

## **Impact of Capital Structure on Performance of Listed Public Sector Banks in India**

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**ABSTRACT** : purpose- the paper seeks to study the impact of capital structure on profitability of public sector banks in india listed on national stock exchange during 2008 to 2012 methodology-Regression Analysis has been used for establishing relationship between Return on Equity, Return on Assets & EPS with capital structure Results- The findings reveal positive relationship of short term debt with profitability as measured by ROE, ROA & EPS

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### **I. INTRODUCTION**

One of the main objectives of a firm management is to maximise the wealth of the owners or shareholders of the firm. Shareholder wealth in turn is defined as the current price of the firm's outstanding ordinary shares. This objective could be achieved by taking rational financing decisions regarding optimal capital structure which would minimise its cost of capital. The capital structure of a firm is the mix of debt including preference stock and equity; this is referred to as the firms' long term financing mix, Watson and Head (2007). Capital structure decision is critical for any firm for maximizing return to the various stake holders and also to enhance firms' ability to operate in a competitive environment. Therefore the vital issue confronting managers today is how to choose the mix of debt and equity to achieve optimum capital structure that would minimise the firm's cost of capital and improve return to owners of the business. Financial, managers make efforts to ascertain a particular combination that will maximize profitability and the firm's market value.

According to Gitman (2003) it is generally believed that the value of a firm is maximised when its cost of capital is minimized. The kind of combination of debt and equity that will minimize the firms cost of capital and hence maximizes the firm's profitability and market value is the optimal capital structure. Unfortunately, financial managers do not have a well-defined formula that for taking decision on optimal capital structure. The idea of modern theory of capital structure is the path breaking contribution of Modigliani and miller (1958) under the perfect capital market assumption. Modigliani and Miller's capital structure irrelevance theory was first published in 1958. According to the theory the way in which a firm finances its assets (through the mix of debt and equity) can have no impact on the value of the firm. The value of a firm is derived by the productivity and the quality of the assets in which the firm has invested. It is important to note however that the Modigliani and Miller capital structure irrelevance theory only holds good under the assumption of perfect capital markets which were defined by Modigliani and Miller (1958) as:

- a) The shares of different firms are homogenous and are therefore perfect substitutes for one another.
- b) All shares are traded under perfect market conditions.
- c) Investors are in agreement about the expected future returns for all shares.
- d) The cost of debt is the same regardless of the issuer of the debt.

Modigliani and Miller (1958) concluded that these restrictive assumptions were necessary to come to grips with the capital structure problem, "Having served their purpose they can now be relaxed in the direction of greater realism and relevance" (Modigliani and Miller, 1958). Modigliani and Miller (1963) issued a correction on their 1958 paper in which they stated that the tax deductibility of debt would prevent arbitrage from making the value of all firms "proportional to the expected returns generated by their physical assets". Since the introduction of the Miller and Modigliani capital structure irrelevance theorem the existence and determination of an optimal capital structure have been one of the most controversial issues in corporate finance (Ryen, Vasconcellos & Kish, 1997). Despite the fact that there has been substantial research about capital structure theory academics are still not able to utilise the existing theory to explain capital structure choice in practice or give practitioners guidance with regard to the optimal mix between debt and equity in their financing decisions (Cai & Gosh, 2003). According to Myers (2001) there is no unifying theory on the choice between debt and equity and no reason to expect one either, there are however several theories that are "conditionally useful" for explaining capital structure choice.

This view is supported by Frydenburg (2004) who states that current research does not point to a single capital structure theory that adequately explains capital structure choice. Another school of thought holds the view that financing choice reflects an attempt by corporate managers to balance tax shield of greater debt against potential large cost of financial distress arising from under investment. However if too much debt can destroy firm's value by causing financial distress and under investment then too little debts can also lead to over investment and adversely affect returns particularly in large and mature firms ( Barclays and Smith, 2005).The choice of capital structure and its resultant optimal risk exposure is very paramount in economic performance of every company. This is because the choice (Debt or Equity) should ultimately result in the growth in the value of investment made by various categories of investors particularly equity investors (Watson and Head, 2007), This is important because of the fact that equity investors have greater expectation of returns on their investment in the form of higher dividends and capital gain (Sulaiman 2001). Any result contrary to this expectation will compel holders of equity shares disposing off their share holding which can lead to the fall in the share price of the company. The fall in share price will send a signal to potential investors of the poor performance of the company and thereby deterring potential investors from investing both in equity stock and debt. A number of theories have been advanced to explain the capital structure of firms. However, there is lack of consensus among researchers of financial management about the optimal capital structure. The variations in the various theories further make capital structure decisions crucial. Thus capital structure decision is very critical, particularly in relation to performance of a firm in terms of profitability and value of the equity. Number of studies have been conducted *on capital structure by examining the relationship between capital structure and firms performance in terms of return on equity, return on asset earning per share etc.* However, there is no consensus. Hence there is a strong need for further research on the subject to determine the relationship between capital structure and profitability.

## **II. LITERATURE REVIEW**

Modigliani and Miller (M & M) (1958) wrote a paper on the irrelevance of capital structure that inspired researchers to debate on this subject. This debate is still continuing. However, with the passage of time, new dimensions have been added to the question of relevance or irrelevance of capital structure. M&M declared that in a world of frictionless capital markets, there would be no optimal financial structure (Schwartz & Aronson, 1979). This theory later became known as the "Theory of Irrelevance". In M & M's over-simplified world, no capital structure mix is better than another. M & M's Proposition-II attempted to answer the question of why there was an increased rate of return when the debt ratio was increased. It stated that the increased expected rate of return generated by debt financing is exactly offset by the risk incurred, regardless of the financing mix chosen.

Capital structure decisions can have important implications for the value of the firm and its cost of capital (Firer et al, 2008). Poor capital structure decisions can lead to an increased cost of capital thereby lowering the net present value (NPV) of many of the firm's investment projects to the point of making many investment projects unacceptable (known as the underinvestment problem). Effective capital structure decisions will lower the firms overall cost of capital and raise the NPV of investment projects leading to more projects being acceptable to undertake and consequently increasing the overall value of the firm (Gitman, 2003).Despite the importance that capital structure can play in adding value to the firm decades worth of theoretical literature and empirical testing have not been able to give guidance to practitioners with regards to the choice between debt and equity in their capital structures (Frank and Goyal, 2009). What is perplexing for anyone trying to make sense of the capital structure literature is the fact that the different capital structure theories are often diametrically opposed in their predictions while at other times they may be in agreement but have different views about why the outcome has been predicted. For this reason Myers (2002) stated that there is no universal theory of capital structure, only conditional ones. Factors that are important in one context may prove unimportant in another.Perhaps it is for this reason that Barclay and Smith (2010) states that much of finance education was designed to pass on to finance students rules of thumb derived from the actions of successful practitioners. For this reason it has become of growing importance to "develop theory to yield more precise predictions, and to devise more powerful empirical tests as well as better proxies for the key firm characteristics that are likely to drive corporate financing decisions" (Barclay & Smith, 2010 pg. 9).

The commonly stated goal of financial management is to maximise the wealth of the owners or shareholders of the firm. Shareholder wealth in turn is defined as the current price of the firm's outstanding ordinary shares. It should be emphasised that shareholders only have a residual claim to the assets of the firm and therefore they will only be paid after every other stakeholder with a legal claim has been paid. Because debt holders, suppliers of goods and services and employees all have a priority claim it stands to reason that if the wealth of the shareholders are maximised all other parties will stand to benefit (or at least not be disadvantaged)

if this goal is fulfilled. It should however be noted that profit maximisation and wealth maximisation are not synonymous. A firm can undertake a variety of actions that might improve short term profit that are either not translated into cash flows (i.e. selling to firms or individuals that have no realistic probability of paying) or engaging in other practices that are either not sustainable or ethical. The timing and magnitude of cash flows and their associated risk are therefore the key drivers of the firm's share price and the wealth maximisation of the owners of the firm (Gitman, 2003; Fifer *et al.*, 2008). In achieving the goal of shareholder wealth maximisation managers are faced with two important financial decisions, the investment decision and the financing decision. Investment decisions or capital budgeting decisions refer to decisions about whether to finance a project or assets and ensuring that the cash flows received from a project or asset exceeds the cost incurred in acquiring that asset or implementing the project. The financing decision refers to the way in which the asset or project are financed. Financial managers therefore have to decide whether they will fund the assets and projects of the firm through retained earnings, borrowings or equity or a combination of the aforementioned options. The mixture chosen will affect both the firm's cost of capital, its risk and associated return and hence the value of its shares (Gitman, 2003; Correia & Cramer, 2008). *Amidu (2007)* conducted a study to investigate the dynamics involved in the determination of the capital structure of the Ghana banks. The dependent variables used in this paper are the leverage (LEV) is total debts divided by total capital; short-term debt ratio (SHORT) is total short-term debt to capital while long-term debt ratio (LONG) is the total long-term debt divided by total capital. The explanatory variables include (PRE) profitability, (RSK) risk, and asset structure (AST), tax (TAX), size (SZE) and sales growth (GROW). The regression line model is used in this research and the result was a negative relationship between profitability and leverage. The results of prior studies show that higher profits increase the level of internal financing (Titman and Wessels 1988; and Barton 1989). Profitable banks accumulate internal reserves and this enables them to depend less on external funds. The results of this study show that profitability, corporate tax, growth, asset structure and bank size influence bank's financing or capital structure decision. The significant finding of this study is that more than 87 percent of the banks, assets are financed by debts and out of this short-term debt appear to constitute more than three quarters of the capital of the banks. This highlights the importance of short-term debts over long-term debts in Ghanaian banks financing.

Cummins and Harrington (1988) used the CAPM model to examine the property-liability insurance industry, and subsequently found a significant relationship between the expected return and systematic risk and unsystematic risk. Dependent variables are used reserve to liability ratio and equity ratio and independent variables are profit margin and returns on assets (ROA) as well as Structural formula modeling that involve factor-analysis as well as path-analysis. The research proposed 4 crucial results. Very first, based on the empirical outcome, the study design offers superb goodness-of-fit. In other words, utilizing several monetary indices superbly steps the particular monetary elements. 2nd, the administrative centre framework exerts an adverse as well as substantial impact on functional danger. 3rd, there isn't any reciprocal relationship however the one-way impact in between funds framework as well as functional danger. 4th, the actual functional danger exerts an adverse as well as substantial impact on success. Ebaïd (2009) examined the capital structure and performance of firms, basically the aim was to check the relationship between debt level and financial performance of companies (listed at Egyptian stock exchange during the period of 1997 to 2005). By using the three accounting based measure of performance (ROA) return on assets (ROE) return on equity and gross profit margin. He found that there is negative significant influence of short term debt (STD) and the Total debt (TD) on the financial performance measured by the return on asset (ROA) but no significant relationship was found between long term debt (LTD) and this measure of financial performance. He also proposed that there is not significant influence of the debt (TD, STD and LTD) on financial performance measured by both gross profit margin and Return on equity. The results also indicated that control variable firm size has no significant effect on the firm's performance. In this research paper least squares regression model was used to check the performance of the firms.

San and Heng (2011) examined that the relationship of capital structure and corporate performance of firms before and during 2007 crisis. All 49 construction companies are taken from Malaysia which were listed in Main board of Bursa Malaysia from 2005 to 2008. These forty nine companies are divided in three units like small, medium and large or big size. Always financial crisis are occurred by the poor corporate performance, in the Malaysia construction industries and construction activities are the major source of growth and development in Malaysia, in this research (capital structure) independent variables are used Long term debt to capital (LDC), debt to capital (DC), debt to asset (DA), debt to equity market value (DEMV), debt to common equity (DCE), long term debt to common equity (LDCE) and (Corporate performance) dependent variables are return on capital (ROC), return on equity (ROE), return on asset (ROA), earnings per share (EPS), operating margin (OM) and net margin (NM). The pooling regression model is employed to test the influence of capital structure on the company's performance

Pratheepkanth (2011) conducted a study regarding the capital structure (CS) and its impact on financial performance during 2005 to 2009 of business organizations in Sri Lanka. The result of research validated a negative relationship between capital structure (CS) and financial performances of the Sri Lankan companies. Pal and Soriya (2012) suggested that intellectual capital (IC) performance of Indian pharmaceutical and textile industry. The data was gathered from the 105 pharmaceutical companies and 102 textile companies. Dependent variables used in this study includes MB (market to book value), ROA (return on Asset), ATO (asset turnover ratio) and ROE (return on equity), independent variables are PC, DER, VAIC and sales. Correlation and regression analysis were conducted to find the results. The use of MB as the market valuation is also debatable because the market sentiments of the stakeholders may not always consider financial statements of the company.

### **III. RESEARCH OBJECTIVES**

The purpose of conducting the study is to measure the impact of capital structure on banking performance to provide empirical evidence regarding listed public sector banks in India over a period from 2008 to 2012. This study focuses on the relationship between capital structure & profitability of listed PSU banks in India. The study regarding the effects of capital structure on profitability will help us to know the potential problems in performance and capital structure. The modern banks conduct their business in a highly complex and competitive business environment. Therefore, the research findings will be beneficial in selecting the optimal capital structure to improve the profitability of the PSU banks in India.

### **IV. RESEARCH METHODOLOGY**

To investigate the impact of performance of PSU banks, this study proposes to use the methodologies adopted in earlier research work on this issue. As other studies have discussed these relationships, conceptual framework of our study is based on deduction method and for analysis of data collected from secondary sources quantitative techniques were employed. Analysis of data is proposed to be done through descriptive statistics, correlation matrix and regression models.

#### **4.1 Data and Sample**

All public sector banks operating in India are the population of the study. Sample of study include banks, which are listed on national stock exchange from 2008 to 2012. The data for study is proposed to be collected from audited financial statements of listed banks, website of National Stock Exchange (NSE) and Reserve Bank of India.

#### **4.2 Variables**

The independent variables consist of long-term debt, short-term debt, total debt and control variables consist of firm size, asset Growth and dependent variables are Return on Equity (ROE), Return on Asset (ROA) and earnings per share (EPS).

##### **4.2.1, Long term Debt to Capital**

Mesquita and Lara (2003) and Abor (2005) have used long term debt to capital (LTDTTC) as a measure of capital structure and it is calculated by following formula  
Long term debt to capital = long term debt/capital

##### **4.2.2, Short term Debt to Capital Ratio**

Abor (2005; 2007) said that short-term Debt to capital ratio (STDTC) is measured by dividing short-term debt with total capital.  
Short term capital to debt = short term debt/capital

##### **4.2.3, Total Debt to Capital Ratio**

For the purpose of study, this ratio is calculated by dividing total debt on capital.  
Total debt to capital = total debt/capital

##### **4.2.4, Return on Assets**

Return on Assets (ROA) measures the profitability of the firms and calculated as  
Return on assets = operating income/total assets

##### **4.2.5, Return on Equity**

Return on Equity (ROE) is used to calculate a firm's profitability by revealing how much profit a firm generates with money invested by shareholders and its formula is given below.

Return on equity = net profit attributed to shareholders / total shareholders' equity

#### 4.2.6, Earnings per Share

Earnings per share (EPS) measure shareholders profitability by revealing how much profit a share generate with money shareholders have invested and calculated by this formula.

Earnings per share = net earnings / number of shares

#### 4.2.7, Firm Size

To measure firm size (SIZE) different methods are used by scholars. According to Titman and Twite (2003) firm size is calculated as natural log of total book value of assets. In this study we will use the book value of the total assets to calculate the firm size (SIZE). Firm size =  $\ln(\text{book value of total assets})$

#### 4.2.8, Assets Growth

Assets growth is used by many scholars in their studies and for the purpose of this research; it is calculated by the following formula. Assets growth =  $(\text{assets of current year} - \text{assets of previous year}) / \text{assets of current year}$

### 4.3 Research Hypothesis

Following hypothesis are developed to investigate the impact of capital structure on banking performance.

H01 = Capital structure has no significant impact on banking performance.

H02 = Capital structure has significant impact on banking performance.

### 4.4 Model Specification

Multiple regression models are used to find out the association between capital structure characteristics and banks performance in the context of India. Three regression models are formulated to check the relationship between capital structure and banking performance. Our base models take the following form:

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it}$$

Where:  $Y_{it}$  is the dependent variable.

$\beta_0$  is the intercept.

$X_{it}$  is the independent variable.

$\mu_{it}$  are the error terms.

$i$  is the number of firms and

$t$  is the number of time periods.

Return on asset:

$$ROA_{it} = \beta_0 + \beta_1 STDC_{it} + \beta_2 LTDC_{it} + \beta_3 TDC_{it} + \beta_4 SIZE_{it} + \beta_5 AG_{it} + \mu_{it}$$

Return on equity

$$ROE_{it} = \beta_0 + \beta_1 STDC_{it} + \beta_2 LTDC_{it} + \beta_3 TDC_{it} + \beta_4 SIZE_{it} + \beta_5 AG_{it} + \mu_{it}$$

Earnings per Share

$$EPS_{it} = \beta_0 + \beta_1 STDC_{it} + \beta_2 LTDC_{it} + \beta_3 TDC_{it} + \beta_4 SIZE_{it} + \beta_5 AG_{it} + \mu_{it}$$

## V. RESULTS AND ANALYSIS

**5.1** Descriptive statistics of study are given in table 1. The values of Mean, Median and Standard Deviation of independent (LTDC, STDC and TDC) dependent (ROA, ROE and EPS) and control variables (AG and SIZE) of sample of 19 PSU banks are calculated from 2008 to 2012. The profitability measured by return on equity (ROE) reveals an average of 17.98 percent with median of 18.19 percent. This picture may suggest a good performance during the period under the study if we put in consideration the financial crises effect. The ROE measures the contribution of net income per Indian Rupee invested by the firms' stockholders; a measure of the efficiency of the owners' invested capital. The variable STDC measures the ratio of short term debt to total capital. The average value of this variable is 15.57 with median of 15.21.

The variable TDC measures the ratio of total debt to total capital. The average value of this variable is 18.66 with median of 17. This position reveals that the banks are financially leveraged with a large percentage of total debt being short-term. The average growth is 21.29 and the average firm size measured by logarithm of assets came to 11.87.

5.2 Table 2 shows the correlation matrix which tells us relationship among variables in this study. Correlation is also defined as dependence of one variable upon other. The diagonal elements which are the correlations of the variables with themselves are always equal to one. Short term debt to capital (STDTC) has positive association with all variables except long term debt and LTA. Long term debt to capital (LTDTC) has positive correlation with all measures except TDC. TDC has unfavorable association with all measures except STDTC & AG. According to findings of correlation analysis firm size (SIZE) and asset growth (AG) are not correlated.

**5.3. Autocorrelation problem :** The autocorrelation among regression model residuals have been tested using Durbin-Watson factors, if Durbin Watson factors are between 1 and 3, there is no autocorrelation problem (Alsaeed, 2005). As shown in table (3), all Durbin-Watson factors are less than 1.5, so there is no autocorrelation problem in the regression models.

**5.4. Regression Analysis :** Regression analysis is used to investigate the relationship between capital structure and profitability measured by ROE. Regression results are presented in table 4. The results from the regression models denote that the independent variables explain the debt ratio determinations of the firms at 28.9 (ROE), 39.7 (EPS) and 51.0 (ROA), respectively. The results in regression (1) (ROE) indicate a positive relationship between short-term debt and ROE, ROA & EPS. The results also show that profitability as measured by ROA & EPS increases with control variables i.e. size and asset growth. Regression (2) shows a significantly negative association between TDC and profitability (i.e., ROE, ROA & EPS). This implies that an increase in the total debt and long-term debt position is associated with a decrease in profitability. This is explained by the fact that debts are relatively more expensive than equity, and therefore employing high proportions of them could lead to low profitability. The results support part of earlier findings by Fama and French (1998), Graham (2000), and Booth et al. (2001). The results from regression (3) indicate also a significantly negative association between total debt and profitability as measured by ROE, ROA & EPS. The significantly negative regression coefficient for total debt implies that an increase in the debt position is associated with a decrease in profitability: thus, the higher the debt, the lower the profitability. Again, this suggests that profitable firms depend more on equity as their main financing option.

Table 4 is used to explain the results of regression analysis.

R Square for ROE is 0.289 which means 29% of sample describes ROE, While 29% variation in dependent variable is explained by the independent variables and 71% variation in ROE remains unexplained by the independent variables of the study.

F-Statistics of return on assets is 18.49 and it shows the overall significance of model.

T-statistics tells us the significance of regression results. Outcomes of regression analysis showed a positive significant relationship among return on equity and STDTC & A.G. and negative association with LTDTC, TDC and LTA.

Regression model of return on assets produces highest value of R-square 51% as compared to other models and value of F-statistic is 18.49. STDTC, and AG are found to have a strong favorable impact on profitability as measured by ROE. LTDTC, TDC and LTA have a negative but insignificant impact on ROE.

Value of R square is 39% for earnings per share which means sample defines the dependent variables up to 39% and F statistic for earnings per share is 11.71. As per regression results earnings per share have a strong optimistic connection with STDTC, LTA & AG except long term debt to capital (LTDTC) and TDC

## **VI. CONCLUSION AND RECOMMENDATIONS**

The intended aim of conducting this study was to provide an empirical evidence regarding influence of capital structure on profitability of public sector banks in India. The findings of study validated a strong positive dependence of short term debt to capital (STDTC) on all profitability measures (ROA, ROE and EPS). Long term debt to capital (LTDTC) & TDC having a negative relationship with return on assets (ROA), return on equity (ROE) and earnings per share (EPS). firm size (SIZE) experienced a optimistic connection with variables (ROA, and EPS) and negative with ROE. Assets growth (AG) proposed a positive relationship with return on asset and return on equity and earning per share. Now by analyzing the results of each variable we can conclude that there exist a positive relationship among short term debt and profitability of Indian psu banks.

## **VII. RECOMMENDATIONS**

It is suggested that further research addressing a longer period of time having a broader selection of capital structure and profitability measures can expose some new issues. This study can be extended by adding more banks or by conducting a study on global level with inclusion of all banks around the world. Future research could include more variables such as taxation. There is also an opportunity to to conduct a

comparative study to check the relationship among capital structure and profitability of Foreign and Domestic Banks in India.

### REFERENCES

- [1] Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*, 6(5), 438-445.
- [2] Abor, J. (2007). Corporate governance and financing decisions of Ghanaian listed firms. *Corporate Governance*, 7, 83-92.
- [3] Abeysekera, I., & Guthrie, J. (2005). An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka. *Critical Perspectives on Accounting*, 16(3), 151-63.
- [4] Ahmad, Z., Hasan, N. M. A., & Roslan, S. (2012). *International Review of Business Research Papers*, 8(5), 137-155
- [5] Albright, S.C., Winston, W.L. & Zappe, C.J. (2006) *Data analysis and decision making with Microsoft Excel*. United States of America: Thomson South-Western.
- [6] Amidu, M. (2007). Determinants of capital structure of banks in Ghana: an empirical approach. *Baltic Journal of Management*, 2(1), 67-79.
- [7] Arrif, M., Hassan, T. & Shamsher, M. (2008). How capital structure adjust dynamically during financial crises. *Corporate finance review*. 13(3), 11-24.
- [8] Baker, M. & Wurgler, J. (2002) Market timing and capital structure. *The journal of finance*.
- [9] 57(1), -32.
- [10] Barclay, M.J. & Smith, C.W. (1999) The capital structure puzzle: another look at the evidence. *Journal of applied corporate finance*. 12(1), 8-20.
- [11] Barton, S.L., Hill, N.C. & Srinivasan, S. (1989). An empirical test of stakeholder theory Predictions of capital. *Financial Management*, 18(1), 36-44. Cummins,
- [12] BBC News (2010) Timeline: the credit crunch to downturn. Retrieved from the BBC News website: <http://news.bbc.co.uk/2/hi/7521250.stm> (accessed 21/09/10).
- [13] Bodie, Z., Kane, A. & Marcus, J. (2009) *Investments*, 8th edition. New York: McGraw Hill.
- [14] Booth, L., Aivazian, V., Demirguc-Kunt, A. & Maksimovic, V. (2001) Capital structures in developing countries. *The journal of finance*. 56(1), 87-130.
- [15] Bowen, R.M., Daley, L.A. & Huber, C.C. (1982) Evidence on the existence and determinants of inter-industry differences in leverage. *Financial management*. 11(4) 10-20.
- [16] Brounen, D., De Jong, A. & Koedijk, K. (2004) Corporate finance in Europe: confronting theory with practice. *Financial management*. 33(4), 71-101.
- [17] Cai, F. & Ghosh, A. (2003) Test of capital structure theory: A binomial approach. *Journal of business and economic studies*. 9(2), 20-32.
- [18] Cameron, S. & Price, D. (2009) *Business research methods: a practical approach*. London: Chartered institute of personnel development.
- [19] Correia, C. & Cramer, P. (2008) An analysis of cost of capital, capital structure and capital budgeting practices: a survey of South African listed companies. *Meditari accountancy research*. 16(2), 31-52.
- [20] De Angelo, H., De Angelo, L. & Stulz, R.M. (2010) Seasoned equity offerings, market timing, and the corporate lifecycle. *Journal of financial economics*. 2010(95), 275-295.
- [21] Ebaid, E. I. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *The Journal of Risk Finance*, 10(5), 477-487.
- [22] Fama, F.E. & French, K.R. (2005) Financing decisions: who issues stock? *Journal of financial economics*. 76, 549-582
- [23] Firer, C., Ross, S.A., Westerfield, R.W. & Jordan, B.D. (2008) *Fundamentals of corporate finance: 4th South African edition*. Berkshire: McGraw Hill.
- [24] Frank, M.Z. & Goyal, V.K. (2003) Testing the pecking order theory of capital structure. *Journal of financial economics*. 67, 217-248.
- [25] Gitman, L.J. (2003) *Principles of managerial finance*. Boston: Addison Wesley/Pearsons education.
- [26] Graham, J. & Harvey, C. (2001) The theory and practise of corporate finance. *Journal of financial economics*. 60, 187-243.
- [27] Graham, J. & Harvey, C. (2002) How do CFOs make capital budgeting and capital structure decisions? *Journal of applied corporate finance*. 15(1), 8-23.
- [28] Gropp, R. & Heider, F. (2009) The determinants of bank capital structure. *European central bank working paper series*. 1096, 1-50.
- [29] Grossman, S., & Hart, O. (1986), The costs and benefit of ownership: A theory of vertical and lateral integration. *Journal of Political Economy*, 94, 691-719.
- [30] Hovakimian, A., Opler, T. & Titman, S. (2002) The capital structure choice: new evidence for a dynamic tradeoff model. *Journal of applied corporate finance*. 15(1), 24-30.
- [31] J.D., & Harrington, S. E. (1988). The relationship between risk and return: evidence for property-liability insurance stocks. *Journal of Risk and Insurance*, 55(1), 15-32.
- [32] Jou, D. G. (1999). Interest rate risk, surplus, leverage and market reward an empirical study of Taiwan life insurance industry. *Journal of Management & Systems*, 6(3), 281-300.
- [33] K.B., & Babbel, D. F. (1995). The relation between capital structure, interest rate sensitivity and market value in the property-liability insurance industry. *Journal of Risk and Insurance*, 62(4), 690-718.
- [34] Komnenc, B., & Pokrajcic, D. (2012). Intellectual capital and corporate performance of MNCs in Serbia. *Journal of Intellectual Capital*, 13(1), 106-119
- [35] Leary, M.T. & Roberts, M.R. (2010) The pecking order, debt capacity, and information asymmetry. *Journal of financial economics*. 95, 332-355
- [36] Lewellen, K. (2006) Financing decisions when managers are risk averse. *Journal of financial economics*. 82, 551-589.
- [37] Mesquita, J.M.C., & Lara, J. E. (2003). Capital structure and profitability: the Brazilian case working paper. *Academy of Business and Administration Sciences Conference*, Vancouver, July 11-13.
- [38] Min-Tsung, C. (2009). Relative effects of debt and equity on corporate operating performance Aquantile regression study. *International Journal of Management*, 26(1),

- [39] Modigliani, F., & Miller, M.(1958). ‘The cost of capital, corporation finance and the theory of investment. The American Economic Review, 48(3), 261-97.
- [40] Modigliani, F., & Miller, M. (1963). Corporate income taxes and the cost of capital: A correction. American Economic Review, 53, 443-53.
- [41] Myers, S.C. (1984) The capital structure puzzle. The journal of finance. 39(3), 575-589.
- [42] Myers, S.C. (2002) Financing of corporations. Handbook of the economics of finance.
- [43] Negash, M. (2001) Debt, tax shield and bankruptcy cost: evidence from the JSE. Investment analyst journal. 54, 33-44.
- [44] Opler, T.C., Saron, M. & Titman, S. (1997) Designing capital structure to create shareholder value. Journal of applied corporate finance. 10(1), 21-32.
- [45] Ovtchinnikov, A.V. (2010) Capital structure decisions: evidence from deregulated industries. Journal of financial economics. 95, 249-274.
- [46] Pal, K., &Soriya, S. (2012). IC performance of Indian pharmaceutical and textile industry. Journal of Intellectual Capital, 13(1), 120-137.
- [47] Pallant, J. (2007) SPSS survival manual. Berkshire: McGraw Hill/Open university press.
- [48] Phillips,&Sipahioglu (2004). Performance implications of capital structure evidence from quoted UK organizations with hotel interests. The Service Industries Journal, 24(5), 31-51.
- [49] Pratheepkanth, P. (2011). Capital Structure and Financial Performance: Evidence from Selected Business Companies in Colombo Stock Exchange Sri Lanka. Journal of Arts, Science & Commerce,23.
- [50] Rayan, K. (2008) Financial leverage and firm value. Master’s degree of Business Administration Dissertation, University of Pretoria: Gordon Institute of business Science.
- [51] Ryen, G.T., Vasconcellos, G.M. & Kish, R.J. (1997) Capital structure decisions: what have we learned. Business horizons. September-October, 41-50.
- [52] Saad, N. M. (2010). Corporate Governance Compliance and the Effects to capital Structure.International Journal of Economics and Financial, 2(1),105-114.
- [53] Saeedi, A., &Mahmoodi, I. (2011). Capital Structure and Firm Performance:Evidence from Iranian Companies. International Research Journal of Finance and Economics, 70, Staking,
- [54] Salkind, N.J. (2007) Statistics for people who think they hate statistics. California: SAGE publications.
- [55] Shivdasani, A. & Zenner, M. (2005) How to choose a capital structure: navigating the debt-equity decision. Journal of applied corporate finance. 17(1), 26-35.
- [56] Titman, S. & Wessels, R. (1988) The determinants of capital structure choice. The journal of finance. 43(1), 1-19.
- [57] Tze, O. S., & Heng, B. T. (2011). Capital Structure and Corporate Performance of Malaysian Construction Sector. International Journal of Humanities and Social Science, 1(2), 28-36.
- [58] Ward, M. & Price, A. (2008) Turning vision into value: Corporate finance for non financial executives. Pretoria: Van Schaik Publishers.
- [59] Yaffee, R. (2003). A primer for panel data analysis [internet]. Connect information technology at NYU, fall edition.
- [60] Available from [http://www.nyu.edu/its/pubs/connect/fall03/yaffee\\_primer.html](http://www.nyu.edu/its/pubs/connect/fall03/yaffee_primer.html).
- [61] Yongvanich, M., & Guthrie, J. (2005). Extended performance reporting an examination of the Australian mining industry. Accounting Forum, 29(1), 103-19.
- [62] Zaher, T.S. (2010) Performance of debt free firms. Managerial finance, 36(6), 491-501.
- [63] Zikmund, W.G. (2003) Business research methods, 7th edition. Ohio: Thomson South Western.

Table 1: Descriptive Statistics

Variables	STDTC	LTDTC	AG	LTA	TDC	ROE	ROA	EPS
N	95	95	95	95	95	95	95	95
Mean	15.5684	1.0448	21.2949	11.8754	18.6638	17.9768	2.4540	42.1352
Median	15.2100	0.8700	21.5800	11.8400	17.0000	18.1900	1.3534	27.0100
Std. Deviation	3.30727	0.9070	7.46175	0.75207	5.92920	4.55313	2.3757	3.8737
Minimum	8.27	0.02	6.35	10.32	10.74	4.52	31.08	5.49
Maximum	27.31	4.71	40.05	14.10	37.92	30.43	1251.05	174.46



TABLE 2: CORRELATION MATRIX

Variables	STDTC	LTDTC	AG	LTA	TDC	
STDTC	1	.112	.094	-.197*	.745	
LTDTC	-.112	1	.127	.245**	-.146	
AG	.094	.127	1	-.246**	.021	
LTA	-.197*	.245**	-.246**	1	-.227	
TDC	.745**	-.146	.021	-.227*	1	

\*\*significant at 0.01 level

\*significant at 0.05 level

Table 3: Regression Model Durbin-Watson Factors

1. ROE	1.395
2. ROA	.674
2. EPS	.665

TABLE 4: REGRESSION ANALYSIS

Variable	Coefficient t- statistics ROE		Coeffi cient	t- statistics ROA	Coefficient	t-statistics EPS
STDTC	.305	2.260	0.52	0.461	0.079	0.634
LTDTC	-.273	-2.894	-.136	-1.737	-.187	-2.154
TDC	-.138	-1.017	-.375	-3.323	-.398	-3.182
LTA	-.164	-1.674	.604	.7404	.505	5.579
AG	.285	3.013	.107	1.363	.173	1.981
R2		0.289		0.510		0.397
F-statistics		7.246		18.49		11.71
observations		95		95		95