BAFS Elective Part
Business Management Module – Financial Management

Topic M01:
Financial Analysis –
Ratio Analysis for Business

Technology Education Section
Curriculum Development Institute
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Accounting Ratios

Usage: to evaluate and compare the financial performance and position of different companies

Categories:

Profitability ratios

Liquidity ratios

Management Efficiency ratios

Profitability Ratios

To measure the ability of a company in making profits.

$$1.\ \text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

$$2.\ \text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}}$$

Profitability Ratios

$$3.\text{Return on Capital Employed} = \frac{\text{Net Profit}}{\text{Capital Employed}^*}$$

$$4.\text{Return on Total Asset} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

**Remarks*: Capital = (Opening Capital + Closing Capital) / 2

For limited company, Capital = Equity + Long Term Liabilities

Liquidity Ratios

To measure the abilities of a company in repaying debts.

$$1.\ \text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$2.\ \text{Quick Ratio} = \frac{\text{Current Assets - Stock}}{\text{Current Liabilities}}$$

Management Efficiency Ratios

To measure the efficiency of a company in controlling stocks, debtors and creditors.

$$1.\ \text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}^{\#}}$$
(times)

$$2.\ \text{Stock Turnover Period} = \frac{\text{Average Stock}^{\#} \text{X365}}{\text{Cost of Goods Sold}}$$
(days)

#*Remarks: Average Stock = (Opening Stock + Closing Stock) / 2*

Management Efficiency Ratios

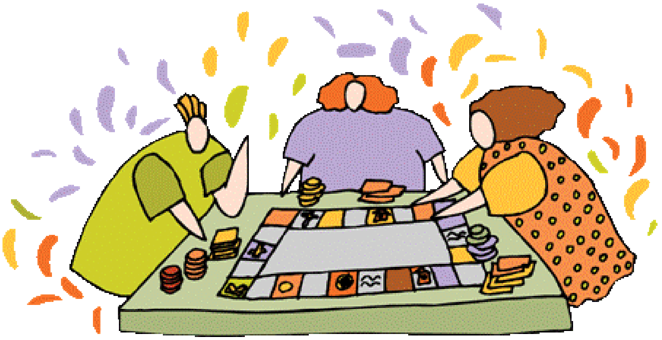
$$3.\ \underset{\text{(times)}}{\text{Debtors Turnover Ratio}} = \frac{\text{Sales}}{\text{Debtors}}$$

$$4.\ \underset{\text{(days)}}{\text{Debtors Collection Period}} = \frac{\text{Debtors x 365}}{\text{Sales}}$$

Management Efficiency Ratios

$$5.\ \underset{\text{(times)}}{\text{Credtiors Turnover Ratio}} = \frac{\text{Purchases}}{\text{Creditors}}$$

$$6.\ \underset{\text{(days)}}{\text{Credtiors Repayment Period}} = \frac{\text{Credtiors} \times 365}{\text{Purchases}}$$



Activity 1: Accounting ratio formula

Use the paper stripes provided to complete the following table:

Categories	Ratio Formula
Profitability Ratios: measure the ability to make _________	____________ ______________ ____________ ______________
____________________: measure the ability to repay debts	____________ ______________
Management Efficiency Ratios: measure the ability to control _______ and debtors etc.	____________ ______________ ____________ ______________ ____________ ______________

Activity 1: Accounting ratio formula (Answers)

Categories	Ratio Formula	
Profitability Ratios: measure the ability to make _profit__	$\frac{\text{Gross Profit}}{\text{Net Sales}}$	$\frac{\text{Net Profit}}{\text{Net Sales}}$
	$\frac{\text{Net Profit}}{\text{Capital Employed}}$	$\frac{\text{Net Profit}}{\text{Total Assets}}$
Liquidity Ratios: measure the ability to repay debts	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{\text{Current Assets - Stock}}{\text{Current Liabilities}}$
Management Efficiency Ratios: measure the ability to control stock and debtors etc.	$\frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$	$\frac{\text{Average Stock x 365}}{\text{Cost of Goods Sold}}$
	$\frac{\text{Credit Sales}}{\text{Debtors}}$	$\frac{\text{Debtors x 365}}{\text{Credit Sales}}$
	$\frac{\text{Credit Purchases}}{\text{Creditors}}$	$\frac{\text{Creditors x 365}}{\text{Credit Purchases}}$

Activity 2: Finding ratios from financial statements

Based on the financial statements provided, fill in the following table:

	Funny Company Limited	Tricky Company Limited
Gross Profit Ratio		
Net profit Ratio		
Return on Capital Employed		
Return on Total Assets		
Current Ratio		
Quick Ratio		
Stock Turnover Ratio		
Stock Turnover Period		
Debtors Turnover Ratio		
Debtors Collection Period		
Creditors Turnover Ratio		
Creditors Repayment Period		

Activity 2: Finding ratios from financial statements (Answers)

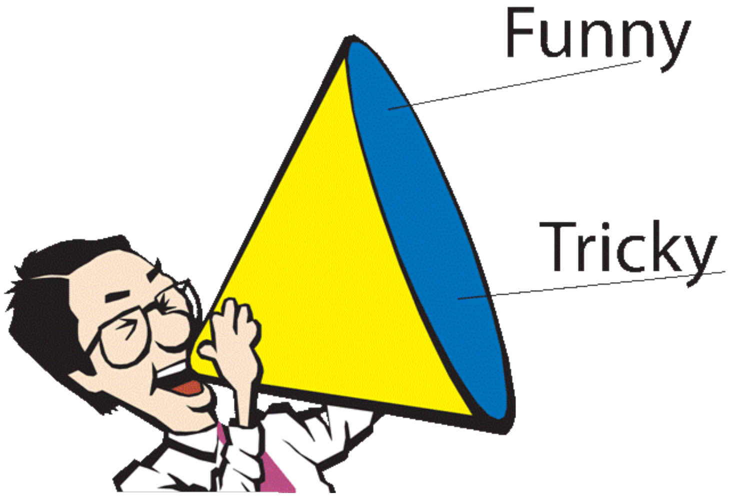
Ratio	Formula	Funny Company Limited	Tricky Company Limited
Gross Profit Ratio	Gross Profit / Net Sales	319500/700000 = **0.46**	7500/11000 = **0.68**
Net profit Ratio	Net Profit / Net Sales	184500/700000 = **0.26**	5600/11000 = **0.51**
Return on Capital Employed	Net Profit / Capital Employed	184500/1105000 = **0.17**	5600/307000 = **0.02**
Return on Total Assets	Net Profit / Total Assets	184500/1290000 = **0.14**	5600/309000 = **0.02**
Current Ratio	Current Assets / Current Liabilities	190000/185000 = **1.03**	9000/2000 = **4.5**
Quick Ratio	Current Assets – Stock / Current Liabilities	180000/185000 = **0.97**	8000/2000 = **4**

Activity 2: Finding ratios from financial statements (Answers)

Ratio	Formula	Funny Company Limited	Tricky Company Limited
Stock Turnover Ratio	Cost of Goods Sold / Average Stock	380500/[(30500+10000)/2] = **18.79**	3500/[(1500+1000)/2] = **2.8**
Stock Turnover Period	Average Stock x 365 / Cost of Goods Sold	[(30500+10000)/2]x365/380500 = **19.43 days**	[(1500+1000)/2]x365/3500 = **130.36 days**
Debtors Turnover Ratio	Credit Sales / Debtors	700000/150000 = **4.67**	11000/5000 = **2.2**
Debtors Collection Period	Debtors x 365 / Credit Sales	150000x365/700000 = **78.21 days**	5000x365/11000 = **165.91 days**
Creditors Turnover Ratio	Credit Purchases / Creditors	360000/180000 = **2**	3000/2000 = **1.5**
Creditors Repayment Period	Creditors x 365 / Credit Purchases	180000x365/360000 = **182.50 days**	2000x365/3000 = **243.33 days**

Extended Learning Activity

Can you give brief comments on the financial performance of Funny and Tricky?



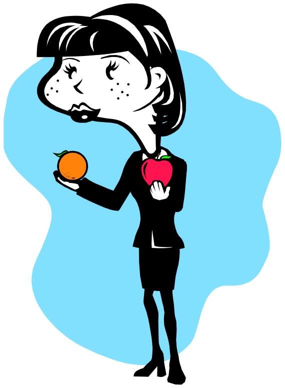
Summary

Profitability Ratios	Liquidity Ratios	Management Efficiency Ratios
Ability to gain profit	*Ability to repay debts*	*Efficiency in controlling Stock, debtor, creditor*
Gross Profit Ratio Net Profit Ratio Return on Capital Employed Return on Total Asset	Current Ratio Quick Ratio	Stock Turnover Ratio Stock Turnover Period Debtors Turnover Ratio Debtors Collection Period Creditors Turnover Ratio Creditors Repayment Period

Usage : to evaluate and compare the financial performance and position of different companies

Ratio Analysis for Business

Accounting ratios could be used to compare the financial performance and position of different companies.

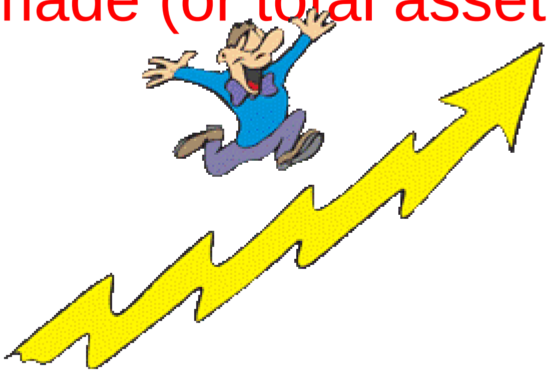


Ratio Analysis for Business

Profitability Ratio

(i.e. Gross Profit Ratio, Net Profit Ratio, Return on Capital Employed & Return On Total Asset)

Higher profitability ratio means higher return for every dollar of sales revenues made (or total asset used).



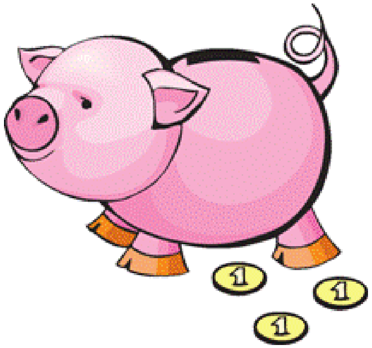
Hence, the higher the better!

Ratio Analysis for Business

Liquidity Ratios
(i.e. Current Ratio & Quick Ratio)

For the safety or stability of a business, current ratio should be ≥ 2:1 and quick ratio should be ≥ 1:1

BUT, a very high liquidity ratio may indicate idle cash or lack of investment opportunities.



Ratio Analysis for Business

Management Efficiency Ratios

Generally, the higher the better?

No, it depends!

Higher is better for:	**Lower** is better for:
Stock Turnover Ratio	Stock Turnover Period
Debtors Turnover Ratio	Debtors Collection Period
Creditors Repayment Period	Creditors Turnover Ratio

Ratio Analysis for Business

Management Efficiency Ratios

Caution!

High stock turnover (low turnover period) may indicate insufficient raw material supply

High repayment period (low stock turnover) may indicate inability to pay debts.

Activity 3:
Which company performed better?

Ratios	Ratio Values		Which is better 1 or 2?	Reasons
	Company 1	Company 2		
Gross Profit Ratio	0.31	0.25		
Net profit Ratio	0.12	0.15		
Return on Capital Employed	0.21	0.24		
Return on Total Assets	0.11	0.19		
Current Ratio	2.54 : 1	1.47 : 1		
Quick Ratio	1.12 : 1	1.30 : 1		
Stock Turnover Ratio	4.5 times	3.8 times		
Stock Turnover Period	81.11 days	96.05 days		
Debtors Turnover Ratio	4.66	3.98		
Debtors Collection Period	78.33 days	91.71 days		
Creditors Turnover Ratio	3.78	2.56		
Creditors Repayment Period	96.56 days	142.58 days		

Activity 3: Which company performed better? (Answers)

Ratios	Ratio Values		Which is better 1 or 2?	Reasons
	Company 1	Company 2		
Gross Profit Margin	0.31	0.25	1	Higher gross profit gained per unit sales
Net profit Margin	0.12	0.15	2	Higher net profit gained per unit sales
Return on Capital Employed	0.21	0.24	2	Higher net profit gained per unit capital used
Return on Total Assets	0.11	0.19	2	Higher net profit gained per unit asset used
Current Ratio	2.54 : 1	1.47 : 1	1	More capacity to repay short-term debts
Quick Ratio	1.12 : 1	1.30 : 1	2	More capacity to repay immediate debts

Activity 3:
Which company performed better? (Answers)

Ratios	Ratio Values		Which is better 1 or 2?	Reasons
	Company 1	Company 2		
*Stock Turnover Ratio	4.5 times	3.8 times	1	More stocks are sold in the period/lower stock level
Stock Turnover Period	81.11 days	96.05 days	1	Stocks required lesser time to be sold/lower stock level
Debtors Turnover Ratio	4.66	3.98	1	Higher ability in collecting debts & more cash in hand
Debtors Collection Period	78.33 days	91.71 days	1	Debts are collected in a shorter period & more cash in hand
Creditors Turnover Ratio	3.78	2.56	2	Enjoyed longer credit term & more cash in hand
Creditors Repayment Period	96.56 days	142.58 days	2	Debts are repaid in a longer period & more cash in hand

Activity 4: Which company are they talking about?

Statement X belongs to Company ________?
Statement Y belongs to Company ________?
Statement Z belongs to Company ________?

	X	Y	Z
Gross Profit Ratio			
Net Profit Ratio			
Return on Capital Employed			
Return on Total Assets			
Current Ratio			
Quick Ratio			
Stock Turnover Ratio			
Stock Turnover Period			
Debtors Turnover Ratio			
Debtors Collection Period			
Creditors Turnover Ratio			
Creditors Repayment Period			

Activity 4: Which company are they talking about? (Answers)

	X	Y	Z
Gross Profit Ratio (2)	352000/700000=**0.50**	172500/795,000=**0.22**	20000/80000=**0.25**
Net Profit Ratio (3)	65000/700000=**0.09**	30000/795,000=**0.04**	12000/80000=**0.15**
Return on Capital Employed (6), (7)	65000/[(109840+141840)/2] =**0.52**	30000/(500000+300000+128500+ 19500+225000)=**0.03**	12000/[(36000+42000)/2] =**0.31**
Return on Total Assets	65000/(148340+186000)=**0.19**	30000/1278000=**0.02**	12000/(2000+46000)=**0.25**
Current Ratio (4)	186000/132500 =**1.40**	(230000+175500+157500)/(75000 +30000)= **5.36**	46000/6000 =**7.67**
Quick Ratio (5)	(145500+1000+3000)/(132500) =**1.13**	(175500+157500)/(75000+30000) =**3.17**	(25000+6000)/6000 =**5.17**
Inventory Turnover Ratio (8)	348000/[(30500+36500)/2] =**10.39**	622500/[(200000+230000)/2] =**2.90**	60000/[(25000+15000)/2] =**3.00**
Inventory Turnover Period (8)	[(30500+36500)/2]x365/348000 =**35.14 days**	[(200000+230000)/2]x365/622500 =**126.06 days**	[(25000+15000)/2]x365/60000 **121.67**
Debtors Turnover Ratio	700000/150000=**4.67**	795000/175500=**4.53**	67000/25000=**2.68**
Debtors Collection Period	150000x365/700000=**78.21 days**	175500x365/795000=**80.58 days**	25000x365/67000=**136.19 days**
Creditors Turnover Ratio	(360000-10000+4000)/120000 =**2.95**	602500/75000 =**8.03**	50000/5000 =**10.00**
Creditors Repayment Period (1)	120000x365/(360000- 10000+4000)=**123.73 days**	75000x365/602500 =**45.44 days**	5000x365/50000 =**36.5**

Activity 4: Which company are they talking about? (Answers)

Statement X belongs to Company <u>C .</u>

Statement Y belongs to Company <u>A .</u>

Statement Z belongs to Company <u>B .</u>

Conclusion

- Accounting ratios could be used for comparing companies in terms of their profitability, liquidity and management efficiency.
- Higher the ratios do not *always* mean better situation
- Looking at a single ratio could be misleading. Ratios should be studied as a whole to see the big picture.

The End