

# FUND FLOW STATEMENT

①

Fund flow Statement explains the various sources from which funds were raised and how these funds were utilised in the business during a given period of time.

This statement is prepared by comparing the B/S of two periods of time i.e. B/S at the beginning of the year and B/S at the end of the year.

FFS shows the changes in assets, liabilities & owner's equity during any given period of time or between the dates of two Balance Sheets.

The term "fund" has been defined in different ways but in this context, funds mean Net Working Capital.

"flow" means movement or a change. FFS reveals both inflow & outflow of funds.

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The inflow of funds is known as sources of the funds & the outflow of funds means uses or application of the funds.

The FFS is also known as  
\* "Statement of Sources & Application of Net working capital" \*

Significance of fund flow statement

- ① Fund flow statement reveals how the funds were obtained and used in the past. If necessary management can take corrective action,  $\therefore$  FFS provides a summary of management decisions on financing activities of the firm and investment policy.
- ② It helps to formulate the financial policies based upon the past facts.
- ③ It serves as a measure of



control to the management. (Actuals compared with budgeted or projected figures) ③

- 4) If current year f.f.s is compared with past statements we can know how the firm is growing and the financial factors for such a growth.
- 5) f.f.s points out the causes for changes in the working capital
- 6) f.f.s reveals the net results of operations during the year in terms of cash.
- 7) f.f.s helps the creditors in general and particularly the financial institutions.

### Preparation of Fund flow statement

#### 3 Steps

- ① Statement/Schedule of changes in working capital
- ② Adjusted P&L account
- ③ Statement of changes in financial position (funds flow statement)

## Funds flow as Working capital.

A funds flow Statement explains the causes of increase or decrease in working capital.

In a transaction if it results in increase in WC, it is said to be a source of inflow of funds. & in a transaction, if it results in a decrease in WC then it is said to be an application of funds. For this the assets have been classified as (1) CA (2) Non-CA (3) CL (4) Non-CL

### Guiding principle:

→ In a transaction, if the account involved are of different kinds i.e. one is current & the other is non-current then the transaction results in flow of funds.

→ When the accounts involved in the transaction are of the same kind i.e. both are current accounts or both are non-current accounts then the



Transactions will not result into ⑤  
flow of funds.

### Book entries funds flow?

In a transaction if cash movement is not there now or in future when ~~and~~ such transaction is recorded in the books of accounts then it is known as "Book Entry". In (BET) Funds flow is not there. Eg: Depreciation, writing off fictitious assets, writing off differed Revenue expenses, Transfer of Reserve funds, Issue of Bonus shares & Capitalisation of profits, loss on sale of assets etc - - -

### Non-Cash transactions. funds flow

In a business transaction if accounts are settled through non-cash then such transactions are known as Non-cash transactions. In such a case funds flow will not be there.

## few Examples.

(6)

- (1) Issue of shares to vendors for other than cash. (vendors a/c — Dr  
To Share capital A/c)
- (2) If shares are issued to promoters for the consideration due to their services  
Goodwill A/c — Dr  
To share capital
- (3) If Debentures are converted into shares  
Debentures A/c — Dr  
To Share Capital.

## Sources of Funds & Use of the funds

Funds arising from various sources, from where funds move in is known as "Sources of funds"

Funds utilised for various purposes move out is known as "applications" or uses of funds.

The following are the important sources & uses of the funds



## Sources

- (1) Funds from Business Operations (Trading Profits)
- (2) Sale of non-current assets for cash.
- (3) Issue of equity share Capital for cash
- (4) Issue of pref. share Capital for cash
- (5) Issue of debentures for cash
- (6) Raising long-term loans
- (7) Other ~~extra~~ incomes or non-operating income  
(a) ~~Interest~~ Interest -  
On investment received  
(b) Dividends received
- (8) Decrease in Net Working Capital.  
(9) Shares called up.

## Uses

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- (1) Net loss from business operations (Trading losses)
- (2) Repayment of long term loans
- (3) Redemption of debentures
- (4) Redemption of preference share Capital
- (5) payment of dividends
- (6) purchase of fixed ~~asset~~ assets
- (7) Increase in ~~net working capital~~ Capital.  
(a) Non-trading Expenses.  
(9) payment of taxes.

# Statement of changes in the working Capital

Statement of WC shows the changes in the WC between two Balance sheet dates.  
For this only current assets & current liabilities are to be considered.

The method of preparing the statement is explained as under.

The following equation is used to find out changes in the WC.

$$CA - C.L = \text{WC}$$

- ⇒ If CA increases → WC Increases
- ⇒ If CA decreases → WC Decreases
- ⇒ If CL increases → WC Decreases
- ⇒ If CL decreases → WC Increases.

## Format of Schedule of change in WC

Particulars	Prev. Year	Current Yr	Increase	Decrease
(A) Current Assets	xxx	xxx		
Total C.A	.			
(B) Current Liabilities	xxx	xxx		
Total C.L				
Net WC. (A)-(B)	xxx	xxx		
Increase/Decrease in WC Bal/figure				



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## Problem on Statement on Changes in Working Capital (W.C)

Prepare a statement of changes on W.C from the following information:

Particulars	Jan 1st Amt (Rs)	Dec 31st Amt (Rs)
Share capital	50,000	50,000
Retained earnings	14,000	40,000
Fixed assets at cost	80,000	90,000
Provision for Depreciation on fixed assets	22,000	27,000
Investment in shares of subsidiary company.	15,000	15,000
Government securities	6,000	12,000
St. Debentures (redeemable in 5 equal annual installments of Rs 20,000 each, from the current year)	20,000	-
Prepaid expenses	21,000	14,000
Outstanding expenses	5,000	12,000
Creditors & Bills payable	30,000	25,000
Debtors & Bills receivables	18,000	20,000
Cash & Bank balance	5,000	13,000
Provision for doubtful debts	4,000	2,000

Solution:

Statement of changes in w.c during the year (10)

Particulars	Jan 1 Amt (Rs)	Dec 31 Amt (Rs)	Effect of w.c.	
			Increase Amt (Rs)	Decrease Amt (Rs)
<u>Current Assets</u>				
Govt. securities	6,000	12,000	6,000	—
Prepaid expenses	21,000	14,000	—	7,000
Debtors & Bills receivable	18,000	20,000	2,000	—
Cash & bank balances	5,000	13,000	8,000	—
Total current assets (A)	50,000	59,000		
<u>Current liabilities</u>				
8% debentures	20,000	<del>10,000</del>	20,000	—
Outstanding expenses	5,000	12,000	—	7,000
Creditors & B/Payable	30,000	25,000	5,000	—
Provision for doubtful debts	4,000	2,000	2,000	—
Total current liabilities (B)	59,000	39,000		
Working capital (A - B)	(9,000)	20,000		
Increase in working capital.	29,000.			29,000



Procedure or Method of preparing (11)  
the statement to find out funds from  
operations.

Steps:

- (1) Take profit & loss A/c closing Balance as the starting point.
- (2) Add: The following items as Non-fund items charged to P&L A/c (or) P&L Appropriation A/c.
  - (a) Depreciation, (b) writing off the intangible assets (goodwill, patents etc)
  - (c) writing off the fictitious assets (eg. Advertisement, preliminary Expenses etc)
  - (d) provision for doubtful debts
  - (e) provision for taxes (f) Loss on sale of fixed assets (g) Loss on Revaluation of assets
- (3) Add: The following items of appropriation if debited in the P&L A/c, (or) P&L App<sup>n</sup>
  - (a) Dividends paid (b) provision for dividends (c) transfer to Reserves & funds
- (4) Deduct: Non operating incomes (or) Non trading Incomes
  - (a) Dividends received (b) Dividends —

receivables if credited in the P&L A/c

- (c) profit on sale of fixed Assets
- (d) profit on revaluation of assets
- (e) Excess provisions written off.

5) Deduct - P&L A/c opening Balance.

After making the above adjustments, the resultant figure is the "funds from operations"

\*\*\* If P&L A/c Balance is not given & G.R. or General Reserve fund balance is given then take G.R. at close as the starting point & in the last deduct the opening balance of G.R.



F.f. operations can be prepared in 2 methods

① statement method

② Adjusted P&L A/c

D<sup>st</sup> Method Statement method..

Calculate funds from operations of 'X' Ltd from the following:

Profit & Loss Account

Particulars	Amt (Rs)	Particulars	Amt (Rs)
To Salaries	15,000	By Gross profit	300,000
To Rent	5,000	By profit on sale of machines	10,000
To Commission	3,000	By Dividend received	4,000
To Discount allowed	1,000	By Refund of tax	6,000
To Pro. for Depreciation	15,000		
To Transfer to G/R	25,000		
To Loss on sale of Investment	7,000		
To provision for tax	15,000		
To Dis. on issue of debentures	2,000		
To preliminary Exp	5,000		
To selling exp	35,000		
Net profit	192,000		

# Statement showing funds from operations.

Particulars.	Amt (Rs)	Amt (Rs)
Net profit as per P&L A/c		1,92,000
<u>Add: Non-fund/ Non operating Expenses</u>		
1. Provision for Dep	15,000	
Transfer to G/R	25,000	
Loss on sale of Investment	7,000	
Provision for Tax	15,000	
Dis. on issue of Deb.	2,000	
Preli. Exp written off	5,000	
		69,000
		2,61,000
<u>(+) Non-fund/ Non-operating Income</u>		
Profit on sale of machinery	10,000	
Dividend Received	4,000	
Refund of Tax	6,000	
		20,000
Fund from operations		2,41,000



## II Method Adjusted P&L A/c.

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from the following details, ascertain 'Funds from operations'

Particulars	2013	2014.
P&L A/c balance at the end	55,000	65,000
General Reserve	30,000	40,000
Good will	22,000	13,000
Preliminary Expenses	10,000	8,000
Depreciation provision (accumulated)	25,000	45,000
Income from non-trading investments	—	30,000

Solution: Adjusted P&L a/c for the year 2014

Particulars	Amount	Particulars	Amount
To G.R [40,000 - 30,000]	10,000	By bal b/d	55,000
To G/w w/o [22,000 - 13,000]	9,000	By Income from non-trading Investments	30,000
To Prel. Ex [10,000 - 8,000]	2,000		
To Prov. for Dep [45,000 - 25,000]	20,000	By F.F.O (B/f)	21,000
To bal c/d	65,000		
	1,06,000		1,06,000

## CASH FLOW STATEMENT

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Cash flow statement shows the changes in the cash position between 2 periods of time or two dates of the balance sheet. The movement of cash coming into the business unit & going out of the business unit is known as cash flow.

According to Accounting Standard - 3 (AS-3) Cash flow means flow of either cash or cash equivalents or both.

The term "Cash" includes cash in hand, short term deposits with the bank & Bank balance, explained in an equation as

$$\text{Cash} = \text{Cash in hand} + \text{Demand deposits in the bank} - \text{Bank OD}$$

Cash Equivalents: The investments which are readily convertible into cash without any loss of invested amount & having readily marketable are known as cash equivalents.

Treasury bills, Bank drafts, Short term investments can be treated as items of cash equivalents.



## Two kinds of cash flow statement

- (1) Historical cash-flow statement (shows record of previous transactions)
- (2) Projected cash flow statement

## Significance or Importance of C.F. Statement.

- (1) It helps in efficient cash management
- (2) It helps in preparing cash budgets
- (3) It helps the management to take corrective steps
- (4) Cash flow statement helps in formulating short-term financial policies
- (5) Cash flow statement helps in planning repayment of borrowed funds & to purchase fixed assets

## The following are the important sources of Cash.

- (1) Cash from operations (net profit after adjustment with non-cash expenses & non-operating incomes is known as Cash from operations)
- (2) Issue of shares for cash
- (3) Increase in short term & long term debts

(4) Sale of assets

(5) Non-trading receipts.

Uses of Cash: The following are the important applications of cash.

(1) Purchase of assets

(2) Repayment of loans

(3) Redemption of share capital

(4) Payment of dividends

(5) Cash losses from operations

(6) Non-trading payments

According to AS-3 for preparing cash flow statement of business activities can be classified into 3 categories.

① Cash flows from operating activities

② Cash flows from Investing activities

③ Cash flows from financing activities



# Preparation of Cash Flow Statement

According to AS-3 For preparing cash flow statement of business activities can be classified into three categories.

- ① cash flow from operating Activities
- ② cash flow from Investing Activities
- ③ cash flow from Financing Activities

operating Activities

cash inflow

- ① sale of goods
- ② Receipt from operating income like royalty & commission
- ③ Refund of taxes
- ④ Bad debt recovered.
- ⑤ Insurance claims for loss of goods / inventory.

cash outflow

- ① Purchase of Raw material
- ② payment to staff.
- ③ Payment of operating Exp
- ④ Payment of Taxes.

Investing Activities

cash inflow

- ① Rent received.
- ② Interest & dividend received
- ③ sale of Fixed assets
- ④ sale of long term investment.
- ⑤ Recovery of advances from others
- ⑥ Insurance claims against damage of asset.

cash outflow

- ① Purchase of Fixed asset
- ② Purchase of Investment.
- ③ construction or Manufacturing of Fixed asset.
- ④ Capital Expenditure on Research & development
- ⑤ Advances given.
- ⑥ Capitalization of Interest paid for acquiring Assets

# Financing Activities.

cash inflow

- ① Issue of shares
- ② Issue of debentures
- ③ Long term borrowings

cash outflows

- ① payment of debenture interest
- ② Payment of dividend
- ③ Redemption of debentures
- ④ Redemption of P. shares
- ⑤ Repayment of long term borrowings
- ⑥ Buy back of equity shares

⑦ Prepare Cash Flow Statement direct method

Dr Cash Book		Cr	
To bal c/d		By know how	85,750
cash 12500		By purchase of Machinery	2,00,000
Bank 125000	137500	By purchase of Furniture	75000
To collection from debtor	2,20,000	By creditor	165000
To equity share capital	2,70,000	By Salaries	140,000
To cash sales	2,80,000	By advertisement	80000
To sale of patents (including profit 41250)	1,51,250	By other Expenses	122750
To income from investment	41250	By Investment	82,500
To Rent	62500	By Redemption of debentures	85000
To insurance claim (stock)	80000	By dividends paid	82500
(machinery)	1,12,000	By Income tax	
		Tax on profit	87,725
		UGA	8250
		Dividend	14025
			1,10,000



# Cash Flow Statement for year ending Mar 2008.

Particulars	Amt Rs	Amt Rs.
1. Cash flow from operating Activities		
<u>Inflow</u>		
(i) Cash received from debtor	2,20,000	
(ii) Cash Sales	2,80,000	
	<u>5,00,000</u>	
<u>Less: Cash outflow</u>		
(i) Payment of salaries 140000		
(ii) Payment for Advertisement 80000		
(iii) Payment to other operating Exp 123750		
(iv) Payment to creditors <u>165000</u>	<u>508750</u>	
	- 8750	
Add Receipt from extra ordinary items.		
(i) Insurance from damage of stock	+ 80000	
	<u>+71250</u>	

Ley: Tax on profit		+71250	
Cash lost on operation		-87725	
		-16475	-16475
<u>2. <u>Cash Flow from Investing Activities</u></u>			
<u>Inflow</u>			
(i) Sale of patents (including profit on sale 41250)		151250	
(ii) Income from Investment		41250	
(iii) Rent received		62500	
		255000	
<u>Ley <u>Cash outflow</u></u>			
(i) Purchase of know how		85750	
(ii) Purchase of Machinery		2,00,000	
(iii) Purchase of furniture		75000	
(iv) Purchase of Inv.		82500	
		443250	
		-188250	
Add Payment for extraordinary items. Damages on purchase of Building		-1,00,000	
		-288250	
		-288250	
Add Insurance claims for machinery		+112000	
		-176250	
Tax on longterm capital		-8250	
Cash used in Investing Activities		184500	-184500



### ③. Cash from Financing Activities

#### Inflow

(i) Issue of equity shares

2,170,000

2,170,000

#### Less Outflow

(i) Redemption of debentures

55,000

(ii) Dividend paid

82,500

1,37,500

+ 1,32,500

Less Tax payment

Tax on dividend

(-91,406.25)

Cash flow from financing activities

+1,18,475

+1,18,475

Net decrease in cash flow  
cross checking  
Answer  
Add: opening balance of cash & cash equivalents

- 82,500

Cash  
Bank

12,500

1,25,000

(+1,13,750)

closing balance of cash & cash equivalents

Cash  
Bank

15,000

4,00,000

(+3,55,000)

- 82,500

(6)

Cash flow Statement		Indirect method.		Question	
Liability	31.3.2009	31.3.2010	Asset	31.3.2009	31.3.2010
Share Capital	7,00,000	7,49,000	Cash	12,000	6,000
Debtures	12,000	6,000	Bank	78,000	72,000
Reserve for doubtful debt			Debtors	49,000	1,77,000
Govt debt	7,000	8,000	Stock	49,200	42,700
Creditors	1,03,600	1,18,400	Land	2,00,000	3,00,000
P/L acc	1,00,400	1,05,600	Goodwill	1,00,000	50,000
	<u>1,03,1000</u>	<u>1,03,2000</u>		<u>1,03,1000</u>	<u>1,03,2000</u>

### Additional Information

1. Dividends paid R 29,915 & dividend tax R 5085
2. Land was purchased for R 1,00,000
3. Amount provided for amortization of goodwill R 50,000
4. Debtures were paid off.

### Solution

Share Capital	
Closing Balance =	7,40,000
Less opening Balance	7,00,000
Issue of shares	<u>40,000</u>
Debtures	
Opening Balance.	12,000
Less paid off	<u>6,000</u>
Closing Balance.	6,000



③ Reserve of doubtful debt

Closing Balance	8000
Less Opening Balance	<u>7000</u>
provided during year.	<u>1000</u>

④ Land

opening Balance	2,00,000
Add purchase	<u>1,00,000</u>
	<u>3,00,000</u>

⑤ Goodwill

opening Balance	7,00,000
<del>Add</del> purchase	
Less written off	<u>50,000</u>
Closing Balance	<u>50,000</u>

⑥ Finding out changes in current assets & current liabilities (working capital)

No	Item	opening 31.3.09	31.3.10	change
1.	debtors	149,000	1,77,000	Increase 28,000
2.	Stock	4,92,000	4,27,000	decrease 65,000
3.	creditors	103,600	1,18,400	Increase 14,800

Particulars	Amt ₹	Amt ₹.
1. cash flow from operating activities Profit for the year (105600 - 100400)	5200	
<u>Add</u> Non cash & non operating Exp/Con:		
(i) Provision for doubtful debt 1000		
(ii) Goodwill written off 50000	51000	
	56200	
<u>Add</u> Appropriation Items -		
(i) Dividends paid 29915		
(ii) Dividend tax 5085	35000	
	91200	
<u>Less</u> : Non operating Income	-	
operating profit before changes in working capital	91200	
<u>changes in working capital</u>		
<u>Add</u> (i) Decrease in current assets		
	65000	
(ii) Increase in current liabilities	14800	
	79800	
	171000	
<u>Less</u> 1) Increase in current asset		
debt 28000		
(ii) decrease	-	
	28000	
	143000	



Gross cash flow operating activities.		143000
Less Income tax		-
Net cash flow operating activities		<u>143000</u>
② Cash flow from Investing activities		
Inflow	-	
Less:		
Outflow	-1,00,000	
	<u>-1,00,000</u>	
Add: Receipts from extraordinary items	-	
Less Income tax paid	-1,00,000	
	<u>-</u>	
Cash used from Investing activities	-1,00,000	1,00,000
③ Cash flow from Financing activities		
Inflow		
(1) Issue of shares	4000	
Less: Outflow		
(2) Redemption of debentures	60000	
payment of dividend	<u>29915</u>	
		89915
Gross cash flow from Financing activities	-89915	

Gross Cash Flow from Financing activities	-49915		
Less Income tax paid	-		
dividend tax	5015	-5085	
Net cash used for financing activities	-55000	-55000	
Net decrease in cash & cash equivalents			(-12000)
opening			
Cash	12000		
Bank	78000	90000	+90000
closing			
Cash	6000		
Bank	72000	78000	+78000



# Unit ~~VII~~ I

## Ratio Analysis

### Ratio Analysis.

Ratio analysis is the process of determining and interpreting numerical relationships based on financial statements.

By Computing ratios, it is easy to understand the financial position of the firm.

Ratio analysis is used to focus on financial issues such as liquidity, profitability & solvency of a given firm.

- Liquidity: refers to how well the firm is in a position to meet its short-term commitments such as payment of salaries, taxes, interest on loans etc..

Profitability: refers to how capably the firm is conducting its business operations on a profitable manner.

Solvency: refers to the firm's position to meet its long-term commitments such as repayment of loans & so on.

## Types of Ratios

Based on their nature, the ratios can be broadly classified into four categories.

- Liquidity ratios
- solvency ratios
- Activity Ratios
- Capital structure ratios
- Profitability ratios

### I Liquidity Ratios

Liquidity ratios help in identifying the danger signals for the firm in advance.

Liquidity ratios can be classified into two types:

(a) Current Ratio:

(b) Quick Ratio

(a) Current Ratio

CR is the ratio between Current Assets & Current Liabilities.

The firm is said to be comfortable as its portion of the current ratio is 1.2:1



The interest of the creditors are safeguarded if the current ratio is 2:1.

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

(or)  
Working Capital Ratio

Current assets includes: stock, debtors, B/R, cash in hand, prepaid expenses, income yet to be received, marketable securities...

Current Liabilities :-

creditors, bank O/D payable, B/P, O/s expenses, incomes received in advance, all provisions, dividends payable.

(b) Quick Ratio also called as Acid test ratio

\* It measures the firm's ability to convert its current assets quickly into cash in order to meet its current liabilities.

$$Q.R = \frac{\text{Quick assets}}{\text{Current liabilities}}$$

Quick assets = Current assets - (<sup>closing</sup> stock + prepaid expenses)  
 Or  
 liquid assets

The standard for this ratio is  $\boxed{1:1}$

## II Activity Ratios

Activity ratios express how active the firm is in terms of selling its stocks, collecting its receivables & paying its creditors. They are 3 types:

- (1) Inventory turnover ratio
- (2) Debtors Turnover ratio
- (3) Creditors Turn over ratio

### (1) Inventory Turn over ratio

It is also called as stock turn over ratio  
 → indicates the no. of times the average stock is being sold during a given accounting period.

→ Establishes relation between the cost of goods sold during a given period &



average amount of inventory @/s during that period.

\* Higher the inventory turn over ratio, the better is the performance of the firm in selling its stocks.

⇒ It helps in determining the liquidity of the firm by giving the rate at which inventories are converted into sales & then to cash.

Manager has to design an app inventory policy as is to avoid piling up of inventories.

this is in terms of times

$$\text{Inventory Turn over ratio} = \frac{\text{Cost of goods sold on Credit sales}}{\text{Average inventory.}} \quad \text{Avg stock.}$$

Where

$$\text{Cost of goods sold} = \text{Sales} - \text{Gross profit}$$

\* Where sales can be direct sales or credit sales

$$\text{Avg stock} = \frac{\text{opening stock} + \text{closing stock}}{2}$$

for inventory turn over ratio, we can also determine the inventory holding period.

## (2) Debtors turn over ratio.

Debtors turn over ratio reveals the number of times the average debtors are collected during a given accounting period. It shows how quickly a firm is in position to collect its debts.

Debtors turn over ratio is calculated as

$$\text{Debtors turn over ratio} = \frac{\text{Credit sales}}{\text{Average debtors}} \rightarrow \frac{\text{O/dels} + \text{C/dels}}{2}$$

\* indicates how many times debtors are converted into cash

## Debt collection period

refers to the time taken to collect the debts from

$$\text{Debt Collection Period} = \frac{365 \text{ days}}{\text{Debtors turn over ratio}}$$

The lesser the time, more is the efficiency of the firm & vice versa.



Creditors turn over ratio reveals the no: of times the avg creditors are paid during a given accounting period. i.e. it shows how promptly the firm is in a position to pay its creditors.

$$\text{Creditors turn over ratio} = \frac{\text{Credit purchases}}{\text{Avg creditors}}$$

creditors payment period:  $\frac{365 \text{ days}}{\text{credit turn over ratio}}$

### III Capital Structure Ratio, (leverage ratio) / Solvency Ratio

Capital structure Ratio (or) leverage ratio is defined as the financial ratio which focusses on the long term solvency of the firm.

The long term solvency of the firm is always reflected in its ability to meet its long term commitments such as payment of interest periodically, repayment of principal etc & when due.

All the financial institutions offering long-term finances are interested in these ratios.

- ① Debt-equity ratio
- ② Interest Coverage ratio.
- ③ Proprietor's funds to total assets
  - (a) Ratio of fixed assets to proprietor's funds
  - (b) Ratio of current assets to "

(1) Debt equity ratio / ~~Solvency ratio~~.

D.E.R is the ratio between outsiders funds (debts) and insiders equity funds. This is used to measure the firm's obligations to creditors in relation to its owner's funds.

→ It is a measure of solvency.

→ the yard stick for this ratio is 1:1

i.e. for every rupee of debt there should be one rupee of internal funds.

D.E.R = Debt/Equity or:

Outsider's funds (or long term debts)

Insider's (or) Shareholder's fund



Debt (or) outsiders funds include debentures, bonds, long term loans & so on.

\* \* Shareholders funds (or) equity here includes

[Share capital (Preference & equity), reserves (both general & specific) Retained earnings (or) P.L. A/c]

### ✓ (2) Interest Coverage ratio

It is calculated to judge the firm's capacity to pay the interest on debt it borrows.

→ The higher the ratio, better it is.

In other words, a higher ratio implies that the company has no problems in paying interest.

$$\text{Int } \overset{\text{Coverage}}{\text{Coverage}} \text{ ratio} = \frac{\text{Net profit before Interest \& Taxes (NPBT) (EBIT)}}{\text{Fixed interest charges}}$$

\* The more no. of times of coverage, the better is the solvency position of the borrower.

This establishes the relationship between proprietors funds & the total assets.

\* here the total assets include the tangible fixed assets + current assets. [0.50:1]

\* Intangible assets such as, goodwill are not considered here because, if the business has to be sold off forcibly, goodwill may not be of any worth, shows proprietors good stake in the organisation

$$\text{Proprietors funds to Total Assets} = \frac{\text{Proprietors funds} \times 100}{\text{Total assets}}$$

\* Proprietors fund = pref shares + Equity shares + Reserve funds + Employees provident fund + profit & loss A/c etc  $\rightarrow$  Accumulated losses  $\rightarrow$  Deferred Revenue Exp

(i) Ratio of fixed assets to Proprietors funds

This ratio shows whether the fixed assets are bought from proprietors funds or not. ~~are~~ usually long term loans, ~~are~~ can be used to buy ~~fixed~~ current assets but no short-term sources of finance can be utilised to acquire fixed assets.



$$\text{Ratio of fixed assets to p.f} = \frac{\text{fixed assets}}{\text{Proprietors funds}} \times 100$$

(ii) Ratio of current assets to proprietors funds

A high ratio of current assets to proprietors funds is considered as financial strength to the business.

It is essential to hold adequate funds as working capital to generate profits.

$$\text{Ratio of current assets to proprietors funds} = \frac{\text{current assets}}{\text{Proprietors funds}} \times 100$$

### IV Profitability Ratios

① Gross profit ratio =  $\frac{G.P./\text{sales}}{\text{Sales}} \times 100$

② Net profit ratio =  $\frac{\text{Net profit after Taxes}}{\text{Sales}} \times 100$

③ Operating Ratio:  $\frac{\text{Operating exp}}{\text{Net sales}} \times 100$

[Op. Exp = Cost of the goods sold + Admin exp + Selling exp.  
distributing Exp] (salaries, office rent, insurance, directors' fees, legal exp, travelling exp, salaries etc.)

⑧

## Return on investment (ROI)

① → Return on  $\frac{\text{Net profit after Taxes / Total investment}}{\text{Capital Employed}}$

$\leftarrow \begin{matrix} \text{Total assets / Capital} \\ \text{Employed or Owners equity} \end{matrix}$

$$= \frac{\text{Adjusted net profit}}{\text{Capital Employed}}$$

$\hookrightarrow [\text{paid up capital} + \text{reserves} + \text{debentures}]$

## 2) Return on equity

$$= \frac{(\text{Net profits} - \text{dividends payable to pref share holders})}{\text{Equity Share Capital}}$$

E.S. holders fund =  $\frac{\text{E.S. Capital} + \text{reserves}}{\text{Total assets}}$

## (5) Earnings per share

$$EP\> = \frac{\text{Net profit after Taxes}}{\text{No. of shares outstanding}}$$

## (6) Dividend Yield ratio

$$= \frac{\text{Normal face value of the share}}{\text{Cost or market Price of the share}} \times \% \text{ dividend per annum}$$

$$(7) = \frac{\text{Price Earnings ratio}}{\text{Market price of the share}} = \frac{\text{Earnings per share}}{\text{Market price of the share}}$$



# Balance sheet of a company

Liabilities	Amount	Assets	Amount
Equity share capital	10,00,000	Land & building	7,00,000
Profited loss amount	1,50,000	plant & machinery	17,00,000
General reserves	3,00,000	✓ stock	10,00,000
✓ Bank overdraft	20,00,000	✓ sundry debtors	5,00,000
sundry Creditors	5,00,000	✓ bills receivable	50,000
bills payable	2,00,000	✓ cash at Bank	20,00,000
Total of <del>to</del>	42,00,000	Total	42,00,000

$$\text{Current Ratio} = \frac{C.A}{C.L} = \frac{\text{Stock} + \text{S. debtors} + \text{B/R} + \text{cash at Bank}}{\text{Bank o/d} + \text{S. creditors} + \text{B/P}}$$

$$= \frac{10,00,000 + 5,00,000 + 50,000 + 20,00,000}{20,00,000 + 5,00,000 + 2,00,000}$$

$$= \frac{35,50,000}{27,00,000} = 1.31$$

$$\text{Quick Ratio: } \frac{Q.A}{Q.L} = \frac{C.A - (\text{stock} + \text{debtors})}{C.L - \text{Bank o.d}}$$

$$= \frac{17,50,000 - (10,00,000 + 0)}{20,00,000 - 20,00,000}$$

$$= \frac{7,50,000}{7,50,000} = 1:1$$

Particulars	Xco.	Yco.
c.a. Cash ✓	80,000	10,000.
c.a. Bank Balance ✓	25,000	30,000.
c.a. Inventory ✓ (stock (flooring))	3,25,000	18,50,000.
c.l. bills payable	67,500	8,50,000 ✓
c.a. short term investment	30,000	50,000 . .
c.l. creditors	12,500	10,00,000 ✓
(c.l.) Outstanding expenses	62,500	3,4,500 ✓
(c.l.) Taxes payable	1,62,500	2,45,000 ✓
✓ Sundry debtors (c.a.)	4,50,000	7,50,000

$$\text{Current Ratio} = \frac{\text{C.A.}}{\text{C.L.}} = \frac{\text{Cash} + \text{Bank Balance} + \text{Inventory} + \text{Short term investment} + \text{Taxes payable} + \text{Sundry debtors}}{\text{Creditors} + \text{bills payable} + \text{Outstanding expenses} + \text{Taxes payable.}}$$

$$= \frac{80,000 + 25,000 + 3,25,000 + 30,000 + 4,50,000}{12,500 + 67,500 + 62,500 + 1,62,500}$$

$$= \frac{8,50,000}{3,05,000} = 2.786 : 1$$

$$\text{Ratio: } \frac{\text{Q.A.}}{\text{Q.L.}} = \frac{8,50,000 - \text{Inventory (50,000)}}{3,05,000 - 0}$$

$$= \frac{8,00,000}{3,05,000} = 2.62 : 1$$

current Ratio for Y company =  $\frac{\text{C.A.}}{\text{C.L.}}$



$$= \frac{10,000 + 30,000 + 13,50,000 + 50,000}{15,32,500} = 7,50,000$$

$$= \frac{21,90,000}{15,32,500}$$

$$= 1.42:1$$

$$\begin{aligned} \text{Quick Ratio} &= \frac{\text{Quick Assets}}{\text{Quick Liabilities}} \\ &= \frac{\text{C.A.} - (\text{stock} + \text{prepaid})}{\text{C.L.} - \text{Bank OD}} \end{aligned}$$

$$= \frac{21,90,000 - 13,50,000}{15,32,500 - 0}$$

$$= \frac{8,40,000}{15,32,500} = 0.54:1$$

⑤. The following particulars are given.

$$\text{Current ratio} = 1.33:1$$

$$\text{Quick ratio} = 1.06:1$$

$$\text{Current Liabilities} = 75,000/-$$

$$\text{C.R.} = \frac{\text{C.A.}}{\text{C.L.}}$$

$$\frac{1.33}{1} = \frac{\text{C.A.}}{75,000}$$

$$\text{C.A.} = 99,750$$

$$\text{C.A.} = ?$$

$$\text{Q.A.} = ?$$

$$\text{Stock} = ?$$

$$\text{Q.R.} = \frac{\text{Q.A.}}{\text{C.L.} - \text{Bank OD}}$$

$$\frac{1.06}{1} = \frac{\text{Q.A.}}{75,000 - 0}$$

$$Q.A = 79,500.$$

$$Q.Y = C.P - \text{Stock}.$$

$$= 75,000$$

$$Q.A = C.A - \text{Stock}.$$

$$79,500 = 99,750 - \text{Stock}$$

$$\text{Stock} = 99,750 - 79,500.$$

$$= 20,250.$$

Activity Ratio: Measures how active the firm is in terms of settling of its debts; selling its stocks and payments to the creditors etc. The following are the 3 ratios.

① Inventory / Stock Turn over Ratio (S.T.R)

② Debtor Turnover Ratio (D.T.R)

③ Creditor Turnover Ratio (C.T.R).

Inventory turn over ratio: Also known as stock turn. It is average no. of times the stock is sold in a period.



Credit sales formula: (C)

$$\text{Creditor turn over ratio} = \frac{\text{credit purchasers}}{\text{average creditors}}$$

$$\text{creditor payment period} = \frac{365 \text{ days}}{\text{creditor turn over ratio}}$$

18/ March 2018.

1. Calculate the stock turnover ratio in the following cases.

- I. (a) cost of the goods sold = Rs. 2,00,000  
 (b) Average stock = Rs. 40,000.

- II. (a) Sales = 2,20,000  
 (b) Average stock = 40,000  
 sales return = 20,000  
 Gross profit = 20% (on sales)  
 closing stock = 29,000  
 opening stock = 21,000  
 purchases = 1,00,000  
 wages = 10,000/-

I. Stock turn over ratio =  $\frac{\text{Cost of the goods sold}}{\text{Avg stock}} = \frac{2,00,000}{40,000} = 5:1 \text{ time}$

Stock holding period =  $\frac{365 \text{ days}}{5.702} = \frac{365}{5} = 73 \text{ days}$

II. Net sales = Sales - sales return  
 = 2,20,000 - 20,000 = 2,00,000

Gross profit =  $2,00,000 \times \frac{20}{100}$   
 = 40,000.

Cost of the goods sold = Net sales - gross profit  
 = 2,00,000 - 40,000

$$② = \frac{2,00,000 - 40,000}{40,000} = \frac{1,60,000}{40,000} = 4 \text{ times}$$

$$\text{stock holding period} = \frac{365 \text{ days}}{S.T.O.R} = \frac{365}{4} = 91.25 \text{ days}$$

sales should happen more no. of times  
if for less no. of days it should hold the  
stock.

iii. Stock turnover ratio =  $\frac{\text{cost of the goods sold}}{\text{Average}}$

$$\text{cost of goods sold} = \text{opening stock} + \text{purchases} + \text{closing stock}$$

$$= 21,000 + 1,00,000 + 10,000 - 29,000$$

$$= 1,02,000$$

$$\text{Average stock} = \frac{21,000 + 29,000}{2} = 25,000$$

$$S.T.O.R = \frac{1,02,000}{25,000} = 4.08$$

②. the following are the extracts from the balance sheet

Particulars	31 March 2002 (Rs)	31 March 2001 (Rs)
W <sup>d</sup> stock	10,000	25,000
W <sup>d</sup> Debtor	20,000	20,000
W <sup>d</sup> Bills receivable	10,000	5,000
W <sup>d</sup> cash in hand	15,000	15,000
W <sup>d</sup> Bills payable	15,000	20,000



Q.3 Bank Overdraft  
 10% debentures  
 sales for the year  
 Gross profit

Long Term Liability	2,000
5,00,000	5,00,000
8,50,000	8,00,000
40,000	50,000

compute for both years current ratio, Quick ratio as well as stock turnover ratio.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

$$31/03/2009 = \frac{\text{stock + debtors + Bill receivable + cash in hand}}{\text{Bill payable + Bank o.d.}}$$

$$= \frac{10,000 + 20,000 + 10,000 + 18,000}{15,000 + 0}$$

$$= \frac{58,000}{15,000} = 3.87 : 1$$

$$\text{Quick ratio} = \frac{\text{C.A.} - (\text{stock + expenses})}{\text{C.L.} - \text{Bank o.d.}}$$

$$= \frac{58,000 - (10,000 + 0)}{15,000 - 0}$$

$$= \frac{48,000}{15,000} = 3.2 : 1$$

$$\text{Stock turnover ratio} = \frac{\text{opening stock} + \text{cost of the goods sold}}{\text{Average stock}}$$

$$\text{Average stock} = \frac{\text{ols + cls}}{2}$$

$$= \frac{10,000}{2}$$

∴ opening stock is not given directly closing stock is considered

$$\text{Gross profit} = \frac{\text{sales} \times 25}{100}$$

④ cost of the goods sold = sales - opening stock  
 $= 3,10,000 - 20,000$   
 $= \cancel{28,000} : 2,80,000$

S.T.O.R =  $\frac{2,80,000}{10,000}$

= 28

stock holding period =  $\frac{365 \text{ days}}{\text{S.T.O.R}}$

=  $\frac{365}{28}$

= 13.035

13/ March 2018

① Calculate the debtor turnover ratio and collection period.

Particulars	2009	2010
Credit sales	₹ 1,50,000	₹ 2,20,000
Debtor at the beginning of the year	₹ 1,00,000	₹ 1.5,000
Debtor at the end of the year	₹ 6,000	₹ 1,20,000

2009

Debtor turnover ratio =  $\frac{\text{credit sales}}{\text{average debtor}}$



$$\textcircled{a} \text{ D.T.O.R} = \frac{7,50,000}{87500} = 0.86 \times 10 = \frac{60}{7} = 8.57 \text{ times}$$

$$\text{Debtors collection period} = \frac{365}{\text{D.T.O.R}} = \frac{365}{8.57}$$

$$= \frac{365}{8.57} = 42.59 = 43 \text{ days}$$

for the year 2010.

$$\text{D.T.O.R} = \frac{8,20,000 \times 2}{2,50,000 + 1,20,000} = 8.41 \text{ times.}$$

$$\text{collection period} = \frac{365}{8.41} = 43.4 = 43 \text{ days.}$$

$\textcircled{b}$

Total sales ————— 2,50,000

Sales returns ————— 12,000

Bills receivables ————— 21,000

Provision for doubtful debt ————— 4,800

Cash sales ————— 60,000

Debtors at the end of the year ————— 69,000

Bad debts debts ————— 1,000

Find the debtors turnover ratio & debtors collection period.

Debtors also include Bills receivables.

$\therefore$  If Bills receivable is given in the problem it has to be added in the debtors.

$$\text{Debtors turnover ratio} = \frac{\text{Credit sales}}{\text{Average debtors}}$$

$$\text{Credit sales} = \text{Total sales} - \text{sales returns} - \text{cash sales}$$

$$= 2,50,000 - 12,000 - 60,000$$

$$= 1,78,000 \quad (\text{Bills receivable})$$

$$\text{Average debtors} = \frac{69,000 + 21,000}{2}$$

$$= 90,000$$

$$\textcircled{D} \text{ Debtor-turnover ratio} = \frac{1,78,000}{90,000} = 1.98 \text{ times}$$

$$\text{Debtor collection period} = \frac{365 \text{ days}}{1.98} = 184.5 \text{ days}$$

\* In less no. of days the debtor have to convert into cash more no. of days.

Problems on creditor-turnover ratio.



(f) (i) Ratio of fixed asset to proprietor fund  

$$= \frac{\text{fixed Assets}}{\text{proprietor funds}} \times 100.$$

\* 15/March/2018.

### Profitability Ratio:

X. limited company submitted the following particulars. Calculate overall profitability ratios & coverage ratios.

- ① 50,000 Rs @ each 10% 5,00,000
- ② 20,000 P. @ 11%, each at Rs 10 2,00,000
- ③ 8,000 10%. Debentures of Rs 100 each  $\rightarrow$  8,00,000
- ④ profits for the year  $\rightarrow$  Rs 5,68,000 (Before Interest & tax)
- ⑤ Dividends proposed for equity (P.B.II) @ 20%
- ⑥ Market price of the share is Rs 32

Calculation of profits available of equity shareholders

Particulars	Amt (Rs)
-------------	----------

Profits before Interest & Tax (P.B.I.T)	5,68,000
Less Interest $(3,00,000 \times \frac{10}{100})$	(3,00,000)

Profits before tax (P.B.T)  $\rightarrow$  5,38,000

less: Tax @ 30%.

$$(5,38,000 \times \frac{30}{100})$$

profit after tax (PAT) →

$$₹ 1,61,400$$

$$3,76,600.$$

$$₹ 22,10,000$$

$$3,50,600.$$

less: Dividend to P.C. holder

$$(1,00,000 \times \frac{11}{100})$$

profit for equity share holder, less: Dividend to C.S. holder

$$₹ 1,00,000$$

$$2,50,600.$$

$$(1,00,000 \times \frac{20}{100})$$

profit Balance.

①

Return on Shareholder (R.O.S.)

$$R.O.S. = \frac{\text{profit after tax (PAT)} \times 100}{\text{share holder's fund}}$$

$$= \frac{3,76,000}{2,00,000} \times 100 = 53.8\%$$

share holder fund = equity share capital + preference share capital

+ Reserve - fictitious assets.

②

Return on equity Capital Ratio (R.E.C.)

$$R.E.C. = \frac{\text{profit of C.S. holder} \times 100}{\text{equity share capital}}$$

$$= \frac{2,50,000}{2,00,000} \times 100$$



$$= \frac{9,54,600}{5,00,000} \times 100$$

$$= 40.92\%$$

② Earnings per share (E.P.S)

$$E.P.S = \frac{\text{profit of e. share holder}}{\text{No. of equity shares}} \times 100$$

$$= \frac{954600}{50,000} \times 100$$

$$Rs 7.092$$

③ Dividend per share (D.P.S)

$$D.P.S = \frac{\text{dividend to e.s. holder}}{\text{No. of equity share}}$$

$$= \frac{100,000}{50,000} = Rs 2 \checkmark$$

④ Dividend Rat

$$D.R = \frac{\text{Dividends to e.s holder}}{\text{Equity share capital}} \times 100$$

$$= \frac{1,00,000}{5,00,000} \times 100 = 20\%$$

⑤

Price Earning Ratio (P.E.R)

$$P.E.R = \frac{\text{Market price of the share}}{E.P.S}$$

$$= \frac{32}{4.09} = 4.512$$

Dividend per share (D.P.R).

$$DPR = \frac{\text{Dividends per share}}{\text{Market price / share}} \times 100$$

$$= \frac{2}{32} \times 100 = 6.25$$

Interest coverage Ratio (I.C.R)

$$I.C.R = \frac{\text{P.B.I.T}}{\text{Interest}}$$

$$= \frac{5,68,000}{30,000} = 18.93 \text{ times}$$

Total interest coverage ratio (I.C.R) =  $\frac{\text{P.B.I.T}}{\text{Interest on Debentures + preference share holders dividends}}$

$$= \frac{5,68,000}{30,000 + 22,000}$$

$$= \frac{5,68,000}{52,000} = 10.92 \text{ times}$$

Net profit Ratio:  $\frac{\text{Net profit after taxes (PAT)}}{\text{Sales}} \times 100$

$$= \frac{3,76,600}{\text{Sales}} \times 100$$

Gross profit Ratio =  $\frac{\text{Gross profit}}{\text{Sales}} \times 100$

Operating expenses ratio =  $\frac{\text{Operating expenses}}{\text{Net sales}} \times 100$

Operating expenses include: cost of the goods sold + administrative expenses (salaries, office rent, insurance, director fee, legal expenses, travelling allowances etc) + warehouse selling & distributing expenses.



Particulars	Amount
Profit Before Taxes and Interest	6,68,000
(a) Interest $300,000 \times \frac{10}{100}$	<u>30,000</u>
	5,38,000
Profit after before tax	<u>(-11,61,400)</u>
Tax @ 30 $5,38,000 \times \frac{30}{100}$	<u>1,61,400</u>
Profit after tax	3,76,600
Dividends for P.S	<u>22,000</u>
= $2,00,000 \times \frac{11}{100}$	3,54,600
(a) Profit for equity share holder	3,54,600
Dividends for C.S.	<u>1,00,000</u>
$5,00,000 \times \frac{20}{100}$	<u>2,54,600</u>
(b) Profit Balance	2,54,600