Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 3, Issue, 11, pp.240-248, October, 2011

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

THE IMPACT OF DEBT FINANCING ON VALUE OF FIRMS IN DEVELOPING COUNTRIES: A LESSON FROM NIGERIA

[1]Josephat, U. J. Onwumere, [1]Imo G. Ibe and [2]Godwin Chigozie Okpara

[1]Department of Banking and Finance, University of Nigeria - Enugu Campus
[2]Department of Banking and Finance, Abia State University Uturu-Nigeria

ARTICLE INFO

Article History:
Received 5th July, 2011
Received in revised form
19th August, 2011
Accepted 17th September, 2011
Published online 15th October, 2011

Key words:
Debt Finance,
Bankruptcy,
Firm Value,
Multiple Discriminant Analysis.

ABSTRACT

Present and potential investors need information for their investment decisions, which include the value creating potential of relevant firms. This information helps the investor to estimate the value of the firm which in turn aids the process of investment decision making. At the same time, management of the relevant firm pay serious attention to the composition of the firm's financial structure as failure to achieve an optimal financial structure may lead to insolvency and financial distress. These can ultimately lead to bankruptcy. It was against this background that this paper examined the impact of debt finance on the value of Nigerian firms adopting a bankruptcy model. The study relied on historic accounting data obtained from the financial statements and accounts of 28 quoted firms on the Nigeria Stock Exchange and covered the period 2004 – 2008. A bankruptcy model, the Multiple Discriminant Analysis (MDA) was used and a benchmark Z-score of 2.675 was established in classifying firms as either having enhanced value or not. The results revealed that while twenty firms had value created as a result of external funds in their financial mix; eight firms did not create value under the same condition. Therefore, the use of debt finance enhances the value of firms. These should be encouraged for firms in developing countries in order that they will meaningfully contribute to their economic growth and development.

INTRODUCTION

The issue of value creation for stakeholders of the firm as a result of the composition of the firm's financial mix may be traced to the seminal works of Modigliani and Miller (MM) in 1958. In MM's seminal paper, their argument was whether the firm uses equity or debt, the value of the firm does not change. Since then, many scholars have postulated on the composition of the financial structure and it's influence on the value of the firms given rise to the trade-off theory (Kraus and Litzenberger, 1973), the pecking-order theory (Myers and Majluf, 1984), agency theory (Jensen and Meckling, 1976), and the signalling theory (Ross, 1977), among several theories that have tried to explain the impact of the financing choices of firms on the value of the firm. The firm's financing structure as agreed comprises of debt and equity (Damodaran, 2002; Brigham, 2000). It is in line with this that Brealey, Myers and Marcus (2004) submit that the firm's basic financial resources are the streams of cash flows produced by its assets and operations and when the firm uses purely equity capital, the cash flows generated by the assets and operations of the firm belong entirely to the equity-holders.

Corresponding author: chigoziegodwino@yahoo.com

On the other hand when there is a mix of debt and equity, the cash flows generated by the firms' assets and operations are split into two, a relatively safe stream that goes to the debtholders and a more risky one that goes to the equity holders. In this way, no matter the financing option chosen by the firm, the risky cash flow stream that goes to the equity-holders must be maximized. Value must be enhanced for them as the failure of the firm to do so will have a negative impact on the value of the firm. The firm as a going concern must continue to exist and at the same time generate a premium which motivates shareholders to continue to invest in them. In line with the above, the problem often associated with debt financing includes, from investors' or potential investor's points of view are the following; reduction of the firm's profitability (Florackis, 2008); loss of flexibility on the use of it's asset (Brigham, 2000); reduction of shareholders' earnings per share (Pandey, 2005); non payments of dividends to shareholders (Stulz, 1990); increased insolvency risk/ liquidity problem (Damadoran, 2002). This study thus seeks to examine the impact of debt financing on the value of the firm using a bankruptcy model. The essence is to determine from an investors' or potential investor's point of view the overall

impact of debt financing on the value of selected Nigerian firms taking into account the cost of debt.

Literature Review

The Modigliani-Miller theorem is one of the cornerstones of modern corporate finance. At its heart, the theorem is an irrelevance proposition. It provides conditions under which a firm's financial mix does not affect its value. In fact, what is understood as the Modigliani-Miller theorem comprises three distinct results from a series of papers, MM 1958; 1961 and 1963. The first proposition establishes that under certain conditions, a firm's debt-equity ratio does not affect its market value. The second proposition establishes that a firm's leverage has no effect on its weighted average cost of capital (that is, the cost of equity capital is a linear function of the debt-equity ratio) while the third proposition establishes that the firm's value is independent of its dividend policy.

Spurred by Modigliani and Miller's (1958, 1961 and 1963) arguments that in an ideal world without taxes, a firm's value is independent of its debt-equity mix, economists have sought conditions under which the financial structure of the firm would matter. Economic and financial theories suggest that several factors influence the debt-equity mix such as differential taxation of income from different sources, informational asymmetries, bankruptcy cost/risks, issues of control and dilution and the agency problem. In line with these, the following questions have arisen? Do corporate financing decisions affect firm's value? How much do they add and what factor(s) contribute to this effect? Enormous research efforts at theoretical and empirical level have been devoted towards providing answers to these questions. There have been several foreign and local scholars from different perspectives such as by Jensen and Meckling (1976), Jensen (1986), Fama and Miller (1972), Myers (1977), Elton and Gruber (1970), among others. Elton and Gruber (1970) studied the link between taxes, financing decisions and firm value and found that personal taxes make dividend less valuable and that capital gain and stock prices fall by less than the full amount of the dividend on ex-dividend days. Jensen and Meckling (1976) after evaluating financial structure from the agency cost model submit that higher leverage allows managers to hold a larger part of common stock thereby reducing agency problem by closely aligning the interest of the managers and other stockholders. They assert that since the interest of stockholders are protected, value is created. In another paper by Jensen (1986), he posits that leverage (debt finance) used by the firm enhances value by forcing the firm to pay out resources that might otherwise be wasted on bad investment by managers.

Myers (1977) argues that leverage (debt finance) can make firms to under invest because the gains from investment are shared with the existing risky bonds of the firm. The agency effect of financing decision works through profitability and can make firms to make better or worse investments and to use assets more or less efficiently. Miller (1977) re-evaluating earlier MM theories on financial structure, argues that if common stock is priced as tax free but personal tax rate built into the pricing of the stock, corporate interest payment is then the corporation tax rate. Thus, the tax shield at the corporate level is offset by taxes on interest at the personal level hence debt does not affect firm value. Miller (1977) further submits that if there are two firms with the same earnings before interest and taxes, the more levered firm's higher after-tax earnings are just offset by the higher personal taxes paid by its bondholders. In this way, given pre-tax earnings, there is no relationship between debt and value. According to Myers (2002), four major theories evaluate a firm's financial decisions. These are: (1) the Modigliani and Miller theory of financial structure irrelevance, here, the firm's value and real investment decisions are unaffected by the financing decisions of the firm (MM, 1958); (2) the Trade-off theory in which firms balance the tax advantage of borrowing against the cost of financial distress i.e firms are assumed to trade off the tax benefits of debt with the bankruptcy cost of debt when making their decision (Kraus and Litzenberger, 1973); (3) the Agency-cost theory in which financing responds to managers incentives (Jensen and Meckling, 1976); and (4) the Pecking-Order Theory, in which financing is adapted to mitigate problems created by differences in information. Here, it is suggested that firms avoid external financing when they have internal financing available, and avoid new equity financing when they can engage in new debt financing at reasonably low interest rate (Myers and Majluf, 1984).

However, another new emerging theory is the market timing hypothesis which states that firms should look for the cheaper type of financing regardless of their current levels of internal sources, debt and equity (Baker and Wurgler, 2002). These theories of financing are conditional not general, hence, Myers (2002) is of the view that it is easy to find examples of each theory at work but otherwise difficult to distinguish the theories empirically; large safe firms with mostly tangible assets tend to borrow more in their financing decision while firms with high profitability and viable growth opportunities tend to borrow less. Each of these tendencies is consistent with two or more of the major theories of financing. It may be possible to devise sharper tests by exporting the theories to developing economies where agency and information problems are more severe. Margaritis and Psillaki (2008) hold the view that corporate financing decisions of the firm are quite complex processes and existing theories can at best explain only certain facets of the diversity and complexity of financing choices. However, because of the complexities of these financing decisions, Zingales (2000) and Myers (2002) posit that new foundations for the firm's financing decisions are needed and these foundations will require a deeper understanding of the motives and behaviours of managers and employees of the firm in achieving the overall objective of shareholders wealth maximization.

The Trade off theory and Agency cost theory of financial structure acknowledge that bankruptcy costs exist as a result of increased debt financing. There is a bankruptcy risk involved in the firm's use of debt. According to Chen and Kim (1979) bankruptcy risk is that risk that a company will be unable to meet its debts obligations, often referred to as the default or insolvency risk. Research on bankruptcy risk has emerged to explain the theory of capital structure. In response to the MM proposition as modified by introduction of income tax, Baxter (1976) introduced debt financing in the study of bankruptcy and explained the reasons why firms did not use debt exclusively when raising capital. He believes that under the condition of bankruptcy risk, firms cannot continuously

increase their debt rate. As debt rate increases, a firm's bankruptcy risk will increase, thus increasing its expected bankruptcy cost and offsetting the benefits of tax savings of debt interest. Under this scenario, a firm's cost of capital does not always decrease when debt rises, but will increase at higher debt level. Kraus and Litzenberger (1973) have studied the optimal debt level and pointed out that the value of a firm with debts equal to the value of a firm without debt is the product of the market value of the debt and the income tax rate minus the after tax value of its expected bankruptcy cost. Also noted is the importance of the negative impact of bankruptcy cost towards a firm's value.

Stiglitz (1972) believes that the probability of bankruptcy significantly affects a firm's investment behaviour such as in mergers and acquisitions. If firms consider the potential bankruptcy risk and its resultant high bankruptcy cost, they may abandon their merger and acquisitions plans. In this direction, Jensen (1986) concludes that under the bankruptcy mechanism, debt financing would usually create a corporate governance effect on a firm's investment decisions. This is due to the fact that debt financing would increase bankruptcy risk, thereby increasing the risk of manager's loss of control (power). In order to reduce bankruptcy risk, a manager would reduce his/her business expenses, work harder and invest more carefully. Thus, increases in debt financing may lead to less investment activities (Xing and Chen, 2005; Rashmi and Sinha, 2004). Myers (1977) examines the negative impact of bankruptcy risk from the perspective of investment deficiency and concludes that under high debt level, a firm may not invest in projects with expected positive net cash flows. If a firm goes bankrupt, creditors may be able to recover their losses but stockholders would have to bear the consequences of bad investment decisions. Rhee and McCarthy (1982) believe that bankruptcy cost is determined by the probability of bankruptcy multiplied by total debts. Martin and Scott (1976) hold the view that firms which can control their investment cash flow fluctuations will be able to expand their debt capacity, thus, increasing the optimal debt level. Jensen and Meckling (1976) conclude that in diversification of shareholding in most businesses, ownership and management are separated. To them, potential conflicts of interest exist between shareholders and mangers because of self interest bordering on such matters as power and compensation. A manager may therefore sacrifice the interest of shareholders and pursue the growth of a firm, causing excessive investment (Jensen, 1986; Stulz, 1990). At this time, the firm's investment may increase bankruptcy risk and discourage the increase of debt level. They also believed that, when a firm's share ownership is more concentrated, shareholders could have more control of the firm.

METHODOLOGY

A research design is a kind of blueprint that guides the researcher in his or her investigation and analyses (Onwumere, 2009). The research design adopted for this research is the *ex-post facto* research design. The study relies on historic accounting data obtained from the financial statements and accounts of the 28 quoted firms in the Nigeria Stock Exchange, from 2004 – 2008. The event under investigation had already taken place and the researchers do not intend to control or manipulate the independent variables. Our inability to manipulate these variables led to our adoption of *ex-post facto* research design. For this paper, 28 firms were selected each from the following sub sectors;- Agriculture; Airline; Automobile; Breweries; Building materials; Chemical and Paints; Commercial Services; Computer and Office Equipments; Conglomerates; Construction; Engineering Technology; Footwares; Food, Beverages and Tobacco; Health Care; Hotel and Tourism; Industrial and Cosmetic Products; Information and Communication Technology; Leasing; Machinery and Marketing; Maritime; Media; Packaging; Petroleum; Printing and Publishing; Road Construction; Road Transportation and Textiles subsectors.

To aid model formulation, we used the following to denote their respective variables.

TDR	=	Total Debt Rate
NPM	=	Net Profit Margin
TAT	=	Total Asset Turnover
EPS	=	Earnings per Share
DPS	=	Dividend per Share
CR	=	Current Ratio
Z	=	score for MDA value
x	=	coefficient for value parameters

Following from Altman (1968) Multiple Discriminant Analysis (MDA) our resultant model is represented as:-

$$Z = X_1 (NPM/TDR) + X_2 (TAT/TDR) + X_3(EPS/TDR) + X_4(DPS/TDR) + X_5(CR/TDR)$$

where

X_1	=	0.012
X_2	=	0.014
X_3	=	0.033
X_4	=	0.006
X_5	=	0.999

The values of X_1 to X_5 were adopted from Altman, 1968 MDA model (see, Heine, 2000). Equally in line with Altman (1968) model, a guideline score of 2.675 was used to classify firms as either having enhanced value as a result of it use of debt (Z-score > 2. 675) or it has not (Z score < 2.675). Although, not as popular as Regression Analysis, the Multiple Discriminant Analysis (MDA) has been utilized in a variety of disciplines since its first application in the 1930s' (Heine, 2000). During these earlier years, MDA was used mainly in the biological and behavioural sciences (Heine, 2000). In recent years however this technique has become increasingly popular in the practical business world as well as in other areas of the academia (Altman, 1968; Altman 1993; Ohlson, 1980; Patt and Patt, 1980; Simons and Cross 1991; Shumway 2000). Primarily, MDA is a bankruptcy model used to classify and/or make predictions in problems where the dependent variable appears in quantitative forms (Altman, 1993).

Empirical research for predicting bankruptcy started with Univarite analysis (Beaver, 1966). Under this method, each individual ratio is examined at a time and the ratios which provide the most accurate prediction are recognized. Later, the multiple discriminate analysis as a model in predicting bankruptcy was introduced and used because MDA was seen as a better method in measuring the firm's risk of bankruptcy

by analyzing several ratios simultaneously (Altman 1968; Deakin, 1972; Edmister 1972; Bhum 1972; Altman 1993; Heine 2000). In this model, a composite number such as a Z-score from the MDA is used to classify/predict firms as been bankrupt or non-bankrupt. In our study, the MDA is used and adopted with the same Z-score to determine whether value have been added or not by utilizing various ratios from the financial statements and accounts of some quoted firms from the Nigerian Stock Exchange. The MDA technique has the advantage of considering an entire profile characteristic common to the relevant firms as well as the interaction of these properties, as while the Univariate Analysis can only consider one variable at a time, the MDA uses several variables (Heine, 2000).

Table 4.1 Summary Results of Ratio Analyses for the 28 Firm under Study

Firms	TDR	NPM	TAT	EPS	DPS	CR
Firm 1	2.9258952	102.1324282	229.283609	795	225	4.620409
Firm 2	6.7336076	61.20702808	403.258142	271	119	5.869711
Firm 3	5.7237068	16.29744049	1172.08576	489	185	9.461126
Firm 4	3.6660557	75.25956851	461.074558	2899	1810	7.502224
Firm 5	4.9811059	25.23837552	318.074635	380	225	9.385322
Firm 6	3.4061468	10.04245107	594.447452	33	0	4.498238
Firm 7	1.1121155	46.05484443	1476.87932	190	101	13.34213
Firm 8	2.5662289	-448.792987	101.786341	128	18	-0.5302
Firm 9	11.717454	30.43330505	751.396701	2500	640	5.195928
Firm 10	65.844036	9.285710647	417.870544	1546	310	5.063177
Firm 11	8.4656977	-151.85197	2131.06017	-28.74	0	5.802583
Firm 12	4.4801613	72.11515146	1011.16434	4941	4139	10.90714
Firm 13	3.4559895	32.35524032	561.078185	2170	1400	8.939395
Firm 14	14.553089	55.11374946	382.687634	2500	500	4.095043
Firm 15	5.1828601	33.08688498	891.698795	2310	1120	8.749559
Firm 16	28.298767	38.67744835	646.527152	295.2	0	5.510082
Firm 17	12.566291	45.88119196	272.458073	89	30	6.817816
Firm 18	-16.187825	-79.7395611	157.19818	-167	0	5.196189
Firm 19	4.3108513	84.25565453	255.845853	1028	200	6.800664
Firm 20	2.6522951	40.38433595	301.857449	596	131	6.024939
Firm 21	22.65175	12.61243523	2157.89932	4877	4833	4.59664
Firm 22	2.5157765	66.91697552	374.446409	2453	930	9.75205
Firm 23	4.8308507	90.3940837	89.6665171	572	204	1.645601
Firm 24	23.220624	-170.949337	421.513885	-1111	90	3.418841
Firm 25	1.7877275	-14.7878482	636.281445	-263	10	8.285009
Firm 26	1.2380615	24.21289933	905.459916	2795.63	0	12.61661
Firm 27	203.70813	365.3624665	30.2376844	55	0	1.086407
Firm 28	1.2947138	-159.68106	153.823789	-667	0	3.824745

SOURCE: Computed from financial statement of the quoted firms (see, Appendix 1) on the Nigerian Stock Exchange.
Note: TDR = Total Debt Rate, NPM = Net Profit Margin, TAT = Total Asset Turnover, EPS = Earnings Per Share, DPS = Dividend Per Share CR = Current Ratio

Table 4.2 Summary of Computed Result of Multiple Discriminant Analysis (MDA) Z-Score for the 28 Firms under Study

Firms	Z Score
Firm 1	12.521415
Firm 2	3.2524823
Firm 3	7.5656276
Firm 4	33.109121
Firm 5	5.6256266
Firm 6	4.1177066
Firm 7	37.256701
Firm 8*	-0.061638
Firm 9	8.7404212
Firm 10*	0.9704407
Firm 11	3.8816623
Firm 12	47.722594
Firm 13	28.120402
Firm 14	6.5697352
Firm 15	20.176434
Firm 16*	0.8750092
Firm 17*	1.1374068
Firm 18*	-0.057073
Firm 19	10.789232
Firm 20	11.757187
Firm 21	9.9282828
Firm 22	40.669969
Firm 23	4.9854605
Firm 24*	-1.242765
Firm 25	4.6921077
Firm 26	95.170379
Firm 27*	0.0378384
Firm 28*	-13.86617
Total	3.5936922

Source: Authors Computation
MDA= Multiple Discriminant Analysis Z- Score
*Firms that have Z-Score <2.675

Our choice of the model adopted in is based on theoretical perspectives; the model is justified based on the Trade off and Agency Cost theories of financial structure. The Trade-off Theory of financial structure recognizes the cost of bankruptcy arising from the firms' use of debt in its financing mix and states that a high proportion of debt in the financial structure often lead to bankruptcy, hence, there is an existence of a cost in the use of debt finance which is bankruptcy (Kraus and Litzenberger, 1973), also, the Agency Cost Theory of financial structure recognizes the risk of the firm going bankrupt when managers fail to maximize shareholders wealth by pursuing goals different from shareholder's goals as a result of separation of ownership from management found in modern corporate world (Jensen and Meckling, 1976). Therefore, the cost of debt which is bankruptcy, led to our choice of a bankruptcy model.

Assumptions of Multiple Discriminant Analysis

The following are assumptions underlying the use of Multiple Discriminant Analysis in this paper:-

i. The firm must have an element of debt in their financial mix, hence, the possibility of the firm not meeting its financial obligations as at when due can lead to insolvency and subsequent bankruptcy of the firm;
ii. MDA uses values of financial ratios which are predictive in nature;
iii. Weights are attached to value parameters as coefficients of the various parameters;
iv. All variables profile of the object must be analysed simultaneously; and
v. The MDA analysis is one dimensional (directional). It transforms the individual variables values to a single Discriminant score or Z- Value which is used to classify the objects.

RESULTS

The data utilized for this analysis are presented below (table 4.1). These include the ratio values of the value parameters (net profit margin, total asset turnover, earnings per share, dividend per share and current ratio) of the selected 28 firms under study as well as their aggregate values. The Multiple Discriminant Analysis (MDA) computed to determine the impact of debt finance on the value of Nigerian Firms revealed that twenty (20) firms had value created as a result of debt finance used in the financial mix of these firms (see, table 4.2). These firms had a Z-score value above 2.675 while eight firms (8) did not create value as a result of the firm's use of debt finance in their financial mix. Their Z-score was less than 2.675. Firms that had value created were firms 1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 13,14, 15, 19, 20, 21, 22, 23, 25, and 26 while Firms 8, 10, 16, 17, 18, 24, 27 and 28 did not create value as a result of the firm's use of debt. It was revealed that 71% of the firms had value created while 29% of firms sampled did not create value. The table below shows the results.

Remarks/Conclusion

Essentially, the overall objective of this paper was to determine the impact of debt financing on the value of Nigerian firms as result of the firm's use of debt. This paper is an attempt to extend the analysis of the links between the firms' financial structure to the value of the firm. In theory, the financial goal of the firm should be shareholders' wealth maximization as reflected in both the book value and the market value of the firm's share. However it is a challenge to management in a world of complex economic environment to achieve these objectives of maximizing the owner's wealth. Management needs to pay serious attention to the composition of the firm's financial structure as failure to achieve an optimal financial structure may lead to insolvency and financial distress which can ultimately lead to bankruptcy. Thus, a firm's financing decision should be dependent on the magnitude of risk before the decision is made. This is because the behaviour of management in its financing decisions is often restricted by bankruptcy risk as creditors monitor the risk level of the firm and exert pressure on its operating activities. Therefore, it was in line with the above, that this paper looked at the impact of debt finance on the value of the firm. In view of the findings of this paper, the financial decision which the firm makes must enhance value for shareholders, potential investors and stakeholders involved with the firm. Also, as a going concern, it is the wish of investors and investees that the firm should continually exist; hence, the financial decision of the firm should ultimately help in achieving the overall objective of the firm, which is, enhancing shareholders wealth maximization. Management must match the financing mix to the assets financed as closely as possible in terms of both timing and cash flows as to achieve the overall objective of the firm because value enhanced firm implies happy stakeholders. Bankruptcy cost of debt can increase the cost of financing with debt instead of equity. Thus, an increase in debt level in the financial structure of the firm will mean that debtholders or creditors will have an upper hand in the decision making of the firms with regard to the strategies adopted by the firm in their investment decisions. The use of debt can significantly affect the firms' chances of survival. The use of debt finance enhances the value of the firm. This is a major lesson for many firms operating in Nigeria. Firms benefiting from debt finance, if well managed, can meaningfully contribute to the economic growth and development of their respective countries.

REFERENCES

Altman, E.C. 1968. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy" *Journal of Finance*, Volume 3

Altman, E. 1993. Corporate Financial Distress and Bankruptcy 2nd Edition, New York; John Wiley and Sons

Baker, M.P. and Wurlger, J. 2002. Market Timing and Capital Structure" *Journal of Finance*, Volume 57, No. 1

Baxter, N. 1976. Leverage, Risk of Ruin, and the Cost of Capital" *Journal of Finance*, Volume 22

Beaver, W.H. 1966. Financial Ratios as Predictors of Failure'' *Journal of Accounting Research*, No 4

Brealey, R.A, Myers, S.C and Marcus, A.J. 2004. *Fundamentals of Corporate Finance*, New York; McGraw Hill

Brigham, E.F. 2000. Fundamentals of Financial Management, New York; McGraw Hill

Chen, A.H. and Kin, E.H.C. 1979. Theories of Corporate Debt Policy, A synthesis" The Journal of Finance, volume 34

Damodaran, A. 2002. Corporate Finance, Theory and Practice International Edition, New York; John Wileyand Son

Deakins, E.B. 1972. A Discriminant Analysis of Predictors of Business Failure, *Journal of Accounting Research*, No. 10

Edmister, R.O. 1972. An Empirical Test of Financial Ratio Analysis for Small Business Prediction. *Journal of Financial and Qualitative Analysis* No. 7

Elton, E. and Gruber, M. 1970. Marginal Stakeholders Tax Rate and the Clientele Effect, *Review of Economics and Statistics*, Volume 52

Encyclopedia Britannica/Bankruptcy (2008)

Florackis, C (2008), Agency Costs and Corporate Governance Mechanisms; Evidence for UK Firms" *International Journal of Managerial Finance*, Vol. 4, No. 1

Heine, M.L. 2000. Predicting Financial Distress of Companies, Revisiting the Z-score and Zeta ® Model, *Journal of Finance,* Volume 9

Jensen, M.C. and Meckling, W.H. 1976. Theory of the Firm; Managerial Behaviour, Agency Cost and Ownership Structure" *Journal of Financial Economics*, Volume 7

Jensen, M.C. 1986. Agency cost of free cash flow, Corporate Finance and Takeovers" *American Economic Review*, Volume 76

Kerlinger, F.N. 1973. Foundations of Behavioural Research Techniques In Business and Economics Eleventh Edition, Boston; McGraw Hill Irwin

Kraus, A. and Litzenberger, R.H. 1973. A State-preference model of Optimal Financial Leverage''*Journal of Finance*, Volume 4

Margaritis D and Psillaki M. 2008. Capital Structure, Equity Ownership and Firm Performance. *Journal of Finance,* Volume 14

Miller, M.H. and Modigliani, F 1963. Dividend Policy, Growth and Valuation of theShares" *Journal of Business*, Volume 26

Miller M, 1977. Debt and Taxes, *Journal of Finance*, Volume 32, No. 2

Miller, M.H. 1988. The Modigliani-Miller Propositions After Thirty Years "*Journal of Economic Perspectives*, Volume 2, No. 45

Modigliani, F and Miller, M.H. 1958. The cost of Capital Corporation Finance and the Theory of Investment" *American Economic Review*, Volume 48, No. 3

Modigliani, F and Miller M.H. 1963. Corporate Income Taxes and the Cost of Capital, A Correction" *American Economic Review*, Volume 53, No. 3

Myers, S.C. 1977. Determinants of Corporate Borrowing. *Journal of Financial Economics,* Volume 5

Myers, S.C and Majluf, N.S. 1984. Corporate financing and Investment Decisions, When Firms have Information that Investors do not have" *Journal of Financial Economics*, Volume 13

Myers, S.C. 2002. Financing of Corporations" *Handbook of the Economics of Finance*, August

Ohlson, J.A. 1980. Financial Ratios and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research*, No. 18

Onwumere, J.U.J 2009. Business and Economic Research Methods, Enugu: Vougasen Ltd

Pandey, I.M. 2005. Financial Management, Ninth Edition, New Delhi; Vikas Publishers

Platt, H.D. and Platt, M. B. 1990. Development of a Class of Stable Productive Variables: The Case of Bankruptcy Prediction'' *Journal of Business, Finance and Accounting*, Volume 17, No. 1

Rashmi, J. and Sinha, U. 2004. The Impact of Debt Financing on Output and Investment Strategies of Firms in India, *Journal of Financial Management*, Volume 12, No 4

Rhee, S.G and McCarthy, F.L. 1982. Corporate Debt capacity and the capital budgeting Analysis" *Journal of Financial Management*, Volume 11

Ross, J. 1977. The Determination of Financial Structure; the Intensive Signalling Approach" *Bell Journal of Economics*, spring, Volume 8,

Sheridan T. 1984. The Effect of Capital Structure on a firm's liquidation Decision. *Journal of Financial Economics*, Volume 13

Shumway, C. 2000. An Empirical Evaluation of Bankruptcy" *Journal of Finance*, Volume 12

Simons, K and Cross, S. 1991. Do Capital Market Predicts Problems in Large Commercial Banks'' *New England Economic Review*, Volume 4

Stiglitz, J.T. 1972. Some Aspects of the Pure theory of Corporate Finance; Bankruptcies and Takeover" *Bell Journal of Economics and Management Science*, Volume 2

Stulz, R.M. 1990. Managerial Discretion and Optimal Financing Policies" *Journal of Financial Economics,* Volume 14

Xing, L. and Cheng, P. 2005. The Interactive Relationship between Corporate Debt Financing and Investment Decision of Chinese Firms" *Journal of Corporate Finance*, Volume 4

Zingales, L. 2000. Investment –cash flows Sensitivities are not valid Measures of Financing Constraints" *The Quarterly Journal of Economics,* Volume 11

Appendix 1

FIRMS	REPRESENTED AS
Agriculture/ OKOMU PLC	Firm 1
Airlines/ NAHCO PLC	Firm 2
Automobile/ RT BRISCOE PLC	Firm 3
Breweries/ GUINNESS PLC	Firm 4
Building Materials/ NIGERIAN ROPES PLC	Firm 5
Chemical and Paints/ PREMIER PAINTS PLC	Firm 6
Commercial Services/ RED EXPRESS PLC	Firm 7
Computer& Office Equipment/ THOMAS WYATT PLC	Firm 8
Conglomerates/ UNILEVER PLC	Firm 9
Construction/ JULIUS BERGER PLC	Firm 10
Engineering Technology/ INTERLINK PLC	Firm 11
Food, Beverages and Tobacco/ NESTLES PLC	Firm 12
Health Care/ MAY AND BAKER PLC	Firm 13
Hotel and Tourism/ IKEJA HOTELS PLC	Firm 14
Industrial/Domestic Products/ VITAFOAM PLC	Firm 15
Information Communication Technology/ IHS PLC	Firm 16
Leasing / C&I LEASING PLC	Firm 17
Media/ AFROMEDIA PLC	Firm 18
Maritime / JAPUL PLC	Firm 19
Packaging/ BETA- GLASS PLC	Firm 20
Petroleum Marketing / TOTAL PLC	Firm 21
Printing and Publishing / UNIVERSITY PRESS PLC	Firm 22
Real Estate / UACN PROPERTY PLC	Firm 23
Road Construction / COSTAIN PLC	Firm 24
Textile / UNITED NIGERIA TEXTILE PLC	Firm 25
Road Transportation / ABC PLC	Firm 26
Machinery Marketing / SKOVIS NIGERIA PLC	Firm 27
Footwares / LEONARD NIGERIA PLC	Firm 28

Appendix 2

COMPUTED RATIO VALUE PARAMETERS OF RELVENT FIRM FROM NSE

Firms	YEARS	TDR	NPM	TAT	EPS	DPS	CR
Firm 1	2008	0.60848	25.50382	60.76344	253	25	1.311814
	2007	0.902161	4.978931	39.87016	29	0	0.747838
	2006	0.401618	14.43861	42.71618	83	0	0.983908
	2005	0.32452	28.44301	44.12871	221	100	0.811222
	2004	0.689116	28.76807	41.80512	209	100	0.765628
Total		**2.925895**	**102.1324**	**229.2836**	**795**	**225**	**4.620409**
Firm 2	2008	0.301732	18.12424	73.97716	82	55	2.236048
	2007	1.329919	16.11324	74.27644	79	30	0.988861
	2006	1.336098	13.37575	82.36221	58	12	1.055819
	2005	1.768337	10.41547	88.39662	42	12	1.008528
	2004	1.997522	3.178334	84.24571	10	10	0.580455
Total		**6.733608**	**61.20703**	**403.2581**	**271**	**119**	**5.869711**
Firm 3	2008	1.930613	3.132046	210.5589	111	40	1.406022
	2007	1.535727	3.755933	224.8872	134	50	1.523852
	2006	1.019853	4.040231	284.0843	146	35	1.737142
	2005	0.735624	2.584593	241.0478	55	35	2.056989
	2004	0.50189	2.784637	211.5076	43	25	2.737121
Total		**5.723707**	**16.29744**	**1172.086**	**489**	**185**	**9.461126**
Firm 4	2008	0.695564	17.14673	92.91866	804	450	1.419631
	2007	0.839737	17.17014	87.03438	725	320	1.558861
	2006	0.621417	13.86739	89.91655	504	240	1.889403
	2005	0.69195	10.36937	94.49854	329	420	1.354934
	2004	0.817387	16.70594	96.70642	537	380	1.279394
Total		**3.666056**	**75.25957**	**461.0746**	**2899**	**1810**	**7.502224**
Firm 5	2008	1.154182	6.714182	57.52215	110	75	1.876527
	2007	0.681284	5.995985	58.0264	80	75	2.441887
	2006	1.068726	5.048513	66.69315	90	75	1.714833
	2005	1.112051	3.409537	66.6238	50	0	1.632518
	2004	0.964863	4.070158	69.20912	50	0	1.719558
Total		**4.981106**	**25.23838**	**318.0746**	**380**	**225**	**9.385322**
Firms 6	2008	0.487232	3.695648	103.8907	14	0	1.179117
	2007	0.912732	3.287316	107.1218	10	0	0.661171
	2006	0.754883	4.158419	127.8806	13	0	0.828876
	2005	0.506821	2.302	127.5799	6	0	1.056562
	2004	0.744478	-3.40093	127.9745	-10	0	0.772512
Total		**3.406147**	**10.04245**	**594.4475**	**33**	**0**	**4.498238**
Firm 7	2008	0.140936	6.315405	235.1364	33	19	4.349827
	2007	0.245585	4.440487	279.6429	23	22	2.90817
	2006	0.194801	10.28775	261.3028	45	24	2.452104
	2005	0.229168	11.64069	346.3926	47	20	2.275084
	2004	0.301625	13.37051	354.4046	42	16	1.356944
Total		**1.112116**	**46.05484**	**1476.879**	**190**	**101**	**13.34213**

Firms	YEARS	TDR	NPM	TAT	EPS	DPS	CR
Firm 8	2008	-1.50976	1.243041	26.79141	100	6	-0.63288
	2007	12.01317	0.224042	28.22138	-30	12	-0.13582
	2006	-3.74598	2.353843	16.99806	300	0	0.165458
	2005	-1.78075	-333.835	13.14738	-163	0	0.020819
	2004	-2.41046	-118.779	16.62812	-79	0	0.052226
Total		**2.566229**	**-448.793**	**101.7863**	**128**	**18**	**-0.5302**
Firm 9	2008	2.056815	6.946782	159.1029	690	150	1.050481
	2007	2.532654	3.169959	167.0071	280	0	0.919206
	2006	3.063424	6.328703	137.2235	430	0	0.895896
	2005	2.834176	4.841005	136.4914	530	0	1.06527
	2004	1.230386	9.146856	151.5718	570	490	1.265075
Total		**11.71745**	**30.43331**	**751.3967**	**2500**	**640**	**5.195928**
Firm 10	2008	19.90341	2.180402	81.36472	204	0	0.869537
	2007	13.6049	2.250267	94.7803	588	125	0.772425
	2006	9.318678	1.967794	91.76184	373	90	1.095852
	2005	9.558169	1.573354	73.20113	209	70	1.430357
	2004	13.45888	1.313893	76.76256	172	25	0.895007
Total		**65.84404**	**9.285711**	**417.8705**	**1546**	**310**	**5.063177**
Firm 11	2008	3.981086	-4.59222	885.3605	-277.9	0	1.867173
	2007	0.89762	-2.5789	395.3788	52.5	0	0.86821

	2006	1.128152	6.300911	596.5621	213.6	0	0.822925
	2005	1.268231	4.66036	196.0139	54.8	0	0.837737
	2004	1.190608	-155.642	57.74485	-71.74	0	1.406539
Total		**8.465698**	**-151.852**	**2131.06**	**-28.74**	**0**	**5.802583**
Firm 12	**2008**	1.228369	16.1021	177.4455	1261	840	1.382966
	2007	1.086985	12.36022	207.1657	879	899	1.595569
	2006	0.82109	14.7317	203.2068	1071	1000	2.215821
	2005	0.61218	15.44485	205.4186	1004	700	2.876721
	2004	0.731538	13.47627	217.9277	726	700	2.836064
Total		**4.480161**	**72.11515**	**1011.164**	**4941**	**4139**	**10.90714**
Firm 13	**2008**	0.898046	7.683252	107.0754	600	100	1.606727
	2007	0.743989	5.39719	102.6234	300	400	1.691363
	2006	0.513626	9.384531	69.52628	300	300	1.766826
	2005	0.602951	5.09566	128.0157	470	300	2.003685
	2004	0.697378	4.794607	153.8373	500	300	1.870795
Total		**3.45599**	**32.35524**	**561.0782**	**2170**	**1400**	**8.939395**
Firm 14	**2008**	1.391802	13.51718	129.7342	500	100	0.562543
	2007	1.750008	13.20911	106.4864	500	100	0.507594
	2006	2.108777	11.32779	46.37964	500	100	1.042445
	2005	4.784629	10.36185	67.41741	500	100	0.644673
	2004	4.517873	6.697821	32.66999	500	100	1.337789
Total		**14.55309**	**55.11375**	**382.6876**	**2500**	**500**	**4.095043**

Firms	**YEARS**	**TDR**	**NPM**	**TAT**	**EPS**	**DPS**	**CR**
Firm 15	**2008**	1.255899	8.544978	178.5862	850	300	1.537045
	2007	1.273321	7.143875	181.2705	540	250	1.606318
	2006	1.060361	6.774712	172.9822	340	120	1.616404
	2005	0.819353	3.166878	181.8449	170	150	1.98475
	2004	0.773927	7.456443	177.015	410	300	2.005042
Total		**5.18286**	**33.08688**	**891.6988**	**2310**	**1120**	**8.749559**
Firm 16	2008	2.62116	10.43392	133.9148	126	0	1.278243
	2007	5.134831	8.893522	86.24355	67	0	1.159162
	2006	5.234728	4.183428	142.1037	28	0	1.11945
	2005	8.825298	6.250282	142.059	41	0	1.03351
	2004	6.482751	8.9163	142.2061	33.2	0	0.919717
Total		**28.29877**	**38.67745**	**646.5272**	**295.2**	**0**	**5.510082**
Firm 17	2008	2.62116	13.77372	48.39914	22	0	1.880154
	2007	5.134831	8.312133	41.66054	8	0	2.558398
	2006	5.234728	7.381185	58.26973	17	10	1.147501
	2005	8.825298	8.197127	59.12654	16	10	0.633504
	2004	6.482751	8.217027	65.00211	26	10	0.598258
Total		**12.56629**	**45.88119**	**272.4581**	**89**	**30**	**6.817816**
Firm 18	2008	0.197432	22.41745	35.18154	108	0	3.775363
	2007	0.566058	13.38554	30.47665	202	0	0.509448
	2006	-3.43362	-112.402	33.96391	-392	0	0.490758
	2005	-13.5177	-3.14036	57.57608	-85	0	0.42062
	2004	0	0	0	0	0	0
Total		**-16.1878**	**-79.7396**	**157.1982**	**-167**	**0**	**5.196189**
Firm 19	2008	0.099145	17.15989	22.85848	108	0	3.169592
	2007	2.113396	16.23859	49.23156	324	0	1.268088
	2006	0.843203	13.5558	73.85239	162	0	0.939596
	2005	0.522512	19.50479	51.46083	171	100	0.844001
	2004	0.732595	17.79658	58.4426	263	100	0.579388
Total		**4.310851**	**84.25565**	**255.8459**	**1028**	**200**	**6.800664**
Firm 20	2008	0.60672	13.14123	65.27503	239	28	1.160382
	2007	0.7001	12.60271	56.83087	191	3	0.819759
	2006	0.445449	7.420169	54.45604	84	100	1.365637
	2005	0.441046	4.533685	55.48887	46	0	1.335422
	2004	0.458979	2.686548	69.80663	36	0	1.343739
Total		**2.652295**	**40.38434**	**301.8574**	**596**	**131**	**6.024939**
Firm 21	2008	4.352068	2.476249	443.276	1294	1293	0.909938
	2007	4.809505	2.370338	360.2122	959	950	0.924447
	2006	3.10103	1.988318	513.7254	741	740	0.886772
	2005	5.363789	2.85273	457.8274	1065	950	0.899544
	2004	5.025358	2.9248	382.8584	818	900	0.975938
Total		**22.65175**	**12.61244**	**2157.899**	**4877**	**4833**	**4.59664**

Firms	**YEARS**	**TDR**	**NPM**	**TAT**	**EPS**	**DPS**	**CR**
	2007	0.616498	15.81848	86.98015	731	250	1.692022
	2006	0.476267	12.8392	84.13097	470	80	2.011142
	2005	0.450058	9.404667	68.00668	276	100	2.029007
	2004	0.505981	11.76753	67.65082	335	200	1.881803
Total		**2.515776**	**66.91698**	**374.4464**	**2453**	**930**	**9.75205**

Firm 23	2008	0.924996	26.60438	21.52755	323	75	0.166284
	2007	1.45169	16.42755	17.82775	39	49	0.188732
	2006	0.905258	17.54664	15.18611	88	35	0.422149
	2005	0.64228	18.33555	18.35962	77	25	0.344997
	2004	0.906627	11.47996	16.7655	45	20	0.523438
Total		**4.830851**	**90.39408**	**89.66652**	**572**	**204**	**1.645601**
Firn 24	2008	-4.49536	9.231487	79.9029	221	18	0.722405
	2007	-1.19913	3.579204	136.023	68	0	0.7445
	2006	-2.46022	-133.899	51.5611	-931	36	0.438864
	2005	16.04267	-12.6941	83.8904	-176	36	0.967935
	2004	15.33267	-37.1667	70.13649	-293	0	0.545137
Total		**23.22062**	**-170.949**	**421.5139**	**-1111**	**90**	**3.418841**
Firm 25	2008	0	0	0	0	0	0
	2007	0.801006	-12.0855	171.9843	-204	0	0.976583
	2006	0.359321	-3.78374	153.057	-89	0	2.233865
	2005	0.268107	0.476537	136.0833	11	0	2.53868
	2004	0.359293	0.604827	175.1569	19	10	2.535881
Total		**1.787728**	**-14.7878**	**636.2814**	**-263**	**10**	**8.285009**
Firm 26	2008	0.153415	4.223555	335.6733	111.9	0	1.03272
	2007	0.044318	4.411852	274.0802	93.73	0	4.079472
	2006	0.052189	5.279037	21.97775	95	0	0.564813
	2005	0.870732	6.630042	146.6831	335	0	0.028009
	2004	0.117407	3.668414	127.0455	2160	0	6.9116
Total		**1.238061**	**24.2129**	**905.4599**	**2795.63**	**0**	**12.61661**
Firms 27	2008	1.916181	216.3492	10.16797	70	0	0.435413
	2007	163.2313	-30.869	10.3643	-5	0	0.009572
	2006	2.824066	293.2039	0.592277	10	0	0.432114
	2005	5.413981	-464.966	3.676314	-40	0	0.193422
	2004	30.32265	351.6447	5.436824	20	0	0.015886
Total		**203.7081**	**365.3625**	**30.23768**	**55**	**0**	**1.086407**
Firm 28	2008	0.073759	50.70075	11.02133	189.2	0	1.054235
	2007	0.676401	-81.3724	30.78787	-299.1	0	0.627367
	2006	0.211501	-28.574	36.31407	-114.5	0	0.51366
	2005	0.197537	-58.459	41.39079	-255.8	0	0.081794
	2004	0.135516	-41.9765	34.30973	-186.8	0	1.547689
Total		**1.294714**	**-159.681**	**153.8238**	**-667**	**0**	**3.824745**

****