Cash Conversion Cycle



3.4. Days Payables Outstanding, days (suppliers' (trade creditors') payment period) measures the average period of credit taken from suppliers of goods and services. An increase in this measure could indicate that the supplier has allowed a longer period to pay, but can lead to loss of business reputation and probability of bankruptcy. Usually has some kind of connection with Days Sales Outstanding, because accounts payable cover the cash deficit as a result of accounts receivable

$$\text{Days Payables Outstanding, days} = \frac{\text{Annual average accounts (trades) payable}}{\text{Cost of sales}} \times 365$$

3.5. Cash Conversion Cycle (or financial cycle) – time needed to sell its inventory, the time required to collect receivables, and the time the company is allowed to pay its bills without incurring any penalties. There is no right answer, how long and positive or negative should be CCC; it differs by industry sector based on the nature of business operations; every situation has advantages and disadvantages.

Cash Conversion Cycle, days = Days Inventory Outstanding + Days Sales Outstanding – Days Payables Outstanding
Or

Cash Conversion Cycle, days = Operational cycle – Days Payables Outstanding

Indebtedness ratios



4.1. Debt ratio - In general, the higher the value of this indicator, the higher the risk of creditors. However, this indicator needs to be assessed in relation to the overall return of the company and also to the structure of the debt capital. The high value of this indicator may be favorable from the perspective of holders of ordinary shares if the enterprise is able to achieve a higher percentage of return than the percentage of interest paid from debt capital. Creditors generally prefer the low values of this indicator.

$$\text{Debt ratio} = \frac{\text{Debt}}{\text{Total assets}}$$

4.2. Equity ratio - expresses the proportion in which the company's assets are funded by shareholders' money. It is considered to be one of the most important ratios of indebtedness for assessing the overall financial situation, but again its relevance to the profitability indicators is important.

$$\text{Equity ratio} = \frac{\text{Equity}}{\text{Total assets}}$$

4.3. Debt/equity ratio It is the ratio of debt capital to the company's equity. A value above 1 means higher use of debt capital, a value lower than 1 higher utilization of equity.

$$\text{Debt/equity ratio} = \frac{\text{Debt}}{\text{Equity}}$$

Profitability is a measure of the ability of an enterprise to generate new resources, to make a profit using the capital invested. Profit ratios with other variables to assess success in achieving business goals. It is actually a form of expression of profit, which is the main criterion for the allocation of capital.

Basic questions related to profitability evaluation:

- *Does the company use its assets effectively?*
The return on assets (ROA) responds to this question and the higher its value, the more effective the total use of assets is.
- *Do the company achieve adequate margins?*
The answer is hidden in return on sales (ROS) and the higher the value, the stronger the company is in terms of gaining one crown of revenue.
- *What is the return on investment for shareholders?*
We find the answer in return on equity (ROE) and once again the growth of the indicator will mean greater efficiency for the shareholders.
- *Is there sufficient control over operating costs?*
Cost-effectiveness and high values indicate capital wastage and require a detailed cost analysis.
- *How did the company manage to implement dividend policy?*
We look for a response in earnings per share and the growth of this indicator signals a growth in earnings per share.

Profitability ratios



5.1. Return on assets (ROA) - it reflects the overall efficiency of the company, its earnings capacity, and also the strength of production, regardless of the sources were business financed.

$$\text{ROA} = \text{profit} / \text{assets}$$

5.2. Return on equity (ROE) - an indicator by which investors can determine whether their capital is reproduced at the appropriate rate consistent with the investment risk.

$$\text{ROE} = \text{net profit} / \text{equity}$$

5.3. Return on sales - it expresses the ability of an enterprise to achieve profit at a given revenue level, as it can produce an effect of \$ 1 in revenue.

$$\text{ROS} = \text{profit} / \text{revenues from sales}$$

5.4. Return on costs (ROC) - evaluate the return on the cost invested in the business.

$$\text{ROC} = \text{profit} / \text{costs}$$

5.5. Earnings per share (EPS) – evaluate, how much profit is made on 1 share (stock)

$$\text{(EPS)} = \text{profit} / \text{shares (stocks)}$$

Working with ratio analysis



Comments are conducted in 4 steps:

1. Comment change - growth or decline Items
2. Evaluation of the change - positive or negative in terms of corporate functioning
3. Justification of the assessment - answer to the question WHY?
4. Recommendations for further analysis or further functioning of the company

Presentation of results:

- Charts are important, but not dominant
- The graph is intended to facilitate the orientation of the problem
- Proper use of the chart type:
 - Horizontal Analysis and Ratio Analysis - Column or Linear
 - Vertical analysis - column stacked or pie
- Financial conditions rarely give answers but help to ask the right questions.
- There is no international standard for financial ratios. A little thinking and common sense have more value than blank formulas.
- Choose. Different ratios often say the same.
- To estimate the company's financial position, you need a reference point. It is useful to compare the company's financial ratios with these ratios in previous years and the relationships of other companies in the same field.



Thank you for your attention!
