

# Chapter 7: Financial Statement Analysis

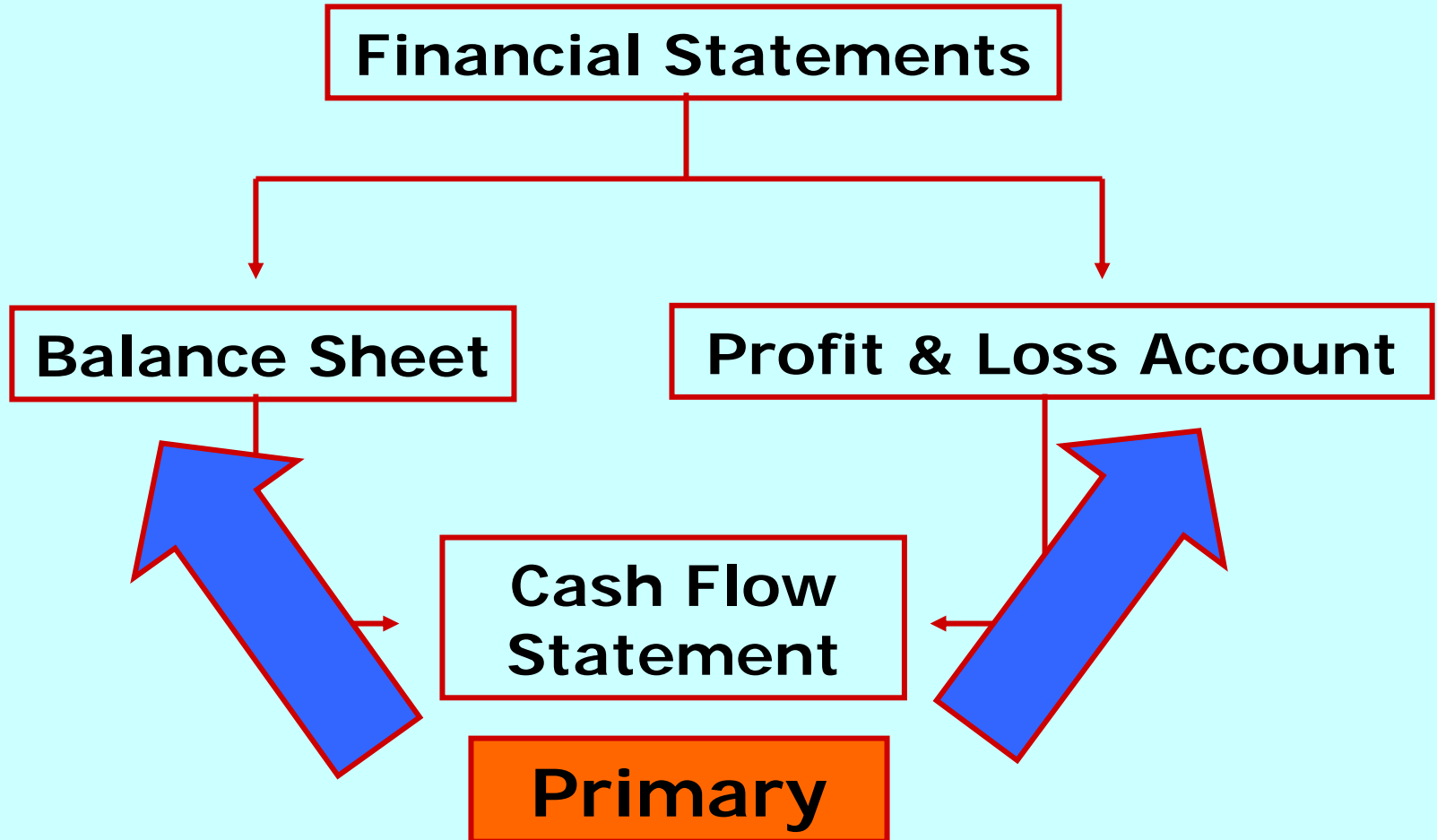
---

Prof. Ram Kumar Kakani

Prof. N. Ramachandran

Tanmoy Chatterjee

# *Financial Statements – Basic Relationships*



# Financial Statements

---

- ❑ Balance Sheet
- ❑ The entity in order to achieve its objectives has arrived at a decision to apportion the resources and deployed it in fixed assets and in current assets
- ❑ The proportions of funds that are borrowed on short term, on long term as well as what is the contribution of owners towards the total financial requirement of the entity
- ❑ Profit & Loss Account
- ❑ Gives the cost structure of the business and the relationship of costs to the revenues
- ❑ It gives the information relating to margin available on the sales

# *Relation and Comparison of Data*

---

- Accounting data in absolute terms do not provide much meaning – the analysis involves comparison and relation
- Ratio → Whenever one item is expressed (as a fraction or a decimal fraction or an integer) in terms of another item
- Example – A firm earns a net profit of Rs. 20,000 on a sale of Rs. 500,000. We could express this relationship as \_\_\_\_\_?
- Comparisons could be made
  - With Company's past performance
  - With Competing Firms
  - With an Absolute Standard
  - With Industry/Economy trend
  - With Budgets (Planning and Control)

# But...

---

- In most cases, there are **no standards** against which a particular ratio value could be tested
- We make relative conclusions by **comparing the ratios with industry averages**
- Thus, at best the conclusions could be 'better than' or 'worse than' or 'average'
- Possible pitfalls in these comparisons could be the different accounting conventions
  - Inventory valuation (LIFO vs. FIFO)
  - Different methods of depreciation
  - Typical items (eg. Retirement benefits)

# *Common Size Financial Statements*

---

- ❑ A financial statement presented by representing each item as a percentage to the total amount of which it is a part
- ❑ Example
- ❑ X had a sale of Rs 15 mn during the year and cost of goods sold of Rs 12 mn whereas Y has a sale of Rs 8 mn and cost of goods sold of Rs 4.8 mn
- ❑ The above is not amenable to direct understanding.
- ❑ Cost of goods sold of X is 80% of sales and for Y it is 60% of sales
- ❑ This is more lucid and meaningful. Useful while dealing with many companies in the same industry

# *Common Size Financial Statements*

---

- Profit & Loss Account
- Here we show the net sales as 100% and each of the components of expenses and profits as a percentage of net sales
- Balance Sheet
- Constructed by showing each item of asset as a percentage of total assets, similarly each item of liability and owner's equity is shown as a percentage of total liabilities and owners equity
- The common-size financial statements could either be prepared in summary or in details

# Vinyl Chemicals Limited

		All figures in Rs. Crores	
<b>BALANCE SHEET</b>			
Assets			00
Cash			00
Accounts receivable			01
Loans			44
Investments			98
Current assets			43
Fixed assets			43
Other assets (includes inv)	3.42		4.41
<b>Total Assets</b>	<b>73.69</b>		<b>66.27</b>

Vinyl Chemicals Ltd. is a mid sized organic chemicals manufacturer owned by the Pidilite Parekh group

# Capital Analysis

	2001	Year 2000
<b>BAI</b>		
<b>As</b>		
	1.4	1.5
	22.7	19.6
	5.1	5.2
	15.6	18.1
	44.9	44.4
<b>Fix</b>	50.5	48.9
<b>Other A</b>	3.4	6.7
<b>Total Assets</b>	100.0	100.0

- ❖ VCL is more fixed asset intensive
  - ❖ VCL has less inventory levels than its competitors
  - ❖ At VCL, there a decrease in the inventory levels and increase in the receivables
  - ❖ At VCL, there is a decrease in the investments of the company
- What could be the reasons for such changes? What are the broad implications?

# Vinyl Chemicals Limited

<b>Liabilities Side</b>	<b>Year 2001</b>	<b>Year 2000</b>
Current Liabilities & Provis	8.18	8.63
Long-term Liabilities	12.32	8.08
Net Worth	53.18	49.55
No. of Shares of Rs.10	1.83	1.83
<b>Total Liabilities</b>	<b>73.68</b>	<b>66.26</b>

# Ratio Analysis

- ❖ VCL is having less leverage than competitors
  - ❖ During the year VCL has a increase in its long-term liabilities
  - ❖ Current Liabilities across the industries seem to be stable
- What could be the reasons for such changes? What are the broad implications?

	Year 2001	Year 2000
Long-term liabilities	11.1	13.0
Current Liabilities	16.7	12.2
Total Liabilities	72.2	74.8
Equity	100.0	100.0

# Vinyl Chemicals Limited

<b>INCOME STATEMENT</b>	<b>Year 2001</b>	<b>Year 2000</b>
Total Sales	92.46	88.18
Other Income	3.18	1.11
Operational Expenditure	84.64	87.62
Gross Profit	10.62	1.03
Interest	0.82	0.58
Depreciation	2.53	2.42
Profit Before Tax	7.27	-1.97
Tax	1.62	0.00
Profit After Tax	5.65	-1.97
Dividend to Shareholders	1.83	0.00

# Company Analysis

	Year 2001	Year 2000
Income	100.0	100.0
Total	3.4	1.3
	91.5	99.4
	11.5	1.2
	0.9	0.7
	2.7	2.7
Profit	5.0	7.9
Tax	5.0	1.8
Profit After Tax	10.0	6.1
Dividend to Shareholders	5.0	2.0

What could be the reasons for the companies turnaround?

- ❖ Is it a decrease in raw materials or increase in the sale prices or increase in the sales volumes

Why is the company still lagging behind?

What could be the reason for the company declaring dividend?

# Using Financial Ratios...

---

- Many pieces of information do not have significant meaning in isolation – they become more meaningful when related to an appropriate base
- Ratios reduce large figures to an easily understood relationship
- Ratios do not make conclusions – It is for the analyst to draw conclusion by evaluating and relating the ratios
- There are no “good” ratios and “bad” ratios – It is only possible to make relative inferences
- Company performance is usually analyzed on two parameters
  - Profitability
  - Liquidity

# Profitability Ratios

<b>Margin on sales</b>	Gross Profit Margin
	Operating Profit Margin
	Earnings Before Interest & Tax
	Profit before tax
	Net Profit Margin (i.e., Profit after tax)
<b>Return on Investment</b>	Operating Profit to Operating Assets
	Net Income to Total Assets
	Return on Equity
<b>Efficiency</b>	Total Asset Turnover
	Operating Asset Turnover
	Working Capital Turnover
	Shareholder Equity Turnover
<b>Return per share</b>	Earnings per share
	Earnings to price
	Dividends per share

# Solvency Ratios

Short-term	Net Working Capital
	Current Ratio
	Quick Ratio
	Accounts Receivable Turnover
	Collection Period
	Inventory Turnover
	Conversion Period
Long-term	Total Debt to Total Capital
	Long Term Debt to Total Capital
	Long Term Debt to Fixed Assets
	Interest Cover
	Times Fixed Charges Covered
	Gearing
	Equity Multiplier

# PROFITABILITY

---

- ❑ The long-term survival depends on ability to earn sufficient surpluses and to grow
- ❑ Only if the operations are profitable the company will survive in the long run
- ❑ **Margin on Sales**
- ❑ Profits are generated by sales
- ❑ First step in analyzing profitability is understanding of costs in relation to revenue and thus profits in relation to revenue
- ❑ Each component of profit & loss account is expressed as percentages of sales

# Illustration – Tools & Tools Ltd. (Table on Profit Margins)

	Rs Million	% (2006)	Rs Million	% (2005)
Sales	300	100	280	100
Cost of goods sold	148	49.33	140	50.00
<b>Gross Profit (i)</b>	<b>152</b>	<b>50.67</b>	<b>140</b>	<b>50.00</b>
Total operating expenses	85	28.33	80	28.57
<b>Operating Profit (ii)</b>	<b>67</b>	<b>22.33</b>	<b>60</b>	<b>21.43</b>
Interest expense	14	4.67	13	4.64
<b>Profit Before Tax (iii)</b>	<b>53</b>	<b>17.67</b>	<b>47</b>	<b>16.79</b>
Income tax	26	8.67	23	8.21
<b>Profit After Tax (iv)</b>	<b>27</b>	<b>9.00</b>	<b>24</b>	<b>8.57</b>
Dividends	2	0.67	2	0.71
<b>Profit Retained (v)</b>	<b>25</b>	<b>8.33</b>	<b>22</b>	<b>7.86</b>
Depreciation expense	<b>13</b>		<b>11</b>	

# Gross Margins & Operating Margins

---

## □ Gross Margins

- The surplus available out of sales revenues after subtracting cost of goods sold
- It is obtained over the input costs and as such would reflect the efficiency of use of direct inputs given the price

## □ Operating Margins

- It is the reflection of the operations of the company and hence considered as a reflection of the management's performance
- Frequently used as a basis of comparison across companies
- Any non-operating surplus or deficit is adjusted to the operating profit margin to obtain the earnings before interest and taxes

# *PBT, PAT, and Retained Earnings*

---

- ❑ Profit Before Tax
- ❑ It is the surplus amount obtained after meeting interest expense
- ❑ Influenced to a great extent by the financing decisions
- ❑ Profit After Tax (a.k.a. Net Income)
- ❑ Overall surplus available out of sales to shareholders
- ❑ This is influenced by three major factors namely, operating efficiency, financing efficiency and taxation
- ❑ As a percentage of sales it is known as Net Profit Margin and is used to compare margins of players in the same industry
- ❑ Retained Earnings (a.k.a Retained Profit)
- ❑ Amount of profit remaining after the distribution of dividends

# Tools & Tools Ltd. – Analysis

	Rs Million	% (06)	Rs Million	% (05)
	300	100	280	100
	148	49.33	140	50.00
<b>Gross Profit (i)</b>	<b>152</b>	<b>50.67</b>	<b>140</b>	<b>50.00</b>
	67	22.33	60	21.43
	14	4.67	13	4.64
	53	17.67	47	16.79
	27	9.00	24	8.57
	2	0.67	2	0.71
	<b>25</b>	<b>8.33</b>	<b>22</b>	<b>7.86</b>

Most margin Indicators are improving

Net margins increased to 9%

Gross margins increased to 50.6%

Decrease in company's direct costs & operating expenses

# *Return on Investment*

---

- ❑ Profitability has to be judged on the basis of the amount of resource used in obtaining the profit
- ❑ The management has to be evaluated on the basis on to how far they had been successful in *profitably utilizing the assets*
- ➔ The assets used is to be related to the profit earned
- ❑ *Return on Operating Assets (ROA)*
- ❑ *Operating profit to operating assets* is obtained by dividing the operating profit by average value of operating assets used during the year
- ❑ Operating assets refer to total current assets and fixed assets used

# Tools & Tools Ltd. - ROA

<b>Return on Operating Assets (ROA)</b>	<b>20X6</b>	<b>20X5</b>
Current assets (Rs Million)	232	190
Fixed assets (Rs Million)	94	79
Total operating assets (Rs Million)	326	269
Operating Profit Before Interest and Taxes (OPBIT) (Rs Million)	67	60
Return on Operating Assets (%)	20.55	22.30
ROA based on average operating assets $(326+269)/2$ (%)	<b>22.52</b>	

The company had used on average Rs 297.5 million and it has to be justified in terms of the opportunity cost

# *ROTA and ROE ...*

---

- Return on Total Assets (ROTA)
- The rate of profit the company is able to earn after meeting the cost of financing of a portion of the total assets
- It is the amount available to the shareholders in relation to the total amount of resources used in the business
- Here again the average total assets is used (Why?)
- Return on Equity (ROE)
- Net income is the amount available to owners for compensating their investment and the risk being carried by them
- ROE measures the net income as a percentage of shareholders investment

# Net Income to Total Assets

<b>Return on Total Assets (ROTA)</b>	<b>20X6</b>	<b>20X5</b>
Total Assets (Rs Million)	330	270
Profit After Taxes (PAT)	27	24
Return on Total Assets	8.18%	8.89%
ROTA based on average total assets (330+270)/2	9.00%	

**Able to earn  
9% return on  
Total Assets**

**The company used  
an average Rs 300 mn  
in total assets to  
earn Rs 27 mn**

# ROE Computations ...

<b>Return on Equity (ROE)</b>	<b>20X6</b>	<b>20X5</b>
Total Equity (Rs Million)	135	110
Profit After Taxes (PAT)	27	24
Return on Equity (%)	20.00	21.82
ROE based on average total assets	22.04	

- ❑ ROE of 22% is not only the result of management's ability to employ the assets profitably, but also the result of its ability to use a *favorable debt equity structure*
- ❑ Whenever, management is able to borrow money and use it to earn more than the cost of such borrowing the ROE increases

# Return Per Share

- ❑ Interest of a shareholder lies in the amount of dividend that can be earned on the investment in shares and the increase in the price of shares that can be had by holding the same
- ❑ *Earnings per share* (EPS) is computed by dividing 'net income to ordinary shareholders' by the 'number of ordinary shares outstanding'

<b>Earnings per Share (EPS)</b>	<b>20X6</b>	<b>20X5</b>
Profit After Taxes (PAT) (Rs Million)	27	24
Number of ordinary shares (Million)	3.7	3.7
Earnings per Share (EPS) (Rs)	7.30	6.49

# Earnings-Price Ratio (E/P)

- The earnings per share related to the current market price of the share provides a measure of the *rate of yield*
- Earnings Price Ratio= EPS / MP per share
- This yield measure could be used by the shareholder in making decisions about this investment in comparison to other alternate investments

<b>Earnings-Price Ratios (E/P)</b>	<b>20X6</b>	<b>20X5</b>
Earnings per Share (EPS) (Rs)	7.30	6.49
Market price per share (Rs)	30	28
Earnings/Price Ratio (%)	24.3	23.18
Price Earnings Ratio	4.1	4.31

# Dividend per Share

- It is a common practice to express the E/P ratio by reversing the relationship to measure the price-earnings (P/E) relationship
- Here, this relationship expresses market price as a certain multiple of the earnings per share
- *Dividend per share* is another per share calculation, which shows the cash income available to the shareholder of a share

<b>Dividend per Share (DPS) (Rs)</b>	<b>20X6</b>	<b>20X5</b>
Dividend (Rs Million)	2	2
Number of ordinary shares (Million)	3.7	3.7
Dividend per Share (Rs)	0.54	0.54

# Efficiency

---

- The relationship of assets used to sales measures the level of sales generated by given quantum of assets
- This is a measure of the efficiency of use of assets
- This relationship of assets to sales indicates the number of times assets turned over as a result of volume of sales generated
- Thus, the relationship of net income to assets is the turnover of assets times' margin on sales. This is shown as follows:
- $$\text{Net Income} / \text{Total Assets} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}}$$

# Example – Tools & Tools Ltd

Particulars	20X6	20X5
Total Assets (Rs Million)	330	270
Profit After Taxes (PAT) (Rs Million)	27	24
Sales (Rs Million)	300	280
Net Income/ Sales (%)	9.00	8.57
Sales / Total Assets (a.k.a. Asset Utilization Ratio)	0.91	1.04
Return on Total Assets (Net Income / Total Assets) (%)	8.18	8.89
Sales / Average Total Assets	1	

- Various asset (or investment) turnover ratios are measures of efficiency of their use in terms of their ability to convert profit margins to rate of return on assets

# Operating Assets Turnover

---

- ❑ Relates sales to the operating assets used
- ❑ This ratio assesses the efficiency of the use of operating assets, that is, their ability to generate revenue
- ❑ Similar to return on total assets the operating assets turnover times operating profit margin gives us the operating profit to operating asset
- ❑ Return on Operating Assets (ROA) =  
$$(\text{Operating Asset Turnover}) \times (\text{Operating Profit Margin})$$

# Example – Tools & Tools

<b>Operating Assets Turnover and Return (ROA)</b>	<b>20X6</b>	<b>20X5</b>
Sales (Rs Million)	300	280
Operating profit (Rs Million)	67	60
Operating Profit Margin (OPM) (%)	22.33	21.43
Fixed assets (Rs Million)	94	79
Total operating assets (Rs Million)	326	269
Operating Asset Turnover (OAT)	0.92	1.04
Fixed Asset Turnover	3.19	3.54
Return on Operating Assets (OPM*OAT) (%)	20.55	22.30
Avg. Operating Assets Turnover = Sales /AO Assets	1.01	
ROA - on average operating assets (326+269)/2 (%)	22.52	

# Working Capital Turnover

- ❑ It is an efficiency ratio intended at evaluating the efficiency of use of working capital
- ❑ It looks at the relationship of revenues earned to working capital investment
- ❑ **Working Capital turnover = Sales / Average Working Capital**

<b>Net Working Capital efficiency</b>	<b>20X6</b>	<b>20X5</b>
Sales (Rs Million)	300	280
Net Working Capital	127	110
Working Capital Turnover	2.36	2.55
Avg. Working Capital Turnover $(127 + 110) \times 0.5$	2.53	

# Shareholders Equity Turnover

- ❑ Shows the management ability in terms of efficiently utilizing the shareholders funds both with respect to efficient operations and in terms of efficient financial management
- ❑ Shareholders equity turnover = Sales/Average shareholders equity
- ❑ ROE = Equity turnover \* Net profit margin

Particulars	20X6	20X5
Sales (Rs Million)	300	280
Shareholders Equity	135	110
Shareholders Equity Turnover (ETO)	2.22	2.55
Average Equity Turnover $(135 + 110) * 0.5$	2.45	

# Solvency

---

- Ability to meet all the short-term commitments and ability to keep sufficient assets to cover all the liabilities in the long run
- Companies can be liquid (solvent) but not profitable.
  - For example, imagine a cash rich construction company with no orders
- Companies can be profitable but not liquid.
  - For example, a construction company with lot of orders but no cash to execute them
- Hence, we need both profitability and solvency
- Solvency can be of two types – Short Term and Long Term

# Evaluating Short-Term Solvency

---

- Liquidity is of major concern to short-term creditors and management
- Sale of merchandise (inventory turnover) and collection of receivable generates liquidity (receivable turnover)
- Assessing excess of current assets over current liabilities – *Working Capital*
- Net working capital is financed by long-term sources of funds and as such provides a cushion for liquidity
- This is obvious since it is financed by long-term sources it is not required to be repaid in the short-term

# Illustration – Ramsons

RAMSONS, Balance sheet			
Assets	Rs	Liabilities & Capital	Rs
Current Assets	500	Current liabilities	250
Net Assets	500	Long-term loans	500
		Shareholders equity	250
Total Assets	1000	Liabilities & Capital	1000

**Short Term finance available is Rs. 250**

➔ Net Working capital is: Current assets – Current liabilities = 250

RAMSONS, Balance sheet (Long-Term)			
Assets	Rs	Liabilities & Capital	Rs
Net Working Capital	250	Long-term loans	500
Net Fixed Assets	500	Shareholders equity	250
Total Assets	750	Liabilities & Capital	750

# Discussion ...

- ❑ The rationale for financing part of the current assets with long-term finance is that a part of the current asset remains in stock all through the life of the business
- ❑ So, Working Capital is the long-term investment in operating CA
- ❑ Current Ratio measures the relationship of CA to CLs

	Limited	20X6	20X5
Current Assets (Rs Million)		232	190
Current Liabilities (Rs Million)		105	80
Working Capital		127	110
Current Ratio: CA / CL		<b>2.21</b>	<b>2.38</b>

**Margin of Safety increased By Rs. 17mn**

**Current Ratio has decreased**

**Increase in CA is not in proportion to that of CL**

# *Current Ratio and Quick Ratio*

---

- Current Ratio is one of the most widely used balance sheet ratios
- However, making a specific conclusion on the adequacy of any value of current ratio would depend on several factors such as:
  - Proportion of various components of the current assets
  - Time taken for conversion of these current assets to cash
  - Speed of maturity of current liabilities, etc.
- Quick ratio is usually computed by taking assets which are quick to be converted into cash divided by current liabilities
- It is usual practice to subtract inventories from current assets to arrive at the quick assets

# Quick ratio – Tools & Tools Ltd.

<b>Quick Ratio</b>	<b>20X6</b>	<b>20X5</b>
Current assets (Rs Million)	232	190
Inventory (Rs Million)	121	99
Quick Assets(Rs Million)	111	91
Current liabilities(Rs Million)	105	80
Net Working Capital(Rs Million)	127	110
Quick ratio: Quick assets/Current liabilities	<b>1.06</b>	<b>1.14</b>

**> 1 implies comfortable position**

# *Expenses Cover*

---

- We hold the current asset mostly as an insurance against *future contingencies*
  - Cash is held with the objective of making payments whenever required
  - Inventory is held to meet the need for inventory either for production or for sale
- Liquidity is essential as cover for the daily operating expenses
- The current assets could thus be expressed as number of day's expenses equivalent
- Similarly cash and quick asset could be viewed as cover for expenses

# Example...

	20X6	20X5
Cash	19	11
Current Operating expenses	232	190
Quick Assets (Rs Million)	111	91
Current liabilities (Rs Million)	105	80
Current assets cover (times) (Rs Million)	0.6027	0.5726
Current assets cover (number of days)	32	19
Quick assets cover (number of days)	184	158
Current assets cover (number of days)	384	332
Current liabilities cover (number of days)	174	140

**Current assets amount to more than a year's Operating expenses**

**Cash holding sufficient for a month's expenses**

**Current liabilities amount to almost 6 months' daily expenses**

# Accounts Receivable Turnover ...

Particulars	20X6	20X5
Sales (Rs Million)	300	280
Sales per day (Rs Million)	0.82	0.77
Accounts receivable(Rs Million)	32	20
Accounts receivable turnover	9.37	14
Average Collection period (number of days)	38.9	26.1
Average Collection period using Average	31.6	

**Cycle of credit Sales and its collection happened more than 12 times during the year**

**On an average it takes approximately 32 days for collection of accounts receivable**

# *Average Collection Period*

---

- ❑ Turnover of receivable computed by dividing credit sales by average receivable outstanding gives the velocity of circulation of receivable
- ❑ When credit sales figures are not available we could still compute using net sales (assuming that all the sales are on credit basis)
- ❑ The time period taken for collection of receivable is of great interest in evaluating working capital, known as, Average Collection Period
- ❑ Comments will depend on the normal period of credit and credit terms given by the company and the level of deviation

# Inventory Turnover ...

Particulars	20X6	20X5
Cost of goods sold (Rs Million)	148	140
Cost of goods sold per day (Rs Million)	0.41	0.38
Inventory (Rs Million)	121	99
Inventory turnover	1.22	1.41
<b>Inventory turnover = Cost of Goods Sold/Average inventory</b>	299	259
	1.35	
Inventory Holding Period based on average inventory	270	

**Inventory turns over just about 1.3 times**



**Inventory Holding period is 270 days or 9 months**

# *Inventory Conversion Period*

---

- ❑ Excess inventory represents wasteful use of the resources
- ❑ The need for holding inventory will also be influenced by the availability, time taken for deliveries, seasonal nature of business and a host of other factors
- ❑ Inventory turnover tries to assess the velocity with which inventories are converted to revenue
- ❑ Conversion period is the time taken for the money invested in raw material to convert into a sale. In Tools & Tools case this is about 9 months on the average
- ❑ Management's objective should be to turn over the inventory as fast as possible

# *Long-Term Solvency*

---

- Two approaches in evaluating long-term solvency
  - Evaluating the margin of safety available for lenders represented by owners' equity
  - Ability of the firm to earn sufficient surpluses to meet all the long-term commitments
- Debt-Equity Ratios
- The claims against assets are those of creditors and shareholders
- Creditors have a prior claim on the assets of the company and to that extent the owner's equity forms the extent of margin of safety for lenders' claims

# Debt-Equity Ratio

Particulars	20X6	20X5
Total Debt (Rs Million)	195	160
Shareholders Equity (Rs Million)	135	110
Total Debt to Shareholders Equity	1.44	1.45

- ❖ For every Rupee of shareholders funds in the company there is Rs 1.4 of lenders claim
- ❖ Lower the lender's claim to shareholders claim; lower are the demands on firm's earnings for meeting fixed commitment in terms of interest
- ❖ There is lesser leverage in the capital structure of the company

## *Long-term Debt to Total Capital*

- Measures the relationship long-term debt bears to owners' total investment in the company

<b>Tools &amp; Tools Ltd.</b>	<b>20X6</b>	<b>20X5</b>
Long-term Debt (Rs Million)	90	80
Shareholders Equity (Rs Million)	135	110
Long-term Debt to Shareholders Equity (%)	66.67	72.73

- For every Rupee of owners' funds there is a long-term debt commitment of Rs 0.67 only

## *Long-term Debt to Fixed Asset*

---

- Measures the amount of fixed assets available as a backing for long-term debt

<b>Tools &amp; Tools Ltd.</b>	<b>20X6</b>	<b>20X5</b>
Long-term Debt (Rs Million)	90	80
Net Fixed Assets (Rs Million)	94	79
Long-term Debt to Net Fixed Assets (%)	95.75	101

- The long-term debt is more than covered by net fixed assets of the company during 20X4

# *Times Interest Earned*

- This ratio measures the relationship of earnings before interest and taxes to the fixed interest commitment
- Larger the cover greater is the safety of lender's interest
- Alternately it also shows the risk in case the firm's earnings decrease

*Interest Cover = Earnings before interest & taxes / Interest expense*

<b>Particulars</b>	<b>20X6</b>	<b>20X5</b>
Earnings before interest and taxes	67	60
Interest expense (Rs Million)	14	13
Long-term Debt to Net Fixed Assets (%)	4.79	4.62

# *Times fixed charges covered*

---

- ❑ It is computed usually if the company has other fixed commitments (say lease payments) under non-cancelable lease obligations:
- ❑ *Times fixed charges covered = Earnings before interest and fixed charges / interest & fixed charges*
- ❑ If information is available then one should also be including items like scheduled repayment of the loans (a commitment made by the company) in the fixed charges as above
- ❑ Interpretation of this ratio is similar to the interest cover and shows the extent of safety provided by current operating earnings

# Gearing ...

- It is the extent to which the company is in a position to increase the earnings to shareholders by having fixed interest bearing borrowing in the capital structure. This could be worked out by disaggregating the earnings on borrowed funds as follows:

Profit earned by average borrowed funds (using the earlier computed operating profit margin)	$0.5(195 + 160) * 22.33$	38.52
Less: interest cost		14.0
Gain from borrowed funds		24.52
Less tax liability on the gain	$24.52 \times 49.06\%$	12.03
Net gain from borrowed funds		12.49
The net profit realized as a result of gearing	$(12.49/177.5)* 100$	7.04%

# Equity Multiplier

- Equity Multiplier = Total Assets / Owners Equity
- The equity multiplier will show the extent of enhancement of return to equity holder due to leverage or borrowing

<b>Tools &amp; Tools Ltd.</b>	<b>20X6</b>	<b>20X5</b>
Total Debt (Rs Million)	195	160
Shareholders Equity (Rs Million)	135	110
Total Assets	330	270
Equity multiplier (Total Assets/Owners Equity)	2.44	2.45
Return on Total Assets (%)	8.18	8.89
Return on Equity ( ROTA * Equity Multiplier)(%)	<b>20</b>	<b>21.8</b>

# Du Pont Analysis

---

- A combination of margin on sales ratio, efficiency ratio, and long-term solvency ratio is popularly known as the DuPont analysis
- Return on Equity (ROE) =  
Net Profit Margin (defined as Net Profit/Sales) x Asset Utilization Ratio (defined as Sales/Total Asset) x Equity Multiplier Ratio (Total Assets/Owners Equity)
- The DuPont analysis approach helps in identifying and pinpointing the reasons behind high or low profitability of a firm vis-à-vis its competitors

# *Using Financial Information*

---

- Computation of financial statement ratios does enhance the understanding of the financial statement information
- The rich information could be used for many purposes:
  - Evaluating investments
  - Deciding on credit terms for customers
  - Comparing financial performance of companies, etc.
- Important tool for supporting planning for future
  - Financial analysis of other competing firms can be used for tracking the “time-trend” behavior of the industry
  - It is also a usual practice to identify a peer group and keep monitoring for benchmarking

# Hidden Assumptions Mean Caution

---

- All the firms have similar accounting policies and practices (such as the method of depreciation allocation)
- All the firms did not have any significant change in accounting policy (such as a change in the inventory valuation policy)
- The processes of generating the accounting numbers are reliable across the firms
- Financial ratios are primarily used for comparison (instead of absolute values) in order to facilitate adjustments for size. However, while doing this we are also assuming that ratios possess the appropriate statistical properties for handling and summarizing data

# Hidden Assumptions Mean Caution

---

- ❑ A large number of such assumptions might be violated even while making comparisons of a single firm over many years
- ❑ Hence, care must be taken in terms of making any significant conclusions
- ❑ One should carefully read the notes of accounts for any significant comments such as changes on accounting policy or any significant provisions or contingent liabilities that may arise
- ❑ Importance ought to be given to qualitative factors, such as differing economic and cultural environments, while doing financial analysis for firms across industries, geographies, and time periods

# Thank You

---

