

Influence of Debt Ratio on Financial Performance of Non-Listed Building and Construction Firms in Kenya

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ABSTRACT

Debt financing constitutes a fundamental avenue through which business entities secure resources for their operational and strategic obligations, thus necessitating careful determination of appropriate borrowing levels. The principal challenge resides in establishing and implementing the optimal quantum of debt that can deliver superior financial outcomes. Kenya's building and construction industry recorded performance metrics of 3.2/3.5 in third order during the 2014/2016 study period, representing a notable decline when juxtaposed against the 5.8 and 6.0 percentages achieved during 2005/2006. This suboptimal performance trajectory within the construction sector, according to extant literature, was attributable to the debt composition employed in financing operational activities among industry participants. This circumstance prompted the current investigation into the effect of debt ratio on the financial performance of non-listed building and construction enterprises operating in Kenya. The research endeavor sought to assess the influence of debt ratios on profitability metrics of these non-listed construction firms. The study employed Return on Assets (ROA) and Return on Equity (ROE) as proxies for financial performance evaluation. The investigation covered the period spanning 2014 to 2016. The theoretical framework incorporated Trade-off theory. A descriptive survey design was adopted as the research methodology. Secondary data were extracted from consolidated financial statement records maintained at the National Construction Authority and the Kenya Association of Manufacturers. The target population encompassed all 10 Tier 1 non-listed building and construction firms registered with the National Construction Authority during the three-year study window. The sample size corresponded to the entire target population, with secondary data serving as the primary information source. The outcomes derived from this analysis demonstrated that debt ratio exerts a discernible inverse influence on the financial standing of non-listed building and construction firms in Kenya. The evidence indicated that financial performance tends to deteriorate as the proportion of debt within the capital structure increases. This observation provides compelling justification for prioritizing equity financing over borrowed capital. Debt financing proved to be cost-intensive, attracting interest expenses and other associated costs that surpass the anticipated benefits of leveraging. The findings of this study will enable management and financial practitioners to evaluate corporate growth characteristics, business risk exposures, and financial performance metrics to project future enterprise value. The research recommends that business entities should strive to minimize financial leverage within their capital structures as a strategy for enhancing financial performance and maximizing shareholder wealth creation.

Keywords: debt ratio, financial performance, non-listed building and construction firms, Kenya

INTRODUCTION

Background of the study

Determining appropriate debt levels consistently presents a significant challenge for corporate managers,

as imprudent borrowing decisions can adversely affect organizational performance unless thorough due diligence precedes the adoption of a viable debt structure. Whenever an enterprise requires capital to sustain its operations and fund capital expenditures, deliberations regarding debt financing inevitably emerge. The debt ratio represents the proportion of a firm's assets financed through borrowed funds, reflecting the extent to which an organization relies on external creditors rather than internal resources or equity contributions (Myers, 2014). Business activities cannot proceed without adequate financial resources, making the availability of funds indispensable for organizational functionality. Every investment decision concerning fixed assets necessitates concurrent consideration of funding mechanisms, given the direct implications for corporate profitability. Various theoretical perspectives offer divergent views on the optimal debt composition, underscoring the importance of rigorous analysis in formulating debt policies that can serve as strategic guides for enhancing corporate performance and delivering superior shareholder returns (Mwangi et al, 2014).

Debt ratio quantification is accomplished through the comparative analysis of total liabilities against total assets, expressed as a percentage. Well-managed enterprises typically integrate both debt and equity instruments as complementary elements of their financial strategy (Dawar, 2014). Theoretical discourse surrounding debt and profitability has remained particularly significant since Modigliani and Miller (1958) posited that, in the absence of corporate taxes, bankruptcy costs, information asymmetry, market inefficiencies, and transaction costs, firm value would ultimately remain indifferent to financing decisions (Jermias, 2008). Tax obligations can be mitigated through debt financing, suggesting that appropriate debt incorporation could optimize corporate value. Numerous theoretical frameworks have subsequently emerged to elucidate corporate financing patterns. Understanding the sources of financing is essential, as this knowledge directly influences a firm's competitive positioning within its industry. It therefore falls upon corporate management to determine the optimal debt-equity mix that will maximize financial performance (Abor, 2007).

Debt financing through securities exchange markets has gained increasing prevalence in Kenya. Non-listed building and construction firms have accumulated substantial debt obligations as a mechanism for raising operational capital through the securities market (Anyanzwa, 2015). Many organizations employ debt to leverage their capital base with the objective of enhancing profitability. Nevertheless, the efficacy of debt in improving corporate financial health varies considerably across enterprises, contingent upon prevailing economic conditions at any given time (Maher & Andersson, 2013). The debt ratio fundamentally represents the share of a firm's assets financed through borrowings, encompassing loans, bonds, and other credit facilities. This metric has direct implications for organizational financial health and shareholder returns. The increasing reliance on debt by non-listed companies provided the impetus for investigating its effects on financial position, constituting the primary motivation for this research. Furthermore, the absence of consolidated theoretical perspectives on the causal chains linking debt levels to financial performance reinforced the necessity for this investigative undertaking.

The manner in which an organization structures its debt financing fundamentally shapes its financial profile and performance trajectory. This represents one of the most consequential financial decisions confronting management, as it determines the enterprise's capacity to satisfy the diverse expectations of its stakeholders (Jensen, 2015). Debt financing involves securing resources from external sources such as commercial banks and bond issuances. Unlike equity investors, creditors exercise no direct control over corporate operations; instead, they receive predetermined compensation for the utilization of their funds. The borrowing entity bears the obligation to repay the principal amount along with accrued interest regardless of whether the firm generates profits or incurs losses. Defaulting on these obligations can result in the loss of collateralized assets, business collapse, or bankruptcy proceedings (Bichsel & Blum, 2015). Debt presents both advantages and disadvantages that affect organizational growth and long-term viability.

The utilization of debt can confer certain benefits, including tax shields and mitigation of free cash flow problems through enhanced managerial discipline, while simultaneously reducing expenditure patterns associated with debt that encompass bankruptcy costs and agency expenses arising from conflicts between debt and equity holders (Fama & French, 2010). Prudent management dictates that executives should carefully balance such costs against the potential benefits of debt, making judicious decisions regarding

borrowing levels to optimize performance (Krause & Litzenberger, 2010). Debt ratios serve as the primary metrics for evaluating borrowing levels, enabling comparison of total indebtedness against total assets. Lower ratios indicate reduced dependence on external borrowing, whereas higher percentages reflect greater reliance on debt financing.

Financial performance essentially represents an organization's effectiveness in utilizing available resources to generate revenue. It provides a basis for informed decision-making regarding business expansion strategies, asset acquisition, and management oversight (Tehrani & Rahnema, 2016). Performance measurement reflects managerial accomplishments in quantitative terms over specified periods, enabling comparisons with industry competitors. According to Onger (2014), financial performance constitutes the monetary expression through which business activities can be evaluated. It illustrates the extent to which shareholders have experienced financial improvement over a given trading or accounting period compared to their initial position. This can be effectively demonstrated through financial ratios derived from financial statements or market share price movements. The primary corporate objective centers on maximizing shareholder wealth, with performance measurement essentially assessing how much richer shareholders have become as a consequence of prudent investment decisions over time (Barger & Pati, 2013).

Various absolute and relative indicators serve as measures of financial performance, including expenses, earnings before tax and interest (EBTI), revenues, income levels, returns on assets, and returns on equity. The most commonly employed performance metrics are ROA and ROE (Reese & Cool, 2016). Return on Equity reflects the returns generated for shareholders, calculated by dividing net profit after tax (NPAT) by total equity capital (TEC). This indicator demonstrates a firm's profitability relative to the total shareholder investment. Similarly, Return on Assets reveals the returns generated by all assets employed, serving as a comprehensive index of financial health. This is computed by dividing net income after tax (NIAT) by total assets (TA) (Khrawish, 2014). For the purposes of this investigation, ROA was utilized to measure the performance of non-listed building and construction firms.

Kenya hosts a well-established and progressive construction industry within the East African region. The sector encompasses enterprises engaged in the construction of commercial and residential structures, engineering projects, and related trade services. The construction industry makes substantial contributions to the national Gross Domestic Product (GDP), serving not merely as a significant economic player but also as a catalyst for broader economic growth. According to the Kenya National Bureau of Statistics (KNBS), the construction and real estate sectors have emerged as the most significant drivers of Kenya's economic expansion over the past five years. The sector contributed 7 percent of the country's GDP in 2015, establishing its status among the nation's most developed industries.

The construction sector has prioritized the maintenance of existing infrastructure while simultaneously integrating efficient and safer transportation systems and benchmarking infrastructural services against international standards. The industry seeks to establish globally accepted performance standards that ensure customer satisfaction and attract private sector participation in infrastructure provision, complementing government interventions. As documented in the Economic Survey 2016 published by KNBS, the economy experienced significant growth within the construction sector in 2015, registering a 13.06 percent increase in value addition. Employment within the sector also grew by 11.4 percent, reaching 148.00 thousand employees in 2015 compared to 132.90 thousand in the preceding year. Road expenditure increased by 79.2 percent during the same period. The Government's expenditure index rose from 263.4 in 2014 to approximately 386.7 in 2015, reflecting support for various projects. The sector expanded by 9.2 percent in 2016 compared to the slightly higher growth rate of 13.9 percent recorded in 2015. The moderated growth rate was attributable to reduced activity levels within the sector, partly due to the nearing completion of the Standard Gauge Railway (SGR) project.

Building and construction firms operate within a regulated environment, with the National Construction Authority (NCA) serving as the primary regulatory body for standardization purposes within the industry. The NCA was established through an Act of Parliament and mandated with the responsibility of streamlining, regulating, and building capacity within the construction sector. This regulatory framework

encompasses project registration, worker and supervisor accreditation, and contractor registration processes. The NCA maintains comprehensive records of individual firms, serving as the final reference in case of disputes.

Research Problem

Debt ratios play a significant role in revealing the financial condition of enterprises, provided that the results are accurately analyzed and applied. Nevertheless, determining what constitutes an optimal debt level remains an unresolved paradox within financial circles (Kajola, 2010). The relationship between debt levels and profitability continues to generate debate, with prevailing theories and empirical studies offering inconsistent conclusions. Modigliani and Miller (1984) proposed negative correlations, suggesting that even profitable firms rely primarily on retained earnings for expansion rather than expensive external financing. Conversely, the tax shield hypothesis within the same theoretical framework posits a positive relationship, indicating that highly profitable firms will employ more debt to shelter profits from taxation. Jensen and Meckling (2010) supported this perspective by characterizing debt as a disciplinary mechanism that compels managers to pursue value-enhancing investments, thereby positively influencing financial performance. These theoretical contradictions and the ongoing debate provided the impetus for further investigation, motivating the present research.

The government's commitment to undertaking major construction projects as part of its development agenda has prompted many non-listed building and construction companies to pursue enhanced performance through extensive debt utilization. There exists considerable argumentation regarding financial leverage as a mechanism for enhancing profitability, provided that borrowing is secured at favorable rates and deployed productively. Debt facilitates the acquisition of productive assets, which can improve organizational performance if efficiently utilized (Anyanzwa, 2015). However, many non-listed companies that have accumulated debt to improve their financial health have failed to achieve their objectives, instead experiencing substantial losses and eventual dissolution, as exemplified by Athi River Mining Company, a cement manufacturer (Juma, 2016). The poor performance of such non-listed entities despite significant debt utilization underscores the necessity of investigating whether debt usage genuinely affects performance outcomes.

Empirical investigations have produced divergent findings. Abor (2010) examined the relationship between debt structure and profitability among listed Ghanaian corporations, finding a positive correlation between total debt utilization and financial position. Kajirwa (2016) investigated the impact of debt on the performance of Kenyan banks listed on the Nairobi Securities Exchange (NSE) using secondary data and qualitative analysis techniques. The findings revealed a negative effect of debt on bank profitability, leading to recommendations for careful consideration before resorting to debt financing.

Gleason (2011) conducted a study on performance and leverage using data from 2008-2009 across 14 European Union countries, utilizing ROA as the performance metric. The results indicated that total debt significantly affected firm performance as measured by ROA.

Abor (2010) similarly investigated the relationship between capital structure and profitability among listed Ghanaian firms, finding substantial significance for both parameters. Kaumbuthu (2010) examined the effects of debt structure on the financial performance of manufacturing firms listed on the NSE, revealing a negative debt-to-equity relationship.

Raza (2013) studied the impact of leverage on firm performance among construction companies listed on the Karachi Stock Exchange in Pakistan over the period 2004-2009, confirming that leverage negatively affected firm performance. These findings collectively reveal an empirical gap regarding the optimal debt composition and its subsequent effects on financial performance.

LITERATURE REVIEW

Theoretical Literature Review

Trade off Theory

A myriad of presumptions was put forth by this theory. It elaborates the evidence of company benefits on leverage with normal structure of capital utilized until realizing optimal capital structure. The respective classical version can be traced back to the theorist Graham & Litzenberger (2012) that gave and did establish that there is normally an inter link between dead-weight costs of bankruptcy and the debt's returns on tax salvage. The theory further proposes that tax obligations are minimized on debt remnants thus increasing the tax shields. In instances where firms employ debt as a major segment of its capital structure, the firm is exposed to a number of financial risks as funds holders will be pouring and committing more resources to the firm, they will expect and place demands for higher premiums as dividends on the slated securities. The theory goes on to articulate that trading off costs and returns through utilization of borrowed funds can lead to attaining optimal capital structure.

Nevertheless, the theory fails to give profound explanations on why borrowed funds traditional way of utilization leverages and is consistent in many nations but do differ in terms taxation structures (Graham, 2013). Trade off on a company's bankruptcy cost is what dictates the debt ratio though through realization of tax demerits of debt, this being achieved owing to the present marginal value of tax edged on extra funds borrowed equaling raised values of present financial distress (Rama & Anyang, 2014). Interestingly, trade-off theory researches derive mixed outcomes conclusions. A number of researchers and members of the academia reason and give confirmed illustrations that, individual companies that note higher rates in terms of profitability, they do less of borrowing; a posed fact in partial disagreement with this theory that propagates that well-to-do firms need to borrow more funds as a liability mitigation mechanism over tax.

Empirical Literature Review

Al-Tal (2014) investigated the relationship between profitability and debt structure among Ghanaian listed firms over the period 1998-2002. The findings indicated that short-term debt positively correlates with profitability due to lower interest rates compared to long-term debt. The study also found a positive relationship between total debt and profitability, attributed to the predominance of short-term debt in total borrowings. However, long-term debt exhibited a negative relationship with profitability due to higher servicing costs. Adekunle (2014) examined the effects of debt structure on profitability among non-financial Nigerian listed firms during 2001-2007. Utilizing secondary data and debt ratios as independent variables with ROE and ROA as dependent indicators, the ordinary least squares estimation revealed that debt ratios have a significant negative impact on firm performance.

Dufera (2010) conducted research on capital structure effects on profitability among Nigerian listed entities over 2001-2007. The investigation targeted 30 companies, employing debt ratios as independent variables and ROE and ROA as dependent measures. Secondary data analysis revealed negative effects of debt on profitability for the sampled firms. Aliu (2015) examined debt structure determinants among manufacturing corporations across America, France, Britain, Japan, and Italy, sampling 4,557 manufacturing firms and utilizing secondary data. The findings indicated that leverage negatively correlates with profitability, although the impact varies positively with firm size and tangible asset value.

Langat et al. (2014) assessed the effect of debt financing on profitability among Kenyan tea manufacturing companies. The study concluded that short-term debt does not positively relate to profitability, whereas long-term debt and total debt showed positive relationships with financial performance at 1% and 5% significance levels respectively. Pouraghajan and Malekian (2012) investigated how debt structure affects profitability, establishing a negative correlation between debt financing and corporate profitability among 100 Iranian-listed construction firms. Muchugia (2013) examined the effects of debt on Kenyan commercial bank financial performance. The study utilized firm size, short-term liabilities, and total debt

as independent variables with ROE as the dependent measure across 46 banks. The findings indicated that short-term debt positively affects profitability, whereas long-term debt exhibits a negative correlation.

Masiega et al. (2013) investigated debt structure effects on profitability among Kenyan listed manufacturing firms over 2007-2011, sampling 30 companies. The results demonstrated a positive correlation between debt and total assets, with positive performance impacts, though these effects were weak and statistically insignificant.

RESEARCH METHODOLOGY

The selected design of research was descriptive with a significant set of quantitative analysis (Abubakar, 2015). This type of research design was selected owing to its enabling nature of giving descriptions on a given research area, making an establishment on a relationship, and giving explanations on collected data in order to pay attention to and prosecute both the differences and prevalent similarities on the subject references over a stipulated time scope.

The main focus was to establish the relationship between capital structure and financial performance of the firms. In accordance to Construction Kenya, there are 10 tier one construction companies in Kenya. The intended population of this work included all the 10 Tier 1 building and construction non-listed firms registered and regulated by the National Construction Authority within the three-year study period of 2014 to 2018. All 10 tier 1 firms were included, therefore arose no need for sampling.

The study employed the use of predominantly data which is secondary. Data thus was collected through yearly reports which included statements of financial position including all other corresponding relevant reports published within study period of 2014- 2018. Such relevant financial information was thus collected from stored sampled companies' finance statements from the information desk upon submission of an introductory letter from the school.

A letter of introduction handed to the researcher by the school was in turn presented to respective non-listed building and construction firms' managers for purposes of gaining both consent and access to published statements of financial position for the sole purpose of due analysis.

Collected data were however analyzed by clear use of mean, correlation (Pearson's), and the regression model. Analyzed data were interpreted and presented using figures and tables. A correlation technique was used to illustrate the level of relationship among the identified variables. Correlational technique is important in research as it aids knowing the level and nature in relationship over the list of variables used in the study.

Correlation results are also easier to interpret, cost friendly, and is commonly used in modern day to day decision making among business entities. For the purposes of testing this respective research activity hypotheses, adoption of descriptive type of data analysis; Pearson's means of correlation, multiple regression analysis was also made use of in order to test the relation between liquidity, asset tangibility and ratios of debt on firm performance. The significance of regression co-efficient was established by looking at t-values

Data Analysis and Research Findings

Descriptive Statistics

The descriptive statistics in this section laid down maximum, minimum, mean, and the standard deviations used in describing data. It summarized the sampled information. It simplifies the information for ease of understanding of the used data, by displaying the standard deviation, mean, maximum and minimum of the sampled set of data.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Debt	50	-2.25	3.40	.3576	1.35169
ROE	50	-1.06	1.27	.0506	.52532
Valid N (listwise)	50				

Source: Research Findings, (2023)

The debt ratio, an indicator of average amount of debt in companies over the period of the study is 0.3576 or 35.76%; given that some firm's debt ratio is 340% (see maximum debt ratio in the table above), this is a significant debt amount on capital structure worth studying. Standard deviation of debt of 1.35169 is greater than one, suggesting that the debt ratio varies across companies. The mean ROE is indicated as 0.0506 or 5.06%, not surprising is that some firms reported negative return on equity.

Debt Ratio and Firm Performance.

In this section, debt ratio is used to predict financial performance, measure as return on equity. Presented and explained below are model summary, analysis of variance, and the coefficient of predictor variable. Dependent indicator is ROE while the independent one is debt ratio. This idea is to establish whether debt on its own strength explain variation in return on equity. Table 2 puts in provision the findings of the model summary on the findings.

Table 2. Model Summary, Debt Ratio and Firm Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.110 ^a	.012	-.008	.52754

a. Predictors: (Constant), Debt

The above summary exhibits strength of relationship between model and the dependent indicator. The R-square, a statistic that show the variation in independent variable (ROE) explained by variations in debt level (independent variable) is at a low of 0.012 or 1.2%. Suggesting debt ratio cannot be used to predict return on assets because debt explains only 1.2% of variation in ROE.

Table 3: Anova

ANOVA ^b						
Model		Sum of Square	Df	Mean Square	F	Sig.
1	Regression	.164	1	.164	.588	.447 ^a
	Residual	13.359	48	.278		
	Total	13.522	49			
a. Predictors: (Constant), Debt						
b. Dependent Variable: ROE						

ANOVA checks model fitness, that is, puts to tests the model's acceptability levels from a perspective which is statistical. There were 50 observations. The Regression row does display accounted for vibrational information of the model, in this specific scenario is at 0.164. Residual, that is, the model's unaccounted for variations, is 13.359, much higher than the regression (0.164), suggesting that debt does not predict ROE. The F statistic's significance value, which is .447, is in excess of 0.05, a clear indication that the models explained variations is simply due to chance.

Table 4. Coefficients: Debt and ROE

	Coefficients					
		Debt and ROE				
	Model	Unstandardized Std.		Standardized	t	Sig.
		Coefficients	Error	Coefficients		
		B		Beta		
	(Constant)	.066	.077		.853	.398
	Debt	-.043	.056	-.110	-.767	.447

	R square	.012
a.	Dependent Variable: Firm performance (ROE)	

The results depict insignificant worth of effect of debt ratio in relation to firm performance in building and construction sector. The relationship depicts lower significance level denoted by 0.853 which is higher in margin than 0.05. In accordance to these findings, the hypothesis is thus rejected.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This research investigation was undertaken to ascertain the effects of debt ratio on the financial performance of non-listed building and construction firms in Kenya over the designated period 2014-2018. The independent variable of this study was the debt ratio, while the dependent variable was financial performance measured through return on equity (ROE). Descriptive statistics derived through mean, standard deviation, and regression analyses were employed to examine the effects of debt ratio on financial performance. The descriptive analysis findings indicated that the mean debt ratio was 0.3576 with a standard deviation of 1.35169. The average ROE stood at 0.0506 with a standard deviation of 0.52532.

The research concluded that there exists no statistically significant association between debt ratio and firm performance. The coefficient of debt (-0.043) with a significance value of 0.447 indicates that debt does not exert a measurable influence on return on equity. The relationship between debt and performance, while suggesting an inverse pattern, fails to achieve statistical significance, indicating that debt levels cannot reliably predict firm performance in the context of the sampled firms.

Conclusion

This research exercise examined the influence of debt ratio on the financial performance of non-listed building and construction firms in Kenya. Data were sourced from secondary sources, with the sample comprising all 10 Tier 1 non-listed building and construction companies. The findings indicate that debt capital utilization does not necessarily enhance shareholder value through improved ROE. This conclusion aligns with certain earlier studies while contradicting others, suggesting that the relationship between debt financing and firm performance remains a subject requiring continued investigation.

Recommendations

The findings of this research carry compelling significance for individual firms, the broader industry, and the macro-economy. Given the observed negative correlation between financial leverage and firm performance, this study recommends that business managers should exercise prudence in minimizing financial leverage within their capital structures. Reducing debt dependence can serve as a mechanism for increasing firm value and enhancing shareholder wealth.

This research further recommends that the banking sector should be regulated to establish interest rate caps, as volatile interest rates negatively impact businesses through the elevated costs associated with both short-term and long-term debt. Since many firms rely substantially on debt to meet their financial obligations, the high costs of debt financing constitute a significant impediment to corporate growth. Financial managers must remain proactive in comprehending the effects of debt structure fluctuations on their firms' financial performance. Firms with lower debt ratios and consequently lower interest burdens appear to perform better compared to highly leveraged firms within the industry.

Limitations of the Study

This research exercise focused exclusively on the 10 Tier 1 non-listed firms registered with the National Construction Authority. Consequently, the research findings cannot be generalized to all firms operating in Kenya. The primary objective of this study was to examine the relationship between debt structure and financial performance of building and construction companies; therefore, the results are limited specifically to non-listed building and construction firms. Additionally, the investigation was conducted within Kenya's geographical boundaries, limiting applicability to other jurisdictions.

The study was constrained by information deficiencies regarding the relationship between debt ratios and enterprise performance. Furthermore, the research was confined to the three-year period between 2014 and 2016, which may have been limiting, as a longer timeframe could have revealed more comprehensive patterns. The study also focused on a limited number of performance metrics, specifically ROE, for

assessing firm performance. Finally, this work concentrated predominantly on major construction companies, excluding smaller medium-sized construction enterprises in Kenya.

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