

Financial Leverage and Performance of Non-Financial Companies in Nairobi Securities Exchange in Kenya

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Abstract : *This study evaluated the relationship between financial leverage and performance of non financial companies of the Nairobi Securities Exchange (NSE), Kenya. The study specifically determined the relationship of leverage measures of long term debt-to- equity ratio; short term debt-to-equity ratio; total debt-to-equity ratio; short –term debt to equity ratio; short-term debt to current assets and financial performance measures of return on assets ((ROA) calculated from financial statements. The study was a census of all 61 firms listed on the NSE. A sample size of 42 firms were selected by purposive sampling after omitting firms in the financial services sector due to their capital structures being regulated by the central bank. The study was anchored on conceptual framework. It relied on secondary data for 6-year study period (2007-2012) and validated by piloting the study. Regression analysis model was used to investigate the relationship of financial leverage on dependent variables. Result shows that ROA is significant with long-term debt at 95% confidence interval.*

Keywords: *Equity, Financial Leverage, long Term Debt, Return on assets, Short Term Debt.*

I. Introduction

Firms need to finance assets as well as optimize investment in assets. Usually firms borrow cash for operations. Contemporary researches for more than fifty years have been explaining the role of debt in firms' as one of their primary objectives (Modigliani and Miller 1958). Modigliani and Miller (1958) and Miller and Modigliani (1963) argue that capital structure does not have an effect in a frictionless market without taxes, bankruptcy costs, agency costs and asymmetric information (efficient market theory) hence financial managers cannot increase value by changing the mix of securities used to finance the company. Theoretical studies and empirical studies cannot agree on the nature of the relation between leverage and firm value.

According to Abor (2007), empirical results for SMEs indicate that short-term debt is significantly and negatively related to profitability for both Ghana and South Africa. In the same study results show that long-term debt has a significantly positive relationship with profitability for both countries. As noted by Sanda and Mikailu (2005), the financing patterns of Nigerian-quoted firms revealed that the relationship between profitability and financial leverage is highly significant and negative; and that firm-age is positively and significantly related to financial leverage. The firm size is negatively and significantly related to financial leverage. There is a gap in these studies specifically in the case of growing economies like Kenya, which have low economic growth rate and an inefficient stock market, because most of the research done is based on the data from developed economies.

The Economic Survey Report of Kenya (2013) provides that the world economy grew at 3.9 percent in 2011 from 5.1 percent growth in 2010. The Kenyan economy performed modestly in 2011 and realized growth in Gross Domestic Product (GDP) of 4.4 percent compared with expansion of 5.8 percent in 2010 and 2.7 percent in 2009. In the first three months of 2012, the economy performed sluggishly registering real growth of 3.5 percent. Real GDP growth was 5.2 percent in 2012. The annual average inflation, however, rose to 16.0 percent in June 2012 from 15.1 percent in January 2012 and 6.9 percent in June 2011. Monetary policy tightening started in March 2011 and was sustained through June 2012 to contain domestic inflation (KNBS, 2013).

In Kenya, the idea of the Nairobi stock exchange was facilitated by the birth of the Companies Act 1948 (Cap. 486). The Nairobi Securities Exchange (NSE) a voluntary association of stockbrokers in the European community was constituted in 1954 as registered under the Societies Act. The Nairobi Securities Exchange is a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments. NSE is part of the East African Securities Exchange whose other members are Dar-es-Salaam Securities Exchange, and the Uganda Securities exchange, which facilitates growth and development of the regional securities market (NSE, 2012).

The purpose of this study was to empirically investigate the relationship of financial leverage and financial performance of firms in the NSE Kenya. It was important to conduct this study in Kenya because it is a growing economy and there are differences in the situation faced by firms in developed and developing economies the results could imply other developing countries.

I. Statement of the Problem

The aim of a firm is shareholder wealth and shareholder value maximization hence the relationship between capital structure and firm value becomes a key issue. Financing choices and mix have presented a problem for growth and survival of new and existing firms. With a wrong choice profitability levels can be affected. A company can use either common stock, or debt. Debt and equity are the principle sources of funding for a business Shareholders want management to choose the mix of securities that maximizes firm value. Leverage can be considered high or low. Companies with significant amounts of debt in contrast with their assets are referred to as being leveraged and their shareholder earnings can be more unpredictable than those of companies with less debt. Businesses with high leverage appear to be at a risk of bankruptcy in case they are not able to repay their debts. This might lead to difficulties in getting new lenders in future. By leveraging their debt, businesses are able to obtain increased stockholder earnings. According to Fama & French (2005), there should be a positive relationship between debt ratio and firm performance. Contrary to this Alkhatib (2012) found no relationship between debt and profitability. Mesquita and Lara (2003), in their study found that the relationship between rates of return and debt indicates a negative relationship for long-term financing. They however, found a positive relationship for short-term financing and equity. It is against this backdrop that this study is undertaken to determine the relationship of financial leverage on firm financial performance in the non-financial companies listed on the Nairobi Securities Exchange

1.1. Specific Objective

The objective of the study was to:

Establish the relationship of debt-to-equity ratio of a firm on financial performance in companies listed on the NSE.

1.2 Hypotheses of the Study

The study was guided by the following hypothesis:

Ho₁: There is no significant relationship between debt-to-equity ratio of a firm on its financial performance in companies listed on the NSE

II. Theoretical Perspective

Modigliani and Miller (1963) show in their second seminal paper on corporate structure state that firm value is directly proportional to leverage due to the tax deductibility of interest payments at the corporate level. Whether the firm uses more of debt than equity or either 100% debt or 100% equity, the value will not be affected except for the deductibility of interest payments when calculating taxable income. The theory assumes that a firm's value will be maximized when it uses more of debt in its capital structure than equity. With inclusion of taxes and other transaction cost two factors need to be acknowledged, firm's weighted average cost of capital (WACC) decreases as it increases its debt and firm's cost of equity increases as it increases its debt since shareholders bear higher business risk due to increases in possibility of bankruptcy.

Critics of Modigliani and Miller (1963) state the theory assume rational economic behavior and perfect market conditions which is not realistic. Studies conducted by Chem and Strange (2005) identified some shortcomings of this theory. Other researchers have subsequently suggested alternatives to the (Modigliani and Miller 1963) theory of capital structure by including the Trade-off theory (Myers, 2001; Ngugi, 2008) the Life Stage theory and the Pecking Order theory (Arnold, 2005) which offers different perspectives about how the decision to acquire debt affects firm value. These studies show little consensus as far as alternative theories to explain effect of leverage on performance. This study seeks to examine the relationship between financial leverage and financial performance.

Ming-Chang and Zuwei-Ching (2010) in a study on the Effect of Leverage on Firm Value using 645 in Taiwan listed companies concluded that the leverage is significantly positively related to the firm value before reaching firm's optimal capital structure. This study was carried out at NSE, which is far much less developed than Taiwan Securities Exchange.

2.1 Financial Leverage

This study used book values rather than market value measures of debt since market values are not available. Debt-to-assets or debt-to-capital is the most common measure of leverage in empirical studies. Since independent variables may have different relationship on the types of debt, the study used different measures of leverage: long-term debt-to-total assets, short-term debt-to-total assets and total debt-to-total assets ratios. Some previous research studies (Chung 1993; Pandey *et.al.*, 2000; Titman and Wessels, 1988) also use different measures of leverage. The choice of the intervening variables in this study was guided by results of other empirical studies in developing and developed nations. The focus is to determine the influence of these variables

on leverage-performance relationship rather than identify new variables, in comparative cross-country study, Rajan and Zingales (1995) find the variables profitability and size factors.

2.2 Short-Term Debt-to-Equity Ratio

When return on equity is considered as performance measure, according to Javed and Mirza (2013) Pearson correlation test shows negative significant relationship between firm performance and long-term debt to total assets in study on the possible association between financial performance of the firm and economic indicators in Pakistan Stock market. According to Javed and Mirza (2013), the relationship of performance and current ratio is negatively significant. This study sought to find out the relationship between short-term debt-to-equity ratio of non-financial firms listed on the NSE.

Short-term debt comprises a considerable part firms’ total debt. An analysis of determinants of leverage based on total debt ratios may mask significant differences on their effect on profitability. According to Harris and Raviv (1991), the consensus is that “leverage increase with fixed asset and short-term forms of debt. This study sought to find out the relationship between short-term debt to current assets and financial performance.

2.3 Long-Term Debt and Short-Term Debt and Performance

Since Kenyan firms are very highly leveraged, it is of interest to examine the sources of debt in more detail. The data used in this study only allows for a decomposition of total liabilities into short-term debt and long-term debt. Based on a cross-sectional analysis of leverage in UK companies (1991 figures), (Bevan & Danbolt 2000) find that short-term debts like trade credit and equivalent, on average accounts for more than 62% of total debt of the UK companies, the results are particularly sensitive to whether such debt is included in the leverage measures. Hence, in line with their findings, (Bevan & Danbolt 2000) argue that analysis of corporate structure is incomplete without a detailed examination of corporate debt.

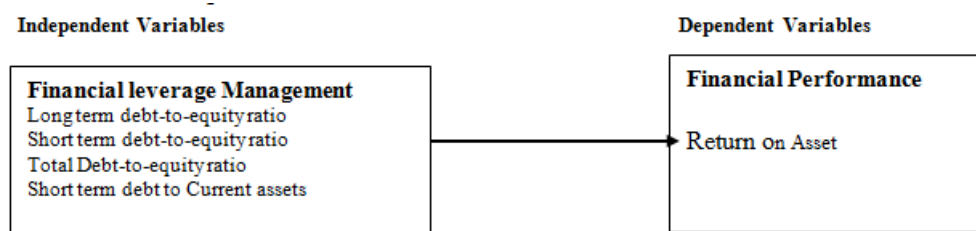
Short-term debt has an advantage as described by Myers (2001). When investment is financed through debt, it creates an incentive problem because return on a project has to be shared between shareholders and bondholders. The nature of debt and its incentive properties can differ according, for instance, to its maturity (long and short). Although the issue of the maturity structure of debt is important for both developed and developing countries, not all aspects of the problem that have been raised with respect the developing countries. In particular, there has been a widespread perception both by domestic and international policymakers that asymmetric information and contract enforcement problems may lead to a shortage of long-term finance in developing economies. This study provides empirical evidence on the effect long-term debt on firms’ performance.

According to Jaramillo and Schiantarelli (2002), access to long term debt may allow firms access to better and more productive technologies, which the firm may be reluctant to finance with short-term debt because of fears of liquidation. Access to long-term debt may improve firms’ performance. Lack of availability of long-term finance may put a squeeze on working capital, and this may have adverse consequences on performance on the other hand short-term debt, may force firms to reduce inefficiencies if it entails continuous monitoring. Ultimately the issue is an empirical one.

2.4 Financial Performance

Return on assets measures a company’s earnings in relation resources it has at its disposal thus financial performance. Leverage is negatively associated with operating performance (ROA). While several studies that have examined the relationship between leverage and operating performance report mixed results. Vithessonthi (2013) showed that for newly privatized firms in 21 developing countries during the period 1980–1992, exhibited significant increases in profitability and significant decreases in leverage, but this was inconsistent with (Mehrotra. 2003) who found that profitability is positively associated with leverage.

III. The Conceptual Framework



IV. Research Methodology

4.1 Introduction

This chapter presents the methodological base for the study. Specifically it addresses; the research design, study

area, target population, sampling technique and sample size, data type and sources, instrumentation, pilot study, validity of research instruments, reliability of research instruments, data analysis and presentation, hypothesis testing and ethical considerations.

4.2 Research Design

This study employed descriptive correlation research design. Correlation research design is a more conventional approach to studying capital structure considerations. Correlation study allows researcher to determine the relationship between the independent and dependent variables associated (Kothari, 2010). This research design also examined the causal association between variables under the study with aim to explain the relationship between two or more quantitative variables. Quantitative data relating to the indicators of performance and leverage Nairobi Securities Exchange was collected over past six years from 2007 to 2012 annual reports and correlated with debt ratios of the same firms over time.

4.3 Study Population

This was a study of all companies listed at the NSE. There are 61 companies listed on the NSE. Only 41 companies whose capital structure is not regulated by the central bank were picked and their data tabulated.

4.4 Sampling Technique

The research utilized census sampling technique to identify the population of the study among the selected firms listed on NSE. The entire units in the population were chosen for the study. The census survey was preferred for the study because the population of study was small and to ensure that all members participated in the study.

4.5. Sample Size

Table 3.1 represents 61 firms listed under the NSE. This study involves panel data for the firms in the period of 2007 to 2012. Initially the sample consisted of 61 firms which were then the total number of listed firms. Since the study covers a period of 6 years, the availability of the annual reports, which is the main source of information, was also a deciding factor as to whether a particular firm can be included. This would mean firms that were de-listed or newly listed during the study period are excluded. 20 firms were eliminated resulting in a final sample of 41 firms.

Table 3.1 Firms listed on the NSE

Sector	Population	Sample size
Manufacturing	9	9
Construction and allied	5	5
Energy and Petroleum	5	5
Agricultural	7	7
Commercial and Services	9	9
Telecommunication and Technology	2	2
Automobile and Accessories	4	4

Source: NSE (2014)

4.6 Data Analysis and Presentation

The study employed discriminant analysis descriptive and correlation statistics with the aid of SPSS programme to investigate relationship in financial performance between firms based on financial leverage The data analyzed was gathered from annual financial reports of firms listed on NSE. The descriptive and inferential statistical tools such as mean and standard deviation were applied to describe relevant information about each variable.

Regression analysis and simple correlation was used to investigate the relationship of financial leverage on dependent variables financial performance. Karl Pearson first order partial correlation coefficient r_{xy} was used to ascertain the effect of organizational factors and leverage-performance. Financial performance was measured by Return on Assets (ROA). Leverage was measured by the ratio of debt-to-equity (debt/equity ratio).

V. Data Presentation, Analysis And Discussion

5.1 Introduction

In this chapter data analysis, findings and findings discussion are presented. Specifically the following are addressed; descriptive statistics, hypothesis tests using regression and partial correlation.

5.2 Descriptive Statistics

The descriptive statistics for the six variables have been obtained for empirical investigation and are presented in the Table 4.1 shown below.

Table 4.1: Descriptive Statistics of Financial leverage and Financial Performance

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Short-term debt-to-equity ratio	41	.0000	185.0699	7.979520E0	28.5363612
Long-term debt-to-equity ratio	41	.0000	217.6747	7.604044E0	33.7147751
Total Debt-to-Equity ratio	41	.0000	245.7990	1.165877E1	37.7789376
Short-term debt-to-Current assets	41	.0000	1.3704E3	4.306238E1	212.7098823
Return on Asset	41	.0000	2.3548	.458441	.4925724

Table 4.1 above provides the descriptive statistics for all the variables. It shows the number of observations of all variables, their average values and their standard deviation. The descriptive statistics show that all the variables have 41 observations. The dependent variable Return on Assets has the average value of 0.458441, It has a minimum value of 0.000 and a maximum value of 2.3548. The standard deviation for return on assets is 0.4925 this implies that performance of this firms is 45%. Return on Equity has an average value of 7.9795 with a standard deviation of 28.53. The independent variable Short-term debt-to-Current assets has a maximum value of 1.3704, it has an average value of 4.30 with a standard deviation of 212.709. Total Debt-to-Equity ratio has the average value of 1.16587 while standard deviation of 37.7789, the minimum value is 0 for debt-to-equity ratio and its maximum value is 245.79. Short-term debt-to-equity ratio has the average value of 7.979520E0 with a standard deviation of 37.7789; the minimum value is 0 for debt-to-equity ratio while the maximum value is 245.79.

Table 4.2 Correlation Analysis

		Short term debt to equity ratio	Long term debt to equity ratio	Short term debt to Current assets	Return on Asset
Short term debt to equity ratio	Pearson Correlation	1			
	Sig. (2-tailed)				
Long term debt to equity ratio	Pearson Correlation	.993**	1		
	Sig. (2-tailed)	.000			
Short term debt to Current assets	Pearson Correlation	-.014	-.036	1	
	Sig. (2-tailed)	.933	.822		
Return on Asset	Pearson Correlation	-.051	.779	.033	1
	Sig. (2-tailed)	.750	.045*	.835	

Table 4.2 shows the matrix of Pearson’s correlation coefficient analysis. The zero order correlation reveal relationship between Long term debt to equity ratio and Return on assets are statistically significant at 99% (P Value < 0.05)

5.6 Regression of Short-Term Debts to Equity on Return on Assets

**Table 4.3 Regression of Short-term Debts on Return on assets
Goodness of fit analysis**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.079 ^a	.006	.000	.1178891

a. Predictors: (Constant), short debt-to-equity ratio

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.015	1	.015	1.069	.303 ^b
	Residual	2.363	170	.014		
	Total	2.377	171			
a. Dependent Variable: Return On Assets						
b. Predictors: (Constant), short debt-to-equity						
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.150	.013		11.251	.000
	short debt-to-equity	-.013	.013	-.079	-1.034	.303
a. Dependent Variable: Return On Assets						

A bivariate regression analysis was conducted using short term debt to equity ratio as a predictor of Return on Assets. From Table 4.3 the model revealed that short term debt-to-equity ratio had no significant impact on return on assets (p-value = .303). The regression results reveal short term debt to equity ratio had statistically insignificant and negative linear relationship with Return on Assets ($\beta_1 = -.13$, p value .303). The model reveals 6.0% (R-Square 0.06) of the changes in Return on Assets are accounted for by changes in short term debt to equity ratio. The resulting linear regression equation to estimate return on assets: ROA

$$ROA = 0.15 - 0.13 \text{ SDE}$$

The hypothesis criterion was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p-values ≤ 0.01 . The study fails to reject H_1 since $p = .303$ and is ≥ 0.01 and conclude that **financial performance is not significantly affected by short term debt to equity ratio.**

5.7 Regression of Long-term Debts to Equity Ratio on Return on Assets

Table 4.4 Regression of Long-term Debts on Return on Assets

Model Summary						
	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.168 ^a	.028	.023	.1188187		
a. Predictors: (Constant), Long Term Debt-to-equity						
ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.073	1	.073	5.196	.024 ^b
	Residual	2.527	179	.014		
	Total	2.600	180			
a. Dependent Variable: Return On Assets						
b. Predictors: (Constant), Long Term Debt-to-equity						
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.160	.012		13.705	.000
	Long Term Debt-to-equity	-.036	.016	-.168	-2.280	.024

Dependent Variable: Return On Assets

A bivariate regression analysis was conducted using Long- term Debt to Equity ratio as a predictor of Return on Assets. From Table 4.4 the model revealed that Long- term Debt-to-equity ratio had no significant impact on return on assets (p-value = 0.024). The regression results reveal Long-term debt to equity ratio had statistically insignificant and negative linear relationship with Return on Assets ($\beta_1 = -.036$, p value .024). The model reveals 2.8% (R-Square 0.028) of the changes in Return on Assets are accounted for by changes in Long-term debt to equity ratio. The resulting linear regression equation to estimate return on assets: ROA

$$ROA = 0.16 - 0.36 \text{ LDE} + \varepsilon$$

The hypothesis criterion was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p - values ≤ 0.01 . The study fails to reject H_1 since $p = .024$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by Long term Debt to equity ratio.

5.8 Regression of Total Debts to Equity Ratio on Return on Assets

Table 4.5 Regression of Total debt to equity ratio on Return on Assets

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.141 ^a	.020	.014	.1191604		
a. Predictors: (Constant), Total Debt Equity						
ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.052	1	.052	3.652	.058 ^b
	Residual	2.556	180	.014		
	Total	2.608	181			
a. Dependent Variable: Return On Assets						
b. Predictors: (Constant), Total Debt Equity						

Coefficients.						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.164	.014		11.433	.000
	Total Debt Equity	-.017	.009	-.141	-1.911	.058
a. Dependent Variable: Return On Assets						

A bivariate regression analysis was conducted using Total Debt to Equity ratio as a predictor of Return on Assets. From table 4.5 the model revealed that Total Debt-to-equity ratio had no significant impact on return on assets (p -value = 0.058). The regression results reveal Total debt to equity ratio had statistically insignificant and negative linear relationship with Return on Assets ($\beta_1 = -.017$, p value .058). The model reveals 2.0% (R-Square 0.020) of the changes in Return on Assets are accounted for by changes in Total debt to equity ratio. The resulting linear regression equation to estimate return on assets: $ROA = 0.16 - 0.17 TDE + \epsilon$

The hypothesis criterion was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p - values ≤ 0.01 . The study fails to reject H_1 since $p = .058$ and is ≥ 0.01 and conclude that financial performance is not significantly affected by Total Debt to equity ratio.

VI. Summary, Conclusions And Recommendations

6.1 Introduction

This chapter presents summary of key study findings, conclusions and recommendations. Suggestions for further research are also discussed. The data was analyzed and findings presented in tables for easier interpretation. This chapter specifically brings out the discussion based on the study in chapter four. Based on key findings a number of conclusions are drawn and policy implications made and further research suggested in the following section.

6.2 Conclusions Based on the findings

The findings provide evidence that there seems to be statistically significant relationship between financial leverage and performance. The findings show long term debt influence performance of firms at the NSE.

6.3 Recommendations

Management of the firms listed at NSE can use financial leverage to improve performance. There is need for firms Listed on the NSE to put more focus on other sources of financing in their capital structure. This study contributes to the limited existing literature on the association between financial leverage and firm performance in less developing economies in Africa.

6.4 Suggestion for further research

Results from the study reveal that low relationship between financial leverage and financial performance. This study can be furthered to determine how this relationship can be improved. The study considered only those social and economic moderating variables there is need to study personal leadership traits and company strategy and its effect on financial performance. These study covered a six year period hence a clear pattern among variables could not be seen, its therefore recommended that a further research be carried out for a similar period in future to determine the pattern (if at all it exists).

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