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VIRTUAL COACHING CLASSES ORGANIZED BY BOS, ICAI

INTERMEDIATE LEVEL PAPER 8A : FINANCIAL MANAGEMENT

RATIO ANALYSIS

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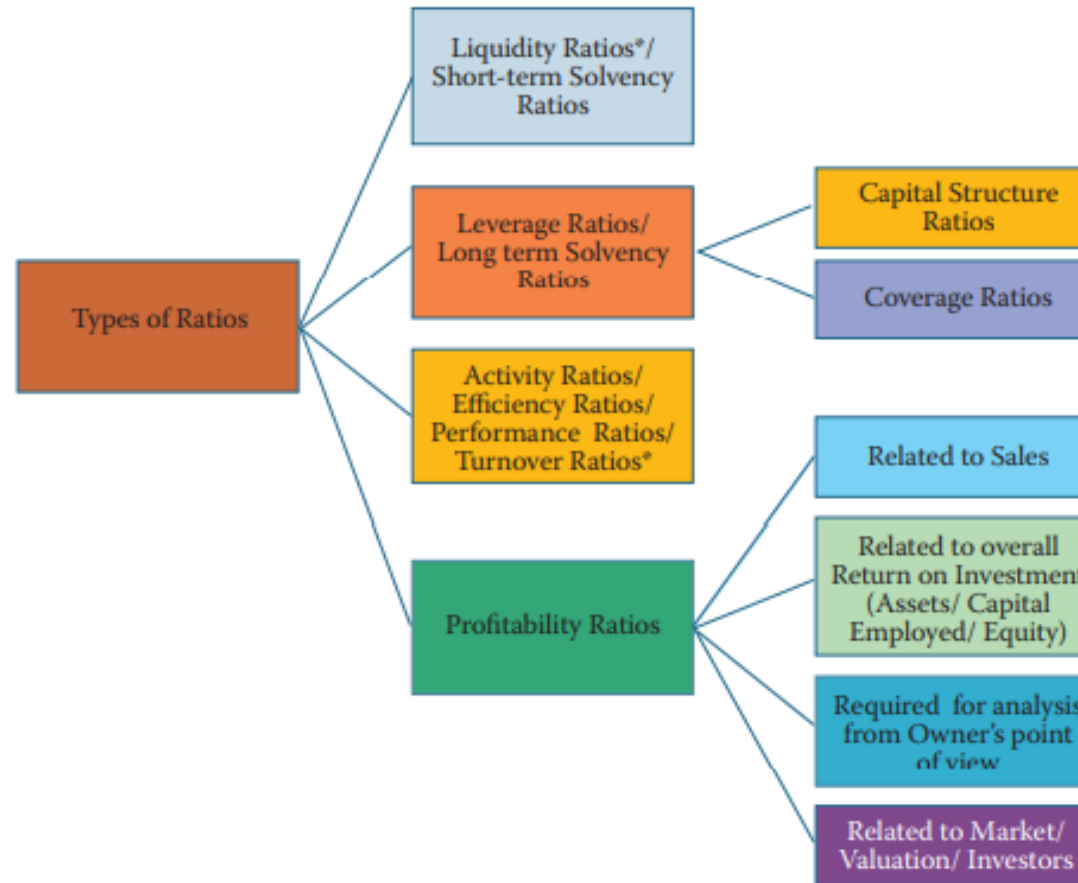
Ratio Analysis



- **Ratio** - indicated quotient of two mathematical expressions or relationship between two or more things signifying a plausible relationship
- **Ratio Analysis** – comparison of ratios against previous periods and with those of other companies.
- **Objectives** - Stakeholders can draw conclusions with respect to :
 - Performance of the company
 - Strength & Weaknesses
 - Decision Making
- **Caution** – A single ratio can be meaningless in itself & one needs to know the components of numerator & denominator.



Types of Ratios





Liquidity Ratios



- Liquidity or short-term solvency : ability of the business to pay its short-term liabilities
- Inability to pay-off short-term liabilities affects its credibility as well as its credit rating

Various Liquidity Ratios are:

- (a) Current Ratio
- (b) Quick Ratio or Acid test Ratio
- (c) Cash Ratio or Absolute Liquidity Ratio
- (d) Basic Defense Interval or Interval Measure Ratios
- (e) Net Working Capital Ratio



Liquidity Ratios



- **CURRENT RATIO = CURRENT ASSETS / CURRENT LIABILITIES**

Most common ratio for short term solvency with 2:1 as acceptable ratio but can vary based on nature of business & other factors)

Current Assets = Inventories + Sundry Debtors + Cash and Bank Balances + Receivables/ Accruals + Loans and Advances + Disposable Investments + Prepaid Expenses + Any other current assets.

Current Liabilities = Creditors for goods and services + Short-term Loans + Bank Overdraft + Cash Credit + Outstanding Expenses + Provision for Taxation + Proposed Dividend + Unclaimed Dividend + Any other current liabilities.

- **QUICK / ACID-TEST RATIO = QUICK ASSETS / CURRENT LIABILITIES**

More conservative measure of short-term liquidity - "If all sales revenues should disappear, could my business meet its current obligations with the readily convertible quick funds on hand?" (1:1 can be satisfactory)

Quick Assets = Current Assets – Inventories – Prepaid Expenses

- **NET WORKING CAPITAL RATIO = CURRENT ASSETS - CURRENT LIABILITIES (excluding short term bank borrowing)**



Other Liquidity Ratios

$$\text{Cash Ratio} = \frac{\text{Cash and Bank balances + Marketable Securities}}{\text{Current Liabilities}}$$

Or,

$$\frac{\text{Cash and Bank balances + Current Investments}}{\text{Current Liabilities}}$$

$$\text{Interval Measure} = \frac{\text{Current Assets - Inventories}}{\text{Daily Operating Expenses}}$$

If all the company's revenues were to cease, the Basic Defense Interval would help determine the number of days for which the company can cover its cash expenses without the aid of additional financing.

$$\text{Daily Operating Expenses} = \frac{\text{Cost of Goods Sold + Selling Administration and other General expenses - Depreciation and other non cash expenditure}}{\text{No. of days in a year}}$$

$$\text{Basic Defense Interval} = \frac{\text{Cash and Bank balances + Marketable Securities}}{\text{Operating Expenses} \div \text{No. of days (say 360)}}$$



Leverage Ratios



Capital Structure Ratios	Formula	Interpretation
Equity Ratio	Shareholder's Equity / Net Assets	Indicates proportion of owners' fund to total fund invested in the business
Debt Ratio	Total Debt / Net Assets	Analyses the long-term solvency (>1 = Risky)
Debt to Equity	Total Debt / Shareholder's Equity	Indicator of Financial Leverage (Higher ratio > Less protection for creditors)
Debt to Total Assets	Total Debt / Total Assets	Higher ratio > Higher Leverage
Capital Gearing	(Pref Share Capital + Debentures + Other Borrowings) / Equity	Reflects the proportion of fixed charges (interest & dividend) bearing capital to funds belonging to equity shareholders
Proprietary Ratio	(Eq Sh Cap + Pref Sh Cap + R&S) / Total Assets	Indicates the proportion of total assets financed by shareholders



Leverage Ratios



Coverage Ratios	Formula	Interpretation
Debt Service Coverage	$\text{Earnings available for Debt Services} / (\text{Interest} + \text{Instalments})$	Ability to pay off current interest and instalments
Earnings available for DS = Net profit (Earning after taxes) + Non-cash operating expenses like depreciation and other amortizations + Interest + other adjustments like loss on sale of Fixed Asset etc. OR Cash from operations before tax		
Interest Coverage / Times Interest Earned	$\text{EBIT} / \text{Interest}$	How many times a company can cover its current interest payment with its available earnings
Pref Dividend Coverage	$\text{EAT} / \text{Pref Dividend Liability}$	Indicates margin of safety available to the preference shareholders
Fixed Charges Coverage	$(\text{EBIT} + \text{Depreciation}) / (\text{Interest} + \text{Repayment of Loan})$	Shows how many times the cash flow before interest and taxes covers all fixed financing charges



Activity Ratios



Ratio	Formula	Interpretation
Total Assets Turnover	$\text{Sales or COGS} / \text{Total Assets}$	Efficiency with which the firm uses its total assets
Fixed Assets Turnover	$\text{Sales or COGS} / \text{Fixed Assets}$	Efficiency with which the firm uses its fixed assets
Capital Turnover	$\text{Sales or COGS} / \text{Net Assets i.e. Total Assets} - \text{Current Liabilities}$	Indicates the firm's ability of generating sales/ Cost of Goods Sold per rupee of long-term investment
Current Assets Turnover	$\text{Sales or COGS} / \text{Current Assets}$	Efficiency with which the firm uses its current assets
Inventory Turnover	$\text{COGS or Sales} / \text{Average Inventory}$	Efficiency with which a firm utilizes or manages its inventory
Receivables Turnover	$\text{Credit Sales} / \text{Average Receivables}$	Efficiency with which management is managing its accounts receivables
Receivable's Velocity or Average Collection Period	$12\text{m or } 52\text{w or } 360\text{D} / \text{RT Ratio}$	Average number of days it takes to collect an account receivable
Payables Turnover	$\text{Credit Purchases} / \text{Average Accounts Payable}$	Shows the velocity of payables payment by the firm

Profitability Ratios



Profitability Ratios based on Sales		
Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins it makes on products it buys and sells.
Net Profit Ratio	$\frac{\text{Net Profit}}{\text{Sales}} \times 100$	It measures the relationship between net profit and sales of the business.
Operating Profit Ratio	$\frac{\text{Operating Profit}}{\text{Sales}} \times 100$	It measures operating performance of business. Operating Profit = EBIT
Expenses Ratio		
Cost of Goods Sold (COGS) Ratio	$\frac{\text{COGS}}{\text{Sales}} \times 100$	It measures portion of a particular expenses in comparison to sales.
Operating Expenses Ratio	$\frac{\text{Administrative exp.} + \text{Selling \& Distribution OH}}{\text{Sales}} \times 100$	
Operating Ratio	$\frac{\text{COGS} + \text{Operating Expenses}}{\text{Sales}} \times 100$	
Financial Expenses Ratio	$\frac{\text{Financial Expenses}}{\text{Sales}} \times 100$	

Profitability Ratios



Profitability Ratios related to Overall Return on Assets/ Investments		
Return on Investment (ROI)	$\frac{\text{Return/ Profit / Earnings}}{\text{Investments}} \times 100$	It measures overall return of the business on investment/ equity funds/ capital employed/ assets.
Return on Assets (ROA)	$\frac{\text{Net Profit after taxes}}{\text{Average Total Assets}} \times 100$	It measures net profit per rupee of average total assets/ average tangible assets/ average fixed assets.
Return on Capital Employed ROCE (Pre-tax)	$\frac{\text{EBIT}}{\text{Capital Employed}} \times 100$	It measures overall earnings (either pre-tax or post tax) on total capital employed.

* When assets are also financed by lenders then ROA = $\frac{\text{EBIT}(1-T) \text{ or } (\text{NP} + \text{Interest})}{\text{Average total assets}}$

Return on Equity & Du Pont Model

Return on Equity	$\frac{\text{EAT-Pref Div}}{\text{ESH Funds}}$	Profitability of equity funds invested in the firm
ROE can be analysed into further 3 components as per DuPont Model		
Net Profit Margin	$\frac{\text{Net Income}}{\text{Sales}}$	Multiplying these three ratios shall produce Net Income / Equity * Return on total shareholders – no need of reducing preference dividend
Investment or Asset Turnover	$\frac{\text{Sales}}{\text{Investments or Assets}}$	
Equity Multiplier	$\frac{\text{Assets or Investments}}{\text{Equity}}$	

Other Profitability Ratios



Ratio	Formula	Interpretation
Price Earning Ratio	MPS / EPS	Indicates the payback period to the investors or prospective investors. Higher Ratio > Growth expected or Stock over valued
Dividends Yield	$\frac{\text{Dividend} \pm \text{Change in share price}}{\text{Initial share price}} \times 100$	Indicates return on investment (on average or closing investment). Dividend (%) indicates return on paid up value of shares. Yield (%) indicates true return where share capital is taken at its market value
Earnings Yield	EPS / MPS x 100	
MV/BV per Share	Avg or Closing Share Price / (Net Worth / No. of Eq Shares)	Indicates market response of the shareholders' investment
Q Ratio	Mkt Value / Est Replacement Cost of Assets	Relationship between market valuation and intrinsic value. QR = 1 is equilibrium. >1 = stock overvalued & vice versa

EPS = Net Profit available to ESH / Weighted Average No. of Equity Shares	DPS = Dividend paid to ESH / Number of ESH outstanding	Dividend Pay-out Ratio = DPS / EPS
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Users & Objective of Financial Analysis

S.No.	Users	Objectives	Ratios used in general
1.	Shareholders	Being owners of the organisation they are interested to know about profitability and growth of the organization	<ul style="list-style-type: none">Mainly Profitability Ratio [In particular Earning per share (EPS), Dividend per share (DPS), Price Earnings (P/E), Dividend Payout ratio (DP)]
2.	Investors	They are interested to know overall financial health of the organisation particularly future perspective of the organisations.	<ul style="list-style-type: none">Profitability RatiosCapital structure RatiosSolvency RatiosTurnover Ratios
3.	Lenders	They will keep an eye on the safety perspective of their money lent to the organisation	<ul style="list-style-type: none">Coverage RatiosSolvency RatiosTurnover RatiosProfitability Ratios
4.	Creditors	They are interested to know liability position of the organisation particularly in short term. Creditors would like to know whether the organisation will be able to pay the amount on due date.	<ul style="list-style-type: none">Liquidity RatiosShort term solvency Ratios/ Liquidity Ratios
5.	Employees	They will be interested to know the overall financial wealth of the organisation and compare it with competitor company.	<ul style="list-style-type: none">Liquidity RatiosLong terms solvency RatiosProfitability RatiosReturn of investment
6.	Regulator / Government	They will analyse the financial statements to determine taxations and other details payable to the government.	Profitability Ratios



Users & Objective of Financial Analysis

7.	Managers:-		
	(a) Production Managers	They are interested to know various data regarding input output, production quantities etc.	<ul style="list-style-type: none"> • Input output Ratio • Raw material consumption.
	(b) Sales Managers	Data related to quantities of sales for various years, other associated figures and produced future sales figure will be an area of interest for them	<ul style="list-style-type: none"> • Turnover ratios (basically receivable turnover ratio) • Expenses Ratios
	(c) Financial Manager	They are interested to know various ratios for their future predictions of financial requirement.	<ul style="list-style-type: none"> • Profitability Ratios (particularly related to Return on investment) • Turnover ratios • Capital Structure Ratios
	Chief Executive/ General Manager	They will try to find the entire perspective of the company, starting from Sales, Finance, Inventory, Human resources, Production etc.	<ul style="list-style-type: none"> • All Ratios
8.	Different Industry		
	(a) Telecom	Finance Manager /Analyst will calculate ratios of their company and compare it with Industry norms.	<ul style="list-style-type: none"> • Ratio related to 'call' • Revenue and expenses per customer
	(b) Bank		<ul style="list-style-type: none"> • Loan to deposit Ratios • Operating expenses and income ratios
	(c) Hotel		<ul style="list-style-type: none"> • Room occupancy ratio • Bed occupancy Ratios
	(d) Transport		<ul style="list-style-type: none"> • Passenger -kilometre • Operating cost - per passenger kilometre.



Test Yourself

Q1. Observing changes in the financial variables across the years is:

- a) Vertical analysis
- b) Horizontal Analysis
- c) Peer-firm Analysis
- d) Industry Analysis.

Q2. A company has net profit margin of 5%, total assets of Rs. 90,00,000 and return on assets of 9%. Its total asset turnover ratio would be-

- a) 1.6
- b) 1.7
- c) 1.8
- d) 1.9



Illustration



X Co. has made plans for the next year. It is estimated that the company will employ total assets of ₹ 8,00,000; 50 per cent of the assets being financed by borrowed capital at an interest cost of 8 per cent per year. The direct costs for the year are estimated at ₹4,80,000 and all other operating expenses are estimated at ₹ 80,000. the goods will be sold to customers at 150 per cent of the direct costs. Tax rate is assumed to be 50 per cent.

You are required to CALCULATE: (i) net profit margin; (ii) return on assets; (iii) asset turnover and (iv) return on owners' equity.

Question 1



The following accounting information and financial ratios of PQR Ltd. relate to the year ended 31st March, 2020

If value of Fixed Assets as on 31st March, 2019 amounted to ₹ 26 lakhs, PREPARE a summarised Profit and Loss Account of the company for the year ended 31st March, 2020 and also the Balance Sheet as on 31st March, 2020.

I	<i>Accounting Information:</i>	
	Gross Profit	15% of Sales
	Net profit	8% of sales
	Raw materials consumed	20% of works cost
	Direct wages	10% of works cost
	Stock of raw materials	3 months' usage
	Stock of finished goods	6% of works cost
	Debt collection period	60 days
	All sales are on credit	
II	<i>Financial Ratios:</i>	
	Fixed assets to sales	1 : 3
	Fixed assets to Current assets	13 : 11
	Current ratio	2 : 1
	Long-term loans to Current liabilities	2 : 1
	Capital to Reserves and Surplus	1 : 4

Question 2



Using the following information, PREPARE the balance sheet:

Long-term debt to net worth	0.5 to 1
Total asset turnover	2.5 ×
Average collection period*	18 days
Inventory turnover	9 ×
Gross profit margin	10%
Acid-test ratio	1 to 1

*Assume a 360-day year and all sales on credit.

	₹		₹
Cash		Notes and payables	1,00,000
Accounts receivable		Long-term debt	
Inventory		Common stock	1,00,000
Plant and equipment		Retained earnings	1,00,000
Total assets		Total liabilities and equity	

Long Term Debt to Net Worth (2,00,000)

Thus, Long term debt = 1,00,000

Thus, Total Assets = 4,00,000 & Turnover = 10,00,000

Receivables Turnover = $360/18 = 20$ times

Hence, Receivables = $10,00,000 / 20 = 50,000$

COGS = 90% of Turnover = 9,00,000

Inventory = $COGS / Inventory\ Turnover = 9,00,000 / 9$

Quick Assets = Current Liab = 1,00,000 and hence,

Cash = 1,00,000.

Thus, Plant = $4,00,000 - 1,00,000 (Inv) - 1,00,000 (Cash \& receivables) = 200,000$

Balance Sheet			
Cash	50,000.00	Notes Payable	1,00,000.00
Accounts Receivable	50,000.00	LT Debt	1,00,000.00
Inventory	1,00,000.00	Common Stock	1,00,000.00
Plant & Equipment	2,00,000.00	Retained Earnings	1,00,000.00
	4,00,000.00		4,00,000.00

Question 3



Ganpati Limited has furnished the following ratios and information relating to the year ended 31st March, 2020.

Sales	₹ 60,00,000
Return on net worth	25%
Rate of income tax	50%
Share capital to reserves	7:3
Current ratio	2
Net profit to sales	6.25%
Inventory turnover (based on cost of goods sold)	12
Cost of goods sold	₹ 18,00,000
Interest on debentures	₹ 60,000
Receivables	₹ 2,00,000
Payables	₹ 2,00,000

You are required to:

- CALCULATE the operating expenses for the year ended 31st March, 2020.
- PREPARE a balance sheet as on 31st March in the following format:

Balance Sheet as on 31st March, 2020

Liabilities	₹	Assets	₹
Share Capital		Fixed Assets	
Reserve and Surplus		Current Assets	
15% Debentures		Stock	
Payables		Receivables	
		Cash	

Net Profit	3,75,000.00	Sh Cap	10,50,000.00
Tax	3,75,000.00	R&S	4,50,000.00
PBT	7,50,000.00	15% Debe	4,00,000.00
Interest	60,000.00	Payables	2,00,000.00
EBIT	8,10,000.00	Total Asse	21,00,000.00
Inventory	1,50,000.00	C Assets	4,00,000.00
Net Worth	15,00,000.00	F Assets	17,00,000.00
Sh Cap / R&S	7/3	Cash	50,000.00
Sh Cap / NW	7/10		



Test Yourself



Q1. Apple Co's current ratio is 4:1. Which of the following shall NORMALLY result in increase of the current ratio ?

- a) Purchase of Inventory on Account
- b) Sale of Inventory on Account
- c) Purchase of Machinery for Cash
- d) Collection of Accounts Receivables

Q2. From the following information, calculate P/E ratio: Equity share capital of Rs. 10 each Rs. 8,00,000, 9 % Preference share capital of Rs. 10 each Rs. 3,00,000 , Profit (after 35% tax)Rs. 2,67,000, Depreciation - Rs. 67,000, Market price of equity share -Rs. 48

- a) 18 times
- b) 19 times
- c) 17 times
- d) 16 times

Question 4



Following information has been gathered from the books of Tram Ltd. the equity shares of which is trading in the stock market at ₹ 14.

Particulars	Amount (₹)
Equity Share Capital (face value ₹ 10)	10,00,000
10% Preference Shares	2,00,000
Reserves	8,00,000
10% Debentures	6,00,000
Profit before Interest and Tax for the year	4,00,000
Interest	60,000
Profit after Tax for the year	2,40,000

Calculate the following:

- Return on Capital Employed
- Earnings per share
- PE ratio

Calculation of Return on capital employed (ROCE)

$$\begin{aligned}\text{Capital employed} &= \text{Equity Shareholders' funds} + \text{Debenture} + \text{Preference shares} \\ &= ₹ (10,00,000 + 8,00,000 + 6,00,000 + 2,00,000) \\ &= ₹ 26,00,000\end{aligned}$$

$$\begin{aligned}\text{Return on capital employed [ROCE-(Pre-tax)]} &= \frac{\text{PBIT}}{\text{Capital Employed}} \times 100 \\ &= \frac{₹ 4,00,000}{₹ 26,00,000} \times 100 \\ &= 15.38\% \text{ (approx.)}\end{aligned}$$

$$\begin{aligned}\text{Return on capital employed [ROCE-(Post-tax)]} &= \frac{\text{Profit after Tax}}{\text{Capital Employed}} \times 100 \\ &= \frac{₹ 2,40,000}{₹ 26,00,000} \times 100 \\ &= 9.23\% \text{ (approx.)}\end{aligned}$$

Solution



Calculation of Earnings per share

$$\begin{aligned}\text{Earnings per share} &= \frac{\text{Earnings available to equity shareholders}}{\text{No of equity shares}} \\ &= \frac{\text{Profit after tax-preference Dividend}}{\text{No of equity shares}} \\ &= \frac{\text{₹ (2,40,000 - 20,000)}}{\text{₹ 1,00,000}} \\ &= \text{₹ 2.20}\end{aligned}$$

Calculation of PE ratio

$$\begin{aligned}\text{PE} &= \frac{\text{Market Price per Share (MPS)}}{\text{Earning per Shares (EPS)}} \\ &= \frac{\text{₹ 14}}{\text{₹ 2.20}} = 6.364 \text{ (approx.)}\end{aligned}$$

Question 5



Given below are the estimations for the next year by Niti Ltd.:

Particulars	(₹ in crores)
Fixed Assets	5.20
Current Liabilities	4.68
Current Assets	7.80
Sales	23.00
EBIT	2.30

Assuming corporate tax rate at 30%, CALCULATE the following for each of the financing policy:

- (i) Return on total assets
- (ii) Return on owner's equity
- (iii) Net Working capital
- (iv) Current Ratio

Also advise which Financing policy should be adopted if the company wants high returns.

The company will issue equity funds of ₹ 5 crores in the next year. It is also considering the debt alternatives of ₹ 3.32 crores for financing the assets. The company wants to adopt one of the policies given below:

(₹ in crores)

Financing Policy	Short term debt @ 12%	Long term debt @ 16%	Total
Conservative	1.08	2.24	3.32
Moderate	2.00	1.32	3.32
Aggressive	3.00	0.32	3.32

Solution



Return on total assets

$$\begin{aligned} \text{Return on total assets} &= \frac{\text{EBIT} (1 - T)}{\text{Total assets (FA + CA)}} \\ &= \frac{\text{₹ 2.30 crores} (1 - 0.3)}{\text{₹ 5.20 crores} + \text{₹ 7.80 crores}} \\ &= \frac{\text{₹ 1.61 crores}}{\text{₹ 13 crores}} = 0.1238 \text{ or } 12.38\% \end{aligned}$$

Return on owner's equity

(Amount in ₹)

	Financing policy (₹)		
	Conservative	Moderate	Aggressive
Expected EBIT	2,30,00,000	2,30,00,000	2,30,00,000
Less: Interest			
Short term Debt @ 12%	12,96,000	24,00,000	36,00,000
Long term Debt @ 16%	35,84,000	21,12,000	5,12,000
Earnings before tax (EBT)	1,81,20,000	1,84,88,000	1,88,88,000
Less: Tax @ 30%	54,36,000	55,46,400	56,66,400
Earnings after Tax (EAT)	1,26,84,000	1,29,41,600	1,32,21,600
Owner's Equity	5,00,00,000	5,00,00,000	5,00,00,000
Return on owner's equity = $\frac{\text{Net Profit after taxes (EAT)}}{\text{Owners' equity}}$	$= \frac{1,26,84,000}{5,00,00,000}$ = 0.2537 or 25.37%	$= \frac{1,29,41,600}{5,00,00,000}$ = 0.2588 or 25.88%	$= \frac{1,32,21,600}{5,00,00,000}$ = 0.2644 or 26.44%

Solution



Net Working capital

(₹ in crores)

	Financing policy		
	Conservative	Moderate	Aggressive
Current Liabilities (Excluding Short Term Debt)	4.68	4.68	4.68
Short term Debt	1.08	2.00	3.00
Total Current Liabilities	5.76	6.68	7.68
Current Assets	7.80	7.80	7.80
Net Working capital = Current Assets - Current Liabilities	7.80 - 5.76 = 2.04	7.80 - 6.68 = 1.12	7.80 - 7.68 = 0.12

Current ratio

(₹ in crores)

	Financing policy		
	Conservative	Moderate	Aggressive
Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{7.80}{5.76} = 1.35$	$\frac{7.80}{6.68} = 1.17$	$\frac{7.80}{7.68} = 1.02$

Advise: It is advisable to adopt aggressive financial policy, if the company wants high return as the return on owner's equity is maximum in this policy i.e. 26.44%.

Question 6



Following information has been provided from the books of M/s Laxmi & Co. for the year ending on 31st March, 2020:

Net Working Capital	₹ 4,80,000
Bank overdraft	₹ 80,000
Fixed Assets to Proprietary ratio	0.75
Reserves and Surplus	₹ 3,20,000
Current ratio	2.5
Liquid ratio (Quick Ratio)	1.5

You are required to PREPARE a summarised Balance Sheet as at 31st March, 2020.

(i) Current Assets and Current Liabilities computation:

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{2.5}{1}$$

Or Current assets = 2.5 Current liabilities

Now, Working capital = Current assets – Current liabilities

Or ₹ 4,80,000 = 2.5 Current liability – Current liability

Or 1.5 Current liability = ₹ 4,80,000

∴ Current Liabilities = ₹ 3,20,000

So, Current Assets = ₹ 3,20,000 × 2.5 = ₹ 8,00,000

Computation of stock

$$\text{Liquid ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Or 1.5 = $\frac{\text{Current assets} - \text{Inventories}}{₹ 3,20,000}$

Or 1.5 × ₹ 3,20,000 = ₹ 8,00,000 – Inventories

Or Inventories = ₹ 8,00,000 – ₹ 4,80,000

Or Stock = ₹ 3,20,000

Computation of Proprietary fund; Fixed assets; Capital and Sundry creditors

$$\text{Fixed Asset to Proprietary ratio} = \frac{\text{Fixed assets}}{\text{Proprietary fund}} = 0.75$$

∴ Fixed Assets = 0.75 Proprietary fund (PF) [FA+NWC = PF]

or NWC = PF- FA [(i.e. .75 PF)]

and Net Working Capital (NWC) = 0.25 Proprietary fund

Or ₹ 4,80,000/0.25 = Proprietary fund

Or Proprietary fund = ₹ 19,20,000

and Fixed Assets = 0.75 proprietary fund

= 0.75 × ₹ 19,20,000 = ₹ 14,40,000



Solution

$$\begin{aligned}\text{Capital} &= \text{Proprietary fund} - \text{Reserves \& Surplus} \\ &= ₹ 19,20,000 - ₹ 3,20,000 = ₹ 16,00,000 \\ \text{Sundry Creditors} &= (\text{Current liabilities} - \text{Bank overdraft}) \\ &= (₹ 3,20,000 - ₹ 80,000) = ₹ 2,40,000\end{aligned}$$

Balance Sheet as at 31st March, 2020

Liabilities	₹	Assets	₹
Capital	16,00,000	Fixed Assets	14,40,000
Reserves & Surplus	3,20,000	Stock	3,20,000
Bank overdraft	80,000	Other Current Assets	4,80,000
Sundry creditors	<u>2,40,000</u>		<u> </u>
	<u>22,40,000</u>		<u>22,40,000</u>



Question 7

Following figures and ratios are related to a company Q Ltd. :

(i) Sales for the year (all credit)	₹ 30,00,000
(ii) Gross Profit ratio	25 per cent
(iii) Fixed assets turnover (based on cost of goods sold)	1.5
(iv) Stock turnover (based on cost of goods sold)	6
(v) Liquid ratio	1 : 1
(vi) Current ratio	1.5 : 1
(vii) Receivables (Debtors) collection period	2 months
(viii) Reserves and surplus to share capital	0.6 : 1
(ix) Capital gearing ratio	0.5
(x) Fixed assets to net worth	1.20 : 1

You are required to calculate :

Closing stock, Fixed Assets, Current Assets, Debtors and Net worth.



Solution

Calculation of Closing Stock:

$$\begin{aligned}\text{Cost of Goods Sold} &= \text{Sales} - \text{Gross Profit (25\% of Sales)} \\ &= ₹ 30,00,000 - ₹ 7,50,000 \\ &= ₹ 22,50,000\end{aligned}$$

$$\begin{aligned}\text{Closing Stock} &= \text{Cost of Goods Sold} / \text{Stock Turnover} \\ &= ₹ 22,50,000 / 6 = ₹ 3,75,000\end{aligned}$$

Calculation of Fixed Assets:

$$\begin{aligned}\text{Fixed Assets} &= \text{Cost of Goods Sold} / \text{Fixed Assets Turnover} \\ &= ₹ 22,50,000 / 1.5 \\ &= ₹ 15,00,000\end{aligned}$$

Calculation of Current Assets:

$$\begin{aligned}\text{Current Ratio} &= 1.5 \text{ and Liquid Ratio} = 1 \\ \text{Stock} &= 1.5 - 1 = 0.5 \\ \text{Current Assets} &= \text{Amount of Stock} \times 1.5 / 0.5 \\ &= ₹ 3,75,000 \times 1.5 / 0.5 = ₹ 11,25,000\end{aligned}$$

Calculation of Debtors:

$$\begin{aligned}\text{Debtors} &= \text{Sales} \times \text{Debtors Collection period} / 12 \\ &= ₹ 30,00,000 \times 2 / 12 \\ &= ₹ 5,00,000\end{aligned}$$

Calculation of Net Worth:

$$\begin{aligned}\text{Net worth} &= \text{Fixed Assets} / 1.2 \\ &= ₹ 15,00,000 / 1.2 = ₹ 12,50,000\end{aligned}$$



Limitations of Financial Ratios

- **Diversified product lines – aggregated data based ratios less useful**
- **Financial data are badly distorted by inflation**
- **Seasonal Factors**
- **Window dressing to give a good shape to the popularly used financial ratios**
- **Differences in accounting policies and accounting period**
- **No standard set of ratios against which a firm's ratios can be compared**
- **Difficulty to generalise whether a particular ratio is good or bad**
- **Financial ratios are inter-related, not independent – individual ratios can be meaningless**



Financial Analysis

- **Horizontal Analysis:** When financial statement of one year are analysed and interpreted after comparing with another year or years, it is known as horizontal analysis. It can be based on the ratios derived from the financial information over the same time span.
- **Vertical Analysis:** When financial statement of single year is analyzed then it is called vertical analysis. This analysis is useful in inter firm comparison. Every item of Profit and loss account is expressed as a percentage. It is done by preparing Common Size Financial Statements.
- **Common Size Financial Statements:** The financial statements are prepared by making one parameter as 100 and every other element as % of that element such as Sales in case of Income Statement and Total assets in case of Balance Sheet. These are useful in horizontal & vertical analysis.