

FINANCIAL STATEMENTS ANALYSIS

FINANCIAL STATEMENT ANALYSIS (RATIO ANALYSIS)

A financial ratio is the relationship between financial variables and it helps to ascertain (measure) financial conditions of the firm.

Ratio analysis is a means of comparing and quantifying relationships between financial variable in the statement of comprehensive income and the statement of financial position.

With ratios, financial statement can be interpreted and usefully applied to satisfying the needs of the users of financial statements.

CLASSIFICATION OF RATIO

Ratios can be classified into five categories which are:

- Liquidity ratio
- Leverage or gearing ratio
- Activity or efficiency ratio
- Profitability ratio
- Investment ratios

i) LIQUIDATION RATIO

These ratios measure the firm's ability to meet its short term obligation as and when they fall due. Ratios here include:

- Current ratio
- Acid test or quick ratio

a) Current ratio

This is the ratio of total current assets and total current liabilities. It is also called working capital ratio and is calculated as follows

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

If the current ratio is greater than one then the current assets can be finance the current liabilities, that is the company can meet up with its short term debts, thus it is solvent.

b) Acid-test ratio or quick ratio

This is the ratio of current assets excluding stock to current liabilities. A firm with a satisfactory current ratio may actually be in poor liquidity position when inventories form most of the current assets. The acid test ratio is calculated as follows

$$\text{Acid test ratio} = \frac{\text{total current assets} - \text{Stock}}{\text{total current liabilities}}$$

ii) GEARING RATIO OR LEVERAGE RATIO

This ratio measure the extent to which a company use its assets which have been financed by non-owners supply funds. It measures the financial risk of the company, the higher the ratio the higher the financial risk.

- Capital gearing ratio or Debt ratio

Gearing refers to the amount of debts finance a company uses relative to its equity finance.

This is the ratio of debt capital or fixed interest bearing securities (preference and debentures) to owners' equity.

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Debt capital or fixed interest bearing securities refers to debenture and preference share capital meanwhile owners' equity refer to ordinary share capital, share premium, reserves and retained earnings. Capital gearing is calculated as:

$$\text{capital gearing} = \frac{\text{Debt capital}}{\text{Owners' equity}}$$

If the ratio is greater than one then the company is highly geared meaning the company is highly financed by debt capital.

If the gearing ratio is less than one, then the company is lowly geared meaning it is more financed by the owners' equity (ordinary shares and reserves). Investors will always invest in companies that are lowly geared

iii) PROFITABILITY RATIOS

They measure the management's effectiveness as shown by the returns generated on sales and on investment. They indicate how successful management has been generating profit for the company. Ratios here include:

a) Return on capital employed (ROCE)

This measures the efficiency with which a company uses long-term funds or permanent assets to generate returns to the shareholders. It is calculated as+

$$\text{ROCE} = \frac{\text{Net profit before tax}}{\text{Capital employed}} \times 100$$

Capital employed can either be calculated as follows:

- Capital employed = total assets – current liability or Non-current assets + working capita
Total assets = Non-current assets + current assets
Working capital = current asset – current liability
- Capital employed is also calculated as the sum of the shareholders fund (ordinary share capital, preference share capital, share premium, reserves and retained earnings) and non-current liabilities

b) The gross profit margin (margin rate)

This is the gross profit express as a percentage of net sales. It is simple called margin rate and it is calculated as follows

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

c) Net profit margin(NPM)

This is the net profit expressed as a percentage of sales. It is calculated as follows

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Net sales}} \times 100$$

d) Net asset turn over:

It gives a guide to productive efficiency that is how well assets have been used in generating sales. It is calculated as follows:

$$\text{Net asset turn over} = \frac{\text{Net sales}}{\text{Capital employed}} \times 100$$

e) Return on investment (ROI)

This measure the efficiency in which the firm uses its total funds on capital employed to generate return to owner's funds. It is calculated as follows

$$\text{ROI} = \frac{\text{Net profit after tax}}{\text{Capital employed}} \times 100$$

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f) Return on equity (ROE)

This is the ratio of the residual profit (earnings to equity share holders) to equity (ordinary shares). It is calculated as

$$ROE = \frac{\text{Returns to equity}}{\text{Ordinary share capital}} \times 100$$

N.B returns to equity is the profit to ordinary shareholders

iv) EFFICIENCY OR ACTIVITY RATIOS

These ratios measure the efficiency with which the firm uses its assets to generate sales. There are also called turnover ratio as they indicate the rate at which assets are converted into sales. Ratios here include:

a) Debtors turn over

This shows the number of times debtors pay within a year. It indicates how efficient the firm is in the management of credit. The higher the ratio the more efficient management is in managing its credit policy. It is given as

$$\text{Debtors turnover} = \frac{\text{Credit sales}}{\text{Average debtors}}$$

b) The average collection period (Debtors' days)

It is also called the debtor's day; it shows the average period of credit taken by customers. Thus it is the number of days the dates that credit sales were made and the dates that the money was received /collected from customers.

A low average collection period is very good since indicates that the company converts its Debtors (accounts receivables) in to cash within a short period.

It is calculated as follows:

$$\text{AV collection period} = \frac{\text{Average debtors}}{\text{Credit sales}} \times 365$$

OR

$$\text{AV collection period} = \frac{365}{\text{Debtors' turnover}}$$

c) Creditors (accounts payable) turn over

This refers to number of times creditors are paid by a company during the year. It is the ratio of credit purchases to average creditors. It is given as

$$\text{Creditor turnover} = \frac{\text{Credit purchases}}{\text{Average creditors}}$$

d) Average payment or deferred period (Creditors' days)

It is also called the creditor's days. It indicates the average time that suppliers allowed to the company to settled its debts. The longer the average payment period, the more efficient the company is in pay its creditors meanwhile if the average payment period is short, the company will need cash on a continuous basis to pay its creditors. It is given as follow:

$$\text{AV payment period} = \frac{\text{Average creditors}}{\text{Credit purchases}} \times 365$$

OR

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$$AV \text{ payment period} = \frac{365}{\text{Creditors' turnover}}$$

e) Stock or inventory turnover

This is the ratio of the cost of sales to average stock. It shows the number of times average stock is sold or used during the year. It indicates how efficient the firm is in the management of its stock. The higher the ratio the more efficient management is in managing its stock. This is because stock is not held for a long time and this reduces storage cost. It is given as

$$\text{Stock turnover} = \frac{\text{Cost of sales}}{\text{Average stock}}$$

f) Inventory (stock) days or Average convention period

This refers to the number of days it takes for inventory to turn in to sales. A low inventory day is good since it shows how fast stock is converted. It is calculated as follows:

$$AV \text{ conversion period} = \frac{\text{Average stock}}{\text{Cost of sales}} \times 365$$

OR

$$AV \text{ conversion period} = \frac{365}{\text{Average conversion period}}$$

g) The working capital cycle or the operating cycle

Working capital cycle = (average collecting period + stock convention period) – average deferred payment period

h) Cost turnover or operating turnover = $\frac{\text{number of days in a year}}{\text{Working capital cycle}}$

i) Fixed asset turnover = $\frac{\text{Sales}}{\text{Total Non-current assets}}$

v) INVESTMENT RATIOS

These are ratios which are used to assess the performance of the company's shares. These ratios are of great interest to ordinary share holders as well as potential investors, analysts and competitors. Ratios here include:

a) Earnings per Share (EPS) = $\frac{\text{Earnings to ordinary share holder}}{\text{Number of ordinary shares}}$

b) Dividend per share (DPS) = $\frac{\text{Total ordinary dividend}}{\text{Number of ordinary shares}}$

c) **Dividend cover (DC):** This is the ratio of the dividend per share (DPS) to the earnings per share (EPS). It is calculated as follows:

$$\text{Dividend Cover (DC)} = \frac{\text{Dividend per share}}{\text{Earnings per share}}$$

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- d) **Earnings yield (EY):** This is the ratio of the earnings per share (EPS) to the market price per share (MPS). It is calculated as follows:

$$\text{Earnings yield (EY)} = \frac{\text{Earnings per share}}{\text{Market per share}}$$

- e) **Dividend yield (DY):** This is the ratio of the Dividend per share (DPS) to the market price per share (MPS). It is calculated as follows:

$$\text{Dividend yield (DY)} = \frac{\text{Dividend per share}}{\text{Market per share}}$$

- f) **Price earnings ratio (PER):** This is the ratio of the market price per share (MPS) to the earnings per share (EPS). It is calculated as follows:

$$\text{Price earnings ratio (PER)} = \frac{\text{Market per share}}{\text{Earnings per share}}$$

Example 1 (sample set 2019, 7005, P3, Q3)

The following are extracts from the final account of a trading company over its last two years:

Profit & loss statement

ELEMENTS	Year 1 (000 CFAF)	Year 2 (000 CFAF)
Purchases (all on credit)	216,000	285,000
Sales (all on credit)	675,000	834,000
Cost of sales	210,000	272,000
Gross profit	465,000	562,000
Net profit	130,000	200,000

Statement of financial position data

	YEAR 1		YEAR 2	
	CFAF	CFAF	CFAF	CFAF
Non-current assets		620,000		800,000
Current asset;				
Inventories	11,000		24,000	
Debtors	95,000		106,000	
Total current assets	106,000		130,000	
Current liabilities;				
Trade creditors	28,000		(39,000)	
Bank overdraft	39,000		(77,000)	
Taxation	10,000		(20,000)	
Proposed dividend	25,000		(30,000)	
Total current liabilities	(102,000)		(166,000)	
Working capital		4,000		(36,000)
Capital employed		624,000		764,000
Financed by:				
Share Capital	300,000		300,000	
Retained profit	224,000		374,000	
		524,000		674,000
Long term liability: Mortgage		100,000		90,000
		624,000		764,000

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NOTE: stock at the beginning of year 1 is the closing stock of the same year.

Required

- Calculate two profitability ratios for both years. (10 Marks)
- Calculate two liquidity ratios for both years (10 Marks)
- Calculate two efficiency ratios for both years (10 Marks)
- Briefly comment on the financial performance of the company over the two years. (5 Marks)

(Total 35 marks)

Example 2

You have been provided with the statement of financial position of TOKS PLCs at 31st December, 2013

	000 FCFA	000 FCFA	000 FCFA
Non-current assets:			
- Land and Buildings		340 000	
- Machinery and equipment		<u>122 020</u>	462 020
Current assets:			
- Stock	60 000		
- Debtors	70 000		
- Bank	<u>34 580</u>	164 580	
Current liabilities:			
- Creditors	121 600		
- Dividend	5 000	(126 600)	
Working capital			<u>37 980</u>
Capital employed			<u>500 000</u>
Equity:			
- Ordinary share capital		300 000	
- Reserves		80 000	
- Retained earnings		<u>20 000</u>	400 000
Non-current liabilities			
- Debentures			<u>100 000</u>
Capital employed			<u>500 000</u>

Additional information:

- Net profit for the year was 70 000 000FCFA
- Sales and purchases amounted to 350 000 000FCFA and 180 000 000FCFA respectively and were all on credit
- Opening stock is equal to closing stock and the year has 365 days

Required: Calculate the following ratios of the company:

- Net profit to sales
- Return on capital employed
- Stock turnover
- Debtors collection period
- Current ratio
- Gearing ratio

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Example 3:

Some of the financial ratios of two companies in Douala are calculated for the year ended 31/12/2010 and are given as follows:

Ratios	Company A	Company B
Gross profit margin	45%	70%
Net profit margin	30.75%	53%
Current ratio	2.2119	1.30237
Acid-test ratio	1.68104	1.07929
Stock turnover ratio	10 times	8 times
Debtors collection period	91.25 days	54.75 days

Additional information:

- The following information was extracted from the books of company A:
 - Net profit 61 500 FCFA
 - Current asset consisted of stock 11 000 FCFA, Debtors 37 500FCFA and Bank 1 500FCFA
- The opening stock of both companies is equal to the closing stock
- The sales realised by company B is 3 ½ times that of company A
- The current assets of company B sum up to 153 250FCFA and company B made all its sales on credit.

Required: Calculate for each company:

- (a) Turnover
- (b) Gross profit
- (c) Current liabilities
- (d) Cost of sales

Example 4:

Mr Nдох Solomon was considering the purchase of one of two businesses. However, he had only been presented with limited information about the businesses, as follows:

Summarised financial information for the year ended 31st December, 2009

Information	Business X	Business Y
Cost of sales	400 000 000 FCFA	600 000 000 FCFA
Administrative expenses	50 000 000 FCFA	60 000 000 FCFA
Average stock at cost	40 000 000 FCFA	50 000 000 FCFA
Working Capital as at 31 st December 2009	90 000 000 FCFA	250 000 000 FCFA
Selling and distribution expenses	15 000 000 FCFA	35 000 000 FCFA
Proprietor's capital as at 1 st January, 2009	200 000 000 FCFA	350 000 000 FCFA
Mark-up rate	20%	25%

Additional Information:

- i- Average stock has been calculated using the year's opening and closing stocks. Subsequently, it was discovered that Business Y had over valued its stock on the 31st December, 2009 by 10 000 000 FCFA.
- ii- Business X's administrative expenses included a payment for rent of 15 000 000 FCFA, which covered a three-year period to 31st December, 2011.

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- iii- A sum of 2 500 000 FCFA was included in the administrative expenses of Business Y in respect of a holiday taken by the owner and his family.
- iv- Cash drawings for the year ended 31st December, 2009 were:
 - Business X 20 000 000 FCFA
 - Business Y 25 000 000 FCFA
- v- The owners of the businesses had stipulated the following prices for their businesses:
 - Business X 190 000 000 FCFA
 - Business Y 400 000 000 FCFA

Work required:

- a) Based on the information available, carry out the necessary adjustments and prepare the comparative income statement for the year ended 31st December, 2009.
- b) Calculate the stock turn over for each firm
- c) Calculate the Net worth of each business and advise Mr Ndoh on which business he should purchase.