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Analysis of long term debt and financial performance of state owned sugar firms in Kenya

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Abstract
The main purpose of this study was to analyze the effect of long term debt on financial performance of state owned Sugar Firms in Kenya. The Specific objective was to determine the effects of long term debt on financial performance of state owned Sugar Firms. A retrospective research design was used. The SPSS version 20.0 was used for analysis and the Pearson product moment correlation coefficient was used to assess for significant relationship between dependent variable (ROA) and the independent variable, long term debt. A simple linear Regression model was used to identify significant predictors of ROA controlling for confounders. The results are that there is a significant negative relationship between long term debt and financial performance ROA ($r = -0.947$, $p=0.015$, $\alpha < 0.05$). Long term debt negatively affects ROA although not statistically significant ($\beta_1 = -2.615$, $p =0.100$, $\alpha > 0.05$). The conclusions of the study are that Long term debt negatively affects financial performance. Long term debt is strongly negatively related to financial performance as measured by ROA. We recommend that sugar firms should manage well the portfolio of its long term debt structure to minimize the risks associated with adoption of the various forms of long term debt.

Keywords: long term debt, return on assets, capital structure

1. Introduction
Long term debt is a component in the capital structure of a firm, yet it has to be applied with a lot of caution. Prior studies on long term debt have offered varied results on the effects of Long term debt on financial performance. Ebaid (2009) [10] in his study on the emerging market economy of Egypt found that long term debt has a negative effect on return on asset. Huang & Song (2006) found that a long term debt has a negative effect on profitability as measured by the return on assets. Some researchers found that long term debt has a positive effect on financial performance such as Abor (2005) [1]. While others found that long term debt has a negative effect on financial performance such as Ebaid (2009) [10]; Huang & Song (2006), presents conflicting results on this important element of capital structure leading to a gap in knowledge for further research.

The increase in the rate of indebtedness irrespective of the type and the source of debt affects the image of the sugar industry in Kenya as it drives away investors (Mutai, 2014) [20]. The sugar industry in Kenya is governed by the Kenya Sugar Board which was established on 1st April, 2002, under the Sugar Act of 2001, succeeding the defunct Kenya Sugar Authority. The Inability to repay money owed by sugar manufacturing firms is a global problem, with countries like Brazil equally facing long term debt problems (Modi, 2014) [19]. According to Marshall (2014) [18], the Guyana sugar corporation failed to pay national insurance scheme for at least four months, a situation which was described by members of the committee as worrying. In Kenya, Sugar manufacturing firms like Nzoia (Mutai, 2014) [20] and Mumias (Wachira, 2014) [26] are among the firms faced with long term debt problem which they are yet to repay.

There are few studies on long term debt in Kenya on state owned sugar firms' and yet the state owned sugar firms are highly indebted. This study sought to address the knowledge gap on long term debt in the sugar industry by focusing on state owned sugar firms in Kenya, to determine the effects of long term debt on financial performance of state owned sugar firms in Kenya.

The sugar industry caters for the livelihood of many Kenyans in terms of employment and also forms a ready market for their sugar cane plantations. Statistically 54% of farmers in western region and part of Nyanza region grow sugarcane (Kenya Sugar Board, 2014). Most of the sugar firms in Kenya have been recording poor financial performance for over a decade (Wachira, 2014) [26]. For example, Muhoroni Sugar firm has been recording poor financial performance characterized by low profitability and the firm recording losses (Mutai, 2014) [20]. This financial problem has led to the firm's inability to pay for its administrative costs including wages and salaries expense for their employees and payment of their creditors. This financial problem at Muhoroni caused the firm being put under protective receivership to prevent the firm from total collapse and subsequent closure of the firm (Otieno, 2014) [23]. Poor financial performance is one of the reasons for total collapse of Miwani Sugar firm which up to date the sugar firm is not operational (Otieno, 2014) [23]. Therefore, there existed poor financial performance among the state owned sugar firms in Kenya. This study sought to investigate and provide a solution and necessary recommendations for the problem of poor financial performance in its entirety.

2. Literature Review
Long term debt is a resource that is owed to lenders for a period of more than one year from the date of the current balance sheet (Lancett, 2008) [17]. Long-term debt converts to short-term debt when the period left until the debt must be repaid becomes less than one year with the passage of time. Long-term debt is used to finance business investments that have longer payback periods. Long term debt financing is advantageous as it is usually less prone to short term shocks as it is secured by formally established contractual terms. Hence, they are relatively more stable than short-term debt (Lancett, 2008) [17].

Long term debt financing is directly linked to the growth of the company's operating capacity. The purchase of capital assets such as machinery. Long-term debt financing is normally well structured and defined (Lancett, 2008) [17]. Thus fewer resources have to be channeled to monitor and maintain long-term debt financing accounts compared to short term debt financing such as supplier credit which, changes overtime and need to be monitored on a regular basis. Long term debt financing options such as leases offer a certain degree of flexibility, compared to having to purchase the asset (Lancett, 2008) [17]. Long term debt financing is a widely used mode of financing around the world. Long term debt financing is a fast growing concept in the Sugar industry with little attention paid to its literature.

2.1 Concept of Financial Performance

Financial performance is a subjective measure of how well a firm can use its assets from its primary role of conduction of business and its subsequent generation of revenues. Financial performance is also used as a general measure of a firm's overall financial status over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in totality. The financial performance is measured using accounting Key Performance Indicators such as Return on assets, Return on sales, Earnings before interest and tax, Economic value added or Sales growth (Crabtree & DeBusk, 2008) [9].The advantage of these measurements is their general availability, since every profit oriented organization produces these figures for their yearly financial reporting (Chenhall *et al.,* 2007) [8]. This study adopted the use of Return on assets which represents the amount of EBIT a firm can achieve for each dollar of assets it controls.

2.2 Review of Past Studies

Abor (2005) [1], evaluated the effect of capital structure on profitability of firms listed on the Ghana Stock Exchange. The results showed that long term debt had a negative effect on firms' financial performance as measured by return on equity, as the long term debt was extremely costly in the market. The findings further indicated that long term debt had a positive and significant effect on firms' financial performance as measured by gross profit margin. Umar *et al.,* (2012) [25] studied the impact of capital structure on firm's financial performance. The findings showed that long term debt has an adverse negative effect on firm's financial performance; yet long term debt is a way through which a firm can increase the scale of its investments. They used return on asset to measure financial performance and least square regression model in estimation of the empirical results. They found that long term debt has a significant negative effect on firms' financial performance as measured by ROA. The scholarly work of Pandey (2001) [24] on Capital structure and the firm characteristics of firms from an emerging market in India, found that Long term debt has a negative effect on a firms' financial performance as measured by Return on assets.

According to Cai & Zhang (2006) [7] in their research on Capital structure dynamics and stock returns, they found that firms which are highly indebted recorded low profitability. High long term debt has a negative impact on firm's financial performance as measured by ROA. According to pecking order theory, as firms use more long term debt in their financing mix it subsequently reduces a firm's ability to access more debt financing. This in turn reduces a firm's ability to diversify into new asset portfolios. Tradeoff theory proved that if firms used long term debt more than a certain limit it negatively affected their performance. Variables used in the study by Cai & Zhang (2006) [7] were; return on asset, return on equity, earnings before interest, tax and depreciation, book to market value, firm size and debt to equity ratio. The results showed that highly indebted firms are negatively affected in terms of their financial performance as measured by ROA.

Anandasayanan & Subramaniam (2013) [5] examined the Effect of Capital Structure on profitability of Listed Sugar Manufacturing Companies in Sri Lanka. Their results revealed that the more companies used long term debt in their capital structure the company's recorded better financial performance.

Ahmad *et al.,* (2012) [3], sought to investigate the impact of capital structure on performance of Malaysia sugar firms. The researchers used return on assets and return on equity to evaluate the effect that long term debt has on the financial performance of the firms'. The study established that long-term debt had significant negative effect on return on assets. It was also established that long term debt had significant negative effect on return on equity.

Omran & Pointon (2009) [22] did a study on capital structure and firm characteristics of Egyptian sugar firms and found that the capital structure is not same for every industry and vary across some of the industries. Further, Egyptian firms with high business risks are not witnessed with low level of long term debt. The sugar firms have employed higher level of debt compared to construction firms' because of higher tax rate on construction firms confirming the trade-off theory. Long term debt in heavy industries has a positive effect on the firms' value because of the large assets base employed by the firms.

Antwi, *et al* (2012) [6], did a research on the effect of capital structure on company's value by taking all 3 listed Sugar companies on Ghana stock exchange. Simple regression analysis was used to determine the effect of long term debt on firm performance as long term debt had been used as the independent variable. The results of the study indicated that long term debt had a positive effect on a firms' value. Aliakbar *et al.,* (2013) [4] researched on the relationship between capital structure decisions and firm performance. The research was a Comparison between big and small industries in firms listed on Tehran Stock Exchange." They found that long term debt has a positive and significant effect on firm performance as measured by Tobin's Q in big and small industries.

2.3 Long term debt and Trade off theory

The study adopted the trade-off theory by Myers (1984) [21] which refers to the idea that a company chooses how much debt finance to use by balancing the marginal costs and marginal benefits. The trade-off theory was taken under consideration after successful deliberations on irrelevance theory by Modigliani-Miller (Iqbal *et al.,* 2012) [14].When the corporate tax income component was factored in the irrelevance theory, the resultant was that firms using debt as a mode of financing would subsequently benefit from debt financing as the amounts thereafter are not subject to further taxation. It acts as a shield of earnings from taxes. When sugar firms intend to determine the leverage plans that works for them, the firms' management should cross check to assess the costs and benefits factor.

An effective leverage plan that works for any firm that intends

to maximize its profits and shareholders wealth is a plan which upon its successful implementation, the marginal benefits exceeds the marginal costs. The logic behind the reliance on trade off theory in determining the finance mix for a given firm is that firms' are financed partly with debt and partly with equity. The rationale of tradeoff theory is that marginal benefits exists and firms can leverage within a financing mix that forms the capital structure of a given firm up until the optimal capital structure is reached. The tradeoff theory is advantageous to pecking order model for it recognizes the tax benefit as a result of interest payments made by firms. As the proportion of debt financing increases, the marginal benefits of further increase in debt subsequently declines. As the proportion of debt financing increases the marginal costs also increases. A firm that aims at optimizing its capital structure has to focus on this trade-off between marginal costs and marginal benefits when choosing what percentage of debt finance and equity finance should be used in financing of state owned sugar firms. Optimal capital structure can only be reached by firms by trading off the costs of debt financing and costs of equity financing against their benefits.

Empirically Abor (2007) [2] researched on Debt Policy and Performance of SMEs, Evidence from Ghanaian and South African firms. The researcher supported the use of the tradeoff theory as the best in determining Long term debt financing as a source of firm financing. Other scholars in support of the tradeoff theory are Hovakimian, Opler & Titman (2001) [12], Korajczyk & Levy (2003) [16], Hovakimian & Tehranian (2004). Co - authors of this paper held similar opinion with the above identified researchers that marginal benefits and marginal cost should be considered in the determination of how much of a financial resource to borrow.

3. Methodology

The study employed a retrospective research design. A time span of 10 years between 2004-2014 was considered in this study. The study targeted four state owned sugar manufacturing firms in Kenya; Muhoroni, Nzoia sugar, Chemilil and Sony sugar. This study was purely a census study. The study used secondary data available in their financial statements. Pearson product moment correlation was used to assess for significant association between dependent variable; return on assets (ROA) and the independent variable long term debt and it was measured using long term debt ratio (LTDR). A year-over-year decrease in this metric would suggest the firm was progressively becoming less dependent on debt to grow their business. Regression analysis was used to identify significant predictors of ROA controlling for confounders, and a P-value of less than 0.05 was considered significant.

The regression model was as follows:

$$ROA\ M,\ t = \beta_0 + \beta_1 X_1 + e$$

Where: X_1 = Long term debt ratio, β_0 = intercept; β_1 = coefficient of x_1. e = error term;

4. Empirical Results

Inferential statistics was used in data analysis that is, simple linear regression and Pearson product moment correlation. A computer package Statistical Package for Social Sciences (SPSS) software version 20.0 was used for analysis. The results revealed that there was an insignificant negative relationship between long term debt and firms' financial performance as measured by ROA ($r = -0.947$, $p=0.015$, $\alpha > 0.05$).

Table 1: Correlation between long-term debt and financial performance (ROA)

Performance	Long-term debt ratio
ROA	r = - 0.947 p=0.015

***Source*:** (Survey data, 2015)

Regression

A Simple linear regression model was used to determine the effects of long term debt on ROA and the results showed that long term debt negatively affect ROA although not statistically significant ($p > 0.05$), as shown in Table 2. According to the null hypothesis that, long term debt has no significant effect on the firms' financial performance, the findings concurs with the hypothesis and therefore we fail to reject the null hypothesis, since long term debt recorded coefficient estimates of $\beta_1 = -2.615$ (p-value =0.100, $\alpha > 0.05$). These results are in synch with Ebaid (2009), Umar *et al.*, (2012) [25] and Huang & Song (2006) that long term debt has a negative effect on financial performance of state owned sugar firms. This study findings however, disagrees with the findings of Anandasayanan & Subramaniam (2013) [5] and Abor (2005) because of differences in macroeconomic policies, business lifecycle(s) and perhaps sample size.

Table 2: Regression Coefficients

Variable	Regression co-efficient (β)	Standard Error	T	P- value	95% Confidence interval
Constant	.407	.098	4.154	.053	-.015 - .828
Long term debt	-2.615	.895	-2.922	.100	-6.467 - 1.236

a. Dependent variable: ROA

***Source*:** (Survey data, 2015)

Further analysis using simple linear regressions revealed that, when using ROA as the predictor of firms' financial performance long term debt explained 64% variation in ROA, from the adjusted R square value of 0.641. This in turn implied that there were other predictors other than long term debt that could affect ROA, which were not captured in the current study.

Table 3: Linear regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906[a]	.820	.641	.045820

***Source*:** (Survey data, 2015)

Predictors: (Constant), Long term debt

5. Conclusions and Recommendations

The study findings affirm that long term debt negatively affects firms' financial performance as measured by ROA although not statistically significant. The more sugar firms borrows it records poor performance as the firms becomes highly indebted as the borrowed funds inflates the firms statement of financial performance. Long term debt is also strongly negatively related to firm performance as measured by ROA. This implies that there is an inverse relationship between long term debt and firms' financial Performance. Sugar firms had used long term debt in their capital structure and the proportion of long term debt had negatively affected the financial performance of the firms. Sugar firms should become less dependent on long term debt in their capital structure. This is because larger proportion of long term debt negatively affects firms' financial performance. Sugar firms' should manage well the portfolio of its long term debt structure to minimize the risks associated with adoption of the various forms of long term debt. Cost benefit analysis should at all times be conducted to determine the proportion of each component that forms part of the long term debt structure. Kenya sugar board should opt fully for the privatization of all the Parastatal sugar firms in the Country. From the findings, the study suggests that further research to be conducted on the effects of long term debt on financial performance of private sugar manufacturing firms in Kenya.

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