EFFECT OF FINANCIAL LEVERAGE ON PROFITABILITY OF LISTED MANUFACTURING FIRMS IN KENYA

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Abstract

Business employ a number of strategies to improve financial profitability, including streamlining processes, outsourcing and integrating new technologies. The study sought to determine the relationship between financial leverage and profitability of listed manufacturing firms in Kenya. More specifically the study examined the relationship between short term debt, long term debt and debt equity, on profitability of listed manufacturing firms in Kenya. Theories that guided the study include; Market Power Theory and Pecking Order Theory. The target population of the study was ten manufacturing firms quoted in Nairobi Stock Exchange. Secondary data for all the ten (10) listed Manufacturing firms was collected using a data collection sheet for a period of six years between 2012-2016. The data was analyzed using both descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences. Descriptive analysis involved means, standard deviations, trend analysis, maximum and minimum across all variables. Inferential statistics included; Pearson correlation and multiple regression analyses. Pearson correlation coefficient was used to show the relationship between variables while multiple regression analyses was used to test the magnitude of the relationship and also test formulated hypotheses. The study revealed a negative relationship of short term debt (-0.362) and debt to equity ratio (-0.062) on profitability of listed manufacturing firms. On the other hand long term debt (0.349) positively and significantly affected listed manufacturing firms. . The study findings assists the capital market regulator that is Capital Market Athority (CMA) and other policy makers in formulating appropriate mechanisms necessary to continuously monitor and evaluate the financing aspect of corporations. The study further contributes to the existing body of literature, and form a reference point for future scholars researching in this area The study recommend that debt to equity should be reduced by the manufacturing firms since it largely affects the earning before tax and manufacturing firms should consider where possible, using their internally generated funds to finance their projects and only go for debt financing when they have fully exhausted their internal funds.

***Keywords**: Financial Leverage, Profitability, Manufacturing Firms*

INTRODUCTION

Background of the Study

Financial leverage of a firm refers to how a firm finances its assets with all its available resources (Vakilifard & Mortazavi, 2016). In general, firms finance only a part of their assets with equity (ordinary, preference and retained earnings) capital , while the other part is

financed by other resources such as long term financial debt or liabilities (like bonds, bank loans and other loans) and other short term liabilities for example trade payables (Innocent, Ikechukwu, & Nnagbogu, 2014). Capital structure on the other hand refers to how a firm finances its assets with permanent short term debt, long term debt, preferred stock and common equity. The two terms have been used interchangeably by scholars as inferred from their application, a concept that the researcher wishes to borrow (Vakilifard & Mortazavi, 2016)

According to Haque, (2014), financial leverage is the debt used in business finance. A firm can use both debt and equity to finance its activities. The proportionate relationship between debt and equity in corporate firms' finances is referred to as capital structure. This is in line with the definition Zamri, Abdul, Saatila, and Isa, (2013) as a mixture of debt and equity financing of a firm. An optimal capital structure is the best debt/equity ratio of a firm, which minimizes the cost of financing and maximizes the value of the firm. The vision of firms for future expansion requires greater capital commitment on the funds generated internally by the firms, forcing them to take on debt financing.

Debt financing is the main element of external financing for corporations raising extra funds after creation (Ogiriki, Werigbelegha, & Avery, 2018). Debt financing has both an advantage and a disadvantage on the growth of corporations and for its strategic investments. According to Fama and French, (2002) the benefits of debt financing include the tax deductibility of interest and the reduction of free cash flow problems, while the costs of debt financing include potential bankruptcy costs and agency conflicts between stockholders and debt holders. The primary motive of a company in using financial leverage is to enhance the shareholders' return under favourable economic conditions (Butsili & Miroga, 2018).

The role of financial leverage in enhancing the return of the shareholders' is based on the assumptions that the fixed-charges funds can be obtained at a cost lower than the firm's rate of return on net assets (RONA or ROI). Kimani, (2015) states that leverage ratios contribute in measuring the risk of using equity costs. They add that there are various measures known for the capital structure among which the most important are book value based measures, market value based measures and semi- market value based measures (adjusted market value).

Financial leverage affects profit after tax or earnings per share. The combined effect of two leverages can be quite significant for the earnings available to ordinary shareholders (Fabozzi & Peterson, 2003). It has been argued that profitable firms were less likely to depend on debt in

their capital structure than less profitable ones, and that firms with high growth rates have high debt to equity ratios. Although many theories and empirical studies about debt financing have been developed, it still does not exist as a unified theory (Aziidah, 2017). Additionally, past research in the area of debt financing has been focusing on investigating firms in developed countries. The analysis of firms in the developing countries is not as common; thereby the study aims at examining the relationship between financial leverage and firms' financial performance among manufacturing firms listed by the Nairobi Securities Exchange.

Statement of the Problem

The manufacturing sector immensely contributes to employment and economic growth and development in Kenya although the sector remains with potential which has not exhaustively been tapped. Seventy percent of the industrial sector contribution to Gross Domestic Product in Kenya is constituted by the manufacturing sector, with mining, construction, quarrying and building cumulatively contributing to thirty percent (KIPPRA, 2013). For Kenya to become globally competitive there is great need to create a competitive manufacturing and industrial sector in a bid to spur the country's position as an upper middle income and enhance its competitive advantage (GOK, 2014). Thus to enhance capacity of the manufacturing sector so that the sector can remain competitive locally and regionally, there is need for the firms to have enough leverage which could be a mix of debt and equity.

The choice of the manufacturing firm is because it has been earmarked as a key pillar to the achievement of Kenya Vision 2030 and makes a significant contribution to the Gross Domestic Product (GDP). In 1990, East Africa Portland Cement took debt and invested in acquiring of new machine that resulted to increase in the turnover. Several studies have been done to analyze certain issues which are responsible for enhancing the value of the companies. Oguna, (2014) examined in their study, impact of capital leverage and profitability of agricultural firms listed at the NSE which revealed existence of a positive relationship between leverage and financial performance. Gweyi & Karanja, (2014) found that there is a strong positive relationship between financial leverage and profitability of Sacco's in Kenya. Amenyi J, (2015) examined effect of leverage on profitability in financial perspective under manufacturing, construction and allied sector at NSE from the year 2010 to the year 2013, from a sample of 14 firms. The findings indicated that there was a positive relation between capital structure and firms' performance in financial perspective.

Sang, Shisia, Gesimba, & Kilonzo, (2015) examined on capital structure and financial performance of listed firms at NSE for period of 2008-2013. The study conclusion was that firm performance is negatively affected by increase in leverage. The study by Amenyi J, (2015) and Sang et al., (2015) focused on quoted agricultural firms as opposed to quoted manufacturing firms while Gweyi & Karanja, (2014) study was on Sacco's. Studies by Oguna, (2014) and Amenyi, (2015) give conflicting results on the topic under study. This poses a major question, what is the relationship between financial leverage and firms' profitability. The empirical studies carried out on financial leverage and profitability of firms is scanty. Therefore this study examined the relationship between financial leverage and profitability of listed manufacturing firms in Kenya in an attempt to resolve the contradictory results and come up with ways to ensure the manufacturing sector has been fully taped hence increased employment and wealth.

General Objective

To examine the relationship between financial leverage and profitability of listed manufacturing firms in Kenya.

Research Hypotheses

H_0: there is no relationship between financial leverage and profitability of listed manufacturing firms in Kenya.

Significance of the Study

The research findings are significant to the management of listed manufacturing firms in Kenya in coming up financing policies that ensures sustainability of the financial performance of the firms. Since the financial performance of the firm relies heavily on capital outlay in driving the firms operations, through the research findings the management was in a position to determine a balanced leverage that would not expose the firms into a financial risk. The research findings further bring awareness to the management of manufacturing firms of agency conflict that may arise between them and debt holders as they try to figure out solutions to the conflict issues. The study findings is also of assistance to the capital market regulator (CMA) and other policy makers in formulating appropriate mechanisms necessary to continuously monitor and evaluate the financing aspect of corporations.

LITERATURE REVIEW

Theoretical Framework

Market Power Theory

Market power theory emanated from Bain (1951). This theory stresses that an increase in market power results to increase in market prices . The theory is based on the premise that concentration of the market is a best measure for market power since more concentrated markets exhibit superior market imperfections facilitating various entities to set prices for their products and services at levels which is less favourable to their clients or customers. The theory also affirms that companies with a large market power and sound differentiated products and services can easily earn monopolistic profits and succeed or win against their competitors (Tangut, 2017). The market power theory assumes that extra profits results from a higher market concentration which firms collude and earn supernormal profits which arise due to the firms portfolio of differentiated products that also increases the market share and market power in determining prices for products (Fama, 2007).

Market power theory was applied in manufacturing industry, it explained firm's profitability and how it affected its market prices. Since most of the manufacturing assets that can help to reduce the cost of production are costly, manufacturing firms can acquire them through leverage as long as the cost of debt is less than the rate of return. This will lead to increased market power since the profit margins will increase and be able to reach the point where marginal cost equals marginal revenue.

Pecking Order Theory

The Pecking Order Theory originated by Myers and Majluf, (1984) is the nearest pertinent theory explaining the company's optimal financial structure. According Myers and Majluf, (1984). Pecking Order Theory is based on the assertion that managers have information about their firms than investors. It deals with the role of asymmetric information in determining the amount of debt and equity a firm will issue. Firms should finance investments first with internal funds, then with safe debt, followed by risky debt and finally with equity to reduce the adverse signals that may be emitted. The implication of the Pecking Order Theory is that firms do not have a target debt-equity ratio as they choose their leverage ratio based on their financing needs. This theory also implies that firms do not have target cash balances but cash is actually used as a buffer between retained earnings and investment needs (Chen &

Management, 2010). This also means that when a firm increases its internal funds, its leverage falls.

Manufacturing Firms

Manufacturing sector contributes to mostly to the country's Gross Domestic serving both the local market and exports to the Eastern Africa Region (KIPPRA, 2013). The sector is also poised for improved growth with the Government implementing a number of strategies like increasing the capacity in power supply, opening up of the East Africa Customs Union, treaties with the Common Market for East and Southern Africa, exemption from duty on manufacturing machinery, manufacturing under bonds and removal of restrictions on foreign capital repatriations especially for subsidiaries of multinationals. Hence its healthy existence and progressive growth is key for the achievement of the government's ambitious development blueprint Vision 2030 (Wagana & Karanja, 2015)

According to the Economic Recovery Strategy for Employment and Wealth Creation Report, the manufacturing sector in Kenya is a major source of growth, still with high potential for growth and investment (World Bank, 2014). The role of the manufacturing sector in Vision 2030 is to create employment and wealth. Kenya needs to increase the competitiveness of the manufacturing sector so that it can grow, export, and create much-needed jobs**.** As a share of GDP, Kenya's manufacturing sector has been stagnant in recent years, and it has lost international market share (KIPPRA, 2013). The major key drivers of manufacturing firms in Kenya are infrastructure, competitive workforce, sourcing of products locally and capacity for innovation. All of these factors points to financing and therefore an optimal balance of financing should be adopted to allow for sustainable growth and well balanced liquidity management. Therefore the study seeks to explore the effect of financial leverage on profitability of manufacturing firms listed at the NSE, Kenya.

Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is a market that deals with exchange of securities issued by public quoted companies and the government. The Nairobi Securities Exchange is licensed and regulated by the Capital Markets Authority (CMA). It has the mandate of providing a trading platform for listed securities and overseeing its Member Firms. According to (Exchange, 2014) there are 64 firms licensed under the NSE. The stock exchange market helps in the transfer of savings to investment in productive ventures rather than keeping the

savings idle. This helps to cultivate a culture of saving to local and foreign investors who are interested in investing. A lot of reforms have been instituted to promote growth and improve performance of the stock market to encourage wider participation by both private sector and individual investors. Among the reforms initiated include the establishment of a regulatory authority. Capital Markets Authority (CMA) to regulate the functions of the stock market and removal of tax differences between debt and equity to achieve diversity in stock market (Ombaba, 2016)

In 1997 CMA issued guidelines to govern the issuance of corporate bonds and commercial papers and also issued guidelines outlining significant changes to listed firms corporate governance systems intended to build investors' confidence in the securities market (Ombaba, 2016). The NSE has grown to be the largest market in East and Central Africa, with its market capitalization soaring to approximately KES.1.176 trillion as at 19th October 2012 from KES.112.05 Billion in December 2002, likewise within the same period the NSE Stock index has increased by over 260% to 4034.07 points (NSE website www.nse.co.ke). Currently the NSE has 67 trading firms within the four trading segments, Main Investment Market Segment (MIMS); Alternative Investment Market Segment (AIMS); Fixed Income Market Segment (FIMS/FISMS) and the Growth and Enterprise Market Segment (GEMS).The AIMS is an alternative method of investment in capital by small, medium sized and young companies that find it difficult to meet the more stringent listing requirements of the MIMS. It is geared towards responding to the changing needs of issuers and facilitates the liquidity of companies with a large shareholder base through 'introduction' that is, listing of existing shares for marketability and not for raising capital. It also offers investment opportunities to institutional investors and individuals who want to diversify their portfolios (Exchange, 2014).

Conceptual Framework

A conceptual framework is a model that employs the use of drawings/diagrams to explain the interrelationships between variables Orodho, (2009). The study conceptualizes a framework consisting of both independent and dependent variables. The study conceptualized that the independent variables influence the dependent variable where the independent variables could either lead to a good or poor profitability. The conceptual framework was as shown in the figure 1 below.

Independent variables

Financial leverage

Intervening variable

Short term Debt
• Short term Debt to Total Assets ratio

| Government Policy | t variables |

Long term Debt
• Long term Debt to Total Assets ratio

Profitability
• Return on Assets

Debt-Equity ratio
• total liabilities divided by total Stockholders' Equity

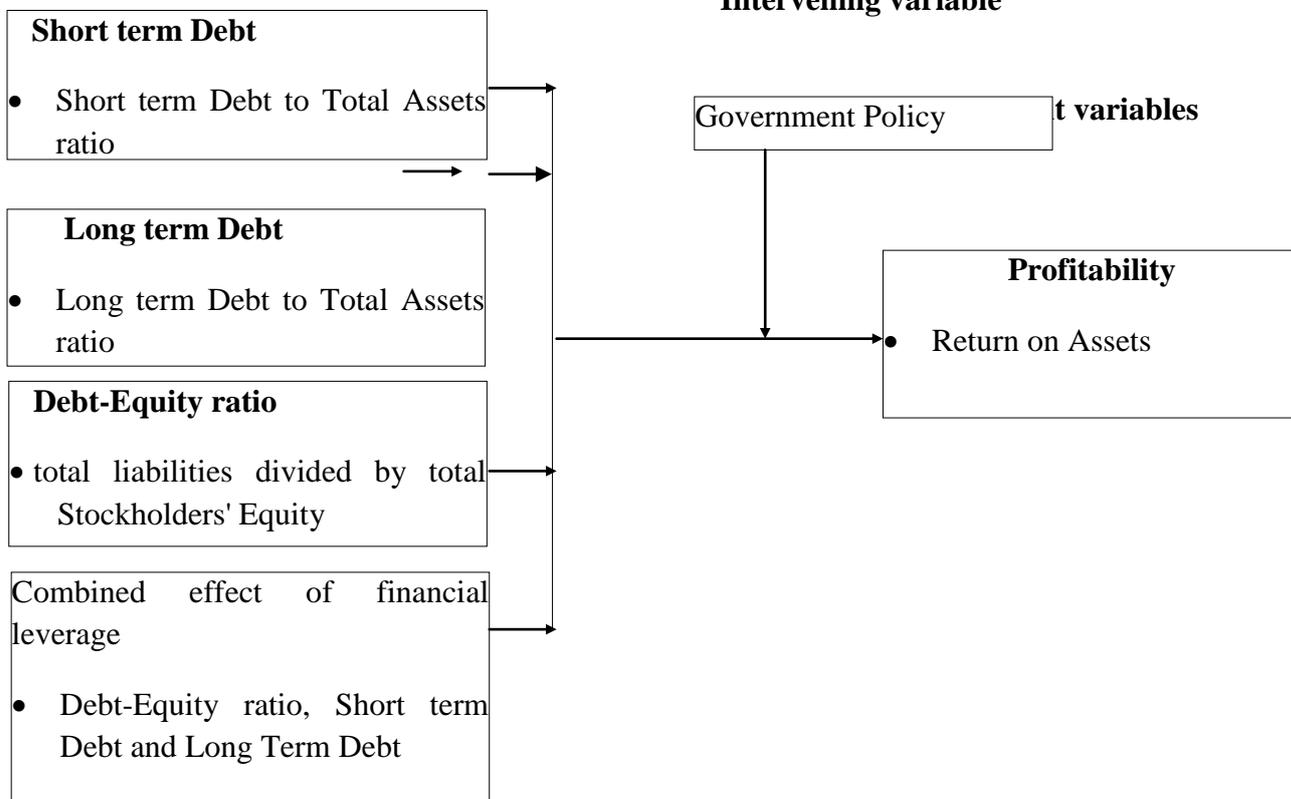| Combined effect of financial leverage |
| :--- |
| • Debt-Equity ratio, Short term Debt and Long Term Debt |

RESEARCH METHODOLOGY

Target Population

The study targeted the 10 manufacturing firms quoted in Nairobi Securities Exchange in Kenya as at December 2016 (NSE, 2016).. This choice of listed firms is due to their huge capital raising potential and is also more accountable not only to their shareholders but also to the public by way of information provision, since they are required by law to be audited, and therefore the data is bound to be available and reliable. In addition, being in the same market, the firms have almost the same reporting pattern, design and the bare minimum disclosures as required by the regulator. This study adopted descriptive research design since the data was quantitative and was observed over a period of six years to see how financial leverage relates with profitability. A Census survey was done for the period 2012-2017 Since the target population was small and heterogeneous.

Secondary data was collected by use of data collection sheet to collect. the Use of secondary data arises from the need to collect actual and accurate data from audited financial statements on financial leverage and profitability of listed manufacturing firms. The secondary data was collected from the Capital Market Authority library or respective listed manufacturing website. All quoted firms are required by law to publish their periodic financial statements which are complete and thoroughly audited. Secondary data was collected from audited financial statements for the period (2012-2017). The period of study was recent enough to ensure data was readily available and reliable for the study.

Descriptive statistics generated were, means, standard deviations, maximum, minimum and presented in the form of tables, Inferential statistical techniques were used to test the study hypotheses at 5% significance level. This study employed Pearson product moment correlation to establish the strengths of relationship between the variables (Eđed Rebekić, Lončarić, Petrovic, & Marić, 2015).The findings of the study were presented in form of statistical tables. Multiple regression analysis was employed to test the hypotheses and to analyze the relationship between a single dependent variable and several independent variables. The following multiple regression model was adopted.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y   represents the Dependent Parameters (ROA)

B_0 represents Constant

$\beta_1, \beta_2, \beta_3$ and β_4 represent Regression coefficients of

Independent variables are;

X_1 represents short term debt

X_2 represents long term debt

X_3 represents Debt-Equity

X_4 combined effect of financial leverage

ε represents Error Term

Table 1: Operationalization of Study Variables

Variable	Definition	Ratios
Short Term Debt Ratio	It is the measurement of the percentage of a company's total asset that is financed by short term debt	Total Short Term Debt ÷ Total Asset×100
Long Term Debt Ratio	It is the measurement of a company's total asset financed by long term loans	Total Long Term Debt ÷ Total Asset×100
Debt to Equity Ratio	It is the measurement of the amount of debt capital a firm uses compared to the amount of equity capital it uses.	Total liabilities ÷ Shareholders Equity ×100
Profitability Ratio	is the process of measuring the results of a firm's policies and operations in monetary terms	Net Profit ÷Total Assets×100

Results and Discussion

Descriptive Statistics

The descriptive statistics used are mean, standard deviation, minimum and maximum. Below is a summary of the dependent and independent variables with their specific means, standard deviation, maximum and minimum values and trend analysis. The mean was establishing the average value of the data and standard deviation gave a picture of how data has been dispersed above and below the mean. Trend analysis was also used to show the pattern of change in variables among the 10 manufacturing firms through the study period of 2012-2017.

Profitability

Profitability is the process of measuring the results of a firm's policies and operations in monetary terms. It identifies the financial strengths and weakness of a firm by establishing relationships between the items of the financial position and income statements. The profitability of the manufacturing firms was proxied by doing the mean of return on assets. In order to get the profitability of manufacturing firms listed in the securities exchange, the mean of ROA for the six year period from 2012-2017 was computed. The mean for the six year period was used as the composite index that reflected ROA.

Table 2: Return on Asset

Year	Mean	SD	Max	Min
2012	3.10%	3.35%	8.00%	-4.00%
2013	2.20%	3.49%	8.00%	-4.00%
2014	2.20%	2.90%	6.00%	-2.00%

2015	3.00%	3.02%	8.00%	-1.00%
2016	2.10%	3.90%	9.00%	-3.00%
2017	2.50%	3.14%	8.00%	-2.00%
Average	**2.52%**	**3.30%**	**7.83%**	**-2.67%**

Over the 6 year period, firms registered the an annual average mean on return on asset of 2.52% that means the firms were able to generate average earnings of 2.52% for every shilling of asset between 2012 and 2017. The highest mean was observed in 2012 at 3.10% and the lowest mean at -4.00% in 2012 and 2013. The maximum level of return on asset observed in the firms is 9.00% and was recorded in the year 2016 while the minimax return on asset was -1.00% recorded in the year 2015. The maximin return of assets was 6.00% was observed in 2014. The fluctuations in return on assets are indicated by the average standard deviation of 3.30%. This standard deviation postulates that there is list dispersion between the assets and the profits the commercial banks are registering. The return on asset shows that in 2012 the firms utilized well the assets to generate revenue since it recorded the highest mean return on assets of 3.10% while the banks poorly utilized the assets in generating revenue on 2016 as depicted by the mean average return on assets of 2.10%.

Short Term Debt

The study sought to determine to what percentage of firms asset are financed by short term debt rather than equity. The findings are shown in Table 3 below.

Table 3 Short Term Debt

Year	Mean	SD	Max	Min
2012	7.07%	1.85%	9.60%	2.94%
2013	10.03%	4.03%	16.65%	4.19%
2014	9.05%	3.21%	13.51%	2.57%
2015	8.51%	4.44%	18.24%	2.50%
2016	7.68%	4.23%	15.77%	2.13%
2017	8.31%	4.43%	14.26%	1.67%
Average	**8.44%**	**3.70%**	**14.67%**	**2.67%**

The average mean value of short term debt to total asset ratio was 8.44% . This means that up to 8.44% of the total assets of manufacturing firms listed in NSE were financed by short term debts. This was lower than that of Ongore and Kusa (2013) whose study found that the average short term debt to total assets were 17.50%. An average maximum and minimum values of 14.67% and 1.67% respectively were observed for the firms under the period of study. The short term to asset ratio had also standard deviations of 3.70% which shows high dispersion of

short term debt to total assets ratio from its mean for the firms in Kenya. From the study the researcher can conclude that the short term to asset ratio is one of the cheapest sources of fund firms utilizes to generate income.

Long Term Debt

Table 4 :Long Term Debt

Year	Mean	SD	Max	Min
2012	29.38%	13.81%	46.64%	11.69%
2013	30.05%	16.64%	57.92%	11.04%
2014	30.92%	14.58%	54.41%	10.00%
2015	28.31%	11.38%	50.82%	11.42%
2016	30.60%	15.19%	54.05%	10.37%
2017	33.15%	14.23%	59.44%	13.27%
Average	**30.40%**	**14.30%**	**53.88%**	**11.30%**

A mean of 29.38% in 2012, 30.05% in 2013 of long term debt to total asset ratio was recorded while in 2014 the long term debt to total asset ratio was 30.92%. In 2015 the firms recorded 28.31%, 30.60% in 2016 and 33.15% in 2017. The average long term to asset ratio level for the period was 30.40%. The highest average level of long term to asset ratio recorded by firms was 53.88% while the lowest average level of long term debt to total asset ratio was 18.32% in 2016. These findings are consistent with Padrón, Apolinario, Santana, Verona Martel, & Jordán, (2005) who assert that if a firm borrows more money from its creditors, then the firm has to pay more amount of cost of long term debt to the creditor as interest. This leads to less net income for the firm and hence lower profitability. The fluctuations in long term to asset ratio are indicated by the average standard deviation of 14.30 which depicts the highest dispersion between the long term debt and total assets%.

Debt to Equity Ratio

Table 5:Debt to Equity Ratio

Year	Mean	SD	Max	Min
2012	14.10%	4.65%	23.00%	9.00%
2013	13.70%	4.47%	25.00%	10.00%
2014	13.40%	4.38%	22.00%	9.00%
2015	14.00%	4.37%	23.00%	10.00%
2016	14.30%	3.62%	23.00%	11.00%
2017	14.10%	4.31%	24.00%	10.00%
Average	**13.93%**	**4.30%**	**23.33%**	**9.83%**

Over the period of study, an average debt to equity ratio mean of 13.93% was recorded. This average is way above the statutory minimum of 10.00% percent set by regulatory of the firms

in Kenya. A firm with a high debt to equity ratio will channel most of its income to debt repayments thereby forgoing investment using internal funds. This means that the firms use more debt compared to equity to finance its activities therefore more risky since most of the resources which the firm is generating is used to finance the debts. The maximum average of 14.30% and minimum average value of 13.40% was recorded in the year 2016 and 2014 respectively while the standard deviations of debt to equity was 4.30% which shows a moderate dispersion of total debt and total equity from the mean for the manufacturing firms listed in NSE in Kenya. Looking at the minimum, mean and maximum values, generally, the statistics indicate a slight variation in the debt to equity as a determinant of profitability of firms in Kenya. As more debt is employed in the capital structure of a firm, the business risk also increases. This finding was in agreement with a study by Gweyi and Karanja, (2014) which established that there a moderate relationship between debt to equity ratio and financial performance of firms in Kenya. This findings are also in contrast with the findings of Nduati (2010) who found out leverage did not contribute to financial performance of firms scheduled at the Nairobi stock Exchange.

Correlation Matrix Pearson's

Correlation Matrix is used to test the degree of association between two or more variables, in terms of strength and direction, with values ranging from -1 (showing a perfect negative linear relationship) to +1 (showing a perfect positive linear relationship), and zero indicating no relationship between the variables (Saunders and Cornett, 2006). A statistically significant correlation is indicated by a probability value of less than 0.05 (Saunders and Cornett, 2006). Correlation only indicates the presence or absence of a relationship, not the nature of the relationship.

Table 6: Correlation Coefficient Results

		ROA	short term debt	long term debt	Debt-Equity Ratio
ROA	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	60			
short term debt	Pearson Correlation	-.042	1		
	Sig. (2-tailed)	.772			
	N	60	60		

long term debt	Pearson Correlation	.235	.701[**]	1	
	Sig. (2-tailed)	.096	.000		
	N	60	60	60	
Debt-Equity Ratio	Pearson Correlation	-.257	-.418[**]	-.425[**]	1
	Sig. (2-tailed)	.069	.002	.002	
	N	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation coefficient results on table 6 below shows that short term debt had a negative correlation coefficient r = -0.042, indicating a negative correlation between the short term debt and profitability of the firms and the relationship was weak. Long term debt had a positive and weak correlation coefficient r = 0.235, which means that a weak relationship between the long term debt to total asset ratios and profitability. The correlation between debt to equity ratio is weak and negative as shown by correlation factor of -0.257. When two predictor variable are deemed correlated when this coefficient of correlation are greater than 0.5. In such a case, one variable should be dropped from the model. In the table 4.10 none of the predictor variable had coefficient of correlation between themselves more than 0.5 hence none of them will have to be dropped. Hence the results below shows that none of the predictor variable is greater than 0.5 thus correlation present.

Test of Hypothesis

This is utilized in reference of research study to evaluate and analyse the results with the goal being to either accept or reject the null hypothesis. Terms used include test statistic which means that the decision whether to accept or reject the null hypothesis is made based on this value; therefore, if the calculated test statistic value is less than the critical value, we accept the hypothesis, otherwise, we reject the hypothesis (Saunders and Cornett, 2006). Another term is the level of significance, which is the confidence at which a null hypothesis is accepted or rejected, which is sometimes also referred to as test of significance of data. The deciding factor in all the tests was that if the P value observed was less than the set alpha at a confidence level of 0.05, then we reject the null hypothesis and accept the alternative hypothesis, and accept the null hypothesis if the P value observed was greater than the set alpha of 0.05. The study will use the findings in table 7 in testing the hypotheses.

Table 7: Multiple Regression Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.439[a]	.193	.141	8.66624

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	843.068	3	281.023	3.742	.017[b]
	Residual	3529.875	47	75.104		
	Total	4372.943	50			

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.353	9.789		.751	.456		
	short term debt	-.362	.145	-.468	-2.501	.016	.491	2.036
	long term debt	.349	.145	.452	2.412	.020	.488	2.049
	Debt-Equity Ratio	-.062	.035	-.260	-1.766	.084	.791	1.264

a. Dependent Variable: ROA
b. Predictors: (Constant), Debt-Equity Ratio, short term debt , long term debt

In H_{01}: Short Term Debt has no significant relationship with profitability of listed manufacturing firms in Kenya. The study sought to establish the relationship between short term debt and profitability of listed manufacturing firms in Kenya. In order to establish first objective of the study, a corresponding hypothesis Ho1: short term debt has no significant relationship with profitability of listed manufacturing firms in Kenya stated and tested. The T-statistics significant value in the regression model was used to test the hypothesis. According to the coefficient results on table 7 the study established that the Beta and p-values were negative and significant (Beta = -0.362, p = 0.016); the study therefore fail to accept the null hypothesis as the p-value of 0.016 is less than 0.05 and the alternative hypothesis was accepted. This indicated that short term debt has a relationship with profitability of listed manufacturing firms which was proxied by return on asset.

In $H0_2$: Long Term Debt has no significant relationship with profitability of listed manufacturing firms in Kenya. The T-statistics significant value in the regression model was used to test the hypothesis. The coefficient results highlighted on table 7 indicate that there exists a positive and statistically significant effect on the profitability of the listed

manufacturing firms. The Beta value of 0.349 and p-value of 0.020 was significant as it was less than 0.05. The study therefore failed to accept the null hypothesis and the alternate hypothesis was accepted as the p-value of 0.020 was less than 0.05. This indicated that Long term debt has a relationship with profitability of listed manufacturing firms which was proxied by return on asset.

From H_{03}: Debt Equity has no significant relationship with profitability of listed manufacturing firms in Kenya. The T-statistics significant value in the regression model was used to test the hypothesis. Coefficient results on table 7 established a negative but not statistically significant effect on profitability with a Beta value = -0.062 (p-value = 0.084 which is higher than 0.05). Given that the p-value is higher than 0.05, we accept the null hypothesis. Meaning debt to equity ratio has no relationship with profitability of listed manufacturing firms.

$H0_4$: There is no significant relationship between Financial leverage and profitability of listed manufacturing firms in Kenya. Table 7 show that the independent variables i.e., short term debt, long term debt and Debt-Equity Ratio used were statistically significant in predicting the profitability of listed manufacturing firms in Kenya at 95% significance level. It also presents the analysis of variance (ANOVA) of the financial leverage that explain the profitability of listed manufacturing firms in Kenya. The findings revealed F value of 3.742, which was statistically significant at 0.017. This further indicates that the independent variables used (short term debt, long term debt and debt to equity ratio) are statistically significant in predicting profitability of listed manufacturing firms at 95% significance level. ANOVA analysis was used to show the significance of the regression model adopted in the study. Hence, the study therefore fail to accept the null hypothesis as the p-value is less than 0.05 and the alternative hypothesis was accepted. This indicated that financial leverage has a relationship with profitability of listed manufacturing firms which was proxied by return on asset.

Conclusion

The descriptive results found that most listed manufacturing firms utilized financial leverage because most listed firms had a stable asset base. However, the findings concluded that financial leverage did not contribute to profitability of listed firms; the financial performance of listed firms was 14% which is a moderate score.

The study concludes that short term debt negatively and significantly affects ROA. These findings hence results to the summary conclusion that increase in the level of short term debt would have significant negative effects on the profitability of the firm as measured by ROA. The study hence does not accept the null hypothesis that there is no relationship between short term debt and profitability of manufacturing firms listed at Nairobi Stock Exchange (NSE). The study hence accepts the alternate hypothesis that there is relationship between short term debt and profitability of manufacturing firms listed in the NSE.

Secondly, the study concludes that long term debt have a significant positive effect on return on assets. This therefore points to there being a advantage of having a high proportion of long term debt in relation to equity. This is expected to affect positive effect on the profitability of the firm as measured through ROA. The study therefore does not accept the null hypothesis that long term debt has no effect on profitability of manufacturing firms listed at the NSE.

Thirdly, The concluded that debt to equity had a no significant effect on the profitability of manufacturing firms listed at the Nairobi Securities Exchange. In most of the manufacturing firms, debt to equity had no statistical significant effect on the profitability of manufacturing firms listed at the Nairobi securities exchange. The study therefore accepts the null hypothesis Ho3 that implied that Debt to equity had no statistical significant effect on the profitability of the firms listed at the Nairobi securities exchange

The study concludes that combined relationship of financial leverage (namely debt equity ratio, short term debt, long term debt) positively significantly affects ROA. Therefore the study fails to accept the null hypothesis that combined relationship of financial leverage (namely debt equity ratio, short term debt to total assets, long term debt to total assets) has no effect on performance of manufacturing firms listed at NSE.

From the conclusions, it is recommended that firms should use shareholders' funds as much as possible before the firm results to borrowing so as to reduce the risk associated with debt financing. This risks include high interest rate on the borrowed fund which reduces profitability levels of a firm and also the restrictive debt covenants which at times may lead a firm to financial distress and it might eventually collapse. Managers must therefore be encouraged to raise equity by listing at the securities exchange. The capital market regulators on the other hand should create the necessary infrastructure and regulatory framework that entice the firms to list. Also, the regulators in collaboration with professional bodies like the

ICPAK, should develop training programs and manuals to educate and sensitize the firms, managers and the shareholders on the benefits of listing.

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