

FINANCIAL ANALYSIS & INTERPRETATION

Financial analysis is the process of evaluating a company's financial information to understand its performance and make informed decisions. It involves examining financial statements such as the income statement, balance sheet, and cash flow statement.

Financial Analysis Methods.

- 1) Horizontal (Trend) Analysis
- 2) Vertical (Common Size Analysis)
- 3) Ratio Analysis

3. Ratio Analysis.

Ratio analysis is a fundamental technique of analysis of financial statements used by businesses, investors, and financial analysts to evaluate a company's financial performance, stability, and efficiency by examining relationships between various financial variables present in the company's financial statements. Ratios are calculated from data found in a company's balance sheet, income statement, and cash flow statement. These ratios provide insights into different aspects of a company's operations and financial health

The significance of a ratio can only truly be appreciated when:

- ✓ It is compared with other ratios in the same set of financial statements.
- ✓ It is compared with the same ratio in previous financial statements (trend analysis).
- ✓ It is compared with a standard of performance (industry average). Such a standard may be either the ratio, which represents the typical performance of the trade, or industry, or the ratio which represents the target set by management as desirable for the business.

Ratios can be grouped into five categories:

1. Profitability
2. Long-term solvency and stability
3. Short-term solvency and liquidity
4. Efficiency (turnover ratios)
5. Shareholders' investment ratios

PROFITABILITY RATIOS.

Profitability is the ability of a business to earn profit over a period of time. Although the profit figure is the starting point for any calculation of cash flow, profitable companies can still fail for a lack of cash.

1. Return on capital employed (ROCE)

Return on Capital Employed (ROCE) is a financial ratio that measures a company's efficiency in generating profits from its capital employed. It provides insight into how effectively a company utilizes its capital to generate profits. This is also known as a Return on Investment (ROI)

$$ROCE = \frac{\text{Profit Before Interest and Tax (PBIT)}}{\text{Capital Employed or Net Assets}} \times 100\%$$

But Capital Employed represents the total capital invested in the company and is typically calculated as total assets minus current liabilities.

ROCE is expressed as a percentage. A higher ROCE indicates that a company is utilizing its capital more efficiently to generate profits while a lower ROCE indicates that the company is underutilizing its capital.

2. Gross Profit Margin

The Gross Profit Margin is a financial metric that measures a company's profitability by expressing the proportion of revenue that exceeds the cost of goods sold (COGS) as a percentage of total revenue. It indicates how effectively a company generates profit from its direct production or acquisition costs.

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100\%$$

NB: A higher gross profit margin implies that the company is able to maintain lower production costs in relation to its revenue, which is generally considered favorable while a lower gross profit margin implies that the company is maintaining higher production costs.

3. Net Profit Margin

The Net Profit Margin is a key financial ratio that measures a company's profitability by assessing the percentage of net income (profit) generated from its total revenue. It shows how efficiently a company converts its revenue into profits after deducting all expenses, including operating costs, interest, taxes, and other non-operating expenses.

$$\text{Net Profit Margin} = \frac{\text{Profit After Tax or Net Profit}}{\text{Sales or Revenue}} \times 100\%$$

NB: A higher net profit margin indicates that a company effectively manages its expenses relative to its revenue and vice versa. It's a critical indicator of a company's profitability and operational efficiency.

4. Return on Equity (ROE).

Return on Equity (ROE) is a financial ratio that measures a company's profitability by evaluating how effectively it utilizes shareholders' equity to generate profits. It indicates the percentage of net income generated relative to the shareholders' equity. The stockholders' equity includes share capital, share premium, distributable and non-distributable reserves. The ratio is calculated as follows.

$$\text{ROE} = \frac{\text{Profits After Tax}}{\text{Ordinary Share Capital}} \times 100\%$$

NB: A higher ROE is generally considered favorable as it indicates that the company generates more profits per unit of shareholders' equity and vice versa.

5. Return on Assets (ROA).

Return on Assets (ROA) is a financial ratio that measures a company's efficiency in generating profits relative to its total assets. It evaluates how effectively a company utilizes its assets to generate earnings.

$$ROA = \frac{\text{Profits After Tax}}{\text{Total Assets}} \times 100\%$$

NB: ROA indicates the amount of profit a company generates per shilling of assets it possesses. A higher ROA typically suggests that the company is more efficient in using its assets to generate earnings and vice versa.

6. Total Assets Turnover.

Total Assets Turnover is a financial ratio that measures a company's efficiency in utilizing its total assets to generate sales or revenue. It assesses how effectively a company generates revenue relative to its total assets.

$$\text{Total Assets Turnover} = \frac{\text{Revenue}}{\text{Total Assets}} : \text{Times}$$

NB: Total Assets Turnover ratio indicates how efficiently a company uses its assets to generate sales. A higher ratio typically implies that the company is generating more revenue per dollar invested in its assets. However, a higher turnover ratio might also indicate aggressive sales strategies or low asset values.

LONG-TERM SOLVENCY: GEARING RATIOS

7. Debt to Equity Ratio

The Debt to Equity Ratio is a financial metric that indicates the proportion of a company's financing that comes from debt compared to equity. It assesses the extent to which a company relies on debt financing versus equity financing to support its operations and growth.

$$\text{Debt to Equity} = \frac{\text{Total Debt}}{\text{Total Equity}} \times 100\%$$

Where;

Total Debt represents all forms of debt a company owes, including long-term and short-term borrowings, loans, bonds, and other obligations.

A higher Debt to Equity Ratio indicates that a company relies more on debt financing, which may imply higher financial risk due to increased obligations to creditors. Conversely, a lower ratio suggests a lesser reliance on debt and a stronger equity position.

8. Debt to Asset Ratio.

The Debt to Asset Ratio is a financial metric used to evaluate the proportion of a company's assets financed through debt. It measures the extent to which a company's assets are funded by creditors versus owners (equity holders).

$$\text{Debt to Asset} = \frac{\text{Total Debt}}{\text{Total Asset}} \times 100\%$$

Where;

The Debt to Asset Ratio shows the proportion of a company's assets that are financed by debt. A higher ratio suggests that a larger portion of the company's assets is funded by debt, indicating higher financial

risk due to increased leverage. Conversely, a lower ratio implies that a higher percentage of the company's assets are financed by equity.

9. Interest Cover (Times)

Interest Cover, often referred to as the Interest Coverage Ratio, measures a company's ability to meet its interest obligations on outstanding debt using its earnings before interest and taxes (EBIT). It indicates how many times a company can cover its interest expenses with its operating profit.

$$\text{Interest Cover} = \frac{\text{Profit Before Interest and Tax}}{\text{Interest Charge}}$$

A higher Interest Cover ratio indicates that a company generates enough operating income to cover its interest expenses comfortably. It signifies a stronger ability to meet interest obligations and suggests lower financial risk associated with the company's debt.

Conversely, a lower Interest Cover ratio indicates that the company may have difficulty meeting its interest obligations from its operating earnings. It may indicate a higher risk of default on debt payments or increased financial vulnerability if the company's earnings decline.

Interest Cover (Times) is an essential metric for creditors, investors, and analysts assessing a company's financial health and its ability to service its debt. A higher ratio is generally preferred as it implies a healthier financial position and lower risk of default.

10. Equity Ratio.

The Equity Ratio is a financial metric used to evaluate the proportion of a company's total assets that are financed by shareholders' equity. It measures the degree of financial leverage and indicates the extent to which a company relies on equity financing compared to debt.

$$\text{Equity Ratio} = \frac{\text{Total Equity}}{\text{Total Assets}} \times 100\%$$

NB: A higher equity ratio implies a larger portion of assets being financed by equity, suggesting lower financial risk and dependence on debt financing. Conversely, a lower equity ratio indicates a higher reliance on debt financing, which might imply higher financial risk due to increased leverage.

SHORT-TERM SOLVENCY AND LIQUIDITY

Liquidity is the amount of cash a company can put its hands on quickly to settle its debts (and possibly to meet other unforeseen demands for cash payments too).

Liquid funds consist of:

- ✓ Cash
- ✓ Short-term investments for which there is a ready market
- ✓ Fixed-term deposits with a bank or other financial institution, for example, a six month high-interest deposit with a bank
- ✓ Trade receivables (because they will pay what they owe within a reasonably short period of time)

- ✓ Bills of exchange receivable (because like ordinary trade receivables, these represent amounts of cash due to be received within a relatively short period of time).

11. Current Ratio

The Current Ratio is a liquidity ratio used to measure a company's ability to meet its short-term financial obligations with its short-term assets. It assesses the company's ability to cover its current liabilities (obligations due within one year) using its current assets (assets expected to be converted into cash or used up within one year).

$$\textit{Current Ratio} = \frac{\textit{Current Assets}}{\textit{Current Liabilities}} : 1$$

NB: A Current Ratio greater than 1 indicates that a company has more current assets than current liabilities, suggesting it should be able to meet its short-term obligations. A ratio less than 1 implies that the company may have difficulties meeting its short-term obligations with its current asset pool. *General industrial norm is 2:1*

12. Quick Ratio/Acid test ratio.

Measures assets that are quickly converted into cash and they are compared with current liabilities. This ratio realizes that some of current assets are not easily convertible to cash e.g. inventory. Clearly this ratio will be lower than the current ratio, but the difference between the two (the gap) will indicate the extent to which current assets consist of inventory.

$$\text{Quick Ratio or ATR} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}} : 1$$

NB: A Quick Ratio greater than 1 indicates that a company has enough quick assets to cover its immediate short-term obligations without relying on selling inventory. A ratio less than 1 may suggest potential difficulty in meeting short-term obligations using only quick assets.

EFFICIENCY RATIOS

13. Receivables' Turnover.

The Receivables Turnover ratio is a financial metric used to measure how efficiently a company manages its accounts receivable or credit sales. It indicates the number of times a company collects its average accounts receivable during a specific period, typically a year.

$$\text{Receivable Turnover} = \frac{\text{Credit Sales}}{\text{Average Receivables}} : \text{Times}$$

But Average Receivables = (Opening Receivables plus Closing Receivables) / 2

NB: A higher Receivables Turnover ratio indicates that the company efficiently collects payments from customers or clients, converting its accounts receivable into cash quickly. Conversely, a lower ratio may suggest slower collection of receivables, which could potentially lead to liquidity issues or indicate credit policy problems.

14. Trade receivables collection days / Receivables Period.

The Trade Receivables Collection Days, also known as the Receivables Period or Days Sales Outstanding (DSO), is a financial metric that measures the average number of days it takes a company to collect payments from its customers or clients for credit sales made.

$$\text{Receivable Collection Days} = \frac{\text{Average Receivables}}{\text{Credit Sales}} \times 365 \text{ days}$$

NB: A lower number of collection days indicates that the company collects payments from customers more quickly, which is generally seen as favorable as it improves cash flow and working capital management. However, excessively low collection days might suggest overly strict credit policies that could potentially impact sales.

15. Inventory Turnover.

Inventory Turnover is a financial ratio that measures how efficiently a company manages its inventory by assessing the number of times inventory is sold or used during a specific period, usually a year. It indicates the speed at which a company sells its inventory and restocks or replenishes it.

$$\text{Inventory Turnover} = \frac{\text{Cost of Sales}}{\text{Average Inventory}} : \text{Times}$$

NB: A higher Inventory Turnover ratio indicates that the company sells its inventory more frequently, which is generally favorable as it implies efficient inventory management, reduced carrying costs, and potentially fewer obsolete items in stock. However, extremely high turnover could also signal stock outs or insufficient inventory levels that may lead to lost sales. Conversely, a lower Inventory Turnover ratio may indicate slower sales, overstocking, or inefficient inventory management practices, which could tie up capital in unsold goods and increase holding costs.

16. Inventory turnover period

The Inventory Turnover Period, also known as Days Inventory Outstanding (DIO), measures the average number of days it takes for a company to sell its entire inventory. It evaluates how long, on average, a company holds its inventory before selling it.

$$\text{Inventory Turnover Period} = \frac{\text{Average Inventory}}{\text{Cost of Sales}} \times 365 \text{ days}$$

NB: A shorter Inventory Turnover Period indicates that the company sells its inventory more rapidly, potentially signaling effective inventory management, quicker cash conversion, and lower storage costs. Conversely, a longer Inventory Turnover Period suggests that the company holds inventory for a more extended period before selling, which may indicate overstocking, slower sales, or inefficiencies in inventory management.

17. Accounts Payables Turnover / Creditors Turnover.

The Accounts Payables Turnover, also known as Creditors Turnover, is a financial metric that measures how efficiently a company manages its accounts payables or the speed at which it pays its suppliers or creditors.

$$\text{Accounts Payable Turnover} = \frac{\text{Credit Purchases}}{\text{Average Payables}} : \text{Times}$$

NB: This ratio assesses the number of times a company pays off its average accounts payable within a given period. A higher Accounts Payables Turnover ratio suggests that the company pays its suppliers more frequently or efficiently manages its payables, potentially negotiating better terms or taking advantage of discounts for prompt payments. Conversely, a lower turnover ratio might indicate slower payments to suppliers, potential liquidity issues, or less efficient management of accounts payables. However, excessively high turnover might also signal overly aggressive payment policies that could strain relationships with suppliers.

18. Accounts payable payment period / Creditors Payment Period.

The Accounts Payable Payment Period, also known as the Creditors Payment Period or Payables Deferral Period, measures the average number of days a company takes to pay its suppliers or creditors.

$$\text{Accounts Payable Period} = \frac{\text{Average Payables}}{\text{Credit Purchases}} \times 365 \text{ days}$$

A shorter payment period typically suggests that the company pays its suppliers more promptly or within shorter terms, which may indicate strong cash management or good relationships with suppliers. On the other hand, a longer payment period indicates that the company takes more time to pay its creditors, potentially using trade credit to extend payment terms or manage cash flow. However, excessively long payment periods might strain relationships with suppliers or signal financial difficulties.

SHAREHOLDERS' INVESTMENT RATIOS

19. Earnings per Share (EPS)

The shareholders are particularly interested in knowing how much has been earned during the financial year on each of the shares held by them. For this reason, earnings per share figure must be calculated.

$$\text{Earnings Per Share (EPS)} = \frac{\text{Earnings After Tax}}{\text{No. of Ordinary Shares}}$$

NB: Higher EPS values generally indicate higher profitability on a per-share basis and vice versa.

20. Dividend cover

It shows the proportion of profit for the year that is available for distribution to shareholders that has been paid (or proposed) and what proportion will be retained in the business to finance future growth.

$$\text{Dividend Cover} = \frac{\text{Earnings Per Share}}{\text{Dividends Per Share}}$$

NB: The Dividend Cover ratio indicates how many times a company's earnings can cover the total dividend payments. A higher ratio suggests that the company has sufficient earnings to comfortably cover its dividend obligations. For example, a ratio of 2 means the company's earnings are double the dividend payment, indicating a healthy level of dividend coverage. On the other hand, a lower dividend cover ratio could indicate that the company is paying out more in dividends than it earns, potentially leading to concerns about the sustainability of dividend payments. A ratio less than 1 implies that the company's earnings are insufficient to cover the dividend payment entirely, which might not be sustainable in the long term.

21. Dividend yield

Dividend yield is the return a shareholder is currently expecting on the shares of a company.

$$\text{Dividend Yield} = \frac{\text{Dividends Per Share}}{\text{Current Market Value of a Share (Ex - Div)}} \times 100\%$$

The dividend per share is taken as the dividend for the previous year.

Ex-div means that the share price does not include the right to the most recent dividend.

Shareholders look for both dividend yield and capital growth. Obviously, dividend yield is therefore an important aspect of a share's performance.

NB: A higher dividend yield generally indicates that a company pays a higher dividend in proportion to its stock price, making it potentially more attractive for income-seeking investors.

22. Price/Earnings Ratio (P/E ratio).

P/E ratio is a useful indicator of what premium or discount investors are prepared to pay or receive for the investment.

The higher the price in relation to earnings, the higher the P/E ratio which indicates the higher the premium an investor is prepared to pay for the share. This occurs because the investor is extremely confident of the potential growth and earnings of the share.

$$\text{Price Earnings Ratio} = \frac{\text{Market Price Per Share}}{\text{Earnings Per Share}}$$

2. HORIZONTAL ANALYSIS (TREND ANALYSIS)

This involves comparing financial data across two or more periods. Shows growth, decline, or stability over time.

Formula:

$$\text{Percentage Change} = \frac{\text{Current Year figure} - \text{Base year figure}}{\text{Base Year figure}} \times 100$$

3. VERTICAL ANALYSIS (COMMON-SIZE ANALYSIS)

This expresses each financial statement item as a percentage of a base figure.

For example;

Income Statement. Each item is expressed as a percentage of sales and therefore Sales becomes the Base Figure.

Balance Sheet. Each item is expressed as a percentage of Total Assets and therefore Total Assets becomes the Base Figure.

Example. 1.

Premium Bakery Limited (PBL) deals in production and supply of a wide range of bakery products including cakes, bread, doughnuts among others. PBL sales its bakery products mainly to the local market with marginal exports to South Sudan. PBL has finalized its financial statements for the year ended 30 June 2022 and is in the process of analyzing its financial performance and position over the last 2 years and against the industrial averages.

You have been engaged by the board of directors of PBL as a financial consultant with the sole task of assisting PBL to analyze its performance and position for the said period. PBL has provided you with the following information to assist in your analysis:

PBL's statement of comprehensive income for the year ended 30 June:

	2022 (Shs '000')	2021 (Shs '000')
Revenue	26,950,000	24,500,000
Cost of sales	(14,822,500)	(13,475,000)
Contribution	12,127,500	11,025,000
Expenses:		
Administrative costs	(4,353,800)	(3,958,000)
Distribution costs	(4,244,300)	(3,858,400)
Distribution costs	(4,244,300)	(3,858,400)
Finance costs	(523,400)	(475,600)
Income tax expense	(934,000)	(849,700)
Profit for the year	2,072,000	1,883,300

PBL's statement of financial position as at 30 June:

	2022 (Shs.000)	2021 (Shs.000)
Assets:		
Non-current assets:		
Property, plant and equipment	9,872,500	8,450,000
Intangible assets	1,145,000	1,245,000
Investment property	497,300	424,500
Current assets:		
Inventory	989,700	847,400
Trade and other receivables	921,400	877,500
Investment in government securities	178,500	176,200
Cash and bank balance	433,600	317,700
Total assets	14,038,000	12,338,300
Less: Current liabilities:		
Trade and other payables	972,400	965,200
Current tax payable	934,000	849,700
Net assets	12,131,600	10,523,400
Financed by:		
Equity and reserves:		
Common stock of Shs 1,000 at par	3,000,000	3,000,000
Share premium	425,000	425,000

Revenue reserves	5,269,400	3,197,400
Other components of equity	97,500	112,000
Non-current liabilities:		
18% Term Loan	885,700	1,345,000
Debentures	954,000	944,000
Redeemable preference share capital	1,500,000	1,500,000
Capital employed	12,131,600	10,523,400

Industrial averages for the year ended 30 June 2022:

i. Quick assets ratio	1.5 : 1
ii. Current Ratio	1.4 : 1
iii. Return on equity	20%
iv. Return on Assets	18%
v. Debt to equity	40%
vi. Net profit (before tax) margin	15%
vii. Return on capital employed	18%
viii. Net assets turnover	3 times
ix. Accounts Receivable Collection Period	20days
x. Accounts Payable Turnover	25Times
xi. Inventory Period	20Days

Required:

- 1) Using ratio analysis, comment on the financial performance and position of PBL for the last 2 years and against the industrial averages.
- 2) Discuss the argument for and against use of ratios in analyzing financial performance, and position of organizations like PBL.
- 3) Using Horizontal analysis, Prepare a financial report on the financial statements of PBL.
- 4) Using Common Size Analysis, Prepare a comprehensive financial report on the financial statements of PBL

Example 2.

Tesla Uganda Limited (TUL) was incorporated in 2019 as a limited liability company specializing in production and supply of cosmetics for all age groups in Uganda.

The company has registered marginal profits since incorporation on account of the stiff competition in the cosmetics industry. TUL is in the process of assessing its financial performance and position against its competitors in the cosmetics sector for year ended 31 December 2021 and has provided you with the following extracts of its financial statements.

Extract of the statement of comprehensive income for year ended 31 December;

	2021 Shs (000)	2020 Shs (000)
Revenue	122,409,400	107,720,272
Cost of sales	(85,686,580)	(72,130,500)
Gross profit	36,722,820	35,589,772
Expenses:		
Administrative costs	(18,380,820)	(15,740,200)

Distribution costs	(11,450,000)	(11,140,250)
Finance costs	(1,424,800)	(1,842,500)
Profit before tax	5,467,200	6,866,822
Income tax	(1,640,160)	(2,056,460)
Profit for the year	3,827,040	4,810,362

Extract of the statement of financial position as at 31 December;

	2021 Shs (000)	2020 Shs (000)
Assets:		
Non-current assets:		
Property, plant and equipment	23,500,000	25,470,200
Intangible assets	4,750,000	5,120,400
Current assets:		
Inventory	17,550,000	13,764,700
Trade receivables	8,320,000	6,240,000
Short term investments	2,400,000	1,800,000
Cash and bank balances	4,434,500	3,300,700
Total assets	60,954,500	55,696,000
Equity and Liabilities		
Equity and reserves		
Ordinary shares of Shs.10,000 at par	12,450,000	12,450,000
Retained earnings	15,305,040	9,837,840
Other equity reserves	3,987,100	3,089,400
Non-current liabilities:		
20% Term loan from TCB	12,460,500	13,504,500
10% debentures	7,615,800	7,235,000
Current liabilities:		
Trade payables	7,495,900	7,522,800
Income tax payable	1,640,160	2,056,460
Total equity and liabilities	60,954,500	55,696,000

Additional Information:

- 80% of the sales of TUL are made on credit while 30% of its purchases of raw materials used in the production of cosmetics are made on cash terms.
- The short term investments are highly liquid and are close to maturity.
- The industrial averages for the year ended 31 December 2021 are set out below:
 - i. Quick assets ratio 1.8 : 1
 - ii. Debt to total capital 40%
 - iii. Inventory turnover 4.5 times
 - iv. Return on capital employed 15%
 - v. Interest cover 3.5 times
 - vi. Receivable collection period 30 days
 - vii. Creditors payment period 45 days

Required:

- a) You have been approached as the Chief Finance Officer of Tesla Uganda by the MD to prepare a report to the board of directors on the financial performance and position of TUL for the year ended 31 December 2021 relative to the industrial averages.
- b) Using Horizontal analysis, Prepare a financial report on the financial statements of Tesla Uganda.
- c) Using Common Size Analysis, Prepare a comprehensive financial report on the financial statements of Tesla Uganda.

Benefits of Ratio Analysis.

- Ratios give meaning to numbers and simplify complex accounting statements;
- Ratio analysis helps in understanding the different relationships and interlinks in the past data and helps scrutinize the results;
- Ratio analysis facilitates financial comparisons between two organizations which could have been difficult by mere looking at the financial statements;
- Ratio analysis helps in forecasting financial performance of organizations by looking at the movements in similar ratios over time;
- Ratios helps investors determine how well management is making decisions in respect to investments that yield sustainable returns, utilization of assets among other decisions.

Limitations of Ratio Analysis.

- Ratios are computed from historical data, hence they lack appropriate predictive values;
- Ratios are usually distorted by manipulation of accounting information (creative accounting) such as provisions, and revaluation of assets hence may not necessarily show a fair value about the performance of an organization;
- Ratios cannot be used in isolation – They need to be compared with those of other organizations or for the same organization but for different periods to be meaningful;
- Ratio analysis is largely quantitative and ignores qualitative factors such as quality of labor, loyalty of employees which may have contributed to financial performance of the organization but are not reflected in the financial statements;
- Ratios are distorted by inflation, hence the computations and analysis based on such ratios may not reflected the real performance and position of an organization.
- Different companies have different accounting policies say for depreciation, amortization etc, hence it becomes hard to compare financial performance of such companies using ratios;