

UCCC & SPBCBA & SDHGCBCA & IT

TYBCOM SEM-5

Advanced Accounting & Auditing-6

Ch: RATIO ANALYSIS (FORMULAE)

Income Statement for Computation of Ratio

Sales
Less: Cost of Goods sold
<i>Gross Profit</i>
Less: Administration, Selling and distribution exp.
<i>EBIT/PBIT</i>
Less: Interest and Financial exp.
<i>EBT/PBT</i>
Less: Tax
<i>EAT/PAT</i>
Less: Preference Dividend
<i>Earnings Available to Equity Share holders</i>
Divided by Numbers of Equity shares
<i>EPS</i>

EBIT= earnings before interest and tax

EBT= earnings before tax

EAT = earnings after tax

EPS = earnings per share

Profitability ratios in relation to sales

Gross profit ratio	$\text{Gross profit/net sales} * 100$
	Gross profit = sales – COGS Net sales = sales – sales return COGS= op. stock + purchase + purchase exp – cl. Stock COGS= sales – gross profit COGS is also known as ADJUSTED PURCHASE
Net profit ratio	$\text{Profit or Earning after tax/net sales} * 100$
Operating ratio	$\text{COGS+ Operating exp./net sales} * 100$ Operating exp= administrative+selling+distribution+ <i>financial exp.</i>
Expense ratio	$\text{Expense / net sales} * 100$

Profitability Ratios in relation to Investments

<p>Return on Capital Employed (ROCE) Or Return on Investment (ROI)</p>	<p>ROCE= Earnings before interest and tax EBIT/ Capital Employed*100 Capital Employed = Equity shares + preference shares + reserve and surplus+ long term debt – fictitious assets OR ROI= EBIT/Total investments*100 Total investments = total of asset side – fictitious assets</p>
<p>Return on share holder's fund</p>	<p>Earnings after tax EAT/share holder's fund*100 Share holder's fund = Equity shares + preference shares + reserve and surplus – fictitious assets</p>

Return on equity share holder's fund	$\text{EAT-Pref. div/equity share holder's fund} * 100$ $\text{Return on equity share holder's fund} = \frac{\text{Equity shares} + \text{reserve and surplus} - \text{fictitious assets}}{\text{Equity share holder's fund}} * 100$
Return on equity capital	$\text{EAT-Pref. div/equity capital} * 100$
<ul style="list-style-type: none"> • Earning Per Share(EPS) = $\frac{\text{EAT} - \text{Pref. dividend}}{\text{No. of Equity shares}}$ • Dividend Per share(DPS) = $\frac{\text{Total Div. to Eq. Sh}}{\text{No. of Equity Shares}}$ • Dividend Yield = $\frac{\text{DPS}}{\text{Market Price per Share}} * 100$ • Price Earning Ratio = $\frac{\text{MPS}}{\text{EPS}}$ 	

Concept of Trading on equity

	Financial plan A	Financial plan B
Equity shares of Rs. 10 each	100000	60000
8% debentures	---	40000
	100000	100000
EBIT	10000	10000
Less interest	---	3200
EBT	10000	6800
Tax 50%	5000	3400
EAT	5000	3400
Divided by no. of equity shares	10000	6000
EPS	0.50	0.57

Capital structure or Leverage ratio

<ul style="list-style-type: none"> Proprietary Ratio = 	Proprietor's fund/Total funds*100 Proprietor's fund = Equity shares + preference shares +
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	<p>reserve and surplus - fictitious assets</p> <p>Total funds = Equity shares + preference shares + reserve and surplus+ long term debt – fictitious assets</p>
<p>Debt equity ratio (on the basis of long term debt)</p> <p>Debt-Equity Ratio measures the relationship between long-term debt and equity.</p> <p>If debt component of the total long-term funds employed is small, outsiders feel more secure. From security point of view, capital structure with less debt and more equity is considered favourable as it reduces the chances of bankruptcy.</p> <p>Normally, it is considered to be safe if debt equity ratio is 2 : 1. However, it may vary from industry to industry.</p> <p><i>Significance:</i> This ratio measures the degree of indebtedness of an enterprise and gives an idea to the long-term lender regarding extent of security of the debt. As indicated earlier, a low debt equity ratio reflects more security. A high ratio, on the other hand, is considered risky as it may put the firm into difficulty in meeting its obligations to outsiders. However, from the perspective of the owners, greater use of debt (trading on equity) may help in</p>	<p>Long term debt/share holder's fund</p> <p>Long term debt = debentures + long term loan etc</p> <p>Share holder's fund= Equity shares + preference shares + reserve and surplus -fictitious assets</p>

<p>ensuring higher returns for them if the rate of earnings on capital employed is higher than the rate of interest payable.</p>	
<p>Capital Gearing Ratio = This ratio shows proportion of fixed charges bearing securities to equity capital. If the proportion of fixed charges bearing securities is more than equity, the firm is said to be highly geared. In such case major portion of earnings will be absorbed by interest charges and preference dividend, hence earnings to equity share holders will be less. The shares of highly geared company will be volatile in the market due to insufficient dividend.</p>	<p>Pref. shares + LTL/ Equity capital*100</p>
<p>Long term funds to fixed Assets</p>	<p>Long term funds/ fixed assets</p>

<p>LTF 200000 FA 100000 $200000/100000= 2$ times $50000/100000= 0.5$ time This ratio indicates the financing pattern of fixed assets. This ratio should at least be 1. Means the total fixed assets must be financed through long term fund. If this ratio is less than 1, it means that some portion of fixed assets is purchased from short term funds. This case is not desirable because whenever this short term funds mature and if the company is not having sufficient funds to pay them, the company has to sell its fixed assets in the market and may suffer loss in value.</p>	<p>Long term funds = share capital+ reserves and surplus + LTL – fictitious assets</p>
<p>Interest coverage ratio This ratio indicates the</p>	<p>EBIT/ interest charges</p>

number of times the earnings of the firm is able to meet its interest charges. High ratio indicates better capacity to raise new debt.	
Debt service ratio	EBIT/ interest charges and Principal amount

Turnover or activity or efficiency ratio

<p>Stock turnover or Inventory turnover ratio</p> <p>It indicates the quality of material. High turnover means stock is fast moving and vice versa. This ratio helps to measure efficiency of inventory control department.</p>	<p>Cost of goods sold/average stock</p> <p>COGS= op. stock + purchase + purchase exp – cl. Stock</p> <p>COGS= sales – gross profit</p> <p>COGS is also known as ADJUSTED PURCHASE</p> <p>Average stock = opening stock + closing stock /2</p>
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Debtors Ratio	$\frac{\text{Debtors} + \text{Bills Receivable}}{\text{Credit Sales}} \times \text{days in year}$
Creditors Ratio	$\frac{\text{Creditors} + \text{Bills Payable}}{\text{Credit Purchase}} \times \text{days in year}$
Fixed Assets Turnover Ratio	$\text{Sales} / \text{Fixed Assets}$