ACCOUNTING RATIOS | MCQs | SOLVENCY RATIOS

BY- ANUJ JINDAL
Debt Equity Ratio = Debt/Equity
Or
Debt Equity Ratio = Long term Debts/Shareholders funds or Net worth

Long term debt includes long term borrowings and long term provisions

Shareholder’s funds = Share Capital + Reserves and Surplus
= Equity Share capital + Preference Share capital + Capital Reserve + Securities Premium + General Reserve + Balance in Statement of Profit & Loss
OR
Shareholder’s funds = Non-current assets + Net Working Capital - Non-current Liabilities
FORMULAS ON SOLVENCY RATIOS

Total Assets to Debt Ratio = \frac{\text{Total Assets}}{\text{Long Term Debt}}

Total Assets = \text{Non-Current Assets (Tangible Assets + Intangible Assets + Non-Current Investments + Long Term Loans & Advances) + Current Assets}

Debt = \text{Long Term Borrowings + Long Term Provisions}

<table>
<thead>
<tr>
<th>Higher Ratio</th>
<th>Use of lower debts in financing the assets which means a larger safety margin for lenders.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Ratio</td>
<td>Risky financial position as it means use of higher debts in financing assets of the business.</td>
</tr>
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</table>
**FORMULAS ON SOLVENCY RATIOS**

Proprietary Ratio  = Equity/ Total Assets

Or

Proprietary Ratio  = Shareholder’s Funds/ Total Assets

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Implication</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>Sound Financial Position</td>
<td>Large proportion of total assets is provided by equity and thus, the firm is less dependent on external sources of finance.</td>
</tr>
<tr>
<td>Lower</td>
<td>Danger- Signal for Long term lenders</td>
<td>Long term lenders feel less secured and face risk of losing their money.</td>
</tr>
</tbody>
</table>
Interest Coverage Ratio = \frac{(Profit \ before \ charging \ Interest \ and \ Income \ Tax)}{Fixed \ Interest \ Charges}

This ratio indicates how many times the interest charges are covered by the profits available to pay interest charges.

- **PBIT > Fixed Interest Charges**: Lender is secure with respect to payment of interest regularly.
- **PBIT = Fixed Interest Charges**: Nothing is left for shareholders.
- **PBIT < Fixed Interest Charges**: Risky position as not able to meet its fixed obligations.
Debt Service Coverage Ratio = Operating income (EBIT) / Total debt service costs

It measures a company's ability to service its current debts by comparing its net operating income with its total debt service obligations.
Q. Which of the following ratios compares investors’ and creditors’ stake in a company?

[a] Debt ratio  
[b] Debt to equity ratio  
[c] Equity ratio  
[d] None of the above
[b] Debt to equity ratio
Q. When debt equity ratio of a company is 2:1. Which of the following transactions would not change the ratio?

[a] Sale of land (Book value Rs.4,00,000) for Rs.5,00,000
[b] Issue of equity shares for the purchase of plant & machinery worth Rs.10,00,000
[c] Issue of preference shares for redemption of 13% debentures worth Rs.10,00,000
[d] None of the above
[d] None of the above
Q. Calculate Debt-Equity ratio from the following information:
Equity share capital Rs.9,00,000; General Reserve Rs.100,000; Statement of Profit and Loss Balance after Tax and Interest Rs.3,00,000; 12% Debentures Rs.400,000; Trade Payables Rs.3,00,000; Land & Building Rs.13,00,000; Furniture Rs.3,00,000; Trade Receivables Rs.290,000; Cash Rs.110,000.

Revenue from operations for the year ended 31.3.2016 was Rs.3,00,000 and Tax paid 50%.

[a] 0.39:1
[b] 0.41:1
[c] 0.31:1
[d] 0.45:1
Long term debt = 12% debentures = 400000
Shareholder’s funds = eq share capital + general reserve + P & L balance = 1300000
Q. Which of the following provides information critical to the long-run operation of the firm?

[a] Liquidity  
[b] Activity  
[c] Solvency  
[d] Profitability
[c] Solvency
From the following information, calculate interest coverage ratio:

Net Profit after Interest and Tax: 120,000
Rate of Income Tax: 50%
15% Debentures: 1,00,000
12% Mortgage loan: 1,00,000

[a] 9.5 times  
[b] 8.9 times  
[c] 9.8 times  
[d] 8.7 times
PRACTICE QUESTIONS ON SOLVENCY RATIOS

*[c] 9.8 times

PBIT = 120,000 + 120,000 + 27000
Interest charge = 27000
Calculate Debt-equity ratio from the following information:

Net sales = 30,000
Cost of sales = 20,000
Net profit = 3000
Current assets = 6000
Current liabilities = 2000
Paid up share capital = 5000
Debentures = 2500

[a] 5:11
[b] 4:7
[c] 7:9
[d] 5:16
PRACTICE QUESTIONS ON SOLVENCY RATIOS

* [d] 5:16
Long term debt = 2500
Shareholder’s funds = paid up share capital + net profits = 8000
### PRACTICE QUESTIONS ON SOLVENCY RATIOS

#### Calculate Total Assets to Debt Ratio from the following:

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land &amp; Building</td>
<td>15,00,000</td>
</tr>
<tr>
<td>Plant &amp; Machinery</td>
<td>6,00,000</td>
</tr>
<tr>
<td>Intangible Assets</td>
<td>1,00,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>5,50,000</td>
</tr>
<tr>
<td>Trade Receivables</td>
<td>1,70,000</td>
</tr>
<tr>
<td>Trade Payables</td>
<td>1,20,000</td>
</tr>
<tr>
<td>Long Term Borrowings</td>
<td>12,00,000</td>
</tr>
</tbody>
</table>

a. 2.43:1  
b. 2.21:1  
c. 2.29:1  
d. 2.08:1
Total Assets = Land & Building + Plant & Machinery + Intangible Assets + Inventory + Trade Receivables = 29,20,000

Long Term Debt = 12,00,000

Total Assets to Debt Ratio = Total Assets/Long Term Debt

= 29,20,000/12,00,000

= 2.43:1
Calculate Proprietary Ratio from the following

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt</td>
<td>30,00,000</td>
</tr>
<tr>
<td>Shareholder’s funds</td>
<td>12,00,000</td>
</tr>
<tr>
<td>Reserves and Surplus</td>
<td>8,00,000</td>
</tr>
<tr>
<td>Current Assets</td>
<td>15,00,000</td>
</tr>
<tr>
<td>Working Capital</td>
<td>9,00,000</td>
</tr>
</tbody>
</table>

a. 0.285:1
b. 0.4:1
c. 0.24:1
d. 0.47:1
Proprietary Ratio = Equity/ Total Assets
Current Liabilities = Current Assets – Working Capital = 6,00,000
Long term Debts = Total Debt – Current Liabilities = 24,00,000
Total assets = Total debt + Shareholder’s funds = 42,00,000
Proprietary Ratio = Shareholder’s funds/ Total assets = 12,00,000/42,00,000 = 0.285:1

*Reserves and surplus are already included in Shareholder’s funds
From the following information, calculate Interest Coverage Ratio:

Net Profit after Tax = Rs.1,20,000
12% Long term Debt = Rs.20,00,000
Tax Rate = 40%

a. 1.833
b. 2.25
c. 1.25
d. 3.055
Net profit before tax = 120,000 × 100/60 = 2,00,000
Interest @12% on long term debt = 2,40,000
Profit before interest and tax = Rs.4,40,000
Interest Coverage Ratio = 4,40,000/2,40,000 = 1.833 times
PRACTICE QUESTIONS ON SOLVENCY RATIOS

PBIT: Rs. 2,00,000
Interest payment: Rs. 10,000
Principal Amount: Rs. 1,00,000
Dividend to be paid: Rs. 50,000

Find out DEBT SERVICE COVERAGE RATIO:

a. 2 times
b. 1.81 times
c. 1.25 times
d. 20 times
Debt Service Coverage Ratio = Operating income (EBIT) / Total debt service cost
= 2,00,000 / 1,10,000
= 1.81 times