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Impact of Capital Structure on Firms' Financial Performance: Evidence from Pakistan

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Abstract

This research examines the impact of capital structure on firms' financial performance in Pakistan of top 100 consecutive companies in Karachi Stock Exchange for a period of four years from 2006 to 2009. Exponential generalized least square regression is used to test the relationship between capital structure and firms' financial performance. The results show that all the three variables of capital structure, Current Liabilities to Total Asset, Long Term Liabilities to Total Asset, Total Liabilities to Total Assets, negatively impacts the Earning before Interest and Taxes, Return on Assets, Earning per Share and Net Profit Margin whereas Price Earning ratio shows negative relationship with Current Liabilities to Total Asset and positive relationship is found with Long Term Liabilities to Total Asset where the relationship is insignificant with , Total Liabilities to Total Assets. The results also indicate that Return on Equity has an insignificant impact on Current Liabilities to Total Asset and Total Liabilities to Total Assets but a positive relationship exists with Long Term Liabilities to Total Asset. These results, in general, lead to the conclusion that capital structure choice is an important determinant of financial performance of firms. This is the first study in Pakistan examining the relationship between firms' performance and capital structure of top 100 consecutive companies in Karachi Stock Exchange for a period of four years.

Keywords: Capital Structure, Firms' Performance, Performance Measures, Profit, Pakistan.

1. Introduction

Capital structure and its influence on the firm financial performance and overall value has been remained an issue of great attention amongst financial scholars since the decisive research of (Modigliani & Miller, 1958) arguing that under perfect market setting capital structure doesn't influence in valuing the firm. This proposition explains that value of firm is measured by real assets not, the mode they are financed.

(Jensen & Meckling, 1976) drew concentration to the impact of capital structure on the performance of enterprises, number of tests as an extension port to inspect the relationship between performance of firm and financial leverage. However the results documented were contradictory and mixed. Some studies have reported positive relationships (Ghosh & et al, 2000). (Hadlock & James, 2002) also support the argument. Several others have reported a negative relationship between debt and financial achievement like (Fama & French, 1998) and (Simerly & Li & 2000). Capital structure is said to be closely link to the financial performance (Zeitun & Tian, 2007).

Influential paper of (Jensen & Meckling, 1976), high leverage may initiate clashes between managers and shareholders due to selection of investment either equity, debt or hybrid.(Myers, 1977).The risk they want to take (Jensen & Meckling, 1976, Williams 1987), circumstances due to which firm might be liquidated (Harris & Raviv, 1990), and the dividend policy (Stulz, 1990). verifiable predictions of such type of models is that the raise in leverage should decline agency costs of ownership and debt holders thus improving business performance, everything else remained the same as before. However, when the leverage is relatively high to a certain limit, leads to an increase in debt and it will increase cost of debt, including an increase cost of bankruptcy or financial distress due to conflicts between equity holders and bondholders. To make distinction between these two sources of agency costs empirically is very difficult.

Although this theory is the finest diverse empirical confirmation in the literature (Harris & Raviv, 1991; 2000). (Myers & Titman, 2001) may also be reviewed for evidence. Testing of hypothesis of agency cost involves regressing of financial performance measures over debt/equity ratio or any added identifier of leverage along with

some control variables.

Earlier researches in general do not investigate the probability of reverse causation from company's performance to capital structure. Choice of capital structure affects performance of firm then not studying this relationship reverse would lead to biasness with the equations. This means that the regression results of capital structure of company's over performance may puzzle with impact of company's performance on capital structure.

As the literature examines the impact of the association among capital structure and financial performance of the developed economies, very slight is identified concerning such implications in developing economies like Pakistan. In such a country common problems of market includes less efficiency, incomplete information and irregularities as compared to developed economies. (Eldomiaty, 2007) such sort of market environment results in incomplete financial recessions. Therefore it is mandatory to investigate the impact of financial leverage level on financial performance in Pakistan as an exemplar of developing economies.

The aim of this study is to empirically investigate the association among debt level and financial performance of firms of top 100 companies listed in Karachi stock exchange from 2006-2009 using ROA, ROE, EBT, P/E ratio, and Net profit Margin as performance measures.

The significance of this study is that it will help the investors to create such a portfolio that yield them maximum profit. It will also enable them that how a choice of capital structure effects the financial performance of the company. This study is a first effort to study the impact of capital structure on firms' financial performance in Pakistan that examines the top 100 companies of KSE.

2. Literature Review

Financing of all firms is done by equity, debt or hybrid security. Firm's capital structure relies upon the size of composition of debt or equity that is then used by firms to be operational. Contributory Work of (Modigliani & miller, 1958) provides the groundwork of today's' research of capital structure. MM-I proposition, irrelevance theory, states that under specific conditions of no taxes, no bankruptcy cost, an efficient market, and in asymmetric information, the worth of firm is irrelevant that how the firm is financed. It does not matter that what is the dividend policy and how the capital of the firm is raised. In other words, value of the firm totally depends upon the real assets not on the capital structure. The same was supported by (Hamada, 1969), (Stilglitz, 1972) and (Hatfield, et al 1994).

MM-II proposition (1963), however, concludes that required rate of return, debt-equity ratio and cost of debt provide bases of firm's value. This MM-II recognizes that firm value is relevant to its capital structure. In fact MM-II concluded that with 100 % debt, the capital structure of a firm is optimum due to interest and tax shield. Apart from this, some researchers verified that addition of debt in firm's financing will cause the cost of bankruptcy, agency and financial distress along with tax shield (Jensen & Meckling, 1976) and (Titman, 1984). Although, it is not a realistic approach to have 100% debt in capital structure, as highlighted inside MM-II proposition. Optimal capital structure is a blend of debt, common equity and preferred stock that reduces the weighted cost of capital (WACC) and consequently the firm value is maximized (Moyer, et al 2004).

Researchers generally agree that an association among capital structure and firm performance exist (Ai, 1997, Hung, et al, 2002). (Akintoye, 2008) in a study of the sensitivity of performance to capital structure confirms that the performance indicators (earnings before interest and taxes, earnings per share and dividend per share) used in his study were significantly sensitive to the capital structure in most of the companies.

(Jensen, 1986) Argument of free cash flow predicts that higher leverage might raise financial performance due to the reason that managers of such firms are lesser able to initiate with projects showing negative NPV. (Margaritis & Psillaki, 2009) in checking the association among capital structure, firm performance and equity ownership, found supporting results for the center forecast of the (Jensen & Meckling, 1976)..

(Ramachandra & et al, 2008) clearly stated that companies which are highly-levered in contrast to median of industry faces low growth in sales and declined profitability in comparison with standard firm which presume characteristics of industry median. (Eriotis & et al 2002) used data from the enterprise from various fields and found a strong negative impact of debt on profitability.

(Chiang & et al, 2002) tested connection among "capital structure and financial performance of firm in construction and property sector in Hong Kong" and reported a negative relationship with profit margin. (Abor, 2005) examined "the relationship between capital structure and financial performance of firms' listed in Ghana" reporting that total

liabilities to total asset and current liabilities to total asset affects the firm profitability accounting measure ROE positively and long term liabilities to total asset are negatively reported.

(Kyereboah & Coleman, 2007) examined the impact of capital structure on ROE and ROA on microfinance firms of sub-sahara Africa and concluded an unconstructive relation among leverage level and performance measures. (Zeitun & Tian, 2007) experienced that leverage is negatively associated with both market performance measures and accounting measures but one of the variable of market performance that is PE ratio shows an insignificant effect other variables of the study were Tobins Q, market value of equity to book value of equity, ROE, ROA and profitability that is EBIT. (San & Heng, 2011) tested effect of capital structure on selected financial performance proxies (ROC, ROA, ROE, EPS, Operating Margin and Net Margin) and revealed the existence of relationship between capital structure and selected corporate performance proxies.

This is consistent with the results of (DeAngelo & Masulis, 1980) that show optimal capital structure tradeoff model which covers the impact of non-debt and debt tax shields. They insisted that the tax losses and depreciation to replace the tax benefits of debt financing. This is also supported by a similar work of (Mackie &Mason, 1990). But (Titman & Wessels, 1988) did not find any reason that there is a connection among non-debt tax shield and debt ratios.

(Ofek, 1993) checked "the relationship between capital structure and a response of a firm to short-term financial distress". Increased pre-distress debt also enhances the likelihood of financial actions for example dividend cuts. The costs involved in bankruptcy could be indirect as well as direct. Direct costs comprise costs such as accountant and lawyer's fees and fees of other professional, and the worth of time spent in controlling the bankruptcy by management.

Capital structure models of approximately all types share the forecast that stock price will boost on declaration of leverage-increasing capital structure changes (Harris & Raviv, 1991). If financial markets do not exhibit strong form of efficiency, then it is probable that managers may vote for using a decisions of financial policy to communicate market with information. Capital structure changes are an understandable candidate for a signaling device as well as dividend policy. In the terminology of Modigliani and Miller, by altering its financial structure (or dividend payout) the firm alters its apparent risk class, even if the actual risk class remains unmoved.

(Fama & French, 2005) concluded that, eventually the pecking order theory (albeit with somepatches) conceive that information irregularity is a significant (or perhaps even the sole) determinant in deciding capital structure of firm. Subsequently, although (Bharath & et al, 2006) found enough evidence to support the fact that firm-level asymmetric information consideration are vital determinants for US firms for cross sectional of level and change, they did not find asymmetric information as the sole capital structure determinant of the firm.

Literature reports contradictory and mixed outcomes about the association between capital structure and financial performance of firm in developed economies, very few tests the relationship in developing economies. This study is an extension in literature on the influence of capital structure on firms' performance in developing countries like Pakistan. Capital market in Pakistan is considered incomplete, a lesser amount of efficient and faces high level of asymmetric information then markets of developed economies. Capital Market of Pakistan is an equity market; the debt market is still highly not fully formed. This specific market setting may cause decisions of financing of firms imperfect and rough. It is therefore important to investigate the debt financing and performance measure relationship under these economic settings.

3. Research Method

3.1 Empirical Model

After going through the literature review, financial performance of firm's indicators has been identified, which are EBIT, ROE, ROA, EPS, P/E and Net Profit Margin. All these indicators are being termed as dependent variables, while Capital Structure has been taken as the Independent variable for our model The Relationship among leverage and performance was investigated by the following regression model.

$$1\text{- Performance}_{I,T} = \beta_o + \beta 1 \text{CLTA}_{I,T} + \beta_2 \text{LogTA}_{I,T} + e_{I,T}$$

$$2\text{- Performance}_{I,T} = \beta_o + \beta 1 \text{LTLTA}_{I,T} + \beta_2 \text{LogTA}_{I,T} + e_{I,T}$$

$$3\text{- Performance}_{I,T} = \beta_o + \beta 1 \text{TLTA}_{I,T} + \beta_2 \text{LogTA}_{I,T} + e_{I,T}$$

Where:

$CLTA_{I,T}$ = Current Liabilities to Total Asset for firm I in year t.

$LTLTA_{I,T}$ = Long Term Liabilities to Total Assets for firm, I in year t.

$TLTA_{I,T}$ = Total Liabilities to Total Assets for firm, I in year t.

$LogTA_{I,T}$ = Logarithm of Total Assets for firm, I in year t.

$e_{I,T}$ = The error term

The expected signs of betas for the variables of study are as follows:

1- EBIT is expected to be Negative (Zeiuton & Tian, 2007).
2- ROA is expected to be Negative (Ebaid, 2009).
3- ROE is expected to be Negative (Ebaid, 2009).
4- EPS is expected to be Negative (San & Heng, 2011).
5- P/E Ratio is expected to be Negative (Zeiuton & Tian, 2007).
6- Net Profit Margin is expected to be Negative (San & Heng, 2011).

Literature indicates a quantity of measures of firm's financial performance including accounting measures such as ROA, ROE, GM (e.g. Majumdar & Chhiber, 1999; Abor, 2005; Ebaid, 2009; Gleason, Mathur & Mathur, 2000). ROC, ROE, ROA, EPS, Operating Margin, and Net Margin (San & Heng, 2011). (Zeiuton & Tian, 2007) uses PE, EBIT, ROE, ROA, MBVE and MBVR. This Study examines six common variables that include EBIT, ROE, ROA, PE, EPS and Net Profit Margin. In relation with earlier literature (Abor, 2005; Abor, 2007; Ebaid, 2009) Financial Leverage was measured by following three ratios:

1. Current Liabilities to Total Asset
2. Long Term Liabilities to Total Asset
3. Total Liabilities to Total Asset

Past research gives evidence that financial performance of firm may be influenced by firms' size (Ramaswamy, 2001; Frank & Goyal, 2003; Jermias, 2008). Hence this investigation measures the firms' size by taking log of the total asset of the firm to control for effect on DV.

3.2 Sample and Data

The data used to conduct the study is collected from Karachi Stock Exchange. The sample includes all the companies of KSE 100 index. Listed firms were then screened on the basis of accessibility of data. The selected period for the study ranges from 2006 to 2009. The screening results restricted us with group of 62 companies. The sample includes 10 sectors. Table I provides the detail (See appendix).

4. Results and Analysis

4.1 Descriptive Statistics

Table II (See appendix) represents the descriptive statistic analysis of the variables used in study. First row of the table shows the mean of the variables including Return on Equity, Return on Asset, P/E Ratio, Net profit margin, Earning per Share and D/E Ratio. The respective mean values are .2502, .078, 21.0978, .1175, 27.6268 and 2.7398. The mean value of 2.7398 of D/E Ratio shows that in Pakistan on average firms' uses 73 percent debt in their capital structure. It is also analyzed that average Return on Equity of KSE 100 Index firms' is 27.62 Rupees during the period of 2006-9. Average net profit margin of firms' is 11.75 percent of their sales during the period analyzed. Average Price Earning ratio of firms in 2006-09 is 21.09 indicating the value of firms'. Average return on asset is 7.8 percent and average return on equity is found to be 25.02 percent.

The second row of the table explains the median of the given variables, median is defined as the middle value of data when it is arranged in ascending or descending order. Third and fourth row gives details of firms' ratios in terms of maximum and minimum values respectively. The fifth row explains the variability of variables from their mean value

and the sixth row shows the result of Jarque-Bera test explaining whether the sample data follows the normal distribution or not? In our analysis all the variables are normally distributed.

4.2 Regression Analysis

Table III (See appendix) represents the result of exponential generalized least square regression used to test the relationship among independent variables CLTA, LTLTA and TLTA and dependent variable EBIT. The result indicates a negative and highly significant relationship between the variables. Log (TA) has been used as a control variable to increase the effect of independent variable on dependent variable and highly significant positive relationships are detected. The Result shows that for all the three models in EBIT, Ho is rejected at significance level of 5%. Adjusted R2 is found to be 94.36%, 96% and 94% respectively which are high. The Values of DW test shows that there is no problem of auto-correlation.

Table III (See appendix) also represents the result of exponential generalized least square regression used to verify the association among independent variables CLTA, LTLTA and TLTA and dependent variables ROE. The result indicates a positive but insignificant relationship for CLTA and ROE where as positive and a significant relationship is detected among LTLTA and ROE. Relationship among TLTA and ROE is found to be negative but insignificant. Log (TA) has been used as a control variable to increase the effect of IV on DV and a negative and significant relationship is detected in model 1 and model 3 respectively for ROE and negative but insignificant for model 3. The Result shows that we failed to reject Ho at significance level of 5% for IV in model 1 and model 3 and we failed to reject H0 in model 2 at significance level of 5%. and Ho is rejected for control variable at significance level of 5% in model 1 and model 3 and are failed to reject for model 2. Adjusted R2 is found to be 46%, 72% and 46% respectively. The Value of DW test shows that there is no problem of auto-correlation.

The result provides evidence that all the three variables of capital structure i.e. CLTA, LTLA and TLTA influence the performance measure EBIT. The result proves that high level of financial leverage leads to lower EBIT. The result supports the intention that because of agency conflicts companies' over-leveraged those selves and in result affecting their performance unconstructively. The result also supports the argument of (Zeitun & Tian, 2007) but contradicts with (Brick & Ravid, 1985). The result is similar to the argument of pecking order theory that profitable firms should finance their investment opportunity with retained earnings. Therefore, a negative relationship could be developed between debt level and performance measure.

Earlier studies advocate that firm's size may have an effect on its performance. Larger firms enjoy number of capabilities such as economies of scale which may influence financial performance (Ramaswamy, 2001; Frank & Goyal, 2003; Jermias, 2008). Therefore a size variable has been introduced. Size is calculated by taking log of total assets and incorporated in the model to control the effects of firm size on dependent variable. The result shows that greater value of total assets enhances the firm performance and is also evident from earlier researches.

The result also indicates that CLTA and TLTA have an insignificant and LTLA has a positively significant influence on the ROE. The result concludes that increase or decrease in the values of variables of capital structure that includes CLTA and TLTA doesn't influence ROE where as increase in LTLA results in higher ROE. The result is also consistent with the argument of (Zeitun & Tian, 2007). They also reported an insignificant relationship. In general theory reports that change in capital structure affect performance indicator ROE. The contradiction may be due to inefficient market environment and incomplete information.

Table IV (See appendix) represents the result of exponential generalized least square regression used to test the relationship among independent variables CLTA, LTLTA and TLTA and dependent variable ROA. The result indicates a negative and highly significant relationship between the variables. Log (TA) has been used as a control variable to increase the effect of IV on DV and highly significant positive relationships are detected. The Result shows that for all the three models in ROA, Ho is rejected at significance level of 5%. Adjusted R2 is found to be 98%, 97% and 97% respectively which are high. The Values of DW test shows that there is no problem of auto-correlation.

Table IV (See appendix) also represents the result of exponential generalized least square regression used to test the relationship among independent variables CLTA, LTLTA and TLTA and dependent variable EPS. The result indicates a negative and highly significant relationship between the variables. Log (TA) has been used as a control variable to increase the effect of independent and dependent variables and highly significant positive relationships are detected. The Result shows that for all the three models in EPS, Ho is rejected at significance level of 5%. Adjusted R2 is

found to be 92%, 95% and 92% respectively which are high. The Values of DW test shows that there is no problem of auto-correlation

The result provides evidence that all the three variables of capital structure i.e. CLTA, LTLA and TLTA influence the performance measure ROA. The result proves that high level of financial leverage leads to lower ROA. The result supports the intention that because of agency conflicts companies' over-leveraged those selves and in result affecting their performance unconstructively. The result is also consistent with the argument of (Zeitun & Tian, 2007). Gleason, (Mathur & Mathur, 2000), (Tzelepis & Skuras, 2004) and (Krishnan & Moyer, 1997). The result is aligned with the argument of pecking order theory that profitable firms should finance their investment opportunities with retained earnings. Therefore, a negative relationship could be developed among debt level and performance indicator.

The result provides evidence that all the three variables of capital structure i.e. CLTA, LTLA and TLTA influence the performance measure EPS. The result proves that high level of financial leverage leads to lower EPS. The result supports the intention that because of agency conflicts companies' over-leveraged those selves and in result affecting their performance unconstructively. The result is in line with the argument of pecking order theory that profitable firms should finance their investment opportunities with retained earnings. Therefore, a negative relationship could be developed between debt level and performance measure.

Most of time firm increases there EPS from not giving dividends. The theoretical concept supports the result because high level of debt increases the cost of debt and thus reducing profits and ultimately results in lower EPS.

Table V (See appendix) represents the result of exponential generalized least square regression used to test the relationship among independent variables CLTA, LTLTA and TLTA and dependent variable PE ratio. The result indicates a negative and highly significant relationship between CLTA and LTLTA with dependent variable but insignificant relationship with TLTA. Log (TA) has been used as a control variable to increase the effect of IV on DV and significant negative relationships are detected in model 1 and model 2 and negative but insignificant for model 3. The Result shows that for model 1 and model 2 in PE ratio, Ho is rejected where as in model 3 H0 is failed to be rejected at significance level of 5%. Adjusted R2 is found to be 84%, 83% and 72% respectively . The Values of DW test shows that there is no problem of auto-correlation.

Table V (See appendix) also represents the result of exponential generalized least square regression used to test the relationship among independent variables CLTA, LTLTA and TLTA and dependent variable Net Profit Margin. The result indicates a negative and highly significant relationship between the variables. Log (TA) has been used as a control variable to increase the effect of independent variables on dependent variables and highly significant positive relationships are detected. The Result shows that for all the three models in Net Profit Margin, Ho is rejected at significance level of 5%. Adjusted R2 is found to be 97%, 98% and 96% respectively which are high. The Values of DW test shows that there is no problem of auto-correlation

The result provides evidence CLTA has a negative significant effect over PE and LTLTA has a positive significant over IV and TLTA has insignificant effect over PE. The result supports the argument of (Zeitun & Tian, 2007). One of the reasons for insignificance may be that most of the time share price doesn't represent the actual value of the firm in addition to that most of the investor still relies on accounting measurers of performance like ROA.

The result presents the evidence that all the three variables of capital structure i.e. CLTA, LTLA and TLTA influence the performance measure Net Profit Margin. The result proves that high level of financial leverage leads to lower Net Profit Margin. The result supports the intention that because of agency conflicts companies' over-leveraged those selves and in result affecting their performance unconstructively. The result also supports the argument of (Pratheepkent, 2011). The result consistent with the argument of pecking order theory that profit generating firms should finance their opportunities of investment with retained earnings. Therefore, a negative association could be developed among debt and performance measure.

Net profit margin is negatively affected by the leverage level because increasing debt will increase interest cost thus resulting in lower net income.

5. Conclusion and Recommendations

This research examines the impact of capital structure on firms' financial performance. The annual data over the period 2006-2009 is collected from Karachi Stock Exchange. Based on selected sample and using financial performance measures (Earning before Interest and Taxes, Return on Equity, Return on Assets, Price Earning Ratio,

Earning per Share and Net Profit Margin). Exponential generalized least square and descriptive stat tools are used to estimate results. The results show that all the three variables of capital structure, Current Liabilities to Total Assets, Long Term Liabilities to Total Assets, Total Liabilities to Total Assets, negatively impacts the Earning Before Interest and Taxes, Return on Assets, Earning Per Share and Net Profit Margin whereas Price Earning Ratio shows negative relationship with Current Liabilities to Total Assets and positive relationship is found with Long Term Liabilities to Total Assets where the relationship is insignificant with Total Liabilities to Total Assets. The results also indicate that Return on Equity has an insignificant impact on Current Liabilities to Total Assets and Total Liabilities to Total Assets but a positive relationship exists with Long Term Liabilities to Total Assets. These results, in general, lead to the conclusion that capital structure choice is an important determinant of financial performance of firms.

The result proves that with the increase in leverage negatively affects the performance of firms'. The results recommend that managers shall not use excessive amount of leverage in their capital structure, they must try to finance their projects with retained earnings and use leverage as a last option. Managers must work to achieve the optimal capital structure level to maximize the firms' performance and try to maintain it as much as possible.

There are few major limitations of this study. Firstly, it considers only one emerging market, which cannot represent the emerging market as a whole. Even though these markets share many of their main characteristics, some of them have their own unique characteristics and regulations. Therefore, the findings may not fully cover all emerging markets.

Second major limitation of this research is the quantity of data. A more consistent result may be calculated by using longer time series. Thirdly, impact of capital structure on performance of different sectors may also be studied and compared with each other.

Capital structure is still controversial and puzzling, particularly in emerging markets, such as Pakistan. Further studies should examine the determinants of capital structure of the Pakistani companies, such as growth and size and business risk, etc., and match the results with those existing in developed countries. More performance variables may also be captured to compute more truthful results. Data for longer time period should be used to conduct study to estimate more reliable results. Research should be conducted to study the investment behavior of investors to understand whether they are interested in investing equity or debt financed firms.

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Appendix

Table I. Sector vise Division

No	Industry Name	Number of Firms
1	Banks	10
2	Cement	6
3	Chemical	4
4	Petroleum	13
5	Automobile and Machinery	6
6	Pharmaceutical	2
7	Power and Energy	3
8	Manufacturing	12
9	Services	5
10	Textiles	1
	Total	**62**

Table II. Descriptive Statistics

	ROE	ROA	PE RATIO	NET PROFIT	EPS	DE
Mean	0.2502	0.078	21.0978	.1175	27.6268	2.7398
Median	0.2018	0.0733	6.2941	0.067	11.92	1.4841
Maximum	16.196	0.6915	4916.6666	26.4982	419.81	35.7662
Minimum	-2.322	-2.4759	-850.68	-9.9961	-157.18	-136.644
Std. Dev.	0.9547	0.2015	276.1854	1.6344	53.0745	9.1904
Jarque-Bera	766474	119624	1235234	1479171	4735	354117
Probability	0	0	0	0	0	0

Table III. Regression Analysis

	EBIT			ROE		
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
C	-1669.28 (336.76)***	-6665.68 (237.54)***	-3603.32 (1249.31)***	478.8269 (272.72)***	208.49 (233.61)	440.29 (270.09)*
CLTA	-3254.934 (528.36)***			29.44 (20.02)		
LTLTA		-1007.35 (290.00)**			62.14 (19.78)***	
TLTA			-1650.93 (338.36)***			-1.91 (13.18)
LOG (TA)	450.14 (25.88)***	667.58 (11.28)***	536.92 (66.71)***	-35.07 (15.96)**	-19.09 (13.80)	-32.00 (15.73)**
Adjusted R-squared	0.943	0.96	0.94	0.46	0.72	0.46
Durbin-Watson stat	2.35	2.25	2.34	2.5	2.43	2.44

*Dependent Variable: EBIT and ROE (*** H_0 is rejected at significance level of 1%, ** H_0 is rejected at significance level of 5%, * H_0 is rejected at significance level of 10%)*

Table IV. Regression Analysis

Independent Variables	ROA			EPS		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
C	18.50	120.03	134.55	151.63	124.39	152.97
	(1.02)***	(2.26)***	(4.29)***	(2.41)***	(2.85)***	(7.19)***
CLTA	-10.07			-22.67		
	(1.84)***			(3.04)***		
LTLTA		-6.65			-21.85	
		(2.64)***			(2.85)***	
TLTA			-12.24			-18.60
			(1.94)***			(1.76)***
LOG (TA)	-5.85	-6.14	-6.62	-7.16	-5.96	-7.18
	(0.05)***	(0.11)***	(0.29)***	(0.08)***	(0.27)***	(0.44)***
Adjusted R-squared	0.98	0.97	0.97	0.92	0.95	0.92
Durbin-Watson stat	2.17	2.24	2.22	2.15	2.25	2.28

*Dependent Variable: ROA and EPS (*** H_0 is rejected at significance level of 1%, ** H_0 is rejected at Significance level of 5%, * H_0 is rejected at significance level of 10%)*

Table V. Regression Analysis

Independent Variables	PE Ratio			Net Profit Margin		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
C	67.193 (19.21)***	37.14 (12.71)***	43.53 (20.21)***	52.78 (6.69)***	-6.54 (1.70)***	46.54 (3.47)***
CLTA	-18.86 (2.90)***			-23.63 (2.42)***		
LTLTA		12.49 (1.168)***			-10.02 (2.03)***	
TLTA			-1.422 (1.49)			-17.568 (1.1666)***
LOG (TA)	-2.770 (1.039)***	-1.610 (0.749)***	-1.821 (1.121)	-1.827 (0.356)***	1.120)0.11)***	-1.45 (0.190)***
Adjusted R-squared	0.84	0.83	0.72	0.97	0.98	0.96
Durbin-Watson stat	2.7	2.96	2.72	2.06	2.02	2.23

*Dependent Variable: ROA and EPS (*** H_0 is rejected at significance level of 1%, ** H_0 is rejected at Significance level of 5%, * H_0 is rejected at significance level of 10%)*