CHAPTER 5

PRESENTATION OF DATA AND ANALYSIS OF RESULTS

The most important aim of this chapter is to illustrate the hypothesis testing for all the two questions which were mentioned in chapter 1 and argue about the results obtained in detail. The conversation in this chapter consists of the two major questions framed in the beginning of the thesis. This chapter tries to answer the above framed questions followed with the findings. The results of testing hypotheses 1 and 2 belonged to all the two research questions are discussed and presented under this chapter.

5.1 RESEARCH QUESTION 1, HYPOTHESIS 1, HYPOTHESIS TESTING AND RESULT ANALYSIS

5.1.1 Research Question 1

The minor research questions that are going to be answered are as follows:

1. What are the determinants of capital structure of the firms in the multinational firms in the FMCG sector in India?

   a. Does there exist the positive relationship with firm’s liquidity and debt ratio as suggested by trade off theory? And, does according to pecking order theory there exist the negative relationship between the firm’s liquidity and the level of debt?

   b. As explained by trade off theory does the firm’s profitability have the positive relationship with the debt ratio? Along with, does the firm
shows the negative relationship of profitability with debt ratio as per pecking order theory?

c. As implied by trade off theory and the pecking order theory, do corporate taxes paid have a positive relationship with the debt ratio?

d. As explained by trade off theory does the firm’s size have the positive relationship with the debt ratio? Along with, does the firm shows the negative relationship of size with debt ratio as per pecking order theory?

5.1.2 Testing of Hypothesis 1

According to the discussion done in chapter 4, multiple regression analysis is chosen to test the hypothesis 1. Liquidity, profitability, tax and size are the four variables which are taken as independent variables in our research. On the other hand short term leverage, long term leverage and total leverage are taken as the dependent variables in this study.

The main reason behind the regression analysis is to observe the linear relationships between the predictor and criterion variables, to test the impact of liquidity, profitability, tax and size on short term leverage, long term leverage and total leverage.

5.1.3 Analysis of results

This section of our study is dependable on the result analysis of every variable and its reliability to theory and previous research. The research is also dependable on the Indian Capital market condition regarding variable relationship and BSE Index.
5.1.3.1 Analysis of the Result and Its Consistency to Theory and Previous Research

The effect of the independent variable on the dependent variable is represented by the regression analysis and the results are shown as under. The highest significance level is represented by 0.000. It represents that the independent variable has significantly influenced the dependent variable.

Table 5.1a. Regression Results of Hypothesis Testing 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
<th>Collinearity Statistics VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTL</td>
<td>0.228</td>
<td></td>
<td>2.490</td>
<td>0.014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LQD</td>
<td>0.017</td>
<td>0.076</td>
<td>1.064</td>
<td>0.289</td>
<td>0.929</td>
<td>1.076</td>
</tr>
<tr>
<td>PRFT</td>
<td>0.001</td>
<td>0.007</td>
<td>0.085</td>
<td>0.932</td>
<td>0.727</td>
<td>1.375</td>
</tr>
<tr>
<td>TAX</td>
<td>-0.032</td>
<td>-0.156</td>
<td>-2.231</td>
<td>0.027</td>
<td>0.970</td>
<td>1.031</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.008</td>
<td>-0.047</td>
<td>-0.560</td>
<td>0.576</td>
<td>0.686</td>
<td>1.457</td>
</tr>
</tbody>
</table>

F=1.404(0.234) : R-Squared= 0.027 : Adjusted R-squared = 0.008 : N= 210

Dependent Variable = LTL
Table 5.1b. Regression Results of Hypothesis Testing 1  

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics Tolerance</th>
<th>Collinearity Statistics VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.728</td>
<td>1.794</td>
<td>0.074</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LQD</td>
<td>0.024</td>
<td>0.025</td>
<td>0.347</td>
<td>0.729</td>
<td>0.929</td>
</tr>
<tr>
<td></td>
<td>PRFT</td>
<td>0.008</td>
<td>0.021</td>
<td>0.255</td>
<td>0.799</td>
<td>0.727</td>
</tr>
<tr>
<td></td>
<td>TAX</td>
<td>-0.046</td>
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<td>0.468</td>
<td>0.970</td>
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<tr>
<td></td>
<td>SIZE</td>
<td>-0.051</td>
<td>-0.069</td>
<td>-0.821</td>
<td>0.413</td>
<td>0.686</td>
</tr>
</tbody>
</table>

F= 0.278 (0.892) : R-Squared= 0.005 : Adjusted R-squared = -0.014 : N= 210  
Dependent Variable = TL

Table 5.1c. Regression Results of Hypothesis Testing 1  

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics Tolerance</th>
<th>Collinearity Statistics VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>STL</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LQD</td>
<td>-0.223</td>
<td>-0.369</td>
<td>-5.673</td>
<td>0.000</td>
<td>0.929</td>
</tr>
<tr>
<td></td>
<td>PRFT</td>
<td>0.064</td>
<td>0.255</td>
<td>3.467</td>
<td>0.001</td>
<td>0.727</td>
</tr>
<tr>
<td></td>
<td>TAX</td>
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<td>-0.062</td>
<td>-0.971</td>
<td>0.333</td>
<td>0.970</td>
</tr>
<tr>
<td></td>
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<td>-0.093</td>
<td>-1.236</td>
<td>0.218</td>
<td>0.686</td>
</tr>
</tbody>
</table>

F= 12.509 (0.000) : R-Squared= 0.196 : Adjusted R-squared = 0.181 : N= 210  
Dependent Variable = STL
5.1.3.1.1. Liquidity on Leverage

The above table 5.1a, 5.1 b and 5.1c clearly show the impact of liquidity on long term leverage, total leverage and short term leverage.

Liquidity and Long term Leverage

The above table shows that the Liquidity has the positive but insignificant regression coefficient on the long term leverage with 0.289 as level of significance and 1.064 as t-value. These kind of results gives us an idea that the firms having more cash in their hand are more likely to use the long term debts as a part of their capital structure as compare to the firms which are having the less cash in their hand. On the other hand as the significance level is 28.9% so it also shows that the results are not significance.

Liquidity and Total Leverage

The above table shows that the Liquidity has the positive but insignificant regression coefficient on the total leverage with 0.729 as level of significance and 0.347 as t-value. These kind of results gives us an idea that the firms having more liquid assets i.e. cash in hand are more likely to use the total debts as a part of their capital structure as compare to the firms which are having less liquid assets i.e. cash in hand. On the other hand as the significance level is 72.9% so it also shows that the results are not significance.

Liquidity and Short term Leverage

The above table shows that the Liquidity has the negative significant regression coefficient on the short term leverage with 0.000 level of significance and -5.673 as t-value. These kind of results gives us an idea that the firms having the growth
prospective are not more likely to use the short term debts as a part of their capital structure as compare to the firms which are having the low growth prospective.

However, our result does not show the significant relationship between the long term leverage and total leverage. Thus our results find null hypothesis (H0) to be true for long term and total leverage. The main reason is that the FMCG companies are more concern about getting funds rather than the way which is the most efficient to get the funding. So, we can easily understand when these companies have the characteristics as follows:

- The indebted financing is high while equity capital is low.
- External financing is high while internal fund is low.
- Indirect fund is high while direct fund is low.

Our research with respect to the liquidity and leverage shows the mix result. It shows the positive as well as the negative results. It shows that the liquidity is positively related with the long term leverage and the total leverages where as it has the negative relationship with the short term leverage. Thus, our result shows the consistency with both tradeoff theories as well as with the pecking order theory.

According to the pecking order theory the firm will first use the internal sources to finance its business. If the internal sources are not enough then it will go for the debt and lastly for the equity. As our research revolves around the fast moving consumer goods which means that the company deals with the goods which move from the shelves very quickly and the operating cycle is very less. Hence, the availability of cash for purchase of raw material, payment of wages to the labour and other operating expenses is available within the firm. In other words we can say that if the company is blessed with more current assets then the funds
available internally can be used for investment purposes instead of borrowing external short term indebted fund.

According to the tradeoff theory the firm uses the debt financing in order to offset the costs associated with the use of debt with the help of benefits in tax.

Our results are matching with the results of Liu, Y., & Zhuang, Y. (2009) and Wang Juan and Fenglin Yang (2002). Using liquidity as an indicator Liu, Y., & Zhuang, Y. (2009) confirmed a pecking order theory in IT firms in China where as Wang Juan and Fenglin Yang (2002) confirmed a trade off relationship between the collateral value of assets and ratio of debt. Their findings are just opposite to the pecking order theory of financing. They argue that even if listed firms in China are capable of repaying their debts, they world still prefer to employ equity finance.

Naveed Ahmed, Zulfqar Ahmad, Ishfaq Ahmad (2010) also shows the negative relationship between short term debt and liquidity. Their study also supports the pecking order theory. Their study showed that the Pakistani life insurance companies had high liquidity ratio. Thus they had more liquid assets and they prefer to utilize these assets to finance their investments and therefore, they did not support to raise funds through external sources.

In the study of an Eastern Asia and Australian firm’s analysis Deesomsak, Rataporn, Paudyal and Pescetto (2004) studied the relationship between debt equity choice and liquidity. Their results showed the significant relationship which is consistent with the Pecking order theory.

Some other researchers such as Friend and Lang, (1988); Rajan and Zingales (1995); Ozkan (2001), Bevan and Danbolt (2002) and Gajdka (2002) showed the negative relationship between liquidity and debt ratio favoring the pecking order
theory. On the other hand Jensen (1986) was totally disagreeing with the pecking order theory.

Mazur (2007) in his research of polish firms also discussed liquidity as the most important factor. A. Shahjahanpour, H. Ghalambor and A. Aflatooni (2010) also show the same result as our research shows. Their study also shows the negative relationship with the capital structure with the short term debt, arguing that companies with more liquidity do not expand their use of debt which means that the companies are dependent on the available current assets which favours the pecking order theory that do not favour the issue of debt in order to avail the tax benefit, when internal funds are available.

5.1.3.1.2. Profitability on Leverage

The above table 5.1a, 5.1 b and 5.1c clearly show the impact of profitability on long term leverage, total leverage and short term leverage.

**Profitability and Long term Leverage**

The above table shows that the Profitability has the negative and insignificant regression coefficient on the long term leverage with 0.932 level of significance and 0.085 as t-value. These kind of results gives us an idea that the firms having the more profitability in their basket are more likely to use the long term debts as a part of their capital structure as compare to the firms which are having the less profitability in their basket.

**Profitability and Total Leverage**

The above table shows that the Profitability has the negative and insignificant regression coefficient on the total leverage with 0.799 level of significance and
0.255 as t-value. These kind of results gives us an idea that the firms having more profit in their basket are more likely to use the total debts as a part of their capital structure as compare to the firms which are having the less profit in their basket.

**Profitability and Short term Leverage**

The above table shows that the Profitability has the positive significant regression coefficient on the short term leverage with 0.001 level of significance and 3.467 as t-value. These kind of results gives us an idea that the firms having the more profit in their basket are more likely to use the short term debts as a part of their capital structure as compare to the firms which are having less profit in their basket.

From the above analysis we can make out that the profitability has the positive correlation with the long term leverage, total leverage and the short term leverage. If we compare our results with the two theories as discussed in the previous chapters Pecking order theory and Trade off theory, our all the three results are satisfying the trade off theory but they are not satisfying the pecking order theory.

Myer and Majluf (1984) in their paper discussed about the Pecking order theory that the firms would like to finance their projects firstly with the internal available funds relatively to the external funds. If internal funds are not sufficient enough then only the firms will go for the external funds but then also the first choice of the firms will be to arrange funds through the issue of debts, then if required with hybrid securities such as convertible bonds, and lastly the firms will go for the issue of the equity shares. Brealey and Myer (1991) also agree with the above statement. They also said that this kind of behavior may be due to the cost incurred such as transaction cost or any other cost while issuing equity shares.
Harris and Raviv (1991), Rajan and Zingales (1995) and Booth et al. (2001) also find the negative relationship between profitability and leverage. Hence, their study also supports the Pecking order theory. In their study they all pointed out that the more profitable firms will have more internal funds to finance and therefore these firms expects the negative relationship between leverage and the profitability. Due to more profitability these firms will have more profit stored in the form of retained earnings, hence the firms can use the retained earnings for financing rather than borrowing from the outside sources in the form of debt, bonds or equity.

On the other hand Jensen (1986) study showed the positive relationship between the profitability and the leverage supporting the trade off theory. His study explained that there was the positive relationship because the market for the corporate control was effective due to which the issue of debt reduced the free cash flow caused by profitability. Trade off theory contradicts the Pecking order theory. According to the trade off theory, the firms having more profit will prefer to borrow funds from outside sources in the form of debt or bonds so that they can avail the benefit of tax shield. Along with this, if the firms are profitable in the past years then it is considered as a good alternative for the profits in the future and these firms will have the more probability of paying the loans back and hence the profitable firms can borrow more. Besides all these benefits, the profitable firms have lesser chance of insolvency and have more possibility to make use of debt to avail the benefit of tax shield.

If we compare our results with the previous researches, we will find the consistent results. Using the Swiss data, the pecking order model and trade off model was created by Drobetz and Fix (2003). Their study also supported the pecking order theory contradicting the trade off theory. Hence, their study showed the negative
relationship between the profitability and leverage showing that the profitable firms use less leverage.

Huang and Song (2002) study also resulted the strong negative relationship between profitability and total liabilities ratio supporting the pecking order theory. Pandey (2001) study also showed the significantly the inverse relationship between the profitability and leverage at market values favouring the theory of pecking order as discussed by Myers (1984).

Al-Sakran, (2001), Daskalakis and Psillaki (2008), Vasiliou et al (2009) and Kayo and Kimura, (2010) studies were also consistent with the pecking order theory showing the negative relationship between profitability and debt financing. They used the return on equity as an index for the profitability of the firm.

The studies of Titman and Wessels (1988), Kester (1986), Friend and Hasbrouck (1989), Friend and Lang (1988), Gonedes and others (1988) show the negative relation between the level of debt in capital structure and profitability. Indian and Nepalese studies also show the same evidence as foreign studies do [Baral (1996)].

Sbeiti (2010) also found the same results as that of Booth et al (2001). The Sbeiti (2010) study shows the significant negative relationship with the book and market leverage in the three countries where as Booth et al (2001) study shows the agency and informational asymmetry problems in developing countries.

Thus, the majority of the previous researches have shown the inverse relationship between profitability and the leverage supporting the pecking order theory. Following the theory Shah and Khan (2007), Freedenberg (2001) also proved that
the retained earnings are better option for financing in lieu of the external financing.

Han-Suck Song (2005) also proved that profitability was inversely related with the leverage measured in three ways favouring pecking order theory. Their study focused that the firms utilize the surplus incurred by profits to finance their investments.

5.1.3.1.3. Tax on Leverage

The above table 5.1a, 5.1 b and 5.1c clearly show the impact of profitability on long term leverage, total leverage and short term leverage.

Tax and Long term Leverage

The above table shows that the tax has the negative significant regression coefficient on the long term leverage with 0.027 as a level of significance and -2.231 as t-value. These kind of results gives us an idea that the firms having the more tax in their statement are less likely to use the long term debts as a part of their capital structure as compare to the firms which are having the less amount of tax in their statements.

Tax and Total Leverage

The above table shows that the tax has the negative and insignificant regression coefficient on the total leverage with 0.468 level of significance and -0.728 as t-value. These kind of results gives us an idea that the firms having more tax in their statements are less likely to use the total debts as a part of their capital structure as compare to the firms which are having the less tax in their statements.
Tax and Short term Leverage

The above table shows that the tax has the negative and insignificant regression coefficient on the short term leverage with 0.333 level of significance and -0.971 as t-value. These kind of results gives us an idea that the firms having the more tax in their statements are less likely to use the short term debts as a part of their capital structure as compare to the firms which are having less tax in their statements.

Static trade off theory advises to expand the use of debt which indicates the tax deductibility of interest. Bankruptcy is also considered as another factor that negatively influences issuing debt decisions. Thus, the use of more debt is encouraged so as to increase the tax shields by the firms whose effective tax amount is more; therefore a positive relationship between effective tax rate and debt ratios is predictable.

The mixed results have been found about the relationship between the tax and the leverage. De Angelo and Masulis (1980) also referred that the non debt tax shield can be substitutes for the tax benefits of debt financing and a firm with larger non-debt tax shields is expected to use less debt. They argued that the interest on debt tax shields can be replaced by the non debt tax shields such as depreciation. And, if more interest or depreciation is shown in statement then there will be less tax amount. Hence, there will be the negative relationship between the effective tax amount and the leverage. H. Ghalambor, A.Aflatooni and A. Shhjahanpour (2010) showed the positive relationship between the effective tax rate and short term debt as well as long term debt. Thus, their findings were consistent with the static trade off theory. According to static trade off theory of M&M (1963), Interest tax shield influences capital structure decisions positively, and it is because of tax deductibility of interest expense. Companies with more taxes tend to use tax
shields such as interest cost of debts, so they will expand their external financing to compensate their high taxes.

5.1.3.1.4. Size on Leverage

The above table 5.1a, 5.1 b and 5.1c clearly show the impact of profitability on long term leverage, total leverage and short term leverage.

Size and Long term Leverage

The above table shows that the Size has the negative and not significant regression coefficient on the long term leverage with 0.576 level of significance and -0.560 as t-value. These kind of results gives us an idea that the firms large in size are not likely to use the long term debts as a part of their capital structure as compare to the firms which are smaller in size.

Size and Total Leverage

The above table shows that the Size has the negative insignificant regression coefficient on the total leverage with 0.413 level of significance and -0.821 as t-value. These kinds of results gives us an idea that the firms large in size are not likely to use the total debts as a part of their capital structure as compare to the firms which are smaller in size.

Size and Short term Leverage

The above table shows that the Size has the negative insignificant regression coefficient on the short term leverage with 0.218 level of significance and -1.236 as t-value. These kinds of results gives us an idea that that the firms large in size are not likely to use the short term debts as a part of their capital structure as compare to the firms which are smaller in size.
After comparing our results, it describes that there exist the negative relationship between size and all the three types of leverage taken for our study i.e. Long term leverage, total leverage and short term leverage. These results predict that the MNC firms in FMCG sector prefer to utilize internal available funds to be the first priority as the part of their capital structure. This may be so because FMCG firms are less risky in nature and these firms are also more diversified in nature. Hence, our results are consistent with pecking order theory and inconsistent with trade-off theory.

According to the trade-off theory, firms which are larger in size have lesser default risk as compared to smaller size firms because they are more diversified than smaller size firms. So, the larger firms use more debts in their capital structure. Secondly, as a result of their high status in the debt market, the firms larger in size have to face lower agency costs of debt.

If we look at the pecking order theory, it shows the negative relationship between the firm’s size and the leverage. They argue that the larger firms have good status in the market and the investors know them better. Therefore, the larger firms will face fewer problems in issuing equity shares as compared to the smaller firms where there are lots of adverse selection problems.

Size has been the controversial issue in many of the research papers. Many researchers such as Chung (1993) and Grinblatt and Titman (1998) discussed that due to the high cost involved in resolve informational asymmetries with financiers and lenders, due to which smaller firms are discouraged to borrow funds from the outside sources. Rajan and Zingales (1995) also suggest that the smaller firms should prefer equity as compared to debts. According to Warner, (1977); Ang et al. (1982); Pettit and Singer, (1985); Titman and Wessels, (1988) there exists the negative relationship between size and leverage due to the chances of liquidation
and liquidation cost involved in it where as larger firms are more diversified and have lesser chance of fail. Ozkan (1996) also supported with the reason that the smaller firms should have lower proportion of debt because they have the chance of liquidation when they are in financial distress. Ferri and Jones (1979) also suggest that the firms which are larger in size have easy access to the market and they are able to borrow from the market in the better conditions. Overall, larger firms with less asymmetric information problems should tend to have more equity than debt and thus have lower leverage.

Some of the previous studies which found the positive relationship between size and leverage are Ocana et al (1994); Hutchinson, (1995); Chittenden et al,(1996);Chen and Hammes, (1997); Berger and Udell,(1998);Michaelas et al.,(1999);Wiwattanakantang (1999);Romano et al. , (2000); Colombo, (2001); Fama and French, (2002);Fattough et al., (2003); Deesomsak et al., (2004); Voulgaris et al.,( 2004); Gaud et al., (2005); Hol and Wijst, (2006); Huang and Song, (2006); Saylgan et al., (2006); Zou and Xiao, (2006); Feidakis and Rovolis,(2007); Qian et al., (2007); Tortop, (2007); Daskalakis and Psillaki, (2008); Heyman et al., (2008). In the Indonesian firms the investment is done with the help of bank credit, retained earnings and trade credit [Ang et al(1997)].Graham and Harvey (2001) found that in the US firms both pecking order theory and trade off theory was valid because the financial managers in US firms use dilution effect and increase in the share price into consideration while issuing the equity shares where as flexibility and credit ratings were considered while issuing bonds. Hence, there exists both positive as well as negative relationship between size and leverage in US firms.

Brounen et al (2005) find that the target debt ratio is established following the trade off theory in countries like Netherlands, UK, France and Germany.
Frielinghaus et al (2005) found that the more debt is preferred in the early stages in the South African companies and in the later stage the internal sources are preferred. Hence, they follow the pecking order theory.

Sogorb-Mira and Lopez-Gracia (2003) studied the SMEs firms and found that these firms had to face higher bankruptcy costs, greater agency costs and bigger cost to resolve the higher informational asymmetries so, there exist the positive relationship between firms size and leverage.

Sbeiti (2010) also found the size was positively and significantly related to both book and market leverage in the three GCC countries in their research paper ‘determinants of capital structure and the impact of their stock market development on the financing choices’.

Caglayan and Sak (2010) in their study on banking sector also found the positive relationship with the leverage and size following the static trade off theory and agency cost theory. Han-Suck Song (2005) also found the positive relationship between size and both total debt and short term leverage where as it found the negative relationship with the long term leverage. Hence, his study was consistent with both trade off theory and pecking order theory. His study was similar to that of Bevon and Danbolt (2000) who also found the positive relationship with trade credit and short term securitized debt where as he found the inverse relationship with the short term bank borrowings.
5.2 RESEARCH QUESTION 2, HYPOTHESIS 2, HYPOTHESIS TESTING AND RESULT ANALYSIS

The research question that is to be answered with the detailed analysis of hypothesis 2 with quantitative and qualitative analysis is as follows:

5.2.1 Research Question 2

Under this section we are going the mention our research question 2 which is as follows:

How do Multinational firms in the FMCG sectors in India raise their capital for investment, either internally or externally (either with debt or equity)?

5.2.2 Hypothesis 2

On the basis of research question 2, the framed hypothesis 2 is as follows:

\[ H_{02} \quad \text{“MNC’s Firms in the FMCG sector raise capital for investments through internal sources or external sources”}. \]

\[ H_{12} \quad \text{“MNC’s Firms in the FMCG sector raise capital for investments through external (with debt or equity) as well as internal sources”}. \]

5.2.3 Testing of Hypothesis 2

According to the discussion done in chapter 4, multiple regression analysis and augmented analysis model are chosen to test the hypothesis 2. Net debt issue, net equity issue and net retained earnings are the three variables which are taken as dependent variables in our research. On the other hand financial deficit is taken as the independent variables in this study.
The main reason behind the regression analysis is to observe the linear relationships between the predictor and criterion variables, to test whether the firms are following the pecking order theory or not. If the pecking order theory is being followed then the deficit is financed with the help of internal sources of finance. If the internal sources are not enough and external sources are required then the financing should be done firstly with the help of debt and then with the equity. If the pecking order theory is followed by the firms then the changes in debt with track changes in the deficit one for one. Hence, the expected deficit coefficient is one.

The augmented analysis is done to find out how the deficit is financed, either with debt as a first priority or equity as the first priority in the multinational companies in the FMCG sector in India. Shyam-Sunder and Myers (1999) in their research paper focused that if the deficit is financed firstly with the debt then the change in debt should track changes in deficit one for one. Chirinko and Singha (2000) discussed in their research that the debt is used first and then equity is used to finance their deficit only when the firms have reached their debt capacities. In such a situation the net debt issued is a concave function of the deficit and there would be the negative term in the coefficient of squared deficit. On the other hand if the first preference is given to the equity and then to the debt to finance its deficit then it will show the convex relationship and there would be the positive term in the coefficient of squared deficit.

5.2.4 Analysis of results

This section of our study is dependable on the result analysis of hypothesis 2 which consists of quantitative and qualitative analysis. Variable relationship and its reliability to theory and previous research are done through quantitative analysis and qualitative analysis is done with the help of graphs.
5.2.4.1 Analysis of the Result and Its Consistency to Theory and Previous Research

The effect of the independent variable on the dependent variable is represented by the regression analysis and the results are shown as under. The highest significance level is represented by 0.000. It represents that the independent variable has significantly influenced the dependent variable.

The result of hypothesis testing 2 shows the effect of financing deficit on net debt issue, net equity issue and net retained earnings. It is being done with the help of regression analysis and augmented model results.

Table 5.2a. Regression Results of Hypothesis Testing 2 (Net Debt Issue)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
<th>Collinearity Statistics VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDE BT (Constant)</td>
<td>-0.044</td>
<td>-0.257</td>
<td>0.797</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>9.452E-005</td>
<td>0.033</td>
<td>0.484</td>
<td>0.629</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

F= 0.234 (0.629) : R-Squared= 0.001 : Adjusted R-squared = -0.004 : N= 210

Dependent Variable: Net Debt Issue
Table 5.2b. Regression Results of Hypothesis Testing 2(Net Equity Issue)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEQUITY (Constant)</td>
<td>0.244</td>
<td>0.714</td>
<td>0.476</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>0.000</td>
<td>-0.031</td>
<td>-0.449</td>
<td>0.654</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

F= 0.202(0.654) : R-Squared = 0.001 : Adjusted R-squared = -0.004 : N= 210

Dependent Variable = NEQUITY

Table 5.2c. Regression Results of Hypothesis Testing 2(Net Retained Earnings)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRE (Constant)</td>
<td>-0.049</td>
<td>-0.288</td>
<td>0.774</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>9.008E-0.005</td>
<td>0.032</td>
<td>0.463</td>
<td>0.644</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

F= 0.214 (0.644) : R-Squared = 0.001 : Adjusted R-squared = -0.004 : N= 210

Dependent Variable = NRE
Table 5.3. Augmented Model Results of Hypothesis Testing 2

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients B</th>
<th>Standardised Coefficients Beta</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
<th>Collinearity Statistics VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDE BT</td>
<td>(Constant)</td>
<td></td>
<td>-0.062</td>
<td>0.725</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>0.000</td>
<td>0.081</td>
<td>0.556</td>
<td>0.579</td>
<td>0.225</td>
<td>4.439</td>
</tr>
<tr>
<td>FDS QR</td>
<td>-3.705E-005</td>
<td>-0.054</td>
<td>-0.371</td>
<td>0.711</td>
<td>0.225</td>
<td>4.439</td>
</tr>
</tbody>
</table>

F= 0.186 (0.831) : R-Squared= 0.002 : Adjusted R-squared = -0.008 : N= 210

**Dependent Variable = NDEBT**

**5.2.4.1.1 Regression Model Result**

Net debt issued is represented by Y and financial deficit by deficit. The deficit of the firm is financed either with debt, equity or retained earnings. If the pecking order theory is followed by the firms then the changes in debt should track changes in deficit one-for-one. Hence, the coefficient on the deficit is represented by one.

**Net Debt Issued**

From the above table 5.2a, we can analysis that financial deficit has the positive insignificant effects on the net debt issue with 0.484 as the t value and significance level of 0.629. The calculated result gives us an idea that the FMCG firms having the high financial deficit does prefer to issue more debts. Hence the deficit is having the coefficient of 9.452E-005 and a constant value is -0.044.
Net Equity Issued

From the above table 5.2b, we can analysis that financial deficit has the inverse insignificant effects on the net equity issue with -0.449 as the t value and significance level of 0.654. The calculated result gives us an idea that the FMCG firms having the high financial deficit does not prefer to issue more equity. Hence the deficit is having the coefficient of -0.000 and a constant value is 0.244.

Newly Retained Earnings

From the above table 5.2c, we can analysis that financial deficit has the positive insignificant effects on the newly retained earnings with 0.463 as the t value and significance level of 0.644. The calculated result gives us an idea that the FMCG firms having the high financial deficit does prefer to use more newly retained earnings. Hence the deficit is having the coefficient of 9.008E-005 and a constant value is -0.049.

5.2.4.1.2 Augmented Model Result

The substitute of describing the firm’s debt capacity is known as an augmented model. The augmented model gives us the result that whether the firm is using equity first or debt first as the next source of financing its deficit. If the firm uses equity as the next source after using the retained earnings to finance its deficit then there will be the convex relationship and there will be the positive coefficient on the squared deficit term.

The above table 5.3 showing the augmented model results describes the positive coefficient on the financial deficit and negative coefficient on the squared deficit term. But the results are not significant in both the financial deficit and squared deficit.
**Prefer External or Internal Financing?**

Our result shows the positive and insignificant coefficient of financial deficit on newly retained earnings and Net Debt issue in the sample firms taken for the study. On the other hand, the result shows the insignificantly negative coefficient of financing deficit on net equity issue. Thus, we can conclude that our multinational FMCG firms in India taken as sample prefer both internal financing and external financing.

**Prefer Debt or Equity?**

Our result shows that the multinational FMCG firms in India which adopted the pecking order theory were consistent. The result shows the insignificantly negative coefficient on squared deficit and insignificantly positive coefficient on the deficit. It indicates that the firm uses newly retained earnings at the first place, then if required issues debt, which is also a last source of financing once they have reached their debt capacities. Hence, our results suggest that the FMCG firms rely mostly on the newly retained earnings and on debt rather than on equity. Hence, deficit financing is financed by the use of internal sources, which proves that the firms follow the pecking order theory.

The debt has played the very important role in the assessment of the pecking order theory, as stated by the pecking order theory. This is because the financial deficit is to be overcome either by retained earnings or by the issue of debt. If there are the short term variations in the earnings as well as in the investments then how the debt is considered responsible, was studied by the researchers Shyam –Sunder and Myers (1999). They focused that when there is an increase in the investments than in the earnings then the debt increases, and on the other hand if there is an increase in the earnings than in the investments then debt decreases. Financial deficit definition according to the pecking order theory is investments plus
dividends plus changes in the working capital less internal cash flows. The theory estimates that, the estimated slope coefficient should be one in the regression of net debt issues on the financing deficit. To what extent the new debt issues are explained by the financial deficit is specified by the slope coefficient.

Myer (1984) in his study focused that if the firm is following the pecking order theory then it will prefer internal financing first and if the internal sources are not enough then the firm will go for external sources and while considering the external sources, the debt is always preferred over equity. Frank and Goyal (2008) focused on the definition of “prefer” internal financing can be considered in two different analysis. It can be analyzed that before considering the external sources (debt or equity or any other equal thing), all the available internal sources are used first i.e. internal sources are preferred over the external sources. They also analyzed that debt is always preferred over equity. In their study, it was focused that the firm should never issue equity after the initial public offering (IPO), unless and until due some cause the debt turn out to be in short supply (insufficient). Due to this reason the firm limits the proportion of debt in the capital structure and permit to make use of the equity within the pecking order theory.

If the work done by the researchers before is compared with our results then our results are not consistent with some of the researchers. For example, Ari Christianti (2008) study did not support the pecking order theory in explaining the behavior of manufacturing sector firms financing in the IDX, which was focused by the inverse and significant coefficient of pecking order theory. Secondly, it can also be considered that the capital market condition of developed countries and developing countries are different as studied by the researchers Shyam- Sunder and Myers (1999), Jong, Verbeek and Verwijmeren (2005) and Frank and Goyal (2003).
The new empirical model that was encouraged by the pecking order’s decision rule was at by Leary and Roberts (2005). Their study resulted that 62% of the sampled firms were consistent with the pecking order theory for the choice between internal and external (debt or equity) financing and most of the issues regarding issuing equity were not due to the capacity concerns of debt as suggested by the modified version of the pecking order theory. Hence, it was shown empirically in their study that the pecking order theory did not seem to be an implication of information asymmetry.

5.2.5 Qualitative Analysis of Hypothesis 2

The qualitative analysis of hypothesis 2 has been shown in the table 5.4 with the sample of 21 multinational FMCG firms as under:

Table 5.4 Research Sample Firms Abbreviations

<table>
<thead>
<tr>
<th>No.</th>
<th>Firm</th>
<th>No.</th>
<th>Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BRIT</td>
<td>12</td>
<td>LOTT</td>
</tr>
<tr>
<td>2</td>
<td>COLG</td>
<td>13</td>
<td>MARI</td>
</tr>
<tr>
<td>3</td>
<td>DAB</td>
<td>14</td>
<td>MCLE</td>
</tr>
<tr>
<td>4</td>
<td>EMAM</td>
<td>15</td>
<td>NEST</td>
</tr>
<tr>
<td>5</td>
<td>GILL</td>
<td>16</td>
<td>P&amp;GHH</td>
</tr>
<tr>
<td>6</td>
<td>GLAX</td>
<td>17</td>
<td>RADI</td>
</tr>
<tr>
<td>7</td>
<td>GODR</td>
<td>18</td>
<td>SIEM</td>
</tr>
<tr>
<td>8</td>
<td>GOFG</td>
<td>19</td>
<td>TATA</td>
</tr>
<tr>
<td>9</td>
<td>HAVE</td>
<td>20</td>
<td>UNIT</td>
</tr>
<tr>
<td>10</td>
<td>HUL</td>
<td>21</td>
<td>WHIR</td>
</tr>
<tr>
<td>11</td>
<td>ITC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Financing Deficit

Financial deficit as an independent variable and other dependent variables such as net debt issue, net equity issue and newly retained earnings are shown in figure 5.1, figure 5.2, figure 5.3 and figure 5.4 as under:

![Financial Deficit Graph]

**Figure 5.1. Financing Deficit of Each Firm**

Note: 1= BRI, 2 = COLG, 3 = DAB, 4= EMAM, 5= GILL, 6 = GLAX, 7 = GODR, 8= GOFG, 9 = HAVE, 10 = HUL, 11 = ITC, 12 = LOTT, 13= MARI, 14 = MCLE, 15 = NEST, 16 = P&GHH,17 = RADI, 18 = SIEM, 19 = TATA, 20 = UNIT ,21 = WHIR

From the above figure we can conclude that the highest financing deficit firm is ITC, followed by HUL, Godrej, Glaxo, etc. The firms that have the lowest financing deficit are Nestle, followed by Whirlpool of India, P&GHH etc.
From the above figure we can conclude that the highest debt issuing firm is coabur, followed by Marie. The firms that has the lowest debt issue are Gillete (India), GlaxosmithKline Pharmaceutical, HUL, followed by Whirlpool of India.
Figure 5.3 Net Equity Issue

Note: 1= BRI, 2 = COLG, 3 = DAB, 4= EMAM, 5= GILL, 6 = GLAX, 7 = GODR, 8= GOFG, 9 = HAVE, 10 = HUL, 11 = ITC, 12 = LOTT, 13= MARI, 14 = MCLE, 15 = NEST, 16 = P&GHH,17 = RADI, 18 = SIEM, 19 = TATA, 20 = UNIT ,21 = WHIR

From the above figure we can conclude that the highest Net Equity Issue firm is HUL. The firms that has the lowest Net Equity Issue are Seimens followed by Havells and ITC etc.
Figure 5.4 Newly Retained Earnings

Note: 1= BRI, 2 = COLG, 3 = DAB, 4= EMAM, 5= GILL, 6 = GLAX, 7 = GODR, 8= GOFG, 9 = HAVE, 10 = HUL, 11 = ITC, 12 = LOTT, 13= MARI, 14 = MCLE, 15 = NEST, 16 = P&GHH, 17 = RADI, 18 = SIEM, 19 = TATA, 20 = UNIT ,21 = WHIR

From the above figure we can conclude that the highest using of newly retained earning firms are Seimens, followed by Havells and ITC etc. The firms that has the lowest usage of newly retained earnings are HUL, followed by Radico Khaitan and Tata Coffee etc.
Capital Structure

The Capital Structure of 21 multinational firms in FMCG sector in India consisting of newly retained earnings, net equity issue and net debt issue is represented in Figure 5.5 as under. Whereas, aggregates of financial deficit such as long term leverage divided by total assets, fixed assets divided by total assets, dividend divided by total assets, change in working capital divided by total assets and net income divided by total assets is represented in Figure 5.6 as under.

![Capital Structure](image)

**Figure 5.5 Firms Capital Structure**

Note: 1 = newly retained earnings, 2 = net equity issue, 3 = net debt issue

From the above figure 5.5 we can depict that newly retained earnings is the highest composition which is used to overcome the financing deficit, followed by the net debt issue. Net equity issue is not used to overcome financial deficit but on the other hand newly retained earnings and net debt issue are used to repurchase...
equity. Our results are also supported by the results of regression tests which also concluded that the newly retained earnings are the first priority to overcome the financing deficit and then with the net debt issue.

**Figure 5.6 Aggregate of Financial Deficit**

Note: 1 = LTL/TA, 2 = FA/TA, 3 = DIV/TA, 4 = change in WC/TA, 5 = NI/TA

From the above figure 5.6 we draw the conclusion that the highest aggregate of financial deficit is shown by fixed assets to total assets while the lowest is shown by the dividend to total assets. All the firms except Britania, Colgate and Mcleod Russel (India) are using newly retained earnings for financing deficit. This is so because Britania and Colgate are issuing debt and Mcleod Russel (India) is issuing equity for financing deficit. Hence, 20 firms out of sample of 21 firms are following Pecking Order Theory.
Newly Retained Earnings, Net Debt Issue, Net Equity Issue and Financing Deficit

The multinational firms in the FMCG sector in India’s capital structure is described below in table 5.5. Within the tenure of 10 years i.e. from 2004 - 13 which is taken for the research, all firm that had a positive average of newly retained earnings. However, Gillete (India) is the only firm which has negative financial deficit, negative net debt issue and negative net equity issues but positive newly retained earnings. All the firms taken as the sample has negative net equity issue.

Hence, with in the research period of 10 years taken as a sample Nestle, P&GHH and Whirlpool are the three firms which show the negative financial deficit.
The firms which have the negative net debt issue means that their debt has been paid off. On the other hand negative net equity issues indicate that the firms are purchasing back their equity.

Table 5.5. The firm’s Capital Structure

<table>
<thead>
<tr>
<th>Firms</th>
<th>FD</th>
<th>NDEBT</th>
<th>NEQUITY</th>
<th>NRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRIT</td>
<td>291.199</td>
<td>13.311929</td>
<td>-0.119723</td>
<td>0.1247948</td>
</tr>
<tr>
<td>COLG</td>
<td>15.301</td>
<td>8.9554825</td>
<td>-0.149704</td>
<td>0.1552219</td>
</tr>
<tr>
<td>DAB</td>
<td>183.731</td>
<td>0.2682554</td>
<td>-0.171623</td>
<td>0.1938068</td>
</tr>
<tr>
<td>EMAM</td>
<td>7.271</td>
<td>0.0516824</td>
<td>-0.139239</td>
<td>0.1416447</td>
</tr>
<tr>
<td>GILL</td>
<td>-12.779</td>
<td>-0.000433</td>
<td>-0.081406</td>
<td>0.0814062</td>
</tr>
<tr>
<td>GLAX</td>
<td>531.868</td>
<td>0.0001727</td>
<td>-0.097803</td>
<td>0.0989119</td>
</tr>
<tr>
<td>GODR</td>
<td>850.692</td>
<td>0.2308431</td>
<td>-0.12855</td>
<td>0.1346118</td>
</tr>
<tr>
<td>GOFG</td>
<td>187.664</td>
<td>0.1342663</td>
<td>-0.108386</td>
<td>0.1083859</td>
</tr>
</tbody>
</table>
Interestingly, all the firms show the negative net equity issue. This indicates that all the firms are repurchasing their equity back.

**Correlations Analysis**

From the table 5.6b shown below, it implies that Liquidity and newly retained earnings have the positive insignificant correlations between them, which imply that the firm whose liquidity is high uses more of the newly retained earnings. Profitability and newly retained earnings have the negative and insignificant correlation between them. It means that the firms whose profitability is high use less of the newly issued retained earnings. Tax and newly issued retained earnings have the positive and significant correlation between them. It implies that the firms, whose taxable amount is more, use more of the newly retained earnings.
Size and newly retained earnings show the positive and insignificant correlation between them. It implies that the firms who are larger in size use more of the newly issued retained earnings for financing deficit. Or in other words we can say that the firms which use less of the newly issued retained earnings are smaller in size.

Table 5.6a Correlations between Variables

<table>
<thead>
<tr>
<th></th>
<th>NRE</th>
<th>NEQUITY</th>
<th>NDEBT</th>
<th>FD</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-0.992**</td>
<td>0.714**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.385</td>
</tr>
<tr>
<td>NEQUITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>-0.992**</td>
<td>1</td>
<td>-0.696**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.364</td>
</tr>
<tr>
<td>NDEBT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>0.714**</td>
<td>-0.696**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.861</td>
</tr>
<tr>
<td>FD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>-0.060</td>
<td>0.063</td>
<td>0.012</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.385</td>
<td>0.364</td>
<td>0.861</td>
</tr>
</tbody>
</table>
The relationship between the variables of financial deficit and the variables of the capital structure is shown in the above table 5.6.

From the above table it can be analyzed that liquidity and tax has negative and significant correlation relationship with Net Equity Issue. It implies that the firms whose liquidity and tax amount is high, they issue less of net equity issue.
Profitability and size has the positive and insignificant correlation relationship with Net Equity Issue. It implies that the firms whose profitability and size is large they issue more of the net equity issue.

Profitability and size have the negative and significant correlation relationship with Net Debt Issue. It implies that the firm whose profitability and size is high, they will issue more of net debt. Liquidity and tax have the positive and insignificant correlation relationship with Net Debt Issue. It implies that the firms whose liquidity and tax are more will issue less of net debt but not significantly.

Tax has the negative and insignificant correlation relationship with financial deficit. It implies that the firms whose tax amount is more has less financial deficit. Liquidity, profitability and size has the positive correlation relationship with Financial Deficit. It implies that the firms, whose liquidity, profitability and size are smaller, will have more of the financial deficit, significantly.

5.3 STATISTICAL POWER ANALYSIS OF HYPOTHESES 1 AND 2

To examine how the theory is implicit in our sample, we also analyzed the ability to predict the outcome. It comprises of the analysis of non-standardized beta coefficients, standardized beta coefficients, descriptive statistics, analysis of variance (ANOVA) and coefficient of determination (R-squared).

5.3.1. The Un-standardised Beta Coefficients

B is the value of the regression equation to predict the dependent variable from the independent variable. Not standardized coefficients are called because they are measured in natural units. Therefore, the coefficients cannot be compared with
each other to determine the most influential in the model, as can be measured in different scales.

For hypothesis 1, (Constant) value of Liquidity, profitability, tax and size as the independent variable on the Long term leverage as the dependent variable is 0.228, B Coefficients of Liquidity, Profitability, Tax and Size are 0.017, -0.001, -0.032 and -0.008. (Constant) value of Liquidity, profitability, tax and size as the independent variable on the Total leverage as the dependent variable is 0.728, B Coefficients of Liquidity, Profitability, Tax and Size are 0.024, 0.008, -0.046 and -0.051. (Constant) value of Liquidity, profitability, tax and size as the independent variable on the Short term leverage as the dependent variable is 1.188, B Coefficients of Liquidity, Profitability, Tax and Size are -0.223, 0.064, -0.035 and -0.043. From the above figures, it can be concluded that Short term leverage has the highest value and the Long term leverage has the lowest value.

For hypothesis 2, there is only one predictor variable in each models all the 21 firms taken as sample. Therefore, the correlation coefficient between the criterion variable and the predictor variable is treated equivalent to the beta coefficient. The results of the (constant) value and the beta coefficients of all the 21 firms taken as the sample of financing deficit on net debt issue, net equity issue and newly retained earnings are as follows. The (Constant) value of financing deficit on net debt issue is -0.044, and B coefficient of financing deficit is 9.452E-005. From the above, it can be analyzed that if no financing deficit is there in the firm, then the net debt issue is -0.044. If the value of financing deficit increases from 0 to 1 the net debt issued is 9.00(-0.044+9.452E-005). The (Constant) value of financing deficit on net equity issue is 0.244, and B coefficient of financing deficit is 0.000. From the above, it can be analyzed that if no financing deficit is there in the firm, then the net equity issue is 0.244. If the value of financing
deficit increases from 0 to 1 the net equity issued is $0.244(0.244 + 0.000)$. The (Constant) value of financing deficit on newly retained earnings is -0.049, and B coefficient of financing deficit is $9.008 \times 10^{-5}$. From the above, it can be analyzed that if no financing deficit is there in the firm, then the newly retained earnings is -0.049. If the value of financing deficit increases from 0 to 1 the newly retained earnings is $-0.049 + 9.008 \times 10^{-5}$. The above figures give us the results that newly retained earnings have the highest value. From this, it can be analyzed that if the financing deficit is the problem in front of the firms then the firms tend to use more of the retained earnings.

5.3.2. The Standardised Beta Coefficients

When there are more than one predictor variables, then it is difficult to compare the correlation coefficients. Therefore, the beta (B) the standardised coefficient of regression analysis is computed. The standardized coefficient of regression is obtained when all the variables of regression, consisting of all dependent as well as independent variables are standardized, and ran the regression. Now, the standardized coefficient allows to make the comparison and to evaluate the strength of the relationship between each predictor (independent) variable to the criterion (dependent) variable because before running the regression, all the variables are positioned on the same scale. The beta value measures, how strongly each independent variable influence the dependent variable. It is also noticed that the larger beta values are associated with the larger t-values. If the beta value is higher, it indicates that the independent variable has the greater impact on the dependent variable. In multiple regressions, to interpret the direction of the relationship between variables, look at the signs (plus or minus) of the B coefficients. If a B coefficient is positive, then the relationship of this variable with the dependent variable is positive (e.g., the greater the IQ the better the grade.
point average); if the $B$ coefficient is negative then the relationship is negative (e.g., the lower the class size the better the average test scores). Of course, if the $B$ coefficient is equal to 0 then there is no relationship between the variables.

For hypothesis 1, the standardized beta coefficient of liquidity, profitability, tax and size on the long term leverage, total leverage and short term leverage is mentioned below: the standardized coefficient of liquidity, profitability, tax and size as independent variables on the long term leverage as the dependent variable are $0.076, 0.007, -0.156$ and $-0.047$. The standardized coefficient of liquidity, profitability, tax and size as independent variables on the total leverage as the dependent variable are $0.025, 0.021, -0.051$ and $-0.069$. The standardized coefficient of liquidity, profitability, tax and size as independent variables on the short term leverage as the dependent variable are $-0.369, 0.255, -0.062$ and $-0.093$.

For hypothesis 2, the results of the standardized coefficient of beta of all the 21 firms taken as the sample of financing deficit on net debt issue, net equity issue and newly retained earnings are described as follows. Standardized coefficients of financing deficit (the independent variable) on net debt issued (dependent variable) is $0.033$. Standardized coefficients of financing deficit (the independent variable) on net equity issued (dependent variable) is $-0.031$. A standardized coefficient of financing deficit (the independent variable) on newly retained earnings (dependent variable) is $0.032$.

From the above figures, it can be analyzed that the results of unstandardised beta coefficient and the results of standardized beta coefficient shows the similar results that the effect of financing deficit on newly retained earnings is the highest. In other words, it can be expressed as the coefficient of correlation
between financing deficit and newly retained earnings are strongest. It indicates that if the firms face 1% financing deficit then they tend to use 9.00E-005 % of newly retained earnings, issue 9.45.2E-005% of net debt and 0% of net equity.

5.3.3. Analysis of Variance (ANOVA)

The analysis of variance (ANOVA) is used to compare the means of two or more samples taken in the study. To test the analysis of variance (ANOVA), F test statistics is used. F test ratio is the ratio of two mean square values. The F test value close to 1.0 is considered to be good. A large F ratio means that the variation among group means is more than expected. Bekiro (2001) studied that F statistics is significant, and concluded that at least one of the population means of the groups differs from the others but ANOVA does not tell which groups are different from which others.

For hypothesis 1, long term leverage, total leverage and short term leverage are considered as the dependent variable where as liquidity, profitability, tax and size are taken as the independent variables (predictors). With the mentioned variables, the result reaches the statistical insignificance with F-value of 1.404 and significant value of 0.234 for the long term leverage. Similarly, the statistical insignificance with F-value of 0.278 and insignificant value of 0.892 for the total leverage. The statistical insignificance with F-value of 12.509 and significant value of 0.000 for the short term leverage. Hence, from the above results, it can be analyzed that the statistical significance as depicted in the ANOVA analysis (see table in appendix) indicates that the models of hypothesis 1 does not reaches the statistical significance of less than 5% in long term leverage and total leverage.
Hence, for the hypothesis 1, it is observed that all the results of F-statistics are near to 1, therefore it can be concluded the group population means are equal for all models taken in the study.

For hypothesis 2, financial deficit is taken as the independent variable where as net debt issue, net equity issue and newly retained earnings are taken as the dependent variables. The $F$ – value found between the net debt issue and financial deficit is 0.234 with significance value of 0.629. The $F$ – value found between the net equity issue and financial deficit is 0.202 with significance value of 0.654. The $F$ – value found between the newly retained earnings and financial deficit is 0.214 with significance value of 0.644.

From the above results, it can be analyzed that all the models have the $F$- value not near to 1; hence the group population means are not equal in the entire selected model in the study. Secondly, these results of $F$- value obtained are not found to be significant between financing deficit and all the dependent variables net debt issue, net equity issue and newly retained earnings are not significant.

**5.3.4. Coefficient of Determination (R-squared)**

For hypotheses 1, R squared ($R^2$) is the square of the measure of correlation and indicates the proportion of the variance in the criterion variable which is accounted for by our model. For hypotheses 1, we also see the adjusted R- square which attempts to yield a more honest value to estimate the R –squared for the population. When the number of observations is small and the number of predictors is large, there will be a much greater difference between R-square and adjusted R- square. By contrast, when the number of observations is very large
compared to the number of predictors, the value of R –square and adjusted R –
square will be much closer.

R-squared for hypothesis 1 would be the value between long term leverage, total
leverage and short term leverage as the dependent variables and liquidity,
profitability, tax and size as predictors (independent variables).
R-squared shows a predictor liquidity, profitability, tax and size of 0.027 with
long-term leverage as dependent variable. This means that 2.7% of the long-term
leverage could be explained by the existence of those variables. The adjusted R-
squared value of liquidity, profitability, tax and size as predictors for long-term
leverage is 0.008. These provide evidence that 0.8% of the long-term leverage
could be explained by the existence of these predictors.

R-squared shows a predictor liquidity, profitability, tax and size of 0.005 with
total leverage as dependent variable. This means that 0.5% of the total leverage
could be explained by the existence of those variables. The adjusted R-squared
value of liquidity, profitability, tax and size as predictors for total leverage is -0.014. These provide evidence that -1.4% of the total leverage could be explained
by the existence of these predictors.

R-squared shows a predictor liquidity, profitability, tax and size of 0.196 with
short-term leverage as dependent variable. This means that 19.6% of the short –
term leverage could be explained by the existence of those variables. The adjusted
R-squared value of liquidity, profitability, tax and size as predictors for total
leverage is 0.181. These provide evidence that 18.1% of the short-term leverage
could be explained by the existence of these predictors.

Overall, there is no multi collinearity in the regression model of hypothesis 1.
For hypothesis 2, R-squared would be the value between the financing deficit and net debt, net equity issue and newly retained earnings as dependent variables. For all sample of firms, R-squared shows a predictor financing deficit of 0.001, 0.001, 0.001 with net debt issue, net equity issue, newly retained earnings as dependent variables. This means that 0.1%, 0.1%, and 0.1% of the net debt issue, net equity issue, and newly retained earnings could be explained by the existence of financing deficit. This means that the net debt issue, net equity issue and newly retained earnings almost cannot be explained by the existence of financing deficit. For augmented models, for all firms, adjusted R-squared shows a predictor financing deficit and financing deficit square of (0.002) and with net debt issue as dependent variable. This means that 0.2% of the net debt issue can be explained by the existence of financing deficit and financing deficit square.

R-squared of a predictor financing deficit with net debt issue as dependent variable is higher than net equity issue. This means that the percentage of the net debt issue can be explained more than net equity issue by the existence of financing deficit.

5.3.5. Descriptive Statistics

For hypothesis 1, the average value of long-term leverage is 0.186371 while total leverage is 0.406289, short – term leverage is 0.586312. The average value of liquidity, profitability, tax and size are 1.409121, 0.224091, 0.420626 and 6.647465. From these results, the highest average is short - term leverage.

For hypotheses 2, the average value of each variable of hypothesis 2 for all samples of firms is as follows: The average value of net debt issued is 0.1906
while net equity issued is -0.182321, and newly retained earnings is 0.017275. The average value of financing deficit on net debt issued, net equity issued, and newly retained earnings are 348.122275. The average value of net debt issued is higher than net equity issued, hence if firms face financing deficit, they rely more heavily on debt than on equity (indicated by R2, ANOVA, and coefficient of regression).

5.4. REGRESSION ASSUMPTIONS OF HYPOTHESES 1 AND 2

Before analyzing regression coefficients of variables, we must first make several assumptions about the population of the research. They represent an idealisation of reality, and as such, they are never likely to be entirely satisfied for the population in any real study (Van Horne, 1998). A good regression model should not have the following assumptions:

5.4.1. Multicollinearity

The goal of the multicollinearity test of hypotheses 1 and 2 is to analyse whether there is correlation between variables. In our research, we test multicollinearity in the regression model by testing the correlation matrix (Ghozali, 2002), the tolerance values and VIF (Hair et al. 1998). Our results are as follow:

Correlations between Variables

For hypothesis 1, the table gives details of the correlation between each pair of variables. We do not want strong correlations between the criterion and the predictor variables. The values here are acceptable.
From the correlations matrix, it shows that there is no quite high correlation value (more than 0.90). Correlation coefficient between liquidity and profitability is 0.060 with significant value of 0.193. This is an indication that the higher/lower liquidity the higher/lower profitability. Correlation coefficient between liquidity and tax is 0.220 with significant value of 0.001. This is an indication that the higher/lower liquidity the higher/lower tax of the firm. Correlation coefficient between liquidity and size is 0.652 with significant value of 0.001. This is an indication that the higher/lower liquidity the higher/lower size. Correlation coefficient between profitability and tax is 0.018 with significant value of 0.397. This is an indication that the higher/lower profitability, the higher/lower tax. Correlation coefficient between profitability and size is 0.515 with significant value of 0.000. This is an indication that the higher/lower profitability the higher/lower size. Correlation coefficient between tax and size is -0.079 with significant value of 0.126. This is an indication that the higher/lower tax the lower/higher size. From this result we concluded that multicollinearity does not exist in the regression model of hypothesis 1.

For hypothesis 2, correlation between net equity issued and financing deficit are not significantly negative, while correlation between newly retained earning, net debt issue and financing deficit are insignificantly positive.

**The Tolerance and Variance Inflation Factor (VIF) Value**

For hypothesis 1, the objective of analysing the tolerance values are to measure the correlation between the predictor variables which can vary between 0 and 1. The closer to zero the tolerance value is for a variable, the stronger the relationship between this and the other predictor variables. We should worry about variables that have a very low tolerance. SPSS will not include a predictor
variable in a model if it has a tolerance of less than 0.0001. Meanwhile, variance inflation factor (VIF) value is an alternative measure of collinearity (in fact it is the reciprocal of tolerance) in which a large value indicates a strong relationship between predictor variables.

For variables of hypothesis 1, long term leverage, total leverage and short-term leverage as dependent variables and liquidity, profitability, tax and size as predictors, the tolerance values were also above the cut-off point 0.10 and the VIF values were below 10, indicating that multicollinearity was not a problem (Hair et al. 1998). For variables of hypothesis 2, the tolerance values for net debt issued, net equity issued, newly retained earnings, financing deficit were above the cut-off point 0.10 and the VIF values were below 10.

Hence, from tolerance and VIF values of hypotheses 1 and 2 testing results indicate that multicollinearity was not a problem.

5.4.2. Autocorrelation

For hypotheses 1 and 2 a test of autocorrelation aims to examine whether in a linear regression model has correlation between gadfly errors in the period t with an error in the period t-1 (before). One of the methods that we used to detect autocorrelation is the Durbin Watson (DW). DW value shows that there is no autocorrelation in the regression model.

As a conservative rule of thumb, Field (2009) suggests that DW values less than 1 or greater than 3 are definitely cause for concern, however, values closer to 2 may still be problematic depending on the sample and model.
For hypothesis 1, DW value between long-term leverage as dependent variable and predictors of liquidity, profitability, tax and size is 0.631. For all firms, DW value between total leverage as dependent variable and predictors of liquidity, profitability, tax and size is 1.442. For all firms, DW value between short-term leverage as dependent variable and predictors of liquidity, profitability, tax and size is 0.503. A value greater than 2 indicates a negative correlation between adjacent residuals whereas a value below 2 indicates a positive correlation. For hypothesis 2, DW value between net debt issued, net equity issued, newly retained earning, were 2.069, 2.022 and 2.031. A value greater than 2 indicates a negative correlation between adjacent residuals whereas a value below 2 indicates a positive correlation.

5.4.3. Normally Distributed

From the result of testing hypotheses 1 and 2, to test the normal distribution that we can see from the graphics of histogram and normal P-P plot (in appendix), we concluded that the histogram gave the approximately normal pattern of distribution. Meanwhile, the graphic of normal P-P plot shows that the dots spread around the diagonal line, and the spreading follows the diagonal line. Both of graphics show that the data meets approximately reasonable assumption of normality.

Therefore, based on the results of assumptions of population described above, the regression model does not have the assumptions of, multicollinearity, autocorrelation, and the data are approximately normally distributed. Thus, our regression model is appropriate to use for testing the hypotheses 1 and 2.