

Liquidity and Solvency Ratio

1. Liquidity Ratios

**Liquidity Ratios** measure a business's ability to pay off its short-term obligations—those that are due within a year. Essentially, they help assess how easily a company can convert its assets into cash to meet its immediate liabilities. Here are the main liquidity ratios:

a) Current Ratio

- **Formula:** Current Assets / Current Liabilities
- **Explanation:** This ratio shows how many times a company's current assets (like cash, inventory, and receivables) can cover its current liabilities (like short-term loans, accounts payable, etc.). A higher current ratio indicates that the company has more than enough resources to cover its short-term debts, which is a sign of good liquidity. However, too high a ratio might indicate inefficiency in using assets.

b) Quick Ratio (Acid-Test Ratio)

- **Formula:** (Current Assets - Inventory - Prepaid Expenses) / Current Liabilities
- **Explanation:** The quick ratio is a more stringent measure of liquidity than the current ratio. It excludes inventory from current assets because inventory is not always easily converted to cash. This ratio gives a better indication of the company's ability to meet its short-term obligations without relying on the sale of inventory. A quick ratio of 1 or higher is generally considered good.

c) Cash Ratio

- **Formula:** (Cash + Cash Equivalents) / Current Liabilities
- **Explanation:** The cash ratio is the most conservative liquidity ratio. It measures the extent to which a company can pay off its current liabilities with just its cash and cash equivalents (like marketable securities). While it's important to have some cash on hand, too high a cash ratio might suggest that the company is not investing its cash effectively.

2. Solvency Ratios

**Solvency Ratios** measure a company's ability to meet its long-term obligations and ensure its long-term survival. These ratios assess the company's financial leverage and its ability to cover long-term debts and related obligations. Here are the key solvency ratios:

 **CBSE**  
 **ICSE**  
 **NTSE**  
 **Banking & Insurance**  
 **Central Govt. Service**  
 **State Govt. Services**  
 **LAW Entrance**  
 **MBA Entrance**  
 **Railways & Metro Services**  
 ...many more  
**abhyasonline.in**

Course  
&  
Test Series

Advance Accounting - Module 18



CBSE



ICSE



NTSE



Banking &  
Insurance



Central Govt.  
Service



State Govt.  
Services



LAW  
Entrance



MBA  
Entrance



Railways & Metro  
Services

...many more

abhyasonline.in

a) Debt-to-Equity Ratio

- **Formula:** Total Debt / Total Equity
- **Explanation:** This ratio compares a company's total debt to its total equity, showing how much of the company is financed by debt versus shareholders' equity. A higher ratio indicates that a company is more heavily financed by debt, which could be risky if the company's earnings are unstable. Conversely, a lower ratio suggests a more conservative capital structure.

b) Debt Ratio

- **Formula:** Total Debt / Total Assets
- **Explanation:** The debt ratio measures the proportion of a company's assets that are financed by debt. A higher ratio indicates greater financial leverage and, therefore, greater financial risk. This ratio helps stakeholders understand how much of the company's assets are tied up in debt, which could affect its ability to borrow more in the future.

c) Interest Coverage Ratio

- **Formula:** Earnings Before Interest and Taxes (EBIT) / Interest Expense
- **Explanation:** The interest coverage ratio indicates how easily a company can pay interest on its outstanding debt. A higher ratio means that the company earns significantly more than it needs to cover its interest expenses, indicating strong financial health. A lower ratio, especially below 1.5, suggests that the company might struggle to meet its interest obligations, which could lead to solvency issues.

d) Equity Ratio

- **Formula:** Total Equity / Total Assets
- **Explanation:** The equity ratio shows the proportion of a company's assets that are financed by shareholders' equity. A higher equity ratio indicates that the company relies more on equity than debt to finance its assets, which generally means lower financial risk.

Key Differences Between Liquidity and Solvency Ratios:

- **Time Frame:**
  - **Liquidity Ratios:** Focus on short-term financial health.
  - **Solvency Ratios:** Focus on long-term financial health.
- **Focus:**
  - **Liquidity Ratios:** Measure the ability to meet short-term obligations.



Course  
&  
Test Series

Advance Accounting - Module 18



CBSE



ICSE



NTSE



Banking &  
Insurance



Central Govt.  
Service



State Govt.  
Services



LAW  
Entrance



MBA  
Entrance



Railways & Metro  
Services

...many more

abhyasonline.in

○ **Solvency Ratios:** Measure the ability to meet long-term obligations and overall financial stability.

• **Importance:**

○ **Liquidity Ratios:** Crucial for day-to-day operations and for stakeholders like suppliers and short-term lenders.

○ **Solvency Ratios:** Crucial for understanding the long-term viability of the business and for long-term lenders and investors.

Summary

In summary, liquidity ratios help in understanding how well a company can handle its short-term financial obligations, while solvency ratios give a picture of the company's long-term financial stability and ability to continue operations in the future. Both types of ratios are essential for different stakeholders to assess the financial health of a business.

Solved Question on Liquidity Ratio

**Question:** ABC Company has the following financial information as of December 31, 2023:

• **Current Assets:**

- Cash: Rs 50,000
- Accounts Receivable: Rs 1,00,000
- Inventory: Rs 2,00,000
- Prepaid Expenses: Rs 20,000

• **Current Liabilities:**

- Accounts Payable: Rs 1,50,000
- Short-term Loans: Rs 50,000
- Accrued Expenses: Rs 20,000

Calculate the following liquidity ratios for ABC Company:

1. Current Ratio
2. Quick Ratio
3. Cash Ratio

**Solutions:**

1. Current Ratio:

**Formula:**



**Course  
&  
Test Series**

**Advance Accounting - Module 18**

-  **CBSE**
-  **ICSE**
-  **NTSE**
-  **Banking & Insurance**
-  **Central Govt. Service**
-  **State Govt. Services**
-  **LAW Entrance**
-  **MBA Entrance**
-  **Railways & Metro Services**
- ...many more**
- abhyasonline.in**

Current Ratio = Current Assets / Current Liabilities

**Calculation:**

Current Assets = Cash + Accounts Receivable + Inventory + Prepaid Expenses

Current Assets = 50,000 + 1,00,000 + 2,00,000 + 20,000 = Rs3,70,000

Current Liabilities = Accounts Payable + Short-term Loans + Accrued Expenses

Current Liabilities = 1,50,000 + 50,000 + 20,000 = Rs2,20,000

Current Ratio = 3,70,000 / 2,20,000 ≈ 1.68

**Interpretation:** A current ratio of 1.68 means that ABC Company has Rs 1.68 in current assets for every Rs 1.00 of current liabilities, indicating a reasonable level of liquidity.

**2. Quick Ratio:**

**Formula:**

Quick Ratio = (Current Assets - Inventory - Prepaid Expenses) / Current liabilities

**Calculation:**

Quick Assets = Current Assets - Inventory - Prepaid Expenses

Quick Assets = 3,70,000 - 2,00,000 - 20,000 = Rs1,50,000

Quick Ratio = 1,50,000 / 2,20,000 ≈ 0.68

**Interpretation:** A quick ratio of 0.68 means that ABC Company has Rs 0.68 in liquid assets (excluding inventory and prepaid expenses) for every Rs 1.00 of current liabilities, indicating a lower level of liquidity when inventory is excluded.

**3. Cash Ratio:**

**Formula:**

Cash Ratio = Cash and Cash Equivalents / Current Liabilities

**Calculation:**

**Course  
&  
Test Series**

**Advance Accounting - Module 18**

Cash Ratio =  $50,000 / 2,20,000 \approx 0.23$

**Interpretation:** A cash ratio of 0.23 means that ABC Company has Rs 0.23 in cash and cash equivalents for every Rs 1.00 of current liabilities, indicating limited liquidity if only cash is considered.

**Summary:**

- **Current Ratio:** 1.68 (Indicates decent liquidity)
- **Quick Ratio:** 0.68 (Lower liquidity when excluding inventory)
- **Cash Ratio:** 0.23 (Limited liquidity if relying only on cash)

These ratios help evaluate the short-term financial health and ability of ABC Company to meet its immediate obligations.

**Assignment on Solvency Ratio**

Ques 1: Calculate current ratio from the following: (Answer = 2.07)

|                  | 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 |

Ques 2: From the following figures, calculate quick ratio: (Answer = 1.25)

|                          |          |
|--------------------------|----------|
| Short-term investments   | 50,000   |
| Sundry Debtors           | 80,000   |
| Stock                    | 1,00,000 |
| Bills Receivable         | 60,000   |
| Sundry Creditors         | 50,000   |
| Bills Payable            | 30,000   |
| Bank overdraft           | 40,000   |
| Prepaid expenses         | 10,000   |
| Outstanding expenses     | 10,000   |
| Cash in hand and at bank | 60,000   |
| Short-term loan (cr.)    | 70,000   |

 **Banking & Insurance**

 **Central Govt. Service**

 **State Govt. Services**

 **LAW Entrance**

 **MBA Entrance**

 **Railways & Metro Services**

**...many more**

**abhyasonline.in**

**Course  
&  
Test Series**

**Advance Accounting - Module 18**

Ques 3: Calculate the different liquidity ratios from the following particulars

| Particulars      | Amount  |
|------------------|---------|
| Inventory        | 150,000 |
| Cash             | 50,000  |
| Sundry Debtors   | 300,000 |
| Creditors        | 350,000 |
| Bills Receivable | 30,000  |
| Bank Overdraft   | 30,000  |

Ques 4: 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.

Ques 5: XYZ Ltd. has the following financial information as of March 31, 2024:

- **Current Assets:**
  - Cash: Rs 1,20,000
  - Accounts Receivable: Rs 2,50,000
  - Inventory: Rs 3,00,000
  - Prepaid Expenses: Rs 50,000
- **Current Liabilities:**
  - Accounts Payable: Rs 3,50,000
  - Short-term Loans: Rs 1,00,000

**abhyasonline.in**

...many more

**Railways & Metro Services**

**MBA Entrance**

**LAW Entrance**

**State Govt. Services**

**Central Govt. Service**

**Banking & Insurance**

**NTSE**

**ICSE**

**CBSE**

Course  
&  
Test Series

Advance Accounting - Module 18

o Accrued Expenses: Rs 60,000

Calculate the following ratios for XYZ Ltd.:

1. Current Ratio (Ans = 1.41)
2. Quick Ratio (Ans = 0.73)
3. Cash Ratio (Ans = 0.24)



CBSE



ICSE



NTSE



Banking &  
Insurance



Central Govt.  
Service



State Govt.  
Services



LAW  
Entrance



MBA  
Entrance



Railways & Metro  
Services

...many more

abhyasonline.in

### Solved Question on Solvency Ratio

Ques : ABC Ltd. provides the following financial information as of March 31, 2024:

- Long-term Debt: Rs 5,00,000
- Equity Capital: Rs 7,00,000
- Reserves and Surplus: Rs 3,00,000
- Total Assets: Rs 20,00,000
- Current Liabilities: Rs 2,00,000
- EBIT (Earnings Before Interest and Taxes): Rs 2,50,000
- Interest Expense: Rs 50,000

Requirements: Calculate the following solvency ratios:

1. Debt to Equity Ratio
2. Total Assets to Debt Ratio
3. Interest Coverage Ratio

Solution:

1. Debt to Equity Ratio:

This ratio measures the relationship between the company's long-term debt and shareholders' equity. It is calculated as:

Debt to Equity Ratio = Long-term Debt / (Equity Capital + Reserves and Surplus)

Debt to Equity Ratio =  $5,00,000 / (7,00,000 + 3,00,000) = 0.5$

Debt to Equity Ratio = 0.5



**Course  
&  
Test Series**

**Advance Accounting - Module 18**

 **CBSE**

 **ICSE**

 **NTSE**

 **Banking & Insurance**

 **Central Govt. Service**

 **State Govt. Services**

 **LAW Entrance**

 **MBA Entrance**

 **Railways & Metro Services**

**...many more**

**abhyasonline.in**

**2. Total Assets to Debt Ratio:**

This ratio indicates the proportion of total assets financed by long-term debt. It is calculated as:

$$\text{Total Assets to Debt Ratio} = \text{Total Assets} / \text{Long-term Debt}$$

$$\text{Total Assets to Debt Ratio} = 20,00,000 / 5,00,000 = 4$$

$$\text{Total Assets to Debt Ratio} = 4$$

**3. Interest Coverage Ratio:**

This ratio measures the company's ability to pay interest on its outstanding debt. It is calculated as:

$$\text{Interest Coverage Ratio} = \text{EBIT} / \text{Interest Expense}$$

$$\text{Interest Coverage Ratio} = 2,50,000 / 50,000 = 5$$

$$\text{Interest Coverage Ratio} = 5$$

**Summary:**

1. Debt to Equity Ratio = 0.5

2. Total Assets to Debt Ratio = 4

3. Interest Coverage Ratio = 5

**Assignment**

Ques 1: From the following balance sheet of XYZ Ltd. as on 31st December 2023, calculate the Debt-Equity Ratio.

| Balance Sheet of XYZ Ltd. as on 31st December 2023 |              |                           |              |
|----------------------------------------------------|--------------|---------------------------|--------------|
| Liabilities                                        | Amount (Rs.) | Assets                    | Amount (Rs.) |
| Shareholders' Funds                                |              | Non-Current Assets        |              |
| Equity Share Capital                               | 10,00,000    | Fixed Assets              | 18,00,000    |
| Reserves and Surplus                               | 4,00,000     | Investments               | 4,00,000     |
| Non-Current Liabilities                            |              | Current Assets            |              |
| Long-term Borrowings                               | 8,00,000     | Inventories               | 6,00,000     |
| Current Liabilities                                |              | Trade Receivables         | 3,00,000     |
| Trade Payables                                     | 2,00,000     | Cash and Cash Equivalents | 1,00,000     |
| Short-term Borrowings                              | 1,00,000     |                           |              |
| Total Liabilities                                  | 25,00,000    | Total Assets              | 25,00,000    |

**Course  
&  
Test Series**

**Advance Accounting - Module 18**

Ques 2: From the following balance sheet of ABC Ltd. as on 31st March 2023, calculate the **Debt to Total Assets Ratio**.

| Liabilities              | Amount (Rs.)     | Assets                    | Amount (Rs.)     |
|--------------------------|------------------|---------------------------|------------------|
| Shareholders' Funds      |                  | Non-Current Assets        |                  |
| Equity Share Capital     | 12,00,000        | Fixed Assets              | 22,00,000        |
| Reserves and Surplus     | 5,00,000         | Investments               | 5,00,000         |
| Non-Current Liabilities  |                  | Current Assets            |                  |
| Long-term Borrowings     | 9,00,000         | Inventories               | 7,00,000         |
| Current Liabilities      |                  | Trade Receivables         | 3,50,000         |
| Trade Payables           | 3,00,000         | Cash and Cash Equivalents | 2,50,000         |
| Short-term Borrowings    | 1,50,000         |                           |                  |
| <b>Total Liabilities</b> | <b>30,50,000</b> | <b>Total Assets</b>       | <b>30,50,000</b> |

Ques 3: From the following information, calculate Debt Equity Ratio and Total Assets to Debt Ratio

| Particulars                       | Note No. | Rs.             |
|-----------------------------------|----------|-----------------|
| <b>I. Equity and Liabilities:</b> |          |                 |
| 1. Shareholders' funds            |          |                 |
| a) Share capital                  |          | 4,00,000        |
| b) Reserves and surplus           |          | 1,00,000        |
| 2. Non-current Liabilities        |          |                 |
| Long-term borrowings              |          | 1,50,000        |
| 3. Current Liabilities            |          | 50,000          |
|                                   |          | <b>7,00,000</b> |
| <b>II. Assets</b>                 |          |                 |
| 1. Non-current Assets             |          |                 |
| a) Fixed assets                   |          | 4,00,000        |
| b) Non-current investments        |          | 1,00,000        |
| 2. Current Assets                 |          | 2,00,000        |
|                                   |          | <b>7,00,000</b> |

...many more  
**abhyasonline.in**

**Course  
&  
Test Series**

**Advance Accounting - Module 18**

 **CBSE**

 **ICSE**

 **NTSE**

 **Banking &  
Insurance**

 **Central Govt.  
Service**

 **State Govt.  
Services**

 **LAW  
Entrance**

 **MBA  
Entrance**

 **Railways & Metro  
Services**

**...many more**

**abhyasonline.in**

Ques 4: Using the balance sheet of ABC Ltd. as on 31st March 2023, calculate the following solvency ratios:

**Balance Sheet of ABC Ltd. as on 31st March 2023**

| Liabilities                    | Amount (Rs.)     | Assets                    | Amount (Rs.)     |
|--------------------------------|------------------|---------------------------|------------------|
| <b>Shareholders' Funds</b>     |                  | <b>Non-Current Assets</b> |                  |
| Equity Share Capital           | 25,00,000        | Fixed Assets              | 45,00,000        |
| Reserves and Surplus           | 15,00,000        | Investments               | 5,00,000         |
| <b>Non-Current Liabilities</b> |                  | <b>Current Assets</b>     |                  |
| Long-term Borrowings           | 20,00,000        | Inventories               | 10,00,000        |
| <b>Current Liabilities</b>     |                  | Trade Receivables         | 8,00,000         |
| Trade Payables                 | 6,00,000         | Cash and Cash Equivalents | 6,00,000         |
| Short-term Borrowings          | 4,00,000         |                           |                  |
| <b>Total Liabilities</b>       | <b>70,00,000</b> | <b>Total Assets</b>       | <b>70,00,000</b> |

**Additional Information:**

- Earnings Before Interest and Tax (EBIT) for the year: Rs. 9,00,000
- Interest Expense for the year: Rs. 3,00,000

- a) Debt-to-Equity Ratio (Ans = 0.6)  
 b) Debt Ratio (Ans = 0.349)  
 c) Interest Coverage Ratio (Ans = 3)  
 d) Equity Ratio (Ans = 0.57)