

## 1. Details of Module and its structure

Module Detail	
Subject Name	Accountancy
Course Name	Accountancy 04 (Class XII, Semester – 2)
Module Name/Title	Accounting Ratios – Part 2
Module Id	leac_20502
Pre-requisites	Basic knowledge of Ratios Analysis
Objectives	At the end of the lesson, the learners will be able to: <ul style="list-style-type: none"><li>• Understand meaning of Liquidity Ratios</li><li>• Define Current Ratio</li><li>• Calculate Current Ratio</li><li>• Define Liquid Ratio</li><li>• Calculate Liquid Ratio</li><li>• Differentiate between Current ratio and Liquid Ratio</li></ul>
Keywords	Liquidity Ratios, Current Ratio, Liquid Ratio

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### **1.1 Introduction**

Ratio analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency, and profitability by studying its financial statements such as the balance sheet and income statement. A ratio must be calculated using numbers which are meaningfully correlated. A ratio calculated by using two unrelated numbers would hardly serve any purpose.

Thus, ratio analysis compares similar data from a company's financial statements to reveal insights regarding profitability, liquidity, operational efficiency, and solvency.

This module will cover the first type of analysis of ratio and i.e. the Liquidity Ratios. They will include Current Ratio and Quick / Liquid Ratio.

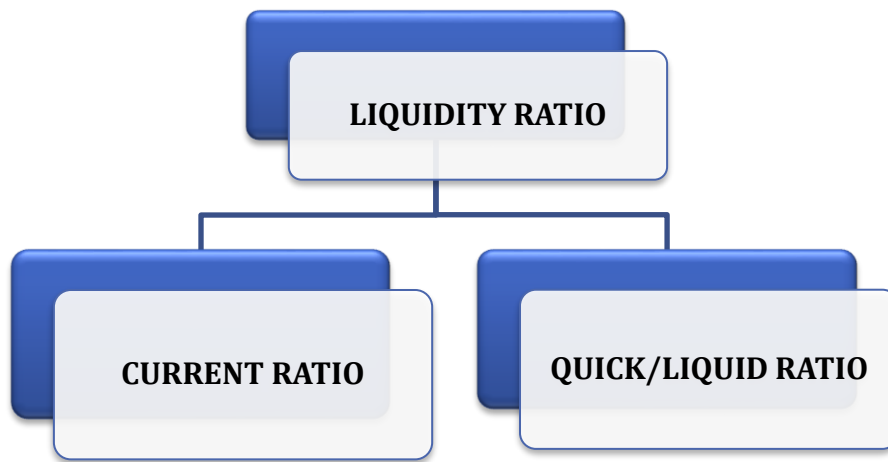
### **2.1 Liquidity Ratios**

‘Liquidity’ is the ability to convert assets into cash quickly and cheaply.

Liquidity ratios are calculated to measure the short-term solvency of the business, i.e. the firm’s ability to meet its current obligations. These are analysed by looking at the amount of current assets and current liabilities in the Balance Sheet.

Thus, liquidity ratios are used to determine a debtor's ability to pay off current debt obligations without raising external capital.

The two ratios included in this category are:



### 2.1.1 Importance of Liquidity Ratios

#### 1. Determine the ability to cover short-term obligations

Liquidity ratios are important to investors and creditors to determine if a company can cover their short-term obligations, and to what degree.

Creditors and investors like to see higher liquidity ratios, such as 2 or 3. The higher the ratio is, the more likely a company is able to pay its short-term bills. A ratio of 1 is better than a ratio of less than 1, but it isn't ideal. A ratio of less than 1 means the company faces a negative working capital and can be experiencing a liquidity crisis.

#### 2. Determine credit worthiness

Creditors analyse liquidity ratios when deciding whether or not they should extend credit to a company. Liquidity ratio helps them to be sure that the company they lend credit to has the ability to pay them back. Any hint of financial instability may disqualify a company from obtaining loans.

#### 3. Determine investment worthiness

Investors, will analyse a company using liquidity ratios to ensure that a company is financially healthy and worthy of their investment. Working capital issues will put restraints on the rest of the business as well. A company needs to be able to pay its short-term bills with some leeway. Low liquidity ratios raise a red flag, but "the higher, the better" is only true to a certain extent. At some point, investors will question why a company's liquidity ratios are so high. Yes, a company with a liquidity ratio of 8.5 will be able to confidently pay its short-term bills, but investors may deem such a ratio excessive. An abnormally high ratio means the company holds a large amount of liquid assets.

For example, if a company's Current ratio was 8.5, investors and analysts may consider that too high. The company holds too much cash on hand, which isn't earning anything more than

the interest the bank offers to hold their cash. It can be argued that the company should allocate the cash amount towards other initiatives and investments that can achieve a higher return. With liquidity ratios, there is a balance between a company being able to safely cover their bills and improper capital allocation. Capital should be allocated in the best way to increase the value of the firm for shareholders.

## 2.1.2 Types of Liquidity Ratios

### 1. Current Ratio

The current ratio is the simplest liquidity ratio to calculate and interpret. It is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. To calculate the ratio, analysts compare a company's current assets to its current liabilities. The current assets and current liabilities line items on a company's balance sheet. Divide current assets by current liabilities, and you will arrive at the current ratio.

Current assets listed on a company's Balance Sheet include:

- Current Investments
- Inventories
- Trade Receivables (debtors and bills receivables)
- Cash and cash equivalents
- Short-term loans and advances and
- Other Current Assets such as prepaid expenses, advance tax and accrued income, etc.

Current liabilities listed on a company's balance sheet include:

- Short-term borrowings
- Trade payables (creditors and bills payables)
- Other current liabilities and
- Short-term provisions.

Current ratio is the proportion of current assets to current liabilities.

It is expressed as follows:

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

### Illustration 1

Calculate Current Ratio from the following information:

Particulars	(Rs.)
Inventories	50,000
Trade receivables	4,000

Cash and cash equivalents	1,00,000
Advance tax	4,000
Trade payables	30,000
Short-term borrowings (bank overdraft)	50,000

**Solution:**

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\begin{aligned} \text{Current Assets} &= \text{Inventories} + \text{Trade receivables} + \text{Advance tax} + \text{Cash and cash equivalents} \\ &= 50,000 + 4,000 + 4,000 + 1,00,000 \\ &= \text{Rs. } 1,58,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= \text{Trade payables} + \text{Short-term borrowings} \\ &= 30,000 + 50,000 \\ &= \text{Rs. } 80,000 \end{aligned}$$

$$\begin{aligned} \text{Current Ratio} &= \frac{1,58,000}{80,000} \\ &= 1.97:1 \end{aligned}$$

Hence, the Current Ratio is 1.97:1 (approx...)

**Illustration 2**

Given Below is the Balance sheet of ABC Co. Calculate the Current Ratio.

Liabilities	Amount	Assets	Amount
Share Capital	50,000	Fixed Asset	1,24,000
Preference Share Capital	30,000	Short Term Capital	10,000
General Reserve	40,000	Debtors	95,000
Debentures	60,000	Stock	50,000
Trade Payable	10,000	Cash and Bank	15,000

Bank Overdraft	20,000	Discount on Share Issue	6,000
Provision for Tax	40,000		
Provision for Depreciation	20,000		
	3,00,000		3,00,000

**Solution:**

<b>Current Ratio =</b>	<b>Current assets</b>
	_____
	<b>Current liabilities</b>

Current Ratio =  $\frac{\text{Rs. 1,70,000}}{\text{Rs. 90,000}}$   
= 1.88 :1

Hence, the current ratio is 1.88:1

**Working Notes:**

Current Assets = Debtors + Stock + Cash + Short term Capital  
= Rs. 1,70,000

Current Liabilities = Trade Payables + Bank Overdraft + Provision for Taxes + Provision for Depreciation  
= Rs. 90,000

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**Illustration 3**

The following data has been extracted from the financial statements of two companies – company A and company B.

	<b>Company A</b>	<b>Company B</b>
<b>Current Assets (In Rs.)</b>		
Cash	50,000	4,000
Accounts Receivable	1,20,000	16,000
Prepaid Expenses	10,000	10,000
Inventory	1,70,000	3,20,000
<b>Total Current Assets</b>	<b>3,50,000</b>	<b>3,50,000</b>

<b>Current Liabilities</b>	175,000	1,75,000
<b>Current Ratio</b>	<b>2:1</b>	<b>2:1</b>

**Both company A and company B have the same current ratio (2:1). Do both the companies have equal ability to pay its short-term obligations?**

**Solution:**

No, Company B is likely to have difficulties in paying its short-term obligations because most of its current assets consist of inventory. Inventory is not quickly convertible into cash. The company A is likely to pay its current obligations as and when they become due because a large portion of its current assets consists of cash and accounts receivables. Accounts receivables are highly liquid and can be quickly converted into cash.

From this analysis, it is clear that the two companies with same current ratio might have different liquidity position. The analyst should, therefore, not only focus on the current ratio figure but also consider the composition of current assets while determining a company's real short-term debt paying ability.

#### **Illustration 4**

The ABC company's Current Ratio is 2.5: 1 for the most recent period. If total current assets of the company are Rs. 75,00,000, what are total current liabilities?

**Solution:**

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\frac{2.5}{1} = \frac{75,00,000}{\text{Current liabilities}}$$

$$2.5 \times \text{Current liabilities} = \text{Rs. } 75,00,000$$

$$\text{Current liabilities} = \text{Rs. } 75,00,000/2.5$$

$$\text{Current liabilities} = \text{Rs. } 30,00,000$$

Hence, Current liabilities are Rs. 30,00,000.

#### **Illustration 5**

**Calculate Current ratio from the following data:**

<b>Working capital</b>	<b>Rs. 15,000</b>
<b>Total Liabilities (other than shareholder's fund)</b>	<b>Rs. 35,000</b>
<b>Long Terms Debts</b>	<b>Rs. 10,000</b>

**Solution:**

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\begin{aligned} \text{Current Ratio} &= \frac{\text{Rs. } 40,000}{\text{Rs. } 25,000} \\ &= 1.6:1 \end{aligned}$$

Hence, the current ratio is 1.6:1.

**Working Notes:**

**For Calculating Current Liabilities:**

$$\begin{aligned} \text{Current Liabilities} &= \text{Total Liabilities (Other than Shareholder's Funds)} - \text{Long Term Debts} \\ &= \text{Rs. } 35,000 - \text{Rs. } 10,000 \\ &= \text{Rs. } 25,000 \end{aligned}$$

**For Calculating Current Assets:**

$$\begin{aligned} \text{Current Assets} &= \text{Working Capital} + \text{Current Liabilities} \\ &= \text{Rs. } 15,000 + \text{Rs. } 25,000 \\ &= \text{Rs. } 40,000 \end{aligned}$$

**Significance and Objective of Calculating the Current Ratio:**

It provides a measure of degree to which current assets cover current liabilities. The excess of current assets over current liabilities provides a measure of safety margin available against uncertainty in realisation of current assets and flow of funds.

The ratio should be reasonable. It should neither be very high or very low. Both the situations have their inherent disadvantages. A very high current ratio implies heavy investment in current assets which is not a good sign as it reflects underutilisation or improper utilisation of resources. A low ratio endangers the business and puts it at risk of facing a situation where it will not be able to pay its short-term debt on time. If this problem persists, it may affect firm's credit worthiness adversely.

Normally, it is safe to have this ratio within the range of 2:1, i.e. current assets should be twice the current liabilities.



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## Limitations of Current Ratio

**(i) Different ratio in different parts of the year**

Some businesses have different trading activities in different seasons. Such businesses may show low current ratio in some months of the year and high in others.

**(ii) Change in inventory valuation method**

To compare the ratio of two companies it is necessary that both the companies use same inventory valuation method.

**(iii) Current ratio is a test of quantity, not quality**

It is not an exact science to test liquidity of a company because the quality of each individual asset is not taken into account while computing this ratio.

**(iv) Possibility of manipulation:**

Current ratio can be easily manipulated by equal increase and/or equal decrease in current assets and current liabilities.

In order to overcome these limitations, current ratio may be used in conjunction with some other ratios like inventory turnover ratio, debtors turnover ratio, average collection period ratio, current cash debt coverage ratio, debt to equity ratio and quick ratio etc. These ratios can test the quality of some individual current assets and together with current ratio provide a better idea of company's solvency. We will study about them in the coming modules.

## **2. Quick or Liquid Ratio**

It is the ratio of quick (or liquid) asset to current liabilities. Quick ratio (also known as "Acid Test Ratio" and "Liquid Ratio") is used to test the ability of a business to pay its short-term debts. It measures the relationship between Liquid Assets and Current Liabilities.

It is expressed as:

$$\text{Quick Ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

The Liquid assets are defined as those assets which are converted into cash in very short period say, a few months. While calculating Liquid assets we exclude the inventories at the end and other current assets such as 'Prepaid Expenses', 'Advance Tax', etc., from the Current Assets.

Liquid assets are equal to Total Current Assets minus Inventories and Prepaid Expenses. Because of exclusion of non-liquid current assets it is considered better than current ratio as a measure of liquidity position of the business.

Since it indicates the company's ability to instantly use its near-cash assets (**assets that can be converted quickly to cash**) to pay down its current liabilities therefore, also known as 'Acid-Test Ratio'.

LIQUID/QUICK ASSETS	CURRENT LIABILITIES
Current Investments	Short Term Borrowings
Trade Receivables (Bills Receivable, Debtors)	Trade Payables
Cash and Cash Equivalent	Short Term Provisions
Short Term Loans and Advances	Short Term Liabilities
Other Current Assets except Prepaid Expenses	

### **Illustration 1**

**Calculate Quick Ratio from the following information:**

Particulars	(Rs.)
Inventories	50,000
Trade receivables	4,000
Cash and cash equivalents	1,00,000
Advance tax	4,000
Trade payables	30,000
Short-term borrowings (bank overdraft)	50,000

**Solution:**

#### **Calculation of Quick Assets -**

$$\begin{aligned}
 \text{Quick Assets} &= \text{Current assets} - (\text{Inventories} + \text{Advance tax}) \\
 &= \text{Rs. } 1,00,000 + \text{Rs. } 50,000 + \text{Rs. } 4,000 + \text{Rs. } 4,000 - (\text{Rs. } 50,000 + \text{Rs. } 4,000) \\
 &= \text{Rs. } 1,04,000
 \end{aligned}$$

#### **Calculation of Current Liabilities -**

$$\begin{aligned}
 \text{Current Liabilities} &= \text{Short-term borrowings (bank overdraft)} + \text{Trade payables} \\
 &= \text{Rs. } 50,000 + \text{Rs. } 30,000 \\
 &= \text{Rs. } 80,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Quick ratio} &= \frac{1,04,000}{80,000} \\
 &= 1.3:1
 \end{aligned}$$

Hence, Quick Ratio is 1.3:1.

## Illustration 2

Calculate Liquid Ratio from the given details.

Current Liabilities	65,000
Current Assets	85,000
Stock	20,000
Advance Tax	5,000
Prepaid Expense	10,000

**Solution:**

$$\text{Quick Ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

$$\begin{aligned}\text{Quick ratio} &= \frac{\text{Rs. } 50,000}{\text{Rs. } 65,000} \\ &= 0.77:1\end{aligned}$$

Hence, Quick Ratio is 0.77:1.

**Working notes:**

**Calculation of Quick Assets -**

$$\begin{aligned}\text{Quick Assets} &= \text{All Current Assets} - (\text{Stock} + \text{Prepaid Expenses} + \text{Advance Tax}) \\ &= \text{Rs. } 85000 - (\text{Rs. } 20000 + \text{Rs. } 5000 + \text{Rs. } 10000) \\ &= \text{Rs. } 50,000\end{aligned}$$

**Calculation of Current Liabilities -**

$$\begin{aligned}\text{Current Liabilities} &= \text{All Current Liabilities} - \text{Bank Overdraft} - \text{Cash Credit} \\ &= 65,000\end{aligned}$$

## Illustration 3

The following are the current assets and current liabilities of PQR Limited:

**Current assets:**

- Cash: Rs.2,400

- Accounts receivable: Rs.12,000
- Inventory: Rs.16,000
- Prepaid expenses: Rs.600

**Current liabilities:**

- Accounts payable: Rs.11,600
- Accrued parables: Rs.1,800
- Notes payable: Rs.600

**Calculate quick ratio of PQR Limited.**

Solution:

	Liquid assets
<b>Quick Ratio =</b>	_____
	Current liabilities

=  $\frac{14,400}{14,000}$

= 1.03: 1

Hence, Quick Ratio is 1.03: 1 (Approx.)

**Working notes:**

**Calculation of Quick Assets -**

Quick Assets = All Current Assets – (Stock + Prepaid Expenses + Advance Tax)  
 =Rs.31,000 – (Rs.16,000 + Rs.600)  
 = Rs.31,000 – Rs.16,600  
 = Rs.14,400

**Calculation of Current Liabilities -**

Current Liabilities = All Current Liabilities – Bank Overdraft – Cash Credit  
 = Rs.11,600 + Rs.1,800 + Rs.600  
 = Rs.14,000

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**Significance and objective of calculating the quick ratio:**

The quick ratio indicates a company's capacity to pay its current liabilities without needing to sell its inventory or get additional financing.

The quick ratio is considered a more reliable test of short-term solvency than current ratio because it shows the ability of the business to pay short term debts immediately.

Inventories and prepaid expenses are excluded from current assets for the purpose of computing quick ratio because inventories may take long period of time to be converted into cash and prepaid expenses cannot be used to pay current liabilities.

The higher the ratio result, the better a company's liquidity and financial health; the lower the ratio, the more likely the company will struggle with paying debts.

The ratio provides a measure of the capacity of the business to meet its short-term obligations without any flaw. Normally, it is advocated to be safe to have a ratio of 1:1 as unnecessarily low ratio will be very risky and a high ratio suggests unnecessarily deployment of resources in otherwise less profitable short-term investments.

### **Limitations of Quick Ratio**

- One of the major cons of the Quick Ratio is that it can't be used to compare various industries and can only be a metric of comparison for similar companies. A quick ratio is a mathematical value that provides no context of the assets and liabilities calculated.
- The ratio excludes inventory from the calculation, which is counterproductive for companies with high inventory. For example, supermarkets have high inventory which is easily valued at a marketable price. In such a situation, if the ratio only depends on cash or cash equivalent, results would lack accuracy.
- It does not take into account any period for payments. It is entirely possible that the accounts receivables eventually become bad debt, which cannot be recovered or that recovery may happen after a long delay. Such a situation would adversely impact the liquidity of a company which is not reflected in the Quick Ratio. The ratio also presumes that accounts receivables are readily available within the decided time period.
- Quick ratio enables the company to make future projections, but it is calculated on past data, which may lead to such projections being misleading.

### **3.1 Difference between Current Ratio and Liquid/Quick Ratio**

Basis	Current Ratio	Liquid/ Quick ratio
Relationship	Establishes relationship between Current Assets and Current Liabilities	Establishes relationship between Liquid Assets and Current Liabilities

<b>Assessment</b>	Considers assets that can be converted to cash within a year	Considers only assets that can be converted to cash in 90 days or less
<b>Ideal Ratio</b>	Ideal Current Ratio 2:1	Ideal Liquid Ratio is 1:1
<b>Measure</b>	Not considered to be better than Liquid Ratio to measure the short term financial position.	Considered better than Current Ratio to measure short term financial position.
<b>Inventory &amp; Prepaid Expenses</b>	It includes Inventory & Prepaid Expenses.	It excludes Inventory & Prepaid Expenses.

## Summary

Liquidity' is the ability to convert assets into cash quickly and cheaply. Liquidity ratios are calculated to measure the short-term solvency of the business, i.e. the firm's ability to meet its current obligations. These are analysed by looking at the amount of current assets and current liabilities in the balance sheet. Thus, liquidity ratios are used to determine a debtor's ability to pay off current debt obligations without raising external capital.

Importance of liquidity ratios are to determine the ability to cover short-term obligations, to determine credit worthiness, to determine investment worthiness. The two types of Liquidity Ratios are Current Ratio and Quick or Liquid Ratio

**Current Ratio** is the simplest liquidity ratio to calculate and interpret. It is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. To calculate the ratio, analysts compare a company's current assets to its current liabilities. The current assets and current liabilities line items on a company's balance sheet. Divide current assets by current liabilities, and you will arrive at the current ratio.

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

**Quick Ratio** is the ratio of quick (or liquid) asset to current liabilities. Quick ratio (also known as "acid test ratio" and "liquid ratio") is used to test the ability of a business to pay its short-term debts. It measures the relationship between liquid assets and current liabilities.

It is expressed as:

$$\text{Quick Ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$