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Effect of Risk on Total Debt of Companies Listed on the Nairobi Securities Exchange, Kenya

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Abstract

Despite the availability issue, debt financing continues to be an essential form of funding for businesses. Risks have been a major source of uneasiness for owners, executives, experts, as well as shareholders globally. The Kenyan enterprises have a greater susceptible to variations in currency rates in the nation's economic climate, which is growing to become increasingly open with an increase in global trade. The study objective is to investigate the effect of risk on total debt of companies listed on Nairobi Securities Exchange. The study was underpinned by tradeoff theory and pecking order theory. The study utilized causal research design. Secondary data was used to collect data from yearly accounting statement from 2007-2011. Panel regression was used to analyze the fixed effect model. The result showed that risk negatively and substantially affects total debt. The study recommended that the management of listed firms should understand the tradeoff theory and pecking order theory. The study also recommended that risk should continually be monitored by companies to be in line with the prevailing economic conditions. This can be ensured by studying other factors trend that can affect the risk of companies.

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1 Introduction

The risk for businesses in nations is growing as a result of economic integration as well as the globalization process. This is a result to rivals in and out of the nations, either directly from other competitors or inadvertently from participation in world markets [1]. Risks have been a major source of uneasiness for owners, executives, experts, as well as shareholders globally. The Kenyan enterprises have a greater susceptible to variations in currency rates in the nation's economic climate, which is growing to become increasingly open with an increase in global trade. Variations in rate of exchange can affect how much the business's inputs and outputs cost in relation to one another [2]. Risk is referred to as something that could make achieving particular targets more difficult. Chances are thought to affect a company's investment choices, thus managers are continuously thinking of ways to lower the chances of loss of money as well as company failure [3].

The combination of various funding methods used by the company to fund activities makes up the capital structure [3]. Debt as well as equity are the main pillars of the capital framework and also reflect the main interests on the assets of the firm, as described by Zeitun and Tian [4]. A business might be financed by its owners, its creditors, or a combination of both. Debt financing is money obtained by borrowing from corporations such as banking institutions or issuing securities, including those which have a set payback. According to Abor and Biekpe [5], debt can be either long-term or short-term refundable through time spans that go beyond one year. Total debt is the combination of short term debt and long term [1].

The share of resources funded by short-term loans is known as short-term debt, which is defined as the sum of financing that expires after one accounting cycle [6]. The capital structure as well as funding options of businesses include short-term debt financing significantly. This is due to the fact that short-term loans enable companies to satisfy their current financial requirements without making long-term commitments, the expense of managing short-term debt can be less burdensome for the company, as well as short-term loans typically have reduced rates of interest [7].

According to Abeywardhana [6], long-term debt is the percentage of the resources of the organization that are owing to other parties and are due over an extended amount of time. The proportion of the organization's entirety of assets to its total long-term commitments serves as a proxy for the amount of long-term debt. The proportion displays the proportion of assets that are funded by long-term debt. Long-term debt has historically primarily utilized for financing current-period investment enterprises, but empirical research demonstrates that despite its accessibility issues, it still offers a significant funding alternative for investments that are long-term [6,7].

Debt remains to be the most accessible source of funding, typically from borrowing organizations, due to the accessibility of borrowing facilities as well as the stringent authorization criteria for equity investment from the stock exchange platforms [8]. Given a perceived elevated risk related to Business clients, receiving funding through unauthorized lenders is both technically possible and operationally desirable from the perspective view of formal financiers [9].

The main stock exchange In Kenya is the Nairobi Securities Exchange, formerly known as the Nairobi Stock Exchange. With approval from the London Stock Exchange, it started in 1954 as an international stock exchange whilst Kenya was still a British territory. It belongs to the African Securities Exchanges Association and ranks fifth when thinking of its value as a proportion of GDP as well as fourth in respect of the amount of trading in Africa [10].

Companies listed on the NSE contribute significantly to economic growth by encouraging both savings and investment. These businesses engage in a variety of industries, including the financial sector, manufacturing, agriculture, and investing, among others [11]. Additionally, these businesses offer services and produce goods. Therefore, a company's financial health and sustainability help to promote shareholder loyalty and ensure that it meets its financial obligations on schedule.

Regardless of the reality that businesses in Kenya have taken on tactical risk control, statistical analysis on risks related to finances show that the normal level of risk of failure in Kenya was at 52 percent, and these is

substantially greater than the African average of 50 percent and substantially greater than the average worldwide of 37 percent [12]. Asset theft, fraudulent accounting, corrupt practices, purchasing scams, and cybercrime are the most prevalent risk types mentioned in the poll. It was concerning that there were more instances of theft, fraudulent accounting, corrupt dealings, acquisition theft, and cybercrime, all of which increased corporate costs and negatively impacted business results [12].

There is very little empirical data on the impact of risk on a company's overall debt in Kenya; instead, most research have focused on risk management or debt financing. Similar to this, there is no agreement on how businesses could use risk to either decrease or grow debt. The results suggested that risks are reflected in the rising economic crime and fraud [12]. There hasn't been much research, though, on how NSE firms manage risk and how it affects their total debt. In order to close this empirical gap, the study looked at how risk affected the total debt of companies registered on the Nairobi Securities Exchange.

2 Theoretical Review

2.1 Trade off theory

Modigiliani and Miller [13] put out an altered version of their Modigliani and Miller [13] thesis as the trade-off hypothesis. The ideal quantity of debt is reached, depending to the researchers, at the level wherein the marginal advantage of debt financing is equivalent to the marginal expense of debt financing [14]. They contended that the capital structure of an organization may be maximized by using a great deal of debt as capital in order to benefit from the tax break constrained by the interest charges related to debt. According to Myers [15], there is a trade-off among the capital structure of a company and the implications of taxes, costs related to financing, as well as agency expenses, which is in line with Modigiliani and Miller [13] claim. According to Myers [15] and Wen-Chien [16], firms aim for levels of debt that strike a balance between the tax benefits of greater debt and the risks of potential financial distress.

According to Serrasqueiro and Caetano [17], the Trade-off Theory disregards tax breaks that do not pertain to debt, such as tax credits for investments as well as additional permitted costs like deterioration payments, and appears to suggest that if a company seeks to optimize worth, it ought to take advantage of the advantages of the interest-tax exemption regardless of whether there is a remote chance that it will face financial difficulty. According to existing research, profitable businesses prefer to use a minimum of debt as possible [13]. Due to their concern about losing control of their firms, corporations typically choose to utilize their preserved revenues, reductions, or donations from members before borrowing [14].

According to the Trade-off Theory, managers must assess the benefits and drawbacks of borrowing money in order to achieve a sufficient amount of capital employing interest payments [15]. According to the translator, this lowers the burden of taxes, which lowers the price of financing through debt relative to financing with equity. When a result, when a company's debt level increases, its overall average cost of capital decreases until it reaches the debt-to-equity ratio that optimizes its value. This is explained by the fact that financial hardship issues grow proportionally with debt levels, leading to an ideal capital structure that demonstrates the biggest tax shelter the corporation is able to obtain [6].

2.2 Pecking order theory

According to the pecking order theory put forth by Myres and Majluf in 1984, enterprises choose their financial resources according to a specific hierarchy. The agency problem that resulted from the information imbalance amongst executives, owners, and prospective shareholders prompted the supporters of the theory [18]. According to Abor and Biekpe [5], information asymmetry regarding the organization's investment possibilities could cause the marketplace to overestimate the company's fresh equity in comparison to the worth that could have been determined if the executive's knowledge about those possibilities were widely known by everyone with an interest. As a result, businesses initially seek ways of funding their operations utilizing earnings that are retained; if this proves insufficient, they then turn to borrowing; and finally, equity. According to Javier and Juan [19], the order of choices illustrates the relative costs of the various sources of corporate finance that are accessible to the company.

The Pecking order Idea provides an additional explanation for corporate leverage. Prosperity is expected to result in a decrease in borrowing, contrary to the balance hypothesis, because successful companies can cover their capital needs through profits that are retained [12,20]). The Pecking order theory states that information disparities between management, shareholders, and prospective financiers have an impact on financing choices. Although the pecking order theory receives recognition for clarifying capital structure modifications, it fails to take into account the impact of taxation, economic uncertainty, as well as costs associated with agency in companies' capital structures. It also disregards potential issues that could arise when supervisors at firms develop a disregard for discipline in the market due to excessive financial slack [6,17].

2.3 Empirical review

Alnajjar [21] looked into how businesses in industrial operations choose their capital structure in relation to risk exposure. Conclusions about management behavior in relation to business risk, earnings, company size, as well as growth in sales are drawn from the study. For this analysis, data from Jordan's industrial sector from 2009 to 2011 were utilized. For analyzing data, a model based on linear regression is employed. The findings of this study demonstrate that risk aversion is a trait shared by executives of industrial-related companies, although increased sales as well as size of the company are positively associated with financial decision choices. Profitability and the company's financial strategy have a negative relationship.

Gopalakrishnan, Jacob, and Mohapatra [22] examined the effects of risk-sensitive Basel laws on the debt financing of businesses worldwide were investigated. It examines how businesses adapt to the effect by changing their capital expenditures and financing options. According to our research, Basel II restrictions are linked to a decrease in lower-rated companies' access to financing. These businesses rely more on accounts payable, pay stockholders less, and make less capital investments to offset the lack of financing from banks. In nations that rely on the internal ratings-based method, the impact of capital control is lessened. The primary findings stand up to controls for financial crises, controls particular to banks, and the addition of loan-level data. The research presented in this study makes a significant contribution to our understanding of the effects of risk-sensitive bank capital restrictions in practice.

A structural model was developed by Zuzana, Marija, Danijela, and Milica (2022) to examine the connections between the efficiency of operations of SMEs and the drivers behind company hazards. A survey of 1,781 SMEs from a few Central European nations was done. Confirmatory Factor Analysis (CFA) was utilized to examine the model's validity and dependability. To evaluate the internal consistency of data gathering tools, the Cronbach's alpha test was applied. The Kaiser-Meyer-Olkin (KMO) test was employed to gauge the suitability of the sample. The model given in this paper offers a tool for figuring out how operational performance, market position, and sources of business hazards interact. The approach can assist SMEs' managers in concentrating on particular business aspects that shouldn't be overlooked during decision-making processes.

Naibaho and Mayayogini [23] looked at the effects of risk, particularly operational, credit, and liquidity risk, on company efficiency with business governance as a moderating factor. The study used secondary data from 48 Southeast Asian businesses that were part of S&P Capital IQ's Consumer Staples, Consumer Services, and Consumer Durables industry groups between 2017 and 2021. Purposive random sampling was utilized as the sample collection approach in this investigation. According to the study's findings, operational risk and credit risk have no impact on a company's performance, whereas credit risk has a detrimental impact. This study also indicated that operational risk and credit risk had a stronger association with company performance than liquidity risk, which had a negative impact on firm performance [24-26].

3 Methodology

The study adopted causal research design and sought to examine the effect of risk on total debt of firms listed on NSE. The population of interest was comprised of all firms that are listed on the NSE between 2007-2011. Firms that had been listed for less five years or had incomplete data was left out. The study opted to undertake a census because of the small number of firms listed on the NSE. It was therefore possible to collect data from all the firms.

The study chose to use secondary data from the semi-annual as well as the annual financial statements of the firms listed on the NSE for a period of five years. This data allowed for the calculation measures relevant to this study. The data constituted a mixed of cross-sectional as well as time series data and was therefore treated as panel data. The use panel data has advantages over both cross sectional and time series data include [27,28].

Data analysis was performed in order to convert obtained data into a format that can be used for interpretation and conclusion. Because the study was based on panel data, the analysis was based on panel regression. As a result, the panel regression technique was utilized to test hypotheses, and conclusions was drawn after. The 0.05 significance level, or 95 percent confidence interval, was used to guide the test of hypotheses. The model is as follows;

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$$

Where
ε_{it} = error term
Y_{it} = Total Debt for i^{th} firm in t^{th} year.
X_{it} = Risk (the standard deviation of Earnings before Interest, Tax, Depreciation divide by Total Assets)
β = Vector of Coefficient

4 Results and Discussion

Table 1. Panel Regression on Total Debt

Group variable: Company				Number of groups =	52
R-sq:	within = 0.1848			Obs per group: min =	10
	between = 0.3324			avg = 10.0	
	overall = 0.3040			max = 10	
				F(9,459) =	11.56
corr(u_i, Xb) = 0.2667				Prob > F =	0.0000
Total debt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
Risk	-0.1292192	0.0523192	-2.47	0.014	-0.2320342 -0.0264043
_cons	0.8147678	0.1621965	5.02	0.000	0.4960281 1.133508
sigma_u	0.17825974				
sigma_e	0.07262303				
rho	0.85765148	(fraction of variance due to u_i)			
F test that all u_i=0:	F(51, 459) = 21.24			Prob > F = 0.0000	

From the table above which shows the fixed effects regression for risk and total debt. From Table 1, the overall r-squares is 30.4% which means overall 30.4% of the variations in total debt was explained as shown by risk. The within r-squared is 18.48% which means that 18.48% of the variations within the variables were explained by the model. The between r-squared is 33.24% which means that 33.24% of the variation of variable which is explained as shown by model. Table 1 demonstrated that risk was significantly as well as negatively related with the total debt. This means that a point increase in the total debt would reduce risk by 0.1292.

Risk was found to be having a relationship that was significant and negative with total debt. This means that levels of risk that are high leads to a significantly lower levels of total debt. This means that as risk increases firms decreases the use of total debt. Risk being a result of volatility of profits, a reduction in total debt will result in the reduction in interest payment and hence a higher level of profit. This is an effort to ensure the volatility in profits is reduced. The study is in agreement with both trade off and pecking order which predicts a relationship that is negative between risk and leverage as they suggest that in order to reduce the volatility of profits, firms with high risk should ensure the reduction of the level of debt. The examination results supports Alnajjar [21] as risk has a negative effect on total debt. The result does not support Gopalakrishnan, Jacob, and Mohapatra [22], as result showed a positive and significant effect.

5 Conclusion and Recommendation

The study highlighted that risk negatively and significantly affects total debt. From the analysis it is observed that, risk was significantly and negatively related with the total debt. Risk was negatively related to total debt supporting both pecking order and trade off theories. With this, we confirm that firms listed on the NSE borrow

from both pecking order and the tradeoff theories while making decisions to use debt and therefore the study confirms that the capital structure theories which is relevant in debt decision making at the NSE.

Based on this finding, it is recommended that risk should continually be monitored by companies to be in line with the prevailing economic conditions. This can be ensured by studying other factors trend that can affect the risk of companies. Management of NSE or firms planning to list on the NSE should study the tradeoff theory and pecking order theory so as to be able to know how to apply them in the making debt decisions. They should also be aware of the factors that determine risk so as to be able to make decisions that are informed. Effective and efficient risk system should be put in place in firms as they will help to curtail adverse effect of risk exposure on debt of firms. Further studies should be carried out on the effect of risk on total debt of saccos, insurance firms and banking institutions.

Competing Interests

Authors have declared that no competing interests exist.

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