CHAPTER-6
ANALYSIS AND EVALUATION OF CAPITAL STRUCTURE

6.1 INTRODUCTION
6.2 FINANCIAL STRUCTURE
6.3 CONCEPT OF CAPITAL STRUCTURE
6.4 MEANING OF CAPITAL STRUCTURE
6.5 ASSETS STRUCTURE AND CAPITAL STRUCTURE
6.6 CAPITAL STRUCTURE ANALYSIS
   6.6.1 TOTAL DEBT EQUITY RATIO
   6.6.2 FINANCIAL LEVERAGE RATIO
   6.6.3 NET FIXED ASSETS TO NET-WORTH RATIO
   6.6.4 PROPRIETARY RATIO
   6.6.5 TOTAL ASSETS TO DEBT RATIO
   6.6.6 INTEREST COVERAGE RATIO
6.7 CONCLUSION
6.8 REFERENCES
6.1 **INTRODUCTION:**

This chapter covers concept of Capital structure – Analysis of Assets and Capital structure – Analysis of Long Term and Short Term Funds – Analysis of Various Capital Structure ratios. In the preceding chapter we have already explain that funds required by a business enterprise can be raised either through the ownership security. The concept of financial structure and capital structure are also explained.

6.2 **FINANCIAL STRUCTURE:**

According to John and Mayor “financial structure” of a business as consisting three elements assets, liabilities and capital The financial structure provides an insight into the various types of sources tapped to finance the total assets employed in a business enterprise that part of financial which represents long-term sources is known as “capital structure.”

This term refers to make up of long –term funds as represented by the equity share capital, preference share capital and long-term debt. To circumscribe the real area of the term “Capital Structure,” it may be necessary to distinguish it from term “assets structure,” the assets structure refers to make-up of total assets as represented by fixed assets and current assets. Since the balance sheet is a detailed form of fundamental or structure equation. It sets forth the financial structure of an enterprise. It states the nature and amount of each of the various assets of the liabilities and of the property interest of the owner. Stating the nature of the assets, liabilities and capital is not difficult as their amount.

Undoubtedly, there should be a uniform capital structure, which suits the requirements of all companies. In other words, the capital structure has to be tailored in
such a way so as to suit the needs of a particular company. Thus a model capital structure is possible only for such a Group of Companies, which has similar characteristics.

6.3 **CONCEPT OF CAPITAL STRUCTURE:**

The use of the source of funds with fixed cost, such as debt and preference share capital along with the owner’s equity capital in the capital structure is described as financial leverage or trading on equity. The also use of the term trained on equity is derived from the fact that it is the owner’s funds equity which is used as basis to raised debt that is the equity that traded upon.

6.4 **MEANING OF CAPITAL STRUCTURE:**

According to Gerstaendberg, “capital structure refers the make upon firm’s capitalism” in other words Capital structure refers to the composition of long term funds such as denture, long borrowings, preference share, equity share in the capitalization of a company. The essence of capital structure decision is to determine the relative proposition of equity and debt. Equity here in broader sense means owner’s funds which can be raised by issue of equity shares and preference share and by retained earnings. Debts can be raised by issuing debenture or bonds by taking long term borrowings. The capital structure decisions a significant financial decision because it affects the shareholder’s return and risk and consequently the market value of share.

6.5 **ASSETS STRUCTURE AND CAPITAL STRUCTURE:**

- **ASSETS STRUCTURE:**

  The term “assets structure” refers to the right hand side of the balance sheet. It represented by total capital employed in the business. It covers various fixed and current assets with which the firm is carrying on its business activity. In other words, it refers to makeup the total assets represented by fixed and current assets.

  Assets structure has great importance in the manufacturing and basic industries like automobile industry because these industries require large investment in fixed assets, land, buildings and machinery and relatively less receivable and inventories.
CAPITAL STRUCTURE:

The capital structure is used to represent the proportionate relationship between the various long-term forms of financing, such as debentures, long-term debt, Preference capital and equity capital reserve and surplus. The term capital structure is frequently used to indicate the long-term sources of funds employed in a business enterprise. In other words, it can be said that it represents permanent financing of the concern. This is usually measured by subtracting current liabilities from total assets. Thus, capital structure, general reserve, preference share and long-term debts.

6.6 CAPITAL STRUCTURE ANALYSIS:

Structural ratios are based on the allocation of debt and equity in the financing pattern of firm’s assets. Capital structure of the borrower has strong implications

- Total debt equity ratio
- Financial leverage Ratio
- Net Fixed Assets to Net-Worth Ratio
- Proprietary Ratio
- Total assets to debt Ratio
- Interest coverage ratio
6.6.1 **TOTAL DEBT EQUITY RATIO:**

- **Meaning:**
  This Ratio establishes a relationship between Total debts and shareholders’ Funds.

- **Objective:**
  The objective of computing this ratio is to measure the relative proportion of debt and equity in financing the assets of a firm.

- **Components:**
  1. Total debt: it refers to take all types of debt (long and short term debt)
  2. Shareholders’ fund which means equity share, preference share, reserve etc.

- **Computation and interpretations:**
  This ratio is computed by dividing the current assets and current liabilities. This ratio is usually express as a pure ratio e.g. 2:1. In the form of a formula, this ratio may be express as follows:

\[
\text{Total Debt Equity Ratio} = \frac{\text{Total debt}}{\text{shareholders’ Fund}}
\]

  This ratio indicates the margin of safety to long term creditors. A long term debt equity ratio implies the use of more equity than debt which means a larger safety margin for creditors since owner’s equity is treated as a margin of safety by creditors and vice versa. Traditionally, a debt equity ratio of 2:1 is considered to be satisfactory which means debt could be twice the equity.

  Thus, an enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Total Debt Equity Ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.1.1 as follows:
### TABLE NO.6.6.1.1 TOTAL DEBT EQUITY RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>HMC</td>
<td>0.15</td>
<td>0.21</td>
<td>0.48</td>
<td>2.67</td>
<td>0.27</td>
<td>4.93</td>
<td>0.09</td>
<td>1.30</td>
<td>0.47</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.14</td>
<td>0.28</td>
<td>0.41</td>
<td>13.40</td>
<td>0.30</td>
<td>1.22</td>
<td>0.07</td>
<td>1.66</td>
<td>0.75</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>SIL</td>
<td>0.09</td>
<td>0.50</td>
<td>0.67</td>
<td>-2.26</td>
<td>0.31</td>
<td>1.60</td>
<td>0.01</td>
<td>1.48</td>
<td>0.49</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>LML</td>
<td>0.07</td>
<td>0.78</td>
<td>0.62</td>
<td>-1.17</td>
<td>0.29</td>
<td>1.53</td>
<td>0.09</td>
<td>1.68</td>
<td>0.34</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td>BAL</td>
<td>0.04</td>
<td>0.81</td>
<td>0.94</td>
<td>-0.84</td>
<td>0.84</td>
<td>0.80</td>
<td>0.11</td>
<td>1.68</td>
<td>0.41</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>HML</td>
<td>0.02</td>
<td>1.12</td>
<td>-8.24</td>
<td>-0.70</td>
<td>0.84</td>
<td>1.04</td>
<td>0.07</td>
<td>1.81</td>
<td>0.56</td>
<td>1.08</td>
</tr>
<tr>
<td></td>
<td>MSI</td>
<td>0.02</td>
<td>1.16</td>
<td>-1.71</td>
<td>-0.84</td>
<td>0.46</td>
<td>1.27</td>
<td>0.07</td>
<td>1.44</td>
<td>0.62</td>
<td>1.11</td>
</tr>
<tr>
<td></td>
<td>MML</td>
<td>0.23</td>
<td>0.77</td>
<td>-1.69</td>
<td>-0.84</td>
<td>0.07</td>
<td>2.88</td>
<td>0.02</td>
<td>1.19</td>
<td>0.65</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>ALL</td>
<td>0.17</td>
<td>0.71</td>
<td>-1.45</td>
<td>-0.30</td>
<td>0.02</td>
<td>4.40</td>
<td>0.08</td>
<td>1.38</td>
<td>0.74</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>TML</td>
<td>0.13</td>
<td>0.52</td>
<td>0.39</td>
<td>-0.25</td>
<td>0.01</td>
<td>-2.99</td>
<td>0.07</td>
<td>1.44</td>
<td>0.98</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>0.11</td>
<td>0.69</td>
<td>-0.96</td>
<td>0.89</td>
<td>0.34</td>
<td>1.67</td>
<td>0.07</td>
<td>1.51</td>
<td>0.60</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>S.D.</td>
<td>0.07</td>
<td>0.32</td>
<td>2.77</td>
<td>4.57</td>
<td>0.30</td>
<td>2.18</td>
<td>0.03</td>
<td>0.20</td>
<td>0.19</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>C.V.</td>
<td>66.05</td>
<td>46.23</td>
<td>-288.41</td>
<td>514.62</td>
<td>88.01</td>
<td>130.68</td>
<td>42.58</td>
<td>12.96</td>
<td>31.36</td>
<td>31.72</td>
</tr>
<tr>
<td></td>
<td>Min</td>
<td>0.02</td>
<td>0.21</td>
<td>-8.24</td>
<td>-2.26</td>
<td>0.01</td>
<td>-2.99</td>
<td>0.01</td>
<td>1.19</td>
<td>0.34</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>0.23</td>
<td>1.16</td>
<td>0.94</td>
<td>13.40</td>
<td>0.84</td>
<td>4.93</td>
<td>0.11</td>
<td>1.81</td>
<td>0.98</td>
<td>1.11</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO.6.6.1.1 TOTAL DEBT EQUITY RATIO

The above mentioned Table No.6.6.1.1 and Graph No.6.6.1.1 the indicated a fluctuating trends of the Total debt Equity Ratio of selected Automobile industry in India from 2003-04 to 2012-13.
1. **Hero MotoCorp Ltd.:**

   Table No-6.6.1.1 shows that the Total debt Equity Ratio the Hero MotoCorp Ltd. during the year from 2003-2004 to 2012-2013, the highest ratio was 0.23 times in the year of 2010-11 and lowest ratio was 0.02 times in the year of 2008-09 and 2009-10.

   In the year 2003-04 the ratio was 0.15 times which has been decreased 0.14 times in the year 2004-05, further it has been decreased up to 0.09 and 0.07 times in the year of 2006-08 respectively. During the year of 2010-11, it increased up to 0.23 times. It got fluctuated the ratios have been 0.04, 0.02, 0.02, 0.17 and 0.13 times during the year of 2007-10 and 2011-2013 respectively. It has been also shown in the Graph No-6.6.1.1.

   So, The Average Total debt Equity Ratio is 0.11 times, The Standard Deviation is 0.07 and The Co-efficient variance is 66.05% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-6.6.1.1 shows that the Total debt Equity Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 1.16 times in the year 2009-10 and the lowest ratio was 0.21 times in the year 2003-04.

   In the year 2003-04 the ratio was 0.21 times which has been increased 0.28 times in 2004-05, further it has been increased up to 0.50, 0.78 and 0.81 times in the year of 2005-08 respectively. During the year of 2009-10, it increased up to 1.16 times. It got fluctuated the ratios have been 1.12, 0.77, 0.71 and 0.52 times during the year of 2008-09 and 2010-13 respectively. It has been also shown in the Graph No-6.6.1.1.

   So, The Average Total debt Equity Ratio is 0.69 times, The Standard Deviation is 0.32 and The Co-efficient variance is 46.23% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-6.6.1.1 shows that the Total debt Equity Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 0.94 times
in the year 2007-08 and the lowest ratio was -8.24 times in the year 2008-09.

In the year 2003-04 the ratio was 0.48 times which has been decreased 0.41 times in 2004-05, further it has been increased up to 0.67 times in the year of 2005-06. During the year of 2007-08, it increased up to 0.94 times. It got fluctuated the ratios have been 0.62, -8.24, -1.71, -1.69, -1.45 and 0.39 times during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No -6.6.1.1.

So, The Average Total debt Equity Ratio is -0.96 times , The Standard Deviation is 2.77 and The Co-efficient variance is -288.41% which shows solvency of this company because the average Total debt Equity Ratio shows dissatisfactory Ratio of during the study period.

4. LML :

Table No-6.6.1.1 shows that the Total debt Equity Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 13.40 times in the year 2004-05 and the lowest ratio was -2.26 times in the year 2005-06.

In the year 2003-04 the ratio was 2.67 times which has been increased 13.40 times in the year 2004-05, further it has been decreased up to -2.26 times in the year of 2005-06. During the year of 2012-13, it increased up to -0.25 times. It got fluctuated the ratios have been -1.17, -0.84, -0.70, -0.84, -0.84 and -0.30 times during the year of 2006-12 respectively. It has been also shown in the Graph No -6.6.1.1.

So, The Average Total debt Equity Ratio is 0.89 times, The Standard Deviation is 4.57 and The Co-efficient variance is 514.62% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

5. Bajaj Auto Ltd. :

Table No-6.6.1.1 shows that the Total debt Equity Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 0.84 times in the year 2007-08, 2008-09 and the lowest ratio was 0.01 times in the year 2012-13.

In the year 2003-04 the ratio was 0.27 times which has been increased 0.30 times in the year 2004-05, further it has been increased up to 0.31 times in the year of 2005-06.
During the year of 2007-09, it increased up to 0.84 times. It got fluctuated the ratios have been 0.29, 0.46, 0.07, 0.02 and 0.01 times during the year of 2006-07 and 2009-13 respectively. It has been also shown in the Graph No -6.6.1.1.

So, The Average Total debt Equity Ratio 0.34 times, The Standard Deviation is 0.30 and The Co-efficient variance is 88.01% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited :**

Table No-6.6.1.1 shows that the Total debt Equity Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 4.93 times in the year 2003-04 and the lowest ratio was -2.99 times in the year 2012-13.

In the year 2003-04 the ratio was 4.93 times which has been decreased 1.22 times in the year 2004-05, further it has been increased up to 1.60 times during the year of 2005-06. During the year of 2012-13, it decreased up to -2.99 times. It got fluctuated the ratios have been 1.53, 0.80, 1.04, 1.27, 2.88 and 4.40 times during the year of 2006-2012 respectively. It has been also shown in the Graph No -6.6.1.1.

So, The Average Total debt Equity Ratio 1.67 times, The Standard Deviation is 2.18 and The Co-efficient variance is 130.68% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited :**

Table No-6.6.1.1 shows that the Total debt Equity Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 0.11 times in the year 2007-08 and the lowest ratio was 0.01 times in the year 2005-06.

In the year 2003-04 the ratio was 0.09 times which has been decreased 0.07 times in the year 2004-05, further it has been decreased up to 0.01 times during the year of 2005-06. During the year of 2007-08, it increased up to 0.11 times. It got fluctuated the ratios have been 0.09, 0.07, 0.07, 0.02, 0.08 and 0.07 times during the year of 2006-07 and 2008-2013 respectively. It has been also shown in the Graph No -6.6.1.1.
So, The Average Total debt Equity Ratio 0.07 times, The Standard Deviation is 0.03 and The Co-efficient variance is 42.58 % which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:
   
   Table No-6.6.1.1shows that the Total debt Equity Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.81 times in the year 2008-09 and the lowest ratio was 1.19 times in the year 2010-11.

   In the year 2003-04 the ratio was 1.30 times which has been increased 1.66 times in the year 2004-05, further it has been decreased up to 1.48 times during the year of 2005-06. During the year of 2008-09, it increased up to 1.81 times. It got fluctuated the ratios have been 1.68, 1.68, 1.44, 1.19, 1.38 and 1.44 during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No -6.6.1.1.

   So, The Average Total debt Equity Ratio 1.51 times, The Standard Deviation is 0.20 and The Co-efficient variance is 12.96% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:
   
   Table No. -6.6.1.1shows that the Total debt Equity Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 0.98 times in the year 2012-13 and the lowest ratio was 0.34 times in the year 2006-07.

   In the year 2003-04 the ratio was 0.47 times which has been increased 0.75 times in the year 2004-05, further it has been decreased up to 0.49 and 0.34 times in the year of 2005-07respectively. During the year of 2012-13, it increased up to 0.98 times. It got fluctuated and the ratios were 0.41, 0.56, 0.62, 0.65 and 0.74 during the year of 2007-12 respectively. It has been also shown in the Graph No -6.6.1.1.
So, The Average Total debt Equity Ratio 0.60 times, The Standard Deviation is 0.19 and The Co-efficient variance is 31.36% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited**:

Table No-6.6.1.1 shows that the Total debt Equity Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 1.11 times in the year 2009-10 and the lowest ratio was 0.35 times in the year 2003-04.

In the year 2003-04 the ratio was 0.35 times which has been increased 0.61 times in the year 2004-05, further it has been decreased up to 0.53 times in the year of 2005-06. It got fluctuated the ratios were 0.58, 0.80, 1.08, 0.80, 0.82 and 0.88 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No -6.6.1.1.

So, The Average Total debt Equity Ratio 0.76 times, The Standard Deviation is 0.24 and The Co-efficient variance is 31.72% which shows solvency of this company because the average Total debt Equity Ratio shows satisfactory Ratio of during the study period.

➢ **ANOVA TEST OF TOTAL DEBT EQUITY RATIO**:

**Hypothesis:**

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Total debt Equity Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**
  
  There is significant difference in Total debt Equity Ratio of automobile industry under study.

- **Level of Significance: 5%**
### TABLE NO.6.6.1.2
#### TOTAL DEBT EQUITY RATIO
##### ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>29.95</td>
<td>9</td>
<td>3.33</td>
<td>0.92542</td>
<td>0.507174</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>323.69</td>
<td>90</td>
<td>3.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>353.65</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.92542

\[ F_{cal} < F_{tab} \]
\[ 0.93 < 1.98 \]

Table No. 6.6.1.2 indicates the calculate value of ‘F’ is 0.92542 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Total Debt Equity Ratio of selected automobile industry under study for the period.
6.6.2 **FINANCIAL LEVERAGE RATIO:**

- **Meaning:**
  This Ratio establishes a relationship between Earning before interest and tax and Earnings before tax.

- **Objective:**
  The objective of computing this ratio is to measure the ability of an organization to increase its owner’s profit by using debt capital.

- **Components:**
  1. EBIT=Earnings before interest and tax.
  2. EBT= Earnings before tax.

- **Computation and interpretations:**
  This ratio is computed by dividing Earnings before interest and tax and Earnings before tax. This ratio is usually express as a pure ratio e.g. 2:1. In the form of a formula, this ratio may be express as follows:

  \[ \text{Financial Leverage Ratio} = \frac{\text{EBIT}}{\text{EBT}} \]

  This ratio indicates the firm’s ability to use fixed financial charge to magnify the effect of changes in Earnings before interest tax on the firm’s Earning per share. The EBIT is calculated by adding back the interest and taxes to the amount of net profit. Financial leverage ratio is neither a very high leverage nor a very low leverage represents a sound picture.

  An enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Financial Leverage Ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.2.1 as follows:
### TABLE NO.6.6.2.1 FINANCIAL LEVERAGE RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>HMC</td>
<td>1.00</td>
<td>1.05</td>
<td>1.21</td>
<td>0.86</td>
<td>1.00</td>
<td>0.45</td>
<td>1.06</td>
<td>1.35</td>
<td>1.21</td>
<td>1.16</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.00</td>
<td>1.04</td>
<td>1.95</td>
<td>0.85</td>
<td>1.00</td>
<td>1.47</td>
<td>1.03</td>
<td>1.18</td>
<td>1.09</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>SIL</td>
<td>1.00</td>
<td>1.12</td>
<td>1.93</td>
<td>0.84</td>
<td>1.00</td>
<td>0.76</td>
<td>1.01</td>
<td>1.16</td>
<td>1.09</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>LML</td>
<td>1.00</td>
<td>1.39</td>
<td>0.85</td>
<td>0.66</td>
<td>1.00</td>
<td>2.31</td>
<td>1.02</td>
<td>1.19</td>
<td>1.05</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>BAL</td>
<td>1.00</td>
<td>1.32</td>
<td>0.82</td>
<td>0.60</td>
<td>1.00</td>
<td>1.44</td>
<td>1.02</td>
<td>1.29</td>
<td>1.12</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>HML</td>
<td>1.00</td>
<td>3.08</td>
<td>0.88</td>
<td>0.50</td>
<td>1.02</td>
<td>0.71</td>
<td>1.03</td>
<td>1.38</td>
<td>1.77</td>
<td>1.80</td>
</tr>
<tr>
<td></td>
<td>MSI</td>
<td>1.00</td>
<td>1.99</td>
<td>0.80</td>
<td>0.55</td>
<td>1.00</td>
<td>0.67</td>
<td>1.01</td>
<td>1.28</td>
<td>1.19</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>MML</td>
<td>1.01</td>
<td>1.29</td>
<td>0.38</td>
<td>0.55</td>
<td>1.00</td>
<td>-6.84</td>
<td>1.01</td>
<td>1.25</td>
<td>1.24</td>
<td>1.63</td>
</tr>
<tr>
<td></td>
<td>ALL</td>
<td>1.01</td>
<td>1.18</td>
<td>0.22</td>
<td>0.24</td>
<td>1.01</td>
<td>0.39</td>
<td>1.03</td>
<td>1.43</td>
<td>1.37</td>
<td>1.91</td>
</tr>
<tr>
<td></td>
<td>TML</td>
<td>1.00</td>
<td>1.29</td>
<td>0.67</td>
<td>0.44</td>
<td>1.00</td>
<td>0.61</td>
<td>1.06</td>
<td>1.41</td>
<td>1.80</td>
<td>8.93</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>1.00</td>
<td>1.48</td>
<td>0.97</td>
<td>0.61</td>
<td>1.00</td>
<td>0.20</td>
<td>1.03</td>
<td>1.29</td>
<td>1.29</td>
<td>2.15</td>
</tr>
<tr>
<td></td>
<td>S.D.</td>
<td>0.002</td>
<td>0.62</td>
<td>0.58</td>
<td>0.20</td>
<td>0.01</td>
<td>2.54</td>
<td>0.02</td>
<td>0.10</td>
<td>0.28</td>
<td>2.40</td>
</tr>
<tr>
<td></td>
<td>C.V.</td>
<td>0.24</td>
<td>42.32</td>
<td>59.75</td>
<td>32.97</td>
<td>0.66</td>
<td>1290.67</td>
<td>1.84</td>
<td>7.61</td>
<td>21.39</td>
<td>112.04</td>
</tr>
<tr>
<td></td>
<td>Min</td>
<td>1.00</td>
<td>1.04</td>
<td>0.22</td>
<td>0.24</td>
<td>1.00</td>
<td>-6.84</td>
<td>1.01</td>
<td>1.16</td>
<td>1.05</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>1.01</td>
<td>3.08</td>
<td>1.95</td>
<td>0.86</td>
<td>1.02</td>
<td>2.31</td>
<td>1.06</td>
<td>1.43</td>
<td>1.80</td>
<td>8.93</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO.6.6.2.1 FINANCIAL LEVERAGE RATIO

The above mentioned Table No.6.6.2.1 and Graph No-6.6.2.1 the indicated a fluctuating trends of the Financial Leverage Ratio of selected Automobile industry in India from 2003-04 to 2012-13.
1. **Hero MotoCorp Ltd.**

Table No-6.6.2.1 shows that the Financial Leverage Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.01 times in the year of 2010-11, 2011-12 and lowest ratio was 1.00 times in the year of 2003-10, 2012-13.

In the year 2003-04 the ratio was 1.00 times which has been also 1.00 times in 2004-05. During the year of 2010-12, it increased up to 1.01 times. It got same the ratios have been 1.00 times during the year of 2005-10 and 2012-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, the Average Financial Leverage Ratio is 1.00 times, The Standard Deviation is 0.002 and The Co-efficient variance is 0.24% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 3.08 times in the year 2008-09 and the lowest ratio was 1.04 times in the year 2004-05.

In the year 2003-04 the ratio was 1.05 times which has been decreased 1.04 times in the year 2004-05, further it has been increased up to 1.12 and 1.39 times in the year of 2005-07 respectively. During the year of 2008-09, it increased up to 3.08 times. It got fluctuated and the ratios have been 1.32, 1.99, 1.29, 1.18 and 1.29 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, the Average Financial Leverage Ratio is 1.48 times The Standard Deviation is 0.62 and The Co-efficient variance is 42.32 % which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.95 times
in the year 2004-05 and the lowest ratio was 0.22 times in the year 2011-12.

In the year 2003-04 the ratio was 1.21 times which has been increased 1.95 times in the year 2004-05, further it has been decreased up to 1.93, 0.85 and 0.82 times in the year of 2005-08 respectively. During the year of 2011-12, it decreased up to 0.22 times. It got fluctuated and the ratios have been 0.82, 0.80, 0.38 and 0.67 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio is 0.97 times, The Standard Deviation is 0.58 and The Co-efficient variance is 59.75 % which shows solvency of this company because the average Financial Leverage Ratio shows dissatisfactory Ratio of during the study period.

4. LML :

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 0.86 times in the year 2003-04 and the lowest ratio was 0.24 times in the year 2011-12.

In the year 2003-04 the ratio was 0.86 times which has been decreased 0.85 times in the year 2004-05, further it has been decreased up to 0.84, 0.66 and 0.60 times in the year of 2005-08 respectively. During the year of 2011-12, it increased up to 0.24 times. It got fluctuated and the ratios have been 0.50, 0.55, 0.55 and 0.44 times during the year of 2008-11 and 2012-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio is 0.61 times, The Standard Deviation is 0.20 and The Co-efficient variance is 32.97% which shows solvency of this company because the average Financial Leverage Ratio shows dissatisfactory Ratio of during the study period.

5. Bajaj Auto Ltd. :

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.02 times in the year 2008-09 and the lowest ratio was 1.00 times in the year 2003-08, 2009-11 and 2012-13.
In the year 2003-04 the ratio was 1.00 times which has been also same 1.00 times in the year 2004-05, further it has been increased up to 1.02 times in the year of 2008-09. During the year of 2011-12, it decreased up to 1.01 times. It got same the ratios have been 1.00 times during the year of 2005-08, 2009-11 and 2012-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio 1.00 times, The Standard Deviation is 0.01 and The Co-efficient variance is 0.66% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**:

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.31 times in the year 2006-07 and the lowest ratio was -6.84 times in the year 2010-11.

In the year 2003-04 the ratio was 0.45 times which has been increased 1.47 times in the year 2004-05, further it has been decreased up to 0.76 times during the year of 2005-06. During the year of 2006-07, it increased up to 2.31 times. It got fluctuated and the ratios have been 1.44, 0.71, 0.67, -6.84, 0.39 and 0.61 times during the year of 2007-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio 0.20 times, The Standard Deviation is 2.54 and The Co-efficient variance is 1290.67% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**:

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.06 times in the year 2003-04, 2012-13 and the lowest ratio was 1.01times in the year 2005-06, 2009-11.

In the year 2003-04 the ratio was 1.06 times which has been decreased 1.03 times in the year of 2004-05, further it has been decreased up to 1.01 times during the year of
During the year of 2012-13, it increased up to 1.06 times. It got fluctuated and the ratios have been 1.02, 1.02, 1.03, 1.01, 1.01 and 1.03 times during the year of 2006-12 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio 1.03 times, The Standard Deviation is 0.02 and The Co-efficient variance is 1.84% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.43 times in the year 2011-12 and the lowest ratio was 1.16 times in the year 2003-04.

In the year 2003-04 the ratio was 1.35 times which has been decreased 1.18 times in the year 2004-05, further it has been decreased up to 1.16 times during the year of 2005-06. During the year of 2011-12, it increased up to 1.43 times. It got fluctuated and the ratios have been 1.19, 1.29, 1.38, 1.28, 1.25 and 1.14 during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio 1.29 times, The Standard Deviation is 0.10 and The Co-efficient variance is 7.61% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 1.80 times in the year 2012-13 and the lowest ratio was 1.05 times in the year 2006-07.

In the year 2003-04 the ratio was 1.21 times which has been decreased 1.09 times in the year 2004-06 respectively, further it has been decreased up to 1.05 times in the year of 2006-07. During the year of 2012-13, it increased up to 1.80 times. It got fluctuated and the ratios were 1.12, 1.77, 1.19, 1.24 and 1.37 times during the year of 2007-12 respectively. It has been also shown in the Graph No-6.6.2.1.
So, The Average Financial Leverage Ratio 1.29 times, The Standard Deviation is 0.28 and The Co-efficient variance is 21.39% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited** :

Table No -6.6.2.1 shows that the Financial Leverage Ratio of the Tata Motors Ltd during the year from 2003-2004 to 2012-13, the highest ratio was 8.93 times in the year 2012-13 and the lowest ratio was 1.13 times in the year 2004-05.

In the year 2003-04 the ratio was 1.16 times which has been decreased 1.13 times in the year 2004-05, further it has been increased up to 1.14, 1.14, 1.17 and 1.80 times in the year of 2005-09 respectively. During the year of 2012-13, it increased up to 8.93 times. It got fluctuated and the ratios were 1.44, 1.63 and 1.91 during the year of 2009-2012 respectively. It has been also shown in the Graph No-6.6.2.1.

So, The Average Financial Leverage Ratio 2.15 times, The Standard Deviation is 2.40 and The Co-efficient variance is 112.04% which shows solvency of this company because the average Financial Leverage Ratio shows satisfactory Ratio of during the study period.

➤ **ANOVA TEST OF FINANCIAL LEVERAGE RATIO:**

**Hypothesis:**

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Financial Leverage Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**
  
  There is significant difference in Financial Leverage Ratio of automobile industry under study.

- **Level of Significance: 5%**
TABLE NO.6.6.2.2
FINANCIAL LEVERAGE RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13.18847854</td>
<td>9</td>
<td>1.4653</td>
<td>1.024852</td>
<td>0.426601</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>128.686645</td>
<td>90</td>
<td>1.4298</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141.8751236</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 1.02
  
  \[
  F_{cal} \quad < \quad F_{tab} \\
  1.02 \quad < \quad 1.98 \\
  F_{cal} \quad < \quad F_{tab}
  \]

Table No.6.6.2.2 indicates the calculate value of ‘F’ is 1.024852 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Financial Leverage Ratio of selected automobile industry under study for the period.
6.6.3 **NET FIXED ASSETS TO NET WORTH RATIO:**

- **Meaning:**
  This Ratio establishes a relationship between net fixed assets and Net worth.

- **Objective:**
  The objective of computing this ratio is to measure the safety margin available for long–term creditors.

- **Components:**

- **Computation and interpretations:**
  This ratio is computed by dividing the net fixed assets by Net worth. This ratio is usually express as a ‘x’ number of times. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Net Fixed Assets to Net worth} = \frac{\text{Net Fixed Assets}}{\text{Net worth}}
  \]

  This ratio indicates the extent to which the owners' cash is frozen in the form of fixed assets, such as property, plant, and equipment, and the extent to which funds are available for the company's operations.

  Fixed assets to net worth ratio 0.75 or higher is usually undesirable, as it indicates that the firm is vulnerable to unexpected events and changes in the business climate. But the term "fixed assets" has different interpretations so it's difficult to use and compare this ratio.

  An enterprise should have neither a very high nor a very low ratio, it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Net Fixed Assets and Net worth Ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.3.1 as follows:
## Analysis and Evaluation of Capital Structure

### TABLE NO.6.6.3.1  NET FIXED ASSETS TO NET-WORTH RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>HMC</td>
<td>1.15</td>
<td>1.21</td>
<td>1.48</td>
<td>3.67</td>
<td>1.15</td>
<td>5.93</td>
<td>1.09</td>
<td>2.42</td>
<td>1.47</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.14</td>
<td>1.28</td>
<td>1.41</td>
<td>14.40</td>
<td>1.33</td>
<td>2.22</td>
<td>1.07</td>
<td>2.81</td>
<td>1.75</td>
<td>1.61</td>
</tr>
<tr>
<td>2005-2006</td>
<td>HMC</td>
<td>1.09</td>
<td>1.50</td>
<td>1.67</td>
<td>-1.26</td>
<td>1.33</td>
<td>2.60</td>
<td>1.01</td>
<td>2.71</td>
<td>1.49</td>
<td>1.53</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.07</td>
<td>1.78</td>
<td>1.62</td>
<td>-0.17</td>
<td>1.31</td>
<td>2.53</td>
<td>1.09</td>
<td>3.02</td>
<td>1.34</td>
<td>1.58</td>
</tr>
<tr>
<td>2007-2008</td>
<td>HMC</td>
<td>1.04</td>
<td>1.81</td>
<td>1.94</td>
<td>0.16</td>
<td>1.84</td>
<td>1.80</td>
<td>1.11</td>
<td>3.12</td>
<td>1.41</td>
<td>1.80</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.02</td>
<td>2.12</td>
<td>-7.24</td>
<td>0.30</td>
<td>1.84</td>
<td>2.04</td>
<td>1.07</td>
<td>3.24</td>
<td>1.56</td>
<td>2.08</td>
</tr>
<tr>
<td>2009-2010</td>
<td>HMC</td>
<td>1.02</td>
<td>2.16</td>
<td>-0.71</td>
<td>0.16</td>
<td>1.46</td>
<td>2.27</td>
<td>1.07</td>
<td>2.68</td>
<td>1.62</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.74</td>
<td>1.81</td>
<td>-0.75</td>
<td>0.16</td>
<td>1.13</td>
<td>4.14</td>
<td>1.04</td>
<td>2.73</td>
<td>1.67</td>
<td>1.97</td>
</tr>
<tr>
<td>2010-2011</td>
<td>HMC</td>
<td>1.41</td>
<td>1.75</td>
<td>-0.48</td>
<td>0.68</td>
<td>1.07</td>
<td>5.79</td>
<td>1.10</td>
<td>2.89</td>
<td>1.75</td>
<td>1.96</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.19</td>
<td>1.56</td>
<td>1.45</td>
<td>0.73</td>
<td>1.04</td>
<td>-2.64</td>
<td>1.09</td>
<td>2.92</td>
<td>2.00</td>
<td>1.98</td>
</tr>
<tr>
<td>Average</td>
<td>HMC</td>
<td>1.19</td>
<td>1.70</td>
<td>0.04</td>
<td>1.88</td>
<td>1.35</td>
<td>2.67</td>
<td>1.07</td>
<td>2.85</td>
<td>1.61</td>
<td>1.80</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.23</td>
<td>0.32</td>
<td>2.77</td>
<td>4.57</td>
<td>0.29</td>
<td>2.41</td>
<td>0.03</td>
<td>0.24</td>
<td>0.19</td>
<td>0.26</td>
</tr>
<tr>
<td>C.V.</td>
<td>HMC</td>
<td>19.12</td>
<td>18.64</td>
<td>7267.29</td>
<td>242.88</td>
<td>21.49</td>
<td>90.27</td>
<td>2.68</td>
<td>8.36</td>
<td>12.12</td>
<td>14.57</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>1.02</td>
<td>1.21</td>
<td>-7.24</td>
<td>-1.26</td>
<td>1.04</td>
<td>-2.64</td>
<td>1.01</td>
<td>2.42</td>
<td>1.34</td>
<td>1.35</td>
</tr>
<tr>
<td>Min</td>
<td>HMC</td>
<td>1.74</td>
<td>2.16</td>
<td>1.94</td>
<td>14.40</td>
<td>1.84</td>
<td>5.93</td>
<td>1.11</td>
<td>3.24</td>
<td>2.00</td>
<td>2.11</td>
</tr>
<tr>
<td>Max</td>
<td>TMC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Source: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO.6.6.3.1  NET FIXED ASSETS TO NET-WORTH RATIO

The above mentioned Table No-6.6.3.1 and Graph No-6.6.3.1 the indicated a fluctuating trends of the Net Fixed Assets to Net-Worth Ratio of selected Automobile industry in India from 2003-04 to 2012-13.
1. **Hero MotoCorp Ltd.:**

   Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.74 times in the year of 2010-11 and lowest ratio was 1.02 times in the year of 2008-10.

   In the year 2003-04 the ratio was 1.15 times which has been decreased 1.14 times in the year 2004-05, further it has been decreased up to 1.09 1.07 and 1.04 times in the year of 2005-08 respectively. During the year of 2008-10, it increased up to 1.02 times. It got fluctuated and the ratios have been 1.74, 1.41 and 1.19 times during the year of 2010-2013 respectively. It has been also shown in the Graph No -6.6.3.1.

   So, The Average Net Fixed Assets to Net-Worth Ratio is 1.19 times, The Standard Deviation is 0.23 and The Co-efficient variance is 19.12% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 2.16 times in the year 2009-10 and the lowest ratio was 1.21 times in the year 2003-04.

   In the year 2003-04 the ratio was 1.21 times which has been increased 1.28 times in the year 2004-05, further it has been increased up to 1.50,1.78 and 1.81 times in the year of 2005-08 respectively. During the year of 2008-09, it increased up to 2.16 times. It got fluctuated and the ratios have been 2.12, 1.81, 1.75 and 1.56 times during the year of 2008-09 and 2010-13 respectively. It has been also shown in the Graph No -6.6.3.1.

   So, The Average Net Fixed Assets to Net-Worth Ratio is 1.70 times, The Standard Deviation is 0.32 and The Co-efficient variance is 18.64 % which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.94 times in the year 2007-08 and the lowest ratio was -7.24 times in the year 2008-09.
In the year 2003-04 the ratio was 1.48 times which has been decreased 1.41 times in the year 2004-05, further it has been increased up to 1.67 times in the year of 2005-06. During the year of 2008-09, it decreased up to -7.24 times. It got fluctuated and the ratios have been 1.94, -0.71, -0.75, -0.48 and 1.45 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No -6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio is 0.04 times, The Standard Deviation is 2.77 and The Co-efficient variance is 7267.29 % which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

4. **LML** :

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 14.40 times in the year 2004-05 and the lowest ratio was -1.26 times in the year 2005-06.

In the year 2003-04 the ratio was 3.67 times which has been increased 14.40 times in the year 2004-05, further it has been decreased up to -1.26 times in the year of 2005-06. During the year of 2008-09, it increased up to 0.30 times. It got fluctuated and the ratios have been 0.16, 0.16, 0.16, 0.68 and 0.73 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No -6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio is 1.88 times, The Standard Deviation is 4.57 and The Co-efficient variance is 242.88% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.** :

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.84 times in the year 2007-08, 2008-09 and the lowest ratio was 1.04 times in the year 2012-13.

In the year 2003-04 the ratio was 1.15 times which has been increased 1.33 times in the year 2004-06, further it has been decreased up to 1.31 times in the year of 2006-07. During the year of 2007-09, it increased up to 1.84 times. It got fluctuated and the ratios have been 1.46, 1.13, 1.07 and 1.04 times during the year of 2009-2013 respectively. It has been also shown in the Graph No -6.6.3.1.
So, The Average Net Fixed Assets to Net-Worth Ratio 1.35 times, The Standard Deviation is 0.29 and The Co-efficient variance is 21.49% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

6. Hindustan Motors Limited :

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 5.93 times in the year 2003-04 and the lowest ratio was -2.64 times in the year 2012-13.

In the year 2003-04 the ratio was 5.93 times which has been decreased 2.22 times in the year 2004-05, further it has been increased up to 2.60 times during the year of 2005-06. During the year of 20012-13, it decreased up to -2.64 times. It got fluctuated and the ratios have been 2.53, 1.80, 2.04, 2.27, 4.14 and 5.79 times during the year of 2006-12 respectively. It has been also shown in the Graph No -6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio 2.67 times, The Standard Deviation is 2.41 and The Co-efficient variance is 90.27% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

7. Maruti Suzuki India Limited :

Table No-6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.11 times in the year 2007-08 and the lowest ratio was 1.01 times in the year 2005-06.

In the year 2003-04 the ratio was 1.09 times which has been decreased 1.07 times in the year 2004-05, further it has been decreased up to 1.01 times during the year of 2005-06. During the year of 2007-08, it increased up to 1.11 times. It got fluctuated and the ratios have been 1.09, 1.07, 1.07, 1.04, 1.10 and 1.09 times during the year of 2006-07 and 2008-2013 respectively. It has been also shown in the Graph No -6.6.3.1.
So, the Average Net Fixed Assets to Net-Worth Ratio 1.07 times, The Standard Deviation is 0.03 and The Co-efficient variance is 2.68 % which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Mahindra and Mahindra Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.24 times in the year 2008-09 and the lowest ratio was 2.42 times in the year 2003-04.

In the year 2003-04 the ratio was 2.42 times which has been increased 2.81 times in the year 2004-05, further it has been decreased up to 2.71 times during the year of 2005-06. During the year of 2008-09, it increased up to 3.24 times. It got fluctuated and the ratios have been 3.02, 3.12, 2.68, 2.73, 2.89 and 2.92 times during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No-6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio 2.85 times, The Standard Deviation is 0.24 and The Co-efficient variance is 8.36% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 2.00 times in the year 2012-13 and the lowest ratio was 1.34 times in the year 2006-07.

In the year 2003-04 the ratio was 1.47 times which has been increased 1.75 times in the year 2004-05, further it has been decreased up to 1.49 and 1.34 times in the year of 2005-07 respectively. During the year of 2012-13, it increased up to 2.00 times. It got fluctuated and the ratios were 1.41, 1.56, 1.62, 1.67 and 1.75 times during the year of 2007-12 respectively. It has been also shown in the Graph No -6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio 1.61 times, The Standard Deviation is 0.19 and The Co-efficient variance is 12.12% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.
10. **Tata Motors Limited**:

Table No -6.6.3.1 shows that the Net Fixed Assets to Net-Worth Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 2.11 times in the year 2009-10 and the lowest ratio was 1.35 times in the year 2003-04.

In the year 2003-04 the ratio was 1.35 times which has been increased 1.61 times in the year 2004-05, further it has been decreased up to 1.53 times in the year of 2005-06. During the year of 2009-10, it increased up to 2.11 times. It got fluctuated and the ratios were 1.58, 1.80, 2.08, 1.97, 1.96 and 1.98 times during the year of 2006-09 and 2010-2013 respectively. It has been also shown in the Graph No -6.6.3.1.

So, The Average Net Fixed Assets to Net-Worth Ratio 1.80 times, The Standard Deviation is 0.26 and The Co-efficient variance is 14.57% which shows solvency of this company because the average Net Fixed Assets to Net-Worth Ratio shows satisfactory Ratio of during the study period.

- **ANOVA TEST OF NET FIXED ASSETS TO NET-WORTH RATIO**:

  **Hypothesis:**

  - **Ho: Null Hypothesis:**
    
    There is no significant difference in Net Fixed Assets to Net-Worth Ratio of automobile industry under study.

  - **H1: Alternative Hypothesis:**
    
    There is significant difference in Net Fixed Assets to Net-Worth Ratio of automobile industry under study.

  - **Level of Significance: 5%**
TABLE NO.6.6.3.2
NET FIXED ASSETS TO NET-WORTH RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>293354.7185</td>
<td>9</td>
<td>32594.96872</td>
<td>0.858223</td>
<td>0.565278</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3418163.722</td>
<td>90</td>
<td>37979.59692</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3711518.441</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1 = 99
- Table Value of ‘F’ = 1.98
- Calculate Value of ‘F’ = 0.86

\[
\begin{align*}
F_{\text{cal}} & < F_{\text{tab}} \\
0.86 & < 1.98 \\
F_{\text{cal}} & < F_{\text{tab}}
\end{align*}
\]

Table No6.6.3.2 table indicates the calculate value of ‘F’ is 0.858223 and the
table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is
less than the table value. It indicates that the Null Hypothesis is accepted and Alternate
Hypothesis is rejected. So, it indicates that there is no significant difference in Net Fixed
Assets to Net-Worth Ratio of selected automobile industry under study for the period.
6.6.4 **PROPRIETARY RATIO:**

- **Meaning:**
  
  This Ratio establishes a relationship between owners’ Fund and the Total Assets.

- **Objective:**
  
  The objective of computing this ratio is to measure the proportion of the total assets financed by the equity or proprietary’s funds.

- **Components:**
  
  1. Proprietary’s funds or equity shareholder’s Funds.
  2. Total Assets without preliminary expenses.

- **Computation and interpretations:**
  
  This ratio is computed by dividing the Proprietary’s funds by Total Assets. This ratio is usually express as a percentage. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Proprietary Ratio} = \frac{\text{Proprietors' Funds}}{\text{Total Assets}} \times 100
  \]

  This ratio indicates the extent to which the assets of the enterprise have been financed out of proprietors’ funds. A high proprietary ratio indicated the larger safety margin for creditors and the enterprise is not talking the benefit of trading on equity. A low proprietary ratio indicates the greater it’s to creditors and the enterprise is talking the benefit of trading on equity.

  An enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The proprietary Ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.4.1 as follows:
The above mentioned Table No-6.6.4.1 and Graph No-6.6.4.1 the indicated a fluctuating trends of the Proprietary Ratio of selected Automobile industry in India from 2003-04 to 2012-13.
1. **Hero MotoCorp Ltd**:  
Table No -6.6.4.1 shows that the Proprietary Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 98.13% in the year of 2009-10 and lowest ratio was 57.33% in the year of 2010-11.

In the year 2003-04 the ratio was 86.70% which has been increased 88.10% in 2004-05, further it has been increased up to 91.54, 93.73 and 95.77 percent in the year of 2005-08 respectively. During the year of 2009-10, it increased up to 98.13%. It got fluctuated and the ratios have been 97.98, 57.33, 70.80 and 83.71 percent during the year of 2008-09 and 2010-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio is 86.38%, The Standard Deviation is 13.07 and The Co-efficient variance is 15.13% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company**:  
Table No -6.6.4.1 shows that the Proprietary Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 82.85% in the year 2003-04 and the lowest ratio was 46.31% in the year 2009-10.

In the year 2003-04 the ratio was 82.85% which has been decreased 78.42% in 2004-05, further it has been increased up to 66.55% in the year 2005-06. During the year of 2009-10, it increased up to 46.31%. It got fluctuated and the ratios have been 56.09, 55.22, 47.21, 55.22, 57.07 and 64.04 percent during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, the Average Proprietary Ratio is 60.90 %, The Standard Deviation is 12.17 and The Co-efficient variance is 19.99 % which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited**:  
Table No -6.6.4.1 shows that the Proprietary Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 70.84% in the year 2004-05 and the lowest ratio was -206.97% in the year 2011-12.
In the year 2003-04 the ratio was 67.34% which has been increased 70.84% in 2004-05, further it has been decreased up to 60.03% in the year of 2005-06. During the year of 2011-12, it decreased up to -206.97%. It got fluctuated and the ratios have been 61.90, 51.58, -13.81, -140.06, -133.58, and 68.88 percent during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio is -11.39 %, The Standard Deviation is 107.28 and The Co-efficient variance is -942.21 % which shows solvency of this company because the average Proprietary Ratio shows dissatisfactory Ratio of during the study period.

4. **LML**:

Table No -6.6.4.1 shows that the Proprietary Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 636.22% in the year 2007-08 and the lowest ratio was -592.86% in the year 2006-07.

In the year 2003-04 the ratio was 27.26% which has been decreased 6.94% in the year 2004-05, further it has been decreased up to -79.66 and -592.86 percent in the year of 2005-07 respectively. During the year of 2007-08 and 2009-11 respectively, it increased up to 636.22%. It got fluctuated and the ratios have been 328.14, 148.09 and 137.00 percent during the year of 2008-09 and 2011-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, the Average Proprietary Ratio is 188.36%, The Standard Deviation is 389.66 and The Co-efficient variance is 206.88% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.**:

Table No -6.6.4.1 shows that the Proprietary Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 95.82% in the year 2012-13 and the lowest ratio was 54.33% in the year 2007-08.
In the year 2003-04 the ratio was 86.84% which has been decreased 75.15% in the year 2004-05, further it has been decreased up to 75.42% in the year of 2005-06. During the year of 2012-13 it increased up to 95.82%. It got fluctuated and the ratios have been 76.51, 54.33, 54.36, 68.63, 88.41 and 93.88 during the year of 2006-12 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio 76.93 %, The Standard Deviation is 14.79 and The Co-efficient variance is 19.22% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

6. Hindustan Motors Limited:

Table No -6.6.4.1 shows that the Proprietary Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 55.64% in the year 2007-08 and the lowest ratio was -37.91% in the year 2012-13.

In the year 2003-04 the ratio was 16.88% which has been increased 45.00% in the year 2004-05, further it has been decreased up to 38.43% during the year of 2005-06. During the year of 2007-08, it increased up to 55.64%. It got fluctuated and the ratios have been and 39.46, 49.09, 43.97, 24.18, 17.26 and -37.91 percent during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio 29.20%, The Standard Deviation is 27.03 and The Co-efficient variance is 92.58% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

7. Maruti Suzuki India Limited:

Table No -6.6.4.1 shows that the Proprietary Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 98.70% in the year 2005-06 and the lowest ratio was 90.34% in the year 2007-08.

In the year 2003-04 the ratio was 92.01% which has been increased 93.44% in the year 2005-06, further it has been increased up to 98.70% during the year of 2005-06. During the year of 2007-08, it decreased up to 90.34%. It got fluctuated and the ratios have been 91.57, 93.04, 93.51, 96.22, 91.00 and 91.53 percent during the year of 2006-07 and 2008-2013 respectively. It has been also shown in the Graph No -6.6.4.1.
So, The Average Proprietary Ratio 93.14%, The Standard Deviation is 2.57 and The Co-efficient variance is 2.76 % which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited:**

Table No -6.6.4.1 shows that the Proprietary Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 41.27% in the year 2003-04 and the lowest ratio was 30.84% in the year 2008-09.

In the year 2003-04 the ratio was 41.27% which has been decreased 35.58% in the year 2004-05, further it has been increased up to 36.97% during the year of 2005-06. During the year of 2008-09, it decreased up to 30.84%. It got fluctuated and the ratios have been 33.11, 32.01, 37.27 36.97, 34.60 and 34.22 percent during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio 35.25%, The Standard Deviation is 3.01 and The Co-efficient variance is 8.53% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland:**

Table No -6.6.4.1 shows that the Proprietary Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 74.74% in the year 2006-07 and the lowest ratio was 50.11% in the year 2012-13.

In the year 2003-04 the ratio was 67.83% which has been decreased 57.02% in the year 2004-05, further it has been increased up to 67.12% in the year of 2005-06 respectively. During the year of 2006-07, it increased up to 74.74%. It got fluctuated and the ratios were 70.77 63.95, 61.67, 59.96, 57.03 and 50.11 percent during the year of 2007-13 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio 63.02%, The Standard Deviation is 7.36 and The Co-efficient variance is 11.69% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.
10. **Tata Motors Limited**:

Table No -6.6.4.1 shows that the Proprietary Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 74.02% in the year 2003-04 and the lowest ratio was 47.42% in the year 2009-10.

In the year 2003-04 the ratio was 74.02% which has been decreased 62.23% in the year 2004-05, further it has been increased up to 65.34% in the year of 2005-06. During the year of 2009-10, it increased up to 47.42%. It got fluctuated and the ratios were and 63.15, 55.52, 48.16, 47.42, 50.69, 51.11 and 50.54 percent during the year of 2006-09 and 2010-2013 respectively. It has been also shown in the Graph No -6.6.4.1.

So, The Average Proprietary Ratio 56.82%, The Standard Deviation is 8.90 and The Co-efficient variance is 15.66% which shows solvency of this company because the average Proprietary Ratio shows satisfactory Ratio of during the study period.

- **ANOVA TEST OF PROPRIETARY RATIO**:

  **Hypothesis:**

  - **Ho: Null Hypothesis:**
    
    There is no significant difference in Proprietary Ratio of automobile industry under study.
  
  - **H1: Alternative Hypothesis:**
    
    There is significant difference in Proprietary Ratio of automobile industry under study.
  
  - **Level of Significance: 5%**
TABLE NO.6.6.4.2
PROPRIETARY RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>103459.8814</td>
<td>9</td>
<td>11495.54238</td>
<td>0.636458</td>
<td>0.763095</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1625557.407</td>
<td>90</td>
<td>18061.74896</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1729017.288</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.64

\[
\frac{F_{cal}}{F_{tab}} < 1.98
\]

Table No. 5.4.2 table indicates the calculate value of ‘F’ is 0.636458 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Proprietary Ratio of selected automobile industry under study for the period.
6.6.5 **TOTAL ASSETS TO DEBT RATIO:**

- **Meaning:**
  
  This Ratio establishes a relationship between Total Assets and Total Long Term debts.

- **Objective:**

  The objective of computing this ratio is to measure the safety margin available to the suppliers of long –term debts. It measure the extent to which debt is being covered by assets

- **Components:**

  1. Total Assets without preliminary expenses.
  2. Long term debts which mean long term loan whether secured or unsecured, debenture, bonds etc.

- **Computation and interpretations:**

  This ratio is computed by dividing the total assets by total long term debts. This ratio is usually express as a pure ratio e.g. 2:1. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Long–term Debts}}
  \]

  This ratio indicates the margin of safety to long terms creditors. A high Total Assets to Debts ratio implies the use of more equity than debt which means a larger safety margin for creditor since owner’s equity is treated as margin of safety by creditors and vice versa.

  An enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Total Assets to Debts ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.5.1 as follows:
Analysis and Evaluation of Capital Structure

### Table No. 6.6.5.1 Total Assets to Debt Ratio

<table>
<thead>
<tr>
<th>YEAR</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MM</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>7.52</td>
<td>5.83</td>
<td>3.06</td>
<td>37.59</td>
<td>4.23</td>
<td>1.20</td>
<td>12.51</td>
<td>1.86</td>
<td>3.11</td>
<td>3.85</td>
</tr>
<tr>
<td>2004-2005</td>
<td>8.40</td>
<td>4.63</td>
<td>3.43</td>
<td>1.07</td>
<td>4.48</td>
<td>1.82</td>
<td>15.24</td>
<td>1.69</td>
<td>2.33</td>
<td>2.65</td>
</tr>
<tr>
<td>2005-2006</td>
<td>11.82</td>
<td>2.99</td>
<td>2.50</td>
<td>0.56</td>
<td>4.31</td>
<td>1.62</td>
<td>77.05</td>
<td>1.83</td>
<td>3.04</td>
<td>2.89</td>
</tr>
<tr>
<td>2006-2007</td>
<td>15.95</td>
<td>2.28</td>
<td>2.62</td>
<td>0.14</td>
<td>4.45</td>
<td>1.65</td>
<td>11.87</td>
<td>1.80</td>
<td>3.96</td>
<td>2.71</td>
</tr>
<tr>
<td>2007-2008</td>
<td>23.62</td>
<td>2.23</td>
<td>2.07</td>
<td>-0.19</td>
<td>2.19</td>
<td>2.25</td>
<td>10.35</td>
<td>1.86</td>
<td>3.42</td>
<td>2.25</td>
</tr>
<tr>
<td>2008-2009</td>
<td>49.42</td>
<td>1.89</td>
<td>0.88</td>
<td>-0.44</td>
<td>2.19</td>
<td>1.96</td>
<td>14.37</td>
<td>1.79</td>
<td>2.77</td>
<td>1.93</td>
</tr>
<tr>
<td>2009-2010</td>
<td>53.48</td>
<td>1.86</td>
<td>0.42</td>
<td>-0.19</td>
<td>3.19</td>
<td>1.78</td>
<td>15.41</td>
<td>1.86</td>
<td>2.61</td>
<td>1.90</td>
</tr>
<tr>
<td>2010-2011</td>
<td>7.44</td>
<td>2.36</td>
<td>0.44</td>
<td>-0.19</td>
<td>17.08</td>
<td>1.43</td>
<td>46.61</td>
<td>2.28</td>
<td>2.57</td>
<td>2.47</td>
</tr>
<tr>
<td>2011-2012</td>
<td>8.42</td>
<td>2.47</td>
<td>0.33</td>
<td>-2.29</td>
<td>51.47</td>
<td>1.32</td>
<td>13.49</td>
<td>2.09</td>
<td>2.38</td>
<td>2.39</td>
</tr>
<tr>
<td>2012-2013</td>
<td>9.32</td>
<td>3.01</td>
<td>3.76</td>
<td>-2.97</td>
<td>93.25</td>
<td>0.88</td>
<td>14.61</td>
<td>2.03</td>
<td>2.04</td>
<td>2.25</td>
</tr>
<tr>
<td>Average</td>
<td>19.54</td>
<td>2.96</td>
<td>1.95</td>
<td>3.31</td>
<td>18.68</td>
<td>1.59</td>
<td>23.15</td>
<td>1.91</td>
<td>2.82</td>
<td>2.53</td>
</tr>
<tr>
<td>S.D.</td>
<td>17.57</td>
<td>1.29</td>
<td>1.33</td>
<td>12.11</td>
<td>30.26</td>
<td>0.40</td>
<td>21.67</td>
<td>0.17</td>
<td>0.57</td>
<td>0.56</td>
</tr>
<tr>
<td>C.V.</td>
<td>89.90</td>
<td>43.66</td>
<td>68.00</td>
<td>365.69</td>
<td>161.96</td>
<td>24.98</td>
<td>93.60</td>
<td>9.12</td>
<td>20.23</td>
<td>22.26</td>
</tr>
<tr>
<td>Min</td>
<td>7.44</td>
<td>1.86</td>
<td>0.33</td>
<td>-2.97</td>
<td>2.19</td>
<td>0.88</td>
<td>10.35</td>
<td>1.69</td>
<td>2.04</td>
<td>1.90</td>
</tr>
<tr>
<td>Max</td>
<td>53.48</td>
<td>5.83</td>
<td>3.76</td>
<td>37.59</td>
<td>93.25</td>
<td>2.25</td>
<td>77.05</td>
<td>2.28</td>
<td>3.96</td>
<td>3.85</td>
</tr>
</tbody>
</table>

(Source: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### Graph No. 6.6.5.1 Total Assets to Debt Ratio

The above mentioned Table No. 6.6.5.1 and Graph No. 6.6.5.1 indicated a fluctuating trend of the Net Fixed Assets to Long Term Debt Ratio of selected Automobile industry in India from 2003-04 to 2012-13.
1. **Hero MotoCorp Ltd.**

   Table No-6.6.5.1 shows that the Total Assets to Debt Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 53.48 times in the year of 2009-10 and lowest ratio was 7.44 times in the year of 2010-11.

   In the year 2003-04 the ratio was 7.52 times which has been increased 8.40 times in the year 2004-05, further it has been increased up to 11.82 and 15.95 times in the year of 2005-07 respectively. During the year of 2009-10, it increased up to 53.48 times. It got fluctuated and the ratios have been 49.42, 7.44, 8.42 and 9.32 times during the year of 2008-09 and 2010-2013 respectively. It has been also shown in the Graph No 6.6.5.1.

   So, The Average Total Assets to Debt Ratio is 19.54 times, The Standard Deviation is 17.57 and The Co-efficient variance is 89.90% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the TVS Motor Company Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 5.83 times in the year 2003-04 and the lowest ratio was 1.86 times in the year 2009-10.

   In the year 2003-04 the ratio was 5.83 times which has been decreased 4.63 times in 2004-05, further it has been decreased up to 2.99 times and 2.28 times in the year of 2005-07 respectively. During the year of 2009-10, it decreased up to 1.86 times. It got fluctuated and the ratios have been 2.36, 2.47 and 3.01 times during the year of 2010-13 respectively. It has been also shown in the Graph No 6.6.5.1.

   So, The Average Total Assets to Debt Ratio is 2.96 times, The Standard Deviation is 1.29 and The Co-efficient variance is 43.66 % which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 3.76 times
in the year 2012-13 and the lowest ratio was 0.33 times in the year 2011-12.

In the year 2003-04 the ratio was 3.06 times which has been increased 3.43 times in 2004-05, further it has been decreased up to 2.50 times in the year of 2005-06. During the year of 2012-13, it decreased up to 3.76 times. It got fluctuated the ratios have been 0.88, 0.42, 0.44, 0.33 and 3.76 percent during the year of 2008-12 respectively. It has been also shown in the Graph No 6.6.5.1.

So, The Average Total Assets to Debt Ratio is 1.95 times, The Standard Deviation is 1.33 and The Co-efficient variance is 68.00 % which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

4. **LML**:

Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 37.59 times in the year 2003-04 and the lowest ratio was 2.97 times in the year 2012-13.

In the year 2003-04 the ratio was 37.59 times which has been decreased 1.07 times in the year 2004-05, further it has been decreased up to 0.56 times in the year 2005-06. During the year of 2012-13, it decreased up -2.97 times. It got fluctuated the ratios have been 0.14, -0.19, -0.44, -0.19, -0.19 and -2.29 times in the year of 2005-13 respectively. It has been also shown in the Graph No 6.6.5.1.

So, The Average Total Assets to Debt Ratio is 3.31 times, The Standard Deviation is 12.11 and The Co-efficient variance is 365.69% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.**:

Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 93.25 times in the year 2012-13 and the lowest ratio was 2.19 times in the year 2007-09.

In the year 2003-04 the ratio was 4.23 times which has been increased 4.48 times in the year 2004-05, further it has been decreased up to 4.31 times in the year of 2005-06.
During the year of 2012-13, it increased up to 93.25 times. It got fluctuated and the ratios have been 4.45, 2.19, 2.19, 3.19, 17.08 and 51.47 times during the year of 2006-12 respectively. It has been also shown in the Graph No 6.6.5.1.

So, The Average Total Assets to Debt Ratio 18.68 times, The Standard Deviation is 30.26 and The Co-efficient variance is 161.96% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**:

Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.25 times in the year 2007-08 and the lowest ratio was 0.88 times in the year 2012-13.

In the year 2003-04 the ratio was 1.20 times which has been increased 1.82 times in the year 2004-05, further it has been decreased up to 1.62 times during the year of 2005-06. During the year of 2007-08, it increased up to 2.25 times. It got fluctuated and the ratios have been 1.65, 1.96, 1.78, 1.43, 1.32 and 0.88 percent during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No 6.6.5.1.

So, The Average Total Assets to Debt Ratio 1.59 times, The Standard Deviation is 0.40 and The Co-efficient variance is 24.98% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**:

Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 77.05 times in the year 2005-06 and the lowest ratio was 10.35 times in the year 2007-08.

In the year 2003-04 the ratio was 12.51 times which has been increased 15.24 in the year 2004-05, further it has been increased up to 77.05 times in the year 2005-06. During the year of 2007-08, it increased up to 10.35 times. It got fluctuated and the ratios have been 11.87, 14.37, 15.41, 46.61, 13.49 and 14.61 times during the year of 2006-07 and 2008-2013 respectively. It has been also shown in the Graph No 6.6.5.1.
So, The Average Total Assets to Debt Ratio 23.15 times, The Standard Deviation is 21.67 and The Co-efficient variance is 93.60 % which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No. 6.6.5.1 shows that the Total Assets to Debt Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.28 times in the year 2010-11 and the lowest ratio was 1.69 times in the year 2004-05.

In the year 2003-04 the ratio was 1.86 times which has been decreased 1.69 times in the year 2004-05, further it has been increased up to 1.83 times in the year 2005-06. During the year of 2010-11, it increased up to 2.28 times. It got fluctuated and the ratios have been 1.80, 1.86, 1.79, 1.86, 2.09 and 2.03 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No. 6.6.5.1.

So, The Average Total Assets to Debt Ratio 1.91 times, The Standard Deviation is 0.17 and The Co-efficient variance is 9.12% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No. 6.6.5.1 shows that the Total Assets to Debt Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 3.96 times in the year 2006-07 and the lowest ratio was 2.04 times in the year 2012-13.

In the year 2003-04 the ratio was 3.11 times which has been decreased 2.33 times in the year 2004-05, further it has been decreased up to 3.04 times in the year of 2005-06. During the year of 2006-07, it increased up to 3.96 times. It got fluctuated the ratios were 3.42, 2.77, 2.61, 2.57, 2.38 and 2.04 percent during the year of 2007-13 respectively. It has been also shown in the Graph No. 6.6.5.1.

So, The Average Total Assets to Debt Ratio 2.82 times, The Standard Deviation is 0.57 and The Co-efficient variance is 20.23% which shows solvency of this company.
because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited:**

Table No 6.6.5.1 shows that the Total Assets to Debt Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 3.85 times in the year 2003-04 and the lowest ratio was 1.90 times in the year 2009-10.

In the year 2003-04 the ratio was 3.85 times which has been decreased 2.65 times in the year 2004-05, further it has been increased up to 2.89 times in the year of 2005-06. During the year of 2009-10, it decreased up to 1.90 times. It got fluctuated and the ratios were 2.71, 2.25, 1.93, 2.47, 2.39 and 2.25 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No 6.6.5.1.

So, The Average Total Assets to Debt Ratio 2.53 times, The Standard Deviation is 0.56 and The Co-efficient variance is 22.26% which shows solvency of this company because the average Total Assets to Debt Ratio shows satisfactory Ratio of during the study period.

- **ANOVA Test of Total Assets to Debt Ratio:**

  **Hypothesis:**
  
  - **Ho: Null Hypothesis:**
    
    There is no significant difference in Total Assets to Debt Ratio of automobile industry under study.
  
  - **H1: Alternative Hypothesis:**
    
    There is significant difference in Total Assets to Debt Ratio of automobile industry under study.
  
  - **Level of Significance: 5%**
TABLE NO.6.6.5.2
TOTAL ASSETS TO DEBT RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>627.3560546</td>
<td>9</td>
<td>69.70622</td>
<td>0.273605</td>
<td>0.980267</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22929.29203</td>
<td>90</td>
<td>254.76991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23556.64809</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.27

\[
F_{cal} < F_{tab} \\
0.27 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No.6.6.5.2 table indicates the calculate value of ‘F’ is 0.273605 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Total Assets to Debt Ratio of selected automobile industry under study for the period.
6.6.6 **INTEREST COVERAGE RATIO:**

- **Meaning:**
  
  This Ratio establishes a relationship between Net Profit Before Interest and Taxes and Interest on Long term debt.

- **Objective:**
  
  The objective of computing this ratio is to measure the debt servicing capacity of a firm so far as fixed interest on long term debt is concerned.

- **Components:**
  
  1. Net profit before interest and taxes.
  2. Interest on long term debt.

- **Computation and Interpretations:**
  
  This ratio is computed by dividing the net profit before interest and taxes by interest on long term debt. This ratio is usually express as a ‘x’ number of times. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Interest Coverage Ratio} = \frac{\text{Net Profit Before Interest and Taxes}}{\text{Interest on Long term Debt}} \times \frac{\text{Current Assets}}{\text{Net Sales}}
  \]

  This ratio shows the number of times the amount of interest on long term debts is covered by the profit out of which that will be paid it indicates the limit beyond which the ability of the firm to service its debt would be adversely affected. For instance, interest coverage of five times would imply that even if the firm’s net profit before interest and tax decrease by 80% of the present level, the firm will still be able to pay interest out of profit. Higher the ratio greater the firm’s ability to pay interest but very high ratio may imply lesser use of debt and very efficient operations.

  An enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The interest coverage Ratio of selected companies of Automobile Industry in India is given in the Table No-6.6.6.1 as follows:
### TABLE NO.6.6.6.1 INTEREST COVERAGE RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td></td>
<td>624.52</td>
<td>21.83</td>
<td>5.72</td>
<td>-6.37</td>
<td>1022.72</td>
<td>-0.81</td>
<td>18.50</td>
<td>3.89</td>
<td>5.82</td>
<td>7.38</td>
</tr>
<tr>
<td>2004-2005</td>
<td></td>
<td>631.70</td>
<td>25.06</td>
<td>2.05</td>
<td>-5.67</td>
<td>1622.55</td>
<td>3.13</td>
<td>36.49</td>
<td>6.51</td>
<td>12.68</td>
<td>8.58</td>
</tr>
<tr>
<td>2005-2006</td>
<td></td>
<td>484.64</td>
<td>9.03</td>
<td>2.07</td>
<td>-5.17</td>
<td>650.24</td>
<td>-3.19</td>
<td>81.30</td>
<td>7.36</td>
<td>12.13</td>
<td>8.00</td>
</tr>
<tr>
<td>2006-2007</td>
<td></td>
<td>774.98</td>
<td>3.59</td>
<td>-5.50</td>
<td>-1.94</td>
<td>324.60</td>
<td>1.76</td>
<td>58.33</td>
<td>6.27</td>
<td>21.96</td>
<td>7.98</td>
</tr>
<tr>
<td>2007-2008</td>
<td></td>
<td>706.14</td>
<td>4.08</td>
<td>-4.51</td>
<td>-1.51</td>
<td>220.73</td>
<td>3.29</td>
<td>41.76</td>
<td>4.50</td>
<td>9.36</td>
<td>7.05</td>
</tr>
<tr>
<td>2008-2009</td>
<td></td>
<td>705.13</td>
<td>1.48</td>
<td>-7.41</td>
<td>-1.01</td>
<td>46.37</td>
<td>-2.44</td>
<td>32.22</td>
<td>3.62</td>
<td>2.30</td>
<td>2.25</td>
</tr>
<tr>
<td>2009-2010</td>
<td></td>
<td>1349.44</td>
<td>2.01</td>
<td>-4.08</td>
<td>-1.24</td>
<td>403.61</td>
<td>-2.01</td>
<td>99.05</td>
<td>4.60</td>
<td>6.35</td>
<td>3.27</td>
</tr>
<tr>
<td>2010-2011</td>
<td></td>
<td>159.52</td>
<td>4.43</td>
<td>-0.61</td>
<td>-1.24</td>
<td>2573.63</td>
<td>0.87</td>
<td>107.63</td>
<td>4.98</td>
<td>5.24</td>
<td>2.59</td>
</tr>
<tr>
<td>2011-2012</td>
<td></td>
<td>135.49</td>
<td>6.54</td>
<td>-0.28</td>
<td>-0.31</td>
<td>182.03</td>
<td>-0.65</td>
<td>35.83</td>
<td>3.32</td>
<td>3.70</td>
<td>2.10</td>
</tr>
<tr>
<td>2012-2013</td>
<td></td>
<td>213.36</td>
<td>4.41</td>
<td>-2.02</td>
<td>-0.79</td>
<td>7901.43</td>
<td>-1.59</td>
<td>16.52</td>
<td>3.43</td>
<td>2.25</td>
<td>1.13</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>578.49</td>
<td>8.25</td>
<td>-1.46</td>
<td>-2.52</td>
<td>1894.79</td>
<td>-0.16</td>
<td>52.76</td>
<td>4.85</td>
<td>8.18</td>
<td>5.03</td>
</tr>
<tr>
<td>S.D.</td>
<td></td>
<td>362.73</td>
<td>8.33</td>
<td>4.04</td>
<td>2.27</td>
<td>2556.24</td>
<td>2.31</td>
<td>32.63</td>
<td>1.42</td>
<td>6.10</td>
<td>2.99</td>
</tr>
<tr>
<td>C.V.</td>
<td></td>
<td>62.70</td>
<td>100.95</td>
<td>277.37</td>
<td>-90.12</td>
<td>134.91</td>
<td>-1408.18</td>
<td>61.84</td>
<td>29.19</td>
<td>74.53</td>
<td>59.38</td>
</tr>
<tr>
<td>Max</td>
<td></td>
<td>1349.44</td>
<td>25.06</td>
<td>5.72</td>
<td>-0.31</td>
<td>7901.43</td>
<td>3.29</td>
<td>107.63</td>
<td>7.36</td>
<td>21.96</td>
<td>8.58</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO.6.6.6.1 INTEREST COVERAGE RATIO

The above mentioned Table No-6.6.6.1 and Graph No.6.6.6.1 indicated a fluctuating trends of the Interest Coverage Ratio of selected Automobile industry in India from 2003-04 to 2012-13.

CHAPTER-6
1. **Hero MotoCorp Ltd**:

   Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1349.44 times in the year of 2009-10 and lowest ratio was 135.49 times in the year of 2011-12.

   In the year 2003-04 the ratio was 624.52 times which has been increased 631.70 times in 2004-05, further it has been decreased up to 484.64 times in the year of 2005-06. During the year of 2009-10, it decreased up to 1349.44 times. It got fluctuated and the ratios have been 774.98, 706.14, 705.13, 159.52, 135.49 and 213.36 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No-6.6.6.1.

   So, The Average Interest Coverage Ratio is 578.49 times, The Standard Deviation is 362.73 and The Co-efficient variance is 47.88% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company**:  

   Table No-6.6.6.1 shows that the Interest Coverage Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 25.06 times in the year 2004-05 and the lowest ratio was 1.48 times in the year 2008-09.

   In the year 2003-04 the ratio was 21.83 times which has been increased 25.06 times in 2004-05, further it has been decreased up to 9.03 and 3.59 times in the year of 2005-07 respectively. During the year of 2008-09, it increased up to 1.48 times. It got fluctuated the ratios have been 4.08, 2.01, 4.43, 6.54 and 4.41 times during the year of 2007-08 and 2009-2013 respectively. It has been also shown in the Graph No -6.6.6.1.

   So, The Average Interest Coverage Ratio is 8.25 times, The Standard Deviation is 8.33 and The Co-efficient variance is 100.95% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited**:  

   Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 5.72 times
in the year 2003-04 and the lowest ratio was -7.41 times in the year 2008-09.

In the year 2003-04 the ratio was 5.72 times which has been decreased 2.05 times in 2004-05, further it has been decreased up to 2.07 and -5.50 times in the year of 2005-06 respectively. During the year of 2008-09, it increased up to -7.41 times. It got fluctuated the ratios have been -4.51, -4.08, -0.61 -0.28 and -2.02 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio is -1.46 times, The Standard Deviation is 4.04 and The Co-efficient variance is -277.37 % which shows solvency of this company because the average Interest Coverage Ratio shows dissatisfactory Ratio of during the study period.

4. **LML:**

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was -0.31 times in the year 2011-12 and the lowest ratio was -6.37 times in the year 2003-04.

In the year 2004-05 the ratio was -6.37 times which has been decreased -5.67 times in the year 2005-06, further it has been increased up to -5.17 times in the year of 2006-07. During the year of 2011-12, it increased up to -0.31 times. It got fluctuated and the ratios have been -1.94, -1.51, -1.01, -1.24, -1.24 and -0.79 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio is 2.52 times, The Standard Deviation is 2.27 and The Co-efficient variance is -90.12% which shows solvency of this company because the average Interest Coverage Ratio shows dissatisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 7901.43 times in the year 2012-13 and the lowest ratio was 46.37 times in the year 2008-09.

In the year 2003-04 the ratio was 1022.72 times which has been increased 1622.55 times in the year 2004-05, further it has been increased up to 4650.24 times in
the year of 2005-06. During the year of 2012-13 it increased up to 7901.43 times. It got fluctuated and the ratios have been 324.60, 220.73, 46.73, 403.61, 2573.63 and 182.03 during the year of 2006-12 times respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio 1894.79, The Standard Deviation is 2556.24 and The Co-efficient variance is 134.91% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**:

Table No-6.6.6.1 shows that the Interest Coverage Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 3.29 times in the year 2007-08 and the lowest ratio was -3.19 times in the year 2005-06.

In the year 2003-04 the ratio was -0.81 times which has been increased 3.13 times in the year 2004-05, further it has been decreased up to -3.19 times during the year of 2005-06. During the year of 2007-08, it increased up to 3.29 times. It got fluctuated and the ratios have been 1.76, -2.44, -2.01, 0.87, -0.65 and -1.59 during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio -0.16 times, The Standard Deviation is 2.31 and The Co-efficient variance is -1408.18% which shows solvency of this company because the average Interest Coverage Ratio shows dissatisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**:

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Maruti Suzuki India Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 107.63 times in the year 2010-11 and the lowest ratio was 16.52 times in the year 2012-13.

In the year 2003-04 the ratio was 18.50 times which has been increased 36.49 times in the year 2004-05, further it has been increased up to 81.30 times during the year of 2005-06. During the year of 2010-11, it increased up to 107.63 times. It got fluctuated and the ratios have been 58.33, 41.76, 32.22, 99.05, 35.83 and 16.52 times during the
Analysis and Evaluation of Capital Structure

year of 2006-10 and 2011-2013 respectively. It has been also shown in the Graph No-6.6.6.1.

So, The Average Interest Coverage Ratio 52.76 times, The Standard Deviation is 32.63 and The Co-efficient variance is 61.84% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 7.36 times in the year 2005-06 and the lowest ratio was 3.32 times in the year 2011-12.

In the year 2003-04 the ratio was 3.89 times which has been increased 6.51 times in the year 2004-05, further it has been increased up to 7.36 times during the year of 2005-06. During the year of 2011-12, it increased up to 3.32 times. It got fluctuated and the ratios have been 6.27, 4.50, 3.62, 4.60 4.98 and 3.43 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio 4.85 times, The Standard Deviation is 1.42 and The Co-efficient variance is 29.19% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 21.96 times in the year 2006-07 and the lowest ratio was 2.25 times in the year 2012-13.

In the year 2003-04 the ratio was 5.82 times which has been increased 12.63 times in the year 2004-05, further it has been decreased up to 12.13 times in the year of 2005-06. During the year of 2012-13, it decreased up to 2.25 times. It got fluctuated and the ratios were 21.96, 9.36, 2.30, 6.35, 5.24 and 3.70 during the year of 2007-12 respectively. It has been also shown in the Graph No -6.6.6.1.
So, The Average Interest Coverage Ratio 8.18 times, The Standard Deviation is 6.10 and The Co-efficient variance is 74.53% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No -6.6.6.1 shows that the Interest Coverage Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 8.58 times in the year 2004-05 and the lowest ratio was 1.13 times in the year 2012-13.

In the year 2003-04 the ratio was 7.38 times which has been increased 8.58 times in the year 2004-05, further it has been decreased up to 8.00, 7.98 and 7.05 times in the year of 2005-08 respectively. During the year of 2012-13, it increased up to 1.13 times. It got fluctuated and the ratios were 2.25, 3.27, 2.59 and 2.10 during the year of 2008-12 respectively. It has been also shown in the Graph No -6.6.6.1.

So, The Average Interest Coverage Ratio 5.03 times, The Standard Deviation is 2.99 and The Co-efficient variance is 59.38% which shows solvency of this company because the average Interest Coverage Ratio shows satisfactory Ratio of during the study period.

➢ ANOVA Test of Interest Coverage Ratio:

Hypothesis:

❖ **Ho: Null Hypothesis:**

There is no significant difference in Interest Coverage Ratio of automobile industry under study.

❖ **H1: Alternative Hypothesis:**

There is significant difference in Interest Coverage Ratio of automobile industry under study.

❖ **Level of Significance: 5%**
### TABLE NO. 6.6.6.2
INTEREST COVERAGE RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>52845266.89</td>
<td>9</td>
<td>5871696.321</td>
<td>1.59701</td>
<td>0.12807</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>330901366</td>
<td>90</td>
<td>3676681.844</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>383746632.8</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 1.59

\[
F_{cal} < F_{tab} \\
1.59 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No. 5.6.2 table indicates the calculate value of ‘F’ is 1.59701 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Interest Coverage Ratio of selected automobile industry under study for the period.
6.7 CONCLUSION:

Chapter titled “Analysis and Evaluation of Capital Structure” describe that its one of the important measurement of the financial position of the business organization. The concept and nature of capital structure or current assets denotes that “Investment in Total debt is turned over many times in a year. Investment in current assets such as inventories and book debts is realized during the firms operating cycle which is usually less than year.”

Therefore measurement liquidity has its own important. Importance of liquidity describes that its lifeblood and controlling nerve centre of the business. Without circulation of blood no one can live, just like without circulation of liquidity business can’t maintain. The performance of liquidity can be judged by investment in working capital, short-term creditors, and efficiency in capital structure. In the present study there were six types of ratios was calculated. Thus above analysis describe that the need for liquidity to rub day-to-day business activities can’t be over emphasized.
6.8 REFERENCES:

7. John N. Mayer, Financial statement analysis, prentice Hall of India, New Delhi, 1947, P.178