

FINANCIAL STATEMENT ANALYSIS & FORECASTING.

This includes identifying and analyzing various financial statements of the company in order to determine the strength and weaknesses, opportunities as well as threats.

Key Terms

1. operating profit → This refers to Earning Before Interest and tax (EBIT)
2. Equity / Net worth - This refers to the shareholders funds.
3. Capital Employed / Net Asset → This is the total asset - current liabilities. It represents Equity + preference s.c + long term debt.
4. Investments → This refers to the total assets.

FINANCIAL RATIOS

Ratios can be categorized into 5 categories as follows:

1. Investors or valuation Ratios
2. Liquidity Ratios
3. Gearing / leverage Ratios
4. Profitability Ratios
5. Activity / Efficiency / Turnover / Asset utilization Ratios.

1. Investors / Valuation Ratios

These ratios are used to determine the value of the company. they include:

1. Earnings per Share (EPS)

This ratio indicates the profitability available to each share held by the investor.

$$EPS = \frac{\text{Earnings Attributable to ordinary share holders}}{\text{Number of ordinary shares fully issued \& paid}}$$

2. Dividend per Share (DPS)

This indicates the actual cash received by an investor as dividends for each share held. It is calculated as follows:

$$DPS = \frac{\text{Total dividends declared \& paid}}{\text{No of ord shares}}$$

OR

$$DPS = EPS \times \text{Dividend payout Ratio.}$$

3. Earnings Yield

This indicates the % return for every ~~unit~~ amount invested in the company.

$$EY = \frac{EPS}{MPS} \times 100\%$$

4. Dividend Yield

This indicates the % return in the form of dividend for every amount invested into the company

$$DY = \frac{DPS}{MPS} \times 100\%$$

5. Dividend payout Ratio

This indicates the proportion of the earnings available to O.S.H which is paid

$$DPR = \frac{DPS}{EPS} \times 100\%$$

OR

$$DPR = 1 - \text{Retention Ratio}$$

6. Dividend Cover

This indicates the number of times ordinary dividend is paid out from the earnings available to O.S.H

$$DC = \frac{EPS}{DPS}$$

7. Price Earning Ratio (P/E ratio)

It shows the relationship between MPS and the EPS.

$$P/E \text{ ratio} = \frac{MPS}{EPS}$$

June 2013 Q16

Davirex Ltd share has a nominal value of sh 80. The company pays 10% of the nominal value of the share as dividend for the year. The current MPS is sh 160 with 15% Earning Yield.

Required:

- (i). Earning per share (2marks)
- (ii). Dividend Cover (2marks)
- (iii). Price Earning ratio (2marks)

Solutions

1) $EY = \frac{EPS}{MPS}$

$$EPS = EY \times MPS$$

$$15\% \times 160 = 24$$

(ii) $DC = \frac{EPS}{DPS} = \frac{24}{8} = \underline{\underline{3 \text{ times}}}$

$$DPS = 10\% \times 80 = 8$$

(iii) $P/E \text{ ratio} = \frac{160}{24} = \underline{\underline{6.67}}$

Nov 2015 Q 3a.

The following information relates to Mayne Ltd for the year ended 31 Oct 2015.

Earning yield	25%
Dividend for the year	10% of share nominal value
Nominal value per share	sh 40
Market price per share	sh 150

Required:

- Earning per share 2 marks
- Dividend cover 2 marks
- Price-Earning ratio 2 marks

Solution:

$$i) EPS = EY \times MPS$$

$$25\% \times 150 = 37.5$$

$$ii) DC = \frac{EPS}{DPS} = \frac{37.5}{4} = 9.375 \text{ times}$$

$$DPS = 10\% \times 40 = 4$$

$$iii) P/E \text{ ratio} = \frac{MPS}{EPS} = \frac{150}{37.5} = 4$$

Assign = Dec 2006 Q1c.

2. LIQUIDITY RATIOS

These ratios indicate the ability of the company to meet its short-term financial obligations. They include:

1. Current Ratio

It indicates the number of times current liabilities can be paid out of the Current Asset.

→ The Recommended Ratio is 2:1 or 2 times

$$\text{Current Ratio} = \frac{C.A}{C.L}$$

2. Quick Ratio / Acid Test Ratio

It indicates the ability of the company to meet its current liabilities from its most liquid Current Asset (C.A)

→ The Recommended quick ratio is 1:1

$$\text{Quick Ratio} = \frac{\text{Current Asset} - \text{Stock}}{\text{current liabilities}}$$

→ Stock is excluded from calculated quick ratio because of:

a) It may be difficult to convert stock into cash immediately.

b) Stock is valued at the lower of historical cost & net realizable value.

3 Cash Ratio

It indicates the ability of the company to meet current liabilities from its most liquid C.A and short term marketable securities eg commercial papers, treasury bills, financial asset at fair value

$$\text{Cash Ratio} = \frac{\text{Cash and cash equivalents}}{\text{Current liabilities}}$$

3 Gearing / leverage ratio / Capital structure Ratio

They indicate the extent to which the company has borrowed fixed return capital to finance its asset. The ratios includes:

(a) Debt to Equity Ratio / Capital Gearing ratio

This ratio indicates the amount of the long-term debt for every one shilling of equity investment in the company.

$$\text{Debt to Equity Ratio} = \frac{\text{Long term debt / Fixed Charge Capital}}{\text{Equity}} \times 100\%$$

Fixed charge capital includes preference s.c and debentures.

(b) Debt Ratio / Financial Gearing Ratio

This ratio indicates the ability to which the total assets of the company have been financed with the liabilities

$$\text{Debt Ratio} = \frac{\text{Total liabilities (N.C.L + C.L)}}{\text{Total Assets}} \times 100\%$$

(c) Fixed Charge Ratio

This ratio indicates the proportion of the total capital which has a fixed rate of return in relation to the total capital.

$$= \frac{\text{Fixed Return Capital}}{\text{Total Capital}} \times 100\%$$

(d) Interest Cover Ratio / Times Interest Earning Ratio

This indicates the number of times interest expense can be paid from the operating profit before profit get exhausted

$$= \frac{\text{EBIT (operating profit)}}{\text{Interest expenses}}$$

(e) Equity Multiplier Ratio

This shows the relationship between the total asset and shareholders equity

$$\text{Equity multiplier ratio} = \frac{\text{Total Asset}}{\text{Equity}}$$

Illustrations

May 2012 Q 49.

The following statement of financial position was extracted from the books of XYZ Ltd for the year ended 31 March 2011 & 2012

<u>Assets</u>	<u>2011 "millions"</u>	<u>2012 "million"</u>
<u>Current Assets</u>		
Cash	84	98
Receivables	165	188
Inventory	393	422
Total	642	708
<u>Non-current Assets</u>		
Plant & Equipment	2731	2880
Total Assets	3373	3588
<u>Equity and liabilities</u>		
<u>Current liabilities</u>		
Accounts payable	312	344
Note payable	231	196
Total	543	540
Long-term debt	531	457
<u>Owners' Equity</u>		
Common stock	500	550
Retained Earnings	1799	2041
Total Equity	2299	2591
Total Equity & liabilities	3373	3588

Required

- Total debt ratio for year 2011 and 2012 (3 marks)
- Equity multiplier ratio " " " " (4 marks)
- Capital Gearing ratio " " " " (3 marks)

<u>Solution.</u>	<u>2011</u>	<u>2012</u>
(i) Debt Ratio = $\frac{\text{Total liabilities}}{\text{Total Assets}}$	$\frac{543+531}{3373} \times 100\%$ $= 31.84\%$	$\frac{540+457}{3588} \times 100\%$ $= 27.88\%$
(ii) Equity multiplier = $\frac{\text{Total Assets}}{\text{Equity}} \times 100\%$	$\frac{3373}{2299} \times 100\%$ $= 146.7\%$	$\frac{3588}{2591} \times 100\%$ $= 138.5\%$
(iii) Capital Gearing / Debt to Equity ratio = $\frac{\text{Long term debt}}{\text{Equity}} \times 100\%$	$\frac{531}{2299} \times 100\%$ $= 23\%$	$\frac{457}{2591} \times 100\%$ $= 17.64\%$

4. PROFITABILITY RATIOS

These ratios indicate the ability of the company to generate returns in relation to investments & scales. They are classified into 2.

- (a) profitability in relation to scales
- (b) profitability in relation to investments.

(a) Profitability in relation to scales

1. Gross profit margin
$$= \frac{\text{Gross profit}}{\text{Sales}} \times 100\%$$
2. Operating profit margin
$$= \frac{\text{EBIT}}{\text{Sales}} \times 100\%$$
3. Net profit margin
$$= \frac{\text{EAT}}{\text{Sales}} \times 100\%$$
4. Operating Expense Ratio
$$= \frac{\text{Total expenses} - \text{Interest expense}}{\text{Sales}} \times 100\%$$

(b) Profitability in relation to Investment

They include:

1. Return on Investment / Return on Total Asset
This indicates the % return from the utilization of total asset

$$\text{ROI} = \frac{\text{Net profit / EAT}}{\text{Total Asset / net}} \times 100\%$$

2. Return on Equity / Return on Net worth.
It indicates the % return of Company from utilization of Shareholders funds.

$$\text{ROE} = \frac{\text{Net profit / EAT}}{\text{Equity}} \times 100\%$$

3. Return on Net Asset / Return on Capital Employed (ROCE)
It indicates the % return from utilization of net Asset

$$\text{ROCE} = \frac{\text{Net profit}}{\text{Net Asset / Capital Employed}} \times 100\%$$

5. Activity / Efficiency / Turnover / Asset Utilization Ratios

These ratios indicate the efficiency with which the company utilizes its resources in order to generate the revenue. They include:

1. Stock / Inventory Turnover

It indicates the frequency with which stock is converted into sales. It is calculated as follows:

$$= \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

$$\text{Average stock} = (\text{opening stock} + \text{closing stock}) \div 2$$

Where there is no opening stock, closing stock is assumed to be the average stock.

2. Debtors / Receivables Turnover Ratio

It indicates the frequency with which customer buys goods on credit.

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

3. Creditors / Payables Turnover Ratio

It indicates the relationship credit purchases and average creditors.

$$= \frac{\text{Credit purchases}}{\text{Average Creditors}}$$

4. Fixed Asset Turnover Ratio

$$= \frac{\text{Sales}}{\text{Fixed Asset}}$$

5. Total Asset Turnover / Investment turnover ratio

$$= \frac{\text{Sales}}{\text{Total Assets}}$$

6. Stock / Inventory holding period.

It indicates the number of days that the stock is held in warehouse before being sold.

$$= \frac{\text{No of days in a year}}{\text{Stock turnover}} \quad \text{OR} \quad \frac{365 \text{ days} \times \text{Avg stock}}{\text{Cost of goods sold}}$$

7. Debtors / Receivables collection period.

It indicates the length of time it takes the customer to settle their accounts.

$$= \frac{\text{No of days in a year}}{\text{Debtors turnover}} \quad \text{OR} \quad \frac{365 \text{ days} \times \text{Avg debtors}}{\text{Credit sales}}$$

8. Creditors / Payables payment period.

It indicates the no of days the credit is given by payment is done.

$$= \frac{\text{No of days in a year}}{\text{Creditors Turnover}} \quad \text{OR} \quad \frac{365 \text{ days} \times \text{Avg creditors}}{\text{Credit purchases}}$$

May 2017 Q 49

	2015	2016
(i) $EPS = \frac{\text{Total Earnings attributable to OS}}{\text{No of ordinary shares}}$ No of shares = $9920 \div 0.25 = 39680$	$\frac{9520}{39680} = 0.24$	$\frac{11660}{39680} = 0.29$
(ii) Dividend Cover = $\frac{EPS}{DPS}$ DPS = 2015 = $2240 \div 39680 = 0.06$ 2016 = $2400 \div 39680 = 0.06$	$\frac{0.24}{0.06} = 4 \text{ times}$	$\frac{0.29}{0.06} = 4.83 \text{ times}$
(iii) Current Ratio = $\frac{CA}{CL}$	$\frac{92447}{36862} = 2.5 \text{ times}$	$\frac{99615}{42475} = 2.35 \text{ times}$
(iv) Acid test Ratio = $\frac{CA - \text{stock}}{CL}$	$\frac{92447 - 40145}{36862} = 1.42 \text{ times}$	$\frac{99615 - 50455}{42475} = 1.16 \text{ times}$
(v) ROCE = $\frac{\text{Net profit (PAT)}}{\text{Net Asset / Capital employed}} \times 100\%$	$\frac{9520}{40740} \times 100\% = 23.37\%$	$\frac{11660}{50000} \times 100\% = 23.32\%$

May 2019 Q 36

	2018	2017
(i) ROCE = $\frac{\text{Net profit}}{\text{Net Asset / Capital employed}} \times 100\%$	$\frac{17698}{107800} \times 100\% = 16.42\%$	$\frac{15834}{105174} \times 100\% = 15.06\%$
(ii) Interest Coverage Ratio = $\frac{EBIT}{\text{Interest expense}} \times 100\%$	$\frac{29498}{3106} = 9.5 \text{ times}$	$\frac{27012}{3726} = 7.2 \text{ times}$
(iii) $EPS = \frac{\text{Total Earnings}}{\text{No of ord shares}}$	$\frac{17698}{28000} = 0.63$	$\frac{15834}{28000} = 0.57$
(iv) Dividend yield = $\frac{DPS \times 100\%}{MPS}$ MPS = P/E ratio $\times$ EPS DY = $\frac{0.34}{8.82} \times 100\% = 3.85\%$	DPS = $\frac{9600}{28000} = 0.34$ MPS = $14 \times 0.63 = 8.82$ DY = $\frac{0.34}{8.82} \times 100\% = 3.85\%$	$\frac{6200}{28000} = 0.22$ $13 \times 0.57 = 7.41$ DY = $\frac{0.22}{7.41} \times 100\% = 2.97\%$

Assign

June 2009 Q 46

Using Ratio to determine cash-flow projections / Requirements

Dec 2012 Q1d.

The following data was extracted from the financial statement of Madrex Ltd for the year ended 30 Nov 2012

Income statement for the year ended 30 Nov 2012

Sales	<u>200</u>
Cost of sales (including sh 20 million depreciation)	<u>(120)</u>
Operating profit	80
Interest	<u>(5)</u>
PBT	75
Tax	<u>(22)</u>
PA-T	53
Dividend proposed	<u>(10)</u>
Retained Earnings	<u>43</u>

Statement of financial position as at 30 Nov 2012

	<u>Sh millions</u>	<u>Sh millions</u>
Non-current Asset		400
<u>Current Assets</u>		
Inventory	25	
Receivables	33	
Cash	<u>40</u>	
		<u>98</u>
		<u>498</u>
<u>Equity and liabilities</u>		
Equity		396
10% long term loan		50
<u>Current liabilities</u>		
Trade payables	20	
Dividend payable	10	
Tax payable	<u>22</u>	
		<u>52</u>
		<u>498</u>

Additional Information:

Madrex Ltd has made the following projections for the year ended 30 Nov 2012

1. Sales will increase by 10%
2. Plant and Machinery will be purchased at a cost of sh 12 million
3. Inventory days 80
4. Receivable days 75
5. Trade payables days 50
6. Depreciation sh 15 million

Assume 365 days in a year

Required:

Cash flow projections for the year ending 30 Nov 2013.

Solution:

Expected sales $200 \times 110\% = 220$ (80+20) or $\text{COS} = 120 - 20 = 100$

Gross profit margin = $\frac{\text{G.P.}}{\text{Sales}} \times 100\% = \frac{100}{200} \times 100\% = 50\%$

Hence cost of sales 50% of the sales

Inventory days = $\frac{365 \times \text{Avg stock}}{\text{cost of goods sold}}$

$$\text{Avg stock} = \frac{\text{Inventory days} \times \text{cost of sales}}{365} = \frac{80 \times 110}{365} = 24$$

$$\text{Avg debtors} = \frac{\text{Debtors days} \times \text{Credit sales}}{365} = \frac{75 \times 220}{365} = 45$$

$$\text{Avg Creditors} = \frac{\text{Creditors days} \times \text{Credit purchases}}{365} = \frac{50 \times 110}{365} = 15 \rightarrow \text{use purchases}$$

Cost of sales =

Cashflow projection

	in million
Sales	220
Cost of sales	(110)
Gross profit	110
less: Interest expense	(5)
EBT	105
tax	(22)
PAT	83
less: Dividends	(10)
	73
less: purchase of machinery	(12)
Increase in receivables 33 $\rightarrow$ 45	(12)
Reduction in stock 25 $\rightarrow$ 24	1
Reduction in creditors 20 $\rightarrow$ 15	(5)
	<u>45</u>

Advantages of Ratio Analysis

1. They are used to determine the ability of the company to meet its financial obligations i.e. liquidity ratios
2. They indicate the extent to which the company has borrowed external finances to finance its asset by gearing ratios
3. They indicate the level of asset utilization in generation of returns/sales e.g. efficiency ratios
4. They are used to compare the performance of the company with that of industry i.e. industrial analysis
5. Used to compare the performance of the company with that of competitors i.e. cross-sectional analysis

6. Used to compare performance over time i.e trend series analysis
7. Ratios are used to determine the value of the company i.e valuation ratios.

Disadvantages

1. Ratios ignores the effect of inflation i.e An increase in sales may be due to increase in selling price and hence may have nothing to do with increased performance.
2. Difference in the size of the company. Companies in the same industry may have different size, level of technology and diversification. Therefore difficult to compare performance.
3. Difference in Accounting policies.
4. Ratios fails to capture the qualitative aspect of the company.
5. In case of monopolistic company, therefore cross sectional analysis cannot be effective.
6. Window dressing - This occurs when the accountant reflect a picture which never existed during the accounting period by manipulating figures in the financial statements.