

LIQUIDITY RATIOS

The ratios that are used to test the liquidity position of a firm are called liquidity ratios.

Liquidity refers to the ability of a firm in settling its current liabilities as and when they become due. It is also known as short-term solvency.

- 1) Current Ratio
- 2) Quick Ratio
- 3) Super –quick Ratio

(1) Current Ratio = 2:1

Current ratio establishes relationship between current assets and current liabilities. Current assets are those assets that can be converted into cash say within a year. And, current liabilities are those liabilities that should be settled within a short period say one year.

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

Current Ratio = Current assets: Current liabilities

(Current Ratio of 2: 1 is considered ideal)

Current ratio is also known as working capital ratio as the excess of current assets over current liabilities is called working capital.

Current Assets	Current Liabilities
1) Cash in hand/ Cash at bank	1) Outstanding expenses (accrued expenses)
2) Marketable securities	2) Bills Payable
3) Temporary investments	3) Sundry creditors
4) Bills Receivable	4) Short-term loans and advances
5) Sundry Debtors	5) Income –tax Payable
6) Inventories (Stocks)	6) Dividends Payable
7) Short –term loans and advances	7) Income Received in advance
8) Outstanding incomes /(accrued incomes)	8) Bank overdraft.
9) Prepaid expenses.	

- Bank overdraft should be excluded from current liabilities when it is a permanent or long-term arrangement with the bank.

Illustration: 1

Calculate current ratio from the following:

	Rs.		Rs.
Sundry debtors	1, 00,000	Outstanding salaries	20,000
Bills receivable	80,000	Prepaid expenses	2,000
Stock	50,000	Marketable securities	20,000
Sundry creditors	80,000	Bank Overdraft	30,000
Bills Payable	40,000	Cash in hand and at bank	1, 00,000

Solution:

$$\begin{aligned} \text{Current ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\ &= \frac{3,52,000}{1,70,000} = 2.70 \text{ or } 207\% \text{ or } 2.07:1 \end{aligned}$$

$$\begin{aligned} \text{Current Assets} &= 1, 00,000 + 80,000 + 50,000 + 2,000 + 20,000 + 1, 00,000 \\ &= \text{Rs. } 3, 52,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= 80,000 + 40,000 + 20,000 + 30,000 \\ &= \text{Rs. } 1,70,000 \\ &= 2.07 \text{ or } 207\% \text{ or } 2.07:1 \end{aligned}$$

Interpretation of Current Ratio

As it is stated earlier, no interpretation is possible without analysis and analysis becomes useless without interpretation. Therefore, in ratio analysis, interpretation is of great importance and in interpreting a ratio standard norm or rule of thumb is of great use. In the case of current ratio, the standard norm or rule of thumb is 2:1. It means that let the total amount of current assets be twice of the total amount of current liabilities. When a firm's current ratio is 2 or more it means that its liquidity position is considered to be sound or good.

(2) Quick Ratio = 1:1

- Quick Ratio or Liquid Ratio or Acid Test Ratio

Quick ratio is a more rigorous test of liquidity than the current ratio. Quick ratio establishes relationship between quick assets and current liabilities. Quick assets are those

Alternate way of arriving at quick or liquid ratio:

Some authors are of the opinion that in arriving at quick ratio, the amount of quick assets is to be compared with quick liabilities not with current liabilities. And, as such quick ratio can be found out with the help of the following formula:

$$\text{Quick ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\text{Quick Liabilities} = \text{Current Liabilities} - \text{Bank overdraft}$$

Considering this alternative way, quick ratio as for as illustration 2 is given below:

$$\text{Quick ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\text{Quick Assets} = \text{Rs. } 2,50,000$$

$$\begin{aligned} \text{Quick Liabilities} &= \text{Current liabilities} - \text{Bank overdrafts} \\ &= \text{Rs. } 2,00,000 - \text{Rs. } 40,000 \\ &= \text{Rs. } 1,60,000 \end{aligned}$$

$$\therefore \text{Quick Ratio} = \frac{\text{Rs. } 2,50,000}{\text{Rs. } 1,60,000} = 1.56$$

Note: Bank overdraft is not included in quick liabilities since it is made as a permanent arrangement with the bank in general.

Interpretation of Quick Ratio

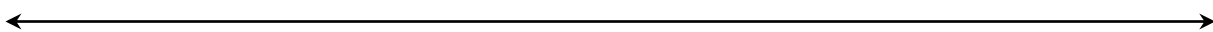
In general, a high liquid ratio (quick ratio) indicates that the firm is so sound as regards its liquidity is concerned whereas a low liquid/quick ratio indicates that the firm's liquidity position is not good.

Ideal Quick Ratio or Standard norm for quick ratio

The ideal quick ratio or the standard norm for quick ratio is 1:1. When a firm's quick ratio is greater than this rule of thumb called 1:1, then the firm's liquidity position is said to be sound or good. However, a quick ratio of 1:1 does not necessarily mean sound liquidity position if all the debtors cannot be realized and when much cash is required to meet the current obligations.

Significance of Quick Ratio

The quick ratio is very much useful in measuring a firm's liquidity position. It measures a firm's ability to pay off current obligations when they become due. As stated earlier, this is a more rigorous test of liquidity than the current ratio as it is used as a complementary ratio to the current ratio.



(3) Super Quick Ratio or Absolute Liquid Ratio = 0.5:1

It is true that debtors, bills receivables are more liquid than stock. Nevertheless, there may be doubts regarding their realization into cash immediately or in time. Hence, some authorities are of the opinion that super quick ratio (Absolute Quick Ratio) should also be calculated along with the earlier two ratios namely current ratio and quick ratio so as to establish relationship between super quick assets and current liabilities.

Super quick ratio establishes the relationship between super quick assets and current liabilities.

Super quick assets are cash in hand, cash at bank and marketable securities or temporary investments. As the name implies, marketable securities or temporary investments or investment in Govt. securities are encashable very quickly. Therefore, Marketable securities are included under super quick assets.

A Super Quick Ratio of 0.5:1 is satisfactory

Illustration: 3

From the given below accounting figures, calculate super quick ratio:

	Rs.		Rs.
Cash in hand	50,000	Sundry creditors	2,80,000
Cash at bank	1,00,000	Bills payable	40,000
Marketable securities	2,00,000	Outstanding expenses	20,000
Sundry debtors	1,20,000	Short term Loan (cr.)	80,000
Bills receivables	80,000	Accrued income	10,000
Stock	1,50,000	Bank overdraft	1,20,000
Prepaid expenses	20,000		

Solution:

$$\text{Super Quick Ratio or Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

$$\begin{aligned} \text{Super Quick Assets} &= \text{Rs. } 50,000 + 1,00,000 + 2,00,000 \\ &= \text{Rs. } 3,50,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= \text{Rs. } 2,80,000 + 40,000 + 20,000 + 80,000 + 1,20,000 \\ &= \text{Rs. } 5,40,000 \end{aligned}$$

$$\begin{aligned} \therefore \text{Super Quick Ratio} &= \frac{3,50,000}{5,40,000} \\ &= 0.65 \text{ or } 65\% \text{ or } .65:1 \end{aligned}$$

Interpretation of Absolute liquid Ratio

The standard norm of absolute liquid ratio is .5:1 or 50%. The point is that when a firm has super quick assets to the tune of 50% of its current liabilities, it is said to be sound as far as its liquidity position is concerned.

Absolute liquid ratio and super quick ratio is also known as cash ratio.

Sl.No	Liquidity Ratios	Formula	Standard Norm
1.	Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	2:1 or 200%
2.	Quick Ratio	$\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$	1:1 or 100%
3.	Super Quick Ratio	$\frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$	0.5:1 or 50%

Illustration:4

The following is the Balance Sheet of New Bharath Limited for the year ending 31st Dec 2009.

Liabilities	Rs.	Assets	Rs.
Equity share capital	5,00,000	Fixed assets	10,00,000
Preference share Capital	1,00,000	Investments	3,00,000
Reserves & Surplus	4,00,000	Current assets :	
Debentures	7,00,000	Cash	50,000
Current liabilities		Debtors	1,50,000
Sundry creditors	60,000	Marketable securities	2,00,000
Bills payable	1,00,000	Stock	3,00,000
O/S expenses	10,000		
Bank overdraft	1,30,000		
	20,00,000		20,00,000

From the above balance sheet, ascertain:

(a) Current ratio (b) Quick ratio (c) Absolute liquid ratio Comment on these ratios.

Solution:

$$(a) \text{ Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{7,00,000}{3,00,000} = 2.33:1$$

	Rs.
Current assets:	
Cash	50,000
Debtors	1,50,000
M. Securities	2,00,000
Stock	3,00,000
	7,00,000

	Rs.
Current liabilities:	
S. Creditors	60,000
Bills Payable	1,00,000
O/S Expenses	10,000
Bank Overdraft	1,30,000
	3,00,000

$$(b) \text{ Quick or Acid Test ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Current Liabilities}} = \frac{4,00,000}{3,00,000} = 1.33 : 1$$

$$\begin{aligned} \text{Quick Assets} &= \text{Current Assets} - \text{Stock} \\ &= 7,00,000 - 3,00,000 = \text{Rs.}4,00,000 \end{aligned}$$

$$(c) \text{ Absolute Liquid ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}} = \frac{2,50,000}{3,00,000} = 0.83 : 1$$

Absolute liquid assets:	Rs.
Cash	50,000
Marketable Securities	2,00,000
	2,50,000

Comments:

Current ratio is satisfactory because the actual CR of 2.33 is higher than the accepted standard current ratio of 2:1. Similarly, the Acid test ratio, 1.33 and Absolute liquid ratio 0.83 are also quite higher than the accepted standards of 1 and 0.5 respectively. In all, the liquidity position of the company is sound.

Illustration: 5

Following information is given to you:

- (i) Current Ratio = 2.5
- (ii) Working Capital = Rs.90,000

Find out: (a) Current Assets, and (b) Current Liabilities

Solution:

(1) Current Assets:

$$\text{Current Ratio} = \frac{\text{Cr. Assets}}{\text{Cr. Liabilities}} = 2.5:1$$

$$\begin{array}{rcccl} \text{Cr Assets} & - & \text{Cr Liabilities} & = & \text{Working Capital} \\ 2.5 & - & 1 & = & 1.5 \end{array}$$

If working capital is 1.5, Cr assets are 2.5

If Working Capital is Rs 90,000, Cr Assets are = $\frac{90,000}{1.5} \times 2.5$

Cr Assets = 2 Rs 1,50,000

(2) Current Liabilities

If working capital is 1.5, Cr liabilities are 1

If working capital is Rs 90,000, Cr Liabilities are = $\frac{90,000}{1.5} \times 1$

Cr Assets = Rs 60,000

Illustration: 6

The Following information of a company is given:

Current Ratio 2.5:1; Acid-test ratio 1.5:1; Current liabilities Rs.50,000. Find out:

- a) Current Assets
- b) Liquid Assets/ quick Assets
- c) Inventory

Solution:

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

$$2.5 = \frac{\text{Current Assets}}{\text{Rs.50,000}}$$

(a) Current Assets = $50,000 \times 2.5 = \text{Rs. 1,25,000}$

$$\text{Acid-test Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

$$1.5 = \frac{\text{Liquid Assets}}{\text{Rs. 50,000}}$$

(b) Liquid Assets = 50,000 × 1.5 = Rs. 75,000

(c) Inventory = Current Assets – Liquid Assets
 = Rs. 1,25,000 – Rs. 75,000
 = Rs. 50,000

Current Assets = Rs. 1,25,000
Liquid Assets = Rs. 75,000
Inventory = Rs. 50,000

Illustration: 7

Given:

Current Ratio = 2.8; Acid-Test Ratio = 1.5; Working Capital = Rs. 1,62,000

Find out:

- a) Current Assets
- b) Current Liabilities
- c) Liquid Assets

Solution:

Let current Liabilities be X.

$$\text{Working Capital} = \text{Current Assets} - \text{Current liabilities}$$

$$\text{Rs. 1,62,000} = 2.8X - 1.0X$$

$$\text{Rs. 1,62,000} = 1.8 X$$

$$\text{Or, X (Current Liabilities)} = \frac{1,62,000}{1.8} = \text{Rs. 90,000}$$

$$\text{Current Assets} = 90,000 \times 2.8 = \text{Rs. 2,52,000}$$

$$\text{Acid-test Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

$$1.5 = \frac{\text{Liquid Assets}}{\text{Rs. } 90,000}$$

$$\text{Liquid Assets} = 90,000 \times 1.5 = \text{Rs. } 1,35,000$$

Current Assets : Rs. 2,52,000
 Current Liabilities : Rs. 90,000
 Liquid Assets : Rs. 1,35,000.

Illustration: 8

Current liability of a company is Rs.3, 00,000. If Current ratio is 3:1 and Quick ratio is 1:1, Calculate value of stock.

Solution :

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

$$3 = \frac{\text{Current Assets}}{\text{Rs. } 3,00,000}$$

$$\text{Current Assets} = \text{Rs. } 9,00,000$$

It is given in the problem that current liability is Rs.3,00,000. Therefore, current assets must be Rs.9,00,000 i.e. 3 times current liabilities as current ratio is 3:1.

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

$$1 = \frac{\text{Liquid Assets}}{3,00,000}$$

$$\text{Liquid Assets} = \text{Rs. } 3,00,000$$

Liquid ratio as given in the problem is 1:1. Therefore, when current liability is Rs.3,00,000, the liquid assets must also be Rs.3,00,000.

$$\begin{aligned} \text{Stock} &= \text{Current Assets} - \text{Liquid Assets} \\ &= 9,00,000 - 3,00,000 \end{aligned}$$

$$\text{Stock} = \text{Rs. } 6,00,000$$

Illustration 9:

The working capital position of ABC Co. Ltd stands as under on 31.12.99.

Current Liabilities	Rs.	Current Assets	Rs.
Sundry Creditors	4,50,000	Cash	1,00,000
Bank Overdraft	2,50,000	Debtors	5,00,000
		Stock	4,50,000
		Bills Receivable	50,000
	7,00,000		11,00,000

- (i) Calculate current ratio and quick ratio from the above information.
- (ii) Calculate the revised current ratio and quick ratio assuming that Bank overdraft of Rs.1,00,000 is discharged during the year.
- (iii) Calculate current ratio and quick ratio when the book-debts were bad to the extent of 20%.

Solution:

$$(1) (a) \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$= \frac{11,00,000}{7,00,000} = 1.57$$

$$(b) \text{ Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

$$= \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities}}$$

$$= \frac{11,00,000 - 4,50,000}{7,00,000} = \frac{6,50,000}{7,00,000} = 0.92$$

$$(2) (a) \text{ Revised Current Ratio} = \frac{11,00,000}{7,00,000 - 1,00,000}$$

$$= \frac{11,00,000}{6,00,000} = 1.83$$

$$(b) \text{ Revised Quick Ratio} = \frac{6,50,000}{6,00,000} = 1.08$$

$$(3) (a) \text{ Current Ratio} = \frac{11,00,000 - 1,00,000}{7,00,000} = 1.42$$

$$(b) \text{ Quick Ratio} = \frac{5,50,000}{7,00,000} = 0.78$$

Working:

Total Current assets		11, 00,000
Less: Stock	4,50,000	
Bad debts @ 20% of 5,00,000	1,00,000	5,50,000
∴ Quick assets		5, 50,000

Illustration: 10

Calculate (i) current Assets,(ii) liquid asset and (iii) current liabilities when the current ratio is 2.5, liquid ratio is 1.5, stock Rs. 67,500 and prepaid expenses Rs.2,500.

Solution:

(a) Current Assets

$$\begin{aligned} \text{Stock \& Prepaid expenses} &= \text{Current assets} - \text{Liquid Assets} \\ &= 2.5 - 1.5 \end{aligned}$$

$$\text{Stock \& Prepaid expenses} = 1$$

$$\text{When stock \& Prepaid expenses (1.0) = Rs. 70,000 (67,500+2,500)}$$

$$\text{Current Assets (2.5)} = ?$$

(b) Liquid Assets $= \frac{2.5}{1} \times 70,000 = \text{Rs.1,75,000}$

$$\text{Liquid Assets} = \text{Current Assets} - \text{Stock \& Prepaid Expenses}$$

$$1,05,000 = 1,75,000 - 70,000$$

(c) Current Liabilities

$$\text{When Current Assets (2.5) = Rs. 1,75,000}$$

$$\text{Current Liabilities} = ?$$

$$= \frac{1.0}{2.5} \times 1,75,000 = 70,000$$

Illustration: 11

The following information of a company is given: Current ratio 2.2; Liquid ratio 1.2; Current liability Rs.75,000 and prepaid expenses – nil.

Find out (a) Current assets (b) Liquid assets and (c) Inventory

Solution:

$$(a) \text{ Current Assets} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{7,00,000}{3,00,000} = 2.33$$

It is given that current liabilities are Rs. 75,000

∴ If Current Liabilities (1.0) = Rs. 75,000

Current Assets (2.2) = ?

$$= \frac{2.2}{1.0} \times 75,000 = \text{Rs. } 1,65,000$$

$$(b) \text{ Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}} = 1.2$$

∴ If Current Liabilities (1.0) = Rs.

Ratio Analysis 3.18

← *Solution:* $\frac{75,000 \text{ Liquid Assets (1.2)}}{1.0} = ?$ →

$$= \frac{1.2}{1.0} \times 75,000 = \text{Rs. } 90,000$$

(c) Inventory

$$\text{Inventory \& Prepaid Expenses} = \text{Current Assets} - \text{Liquid Assets}$$

$$= 1,65,000 - 90,000$$

$$\therefore \text{Inventory} = \text{Rs. } 75,000$$