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Effect of Firm Size and Profitability on Long Term Debt of Firms Listed at the Nairobi Securities Exchange, Kenya

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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Abstract

Organization expenses result from a company's utilization of long-term debt in its capital structure. One can also characterize a firm's size by looking at its assets. In order for a company to draw in investors, its worth increases with its size. The profitability of a business may be enhanced by including long-term obligations in its structure of capital since the interest paid on such debts is deduction for taxes. Therefore, this study aimed at examining the effect of firm size and profitability on long term debt of listed firms at the Nairobi Securities Exchange. The study was based on trade off theory and pecking order theory. Secondary data was obtained from the firms from 2007-2011. Panel data was used to analyze data observations. The result indicates that firm size had insignificant effect on long term debt of firms. Profitability had significant effect long term debt. The study recommends that larger firms should leverage their greater access to capital markets to secure long term debts financing at favorable terms, balancing the benefits of debt against potential risks. Firms also with high profitability should encourage internal financing sources to reduce reliance on external debt and minimize financial cost.

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1 Introduction

To preserve the viability of their businesses, public corporations prioritize growing firm value. In practice, an organization's selection of financing sources—whether to raise debt or equity—affects the firms' valuation [1]. In the modern, highly competitive world, more organizations are attempting to improve company value by increasing their efforts to manage their financing and making decisions pertaining to firm finance. When it comes to corporate finance and decision-making regarding the firm's business operations, financial leverage is crucial. It states that companies can maximize their capital structure or finances by reaching a high stock market valuation [2].

The ability of a company to supply the necessary finances for distinct industrial capabilities or amenities can be referred to as its size. One can also characterize a firm's size by looking at its assets. In order for a company to draw in investors, its worth increases with its size. Studies by Safitri [3] and Kosformasi, Andini and dan Oemar [4] also supported this, but their findings differed, claiming that company value is unaffected by business size. Larger businesses are more assured of their ability to secure funding, making it simpler for them to obtain credit from different places. Consequently, a large corporation size is a good indicator for lenders to give loans to businesses so they may continue operating. In order for the capital structure to benefit from the company's size [5].

Mowen, Hansen, and Heitger (2017) state that the profitability ratio is employed to assess a business's capacity for turning a profit. Improved evaluation of the amount of investment resources utilized effectively is the goal of the ratio of profit employed by financiers, executives, as well as owners. Businesses that use debt run the risk of losing their assets (Sawitri & Lestari, 2015). Growing commercial hazards will result from the organization's finance attempts pushing up the debt load. The expense of repaying business loans entails risk. The corporation will be exposed to more danger the more costs it must bear [6].

Long-term debt is the debt that businesses utilize to purchase assets, including real estate and machinery, that are largely regarded as guarantees for loans, and that carries a repayments or mature period of over twelve months, or that takes 20 to 30 years [7]. The ratio of long-term obligations to total assets is used to calculate long-term debt. Similarly, it that as they raise the danger of bankruptcy, large long-term debt levels within the company are detrimental to its ability to operate profitably. This is because having a lot of debt raises the amount of interest that must be paid on a monthly basis, which could deplete the company's liquidity (Shikumo, 2022).

Organization expenses result from a company's utilization of long-term debt in its capital structure. The profitability of a business may be enhanced by include long-term obligations in its structure of capital since the interest paid on such debts is deduction for taxes. They did point out, though, that when debt grows, so do prospective profits, which erodes the company's capacity to repay its debts and raises the danger of credit payments failure [8]. The choice of financial structure has a significant impact on the financial success of the company and is therefore quite important [9]. The operation needs to carefully evaluate the financial structure decisions with the objective to enhance the company's profitability [10]. Financing choices, however, are complicated and differ throughout businesses. For example, the functioning and profitability of the company are going to suffer if financing is provided with the incorrect mix of debt [11].

The selection of financial structure and poor executives, amongst other things, have contributed to the global corporate collapse of businesses, especially in East Africa (Muchiri; Muturi & Ngumi, 2016). For instance, Uchumi supermarket in Kenya has been having such many financial issues that they are able to reimburse its suppliers (STD). As of June 30, 2015, it recorded a loss after income tax of Kshs 3,513B. Normal equity made up Kshs 739B, while debt was Kshs 5561B (Uchumi LTD, 2015). A company that has increased its debt funding becomes extremely prepared, which results in poor financial results. As of March 31, 2016, Safaricom's revenue before tax was Kshs 55,762 billion. Its financial structure consisted of Kshs 116,738 billion in equity and Kshs 42,443 billion in debt (Safaricom LTD, 2016).

2 Theoretical Review

2.1 Trade off theory

The static trade-off hypothesis, according to Kraus and Litzenberger (1973), is an ideal capital structure that results from weighing the advantages and disadvantages of debt and equity financing. After taking into consideration market defects like taxes, bankruptcy fees, and agency expenses, an ideal capital structure is determined. According to the hypothesis, using debt for financing has advantages, particularly in terms of tax benefits. According to Frank and Goyal (2005), the record of history poses a significant challenge to the classic static trade-off theory. According to the static trade-off theory, a company uses debt financing because it wants to minimize its tax obligations.

In order to maximize value, all businesses must consider this trade-off when determining how much debt and equity are required to fund their day-to-day activities. It goes without saying that there comes a maximum point at which taking on more debt results in a lower marginal benefit than a rise in the marginal expense. Studies by Deowita and Hassan (2015) and Rao, Al-Yahyaee and Syed (2007) demonstrate how the trade-off theory of capital structure is contradicted by other research, which also found that debt levels has a detrimental effect on company profitabiliy. It implies that the costly nature of financing will have an impact on the profitability of the company due to the high debt levels. The theory posits that a corporation's leveraging choice is influenced by two components: taxation and financial distress/bankruptcy expenses, which are incurred when there is a predicted likelihood of the company defaulting on funding that is above zero [12].

2.2 Pecking order theory

According to the Pecking Order Theory of Capital Structure, companies have a preferred hierarchy when it comes to financing choices. In situations where internal cash flow is insufficient to cover capital expenditure, businesses are going to borrow money rather than issue shares. Prioritizing internal financing over external funding of any kind is the ultimate priority. Internal funds don't have to pay flotation fees or demand extra financial disclosures that could cause them to lose their competitive edge. According to Lemmon and Zender [13], if a company needs to raise money from outside sources, it is preferable to employ debt, conversion securities, preferred shares, and common stock in that order.

According to the pecking order hypothesis, corporations steer clear of hazardous instruments and equities that are susceptible to adverse choice and miss-pricing, assuming that there is information asymmetry. An ideal or targeted capital structure is not predicted by pecking order theory. It makes the case that successful businesses will pay off their debt with retained earnings before using borrowed funds. As a last resort, they choose further equity financing, with debt being their first option. It argues that although less profitable organizations utilize additional loans financing, better-performing enterprises rely more on earned revenue to finance their expansion. This is the antithesis of the trade-off approach's stance [14].

According to Koech [15], the theory has certain drawbacks because it is unable to account for how taxes, financial hardship, agency charges, security issuance costs, and the range of investment options accessible to a company affect its actual capital structure. It overlooks the issues that can occur when management of a company amass sufficient finances latitude that they lose their ability to respond to discipline in the market. For this reason, the theory is presented as an addition to the conventional trade-off model instead of its replacement.

2.3 Empirical review

The moderating role of business size on the association between capital structure and financial distress of Kenyan public non- financial companies was determined by Muigai & Muriithi [16]. The natural logarithm of total assets was used to calculate the size of the company, as well as the overall debt, long-term debt, as well as short-term financing via debt were used for implementing the structure of capital. Altman's Z-score index, which was examined for markets that were developing, was used to gauge the level of financial hardship. From 2006 to 2015, secondary data on the Forty traded non-financial enterprises was gathered from certified as well as public accounting records. Based on the findings of the Hausman test, the study estimated the designated panel regression model with fixed effects. In particular, the study discovered that whereas debt often has an

adverse and substantial effect on the investigated organizations' financial difficulties, as the company grows in size, this influence changes to an advantageous and substantial one. The study also discovered that while short-term debt is clearly harmful, long-term debt utilization among big enterprises has a favorable and substantial impact. The investigation suggested that executives of public non-financial organizations should constantly take the company's size into account when deciding which leverage option is best for their businesses based on these research results.

Afinindy, Salim, and Ratnawati [5] looked into how capital structure, either explicitly or implicitly, affected the profitability and firm size of food and beverage companies registered on the Indonesia Stock Exchange (IDX) between 2013 and 2018. A method that is quantitative is applied with the investigation. Purposive sampling is the approach used for sampling. After conducting assessment and testing the hypothesis using partial least squares (PLS), the capital structure component is tested multiple times as a mediating variable. The findings demonstrated that growing the firm's size or revenues did not raise the capital structure or firm value. Although profitability has an impact on business value, it has no effect on capital structure.

Kartika, Fatimah, and Ladewi [6] ascertained capital structure in businesses traded on the Indonesian Stock Exchange (IDX) is impacted by company size and profitability. Employees in the building, real estate, and property industries are the subject of the study. The study methodology employed is asosiatif research utilizing secondary data. There were 91 firms in the demographic; twenty random samples of these enterprises were gathered between 2016 and 2020 over the research period using a purposive sampling method. Multiple linear regression assessment was the method employed for the technical analyses. The outcome demonstrated that the company's profitability and size had a major impact on capital structure.

Setiawan [17] investigated, from the standpoint of Pecking Order Theory, (1) the effects of profits on capital structure as well as (2) the moderating influence of company growth on the effects of profitability on capital structure. According to the Pecking Order Theory, a business is going to employ retained earnings, its internal financing source, first when it needs money for an investment. If these internal sources of financing are insufficient, the business will next turn to external funding sources. When utilizing outside funding sources, a business will give preference to debt financing sources before turning to stock shares. According to Pecking Order Theory, a company's capital structure—that is, its level of leverage or usage of debt—is negatively impacted by profitability. This implies that a company's level of leverage decreases as its profitability increases. The idea is that a company's capacity for retained earnings increases with its level of profitability. Firms with significant potential for retained earnings will generally utilize these earnings to fund their investments, resulting in less leverage or debt utilization. According to the Pecking Order Theory, the detrimental impact of profitability on the degree of leverage will be mitigated by business size.

The impact of the size of the company long-term debt to equity, as well as debt ratio on profitability as assessed by return on equity (ROE) was ascertained and analyzed by Sukma, Nurtina, and Nainggolan (2021). The organizations in the hotel and tourism sub-sector that traded on IDX between 2015 and 2020 are the focus of the research. The proportion of debt, long-term liabilities to equity, and business size are the financial measures that were included as independent factors in that research. The annual data utilized spans the years 2015 through 2020 and is derived from the yearly financial statements. Using panel data and Eviews 9 software, the study's data were obtained. This study's conclusion is that long-term debt boosts profitability. In the meantime, company size and debt ratio both negatively impact ROE and have a big impact on it at the same time. But the only factors that substantially impact ROE are long-term debt and the debt ratio; firm size has no discernible impact on ROE.

3 Methodology

The study chose to adopt a descriptive study design which sought to examine the effect of firm age 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 to 2011. 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 utilize to use secondary data from the annual financial statements of the firms listed on the NSE. 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.

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 fixed effects model is as follows;

$$Y_{it} = \alpha_i + \beta X_{1it} + \beta X_{2it} + \mu_{it}$$

Where μ_{it} = error term

Y_{it} = Long Debt for i^{th} firm in t^{th} year.
X_{1it} = Firm Size (ln (Total Assets))
X_{2it} = Profitability (Earnings before Interest and Tax divided by Total Assets)
β = Coefficients of the independent parameter

4 Results and Discussion

Presentation of findings from panel data analysis of secondary data procured from NSE quoted companies. Panel data analysis thus provided result as follows:

Table 1. Fixed effects panel regression

Fixed-effects (within) regression				Number of obs =	520	
Group variable: Company				Number of groups =	52	
R-sq:	within = 0.0554			Obs per group: min =	10	
	between = 0.0003			avg =	10.0	
	overall = 0.0001			max =	10	
				F(9,459) =	2.99	
corr(u_i, Xb) = -0.7970				Prob > F =	0.0018	
Long term debt	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Firm Size	0.0129093	0.0090354	1.43	0.154	-0.0048466	0.0306653
Profitability	-0.1362798	0.0539818	-2.52	0.012	-0.2423620	-0.0301977
_cons	0.2372819	0.1329253	1.79	0.075	-0.0239356	0.4984995
sigma_u	0.22047758					
sigma_e	0.05951692					
rho	0.9320789	(fraction of variance due to u_i)				
F test that all u_i=0:	F(51, 459) = 31.14			Prob > F = 0.0000		

From the Table 1, results from the fixed effect regression for long term debt. The overall r-squares is 0.01% which means overall 0.01% of the variations in long term debt was explained by the independent variable. The within r-squared is 5.54% which means that 5.54% of the variation within the variable was explained as shown by model. The between r-squared is 0.03% which means that 0.03% of the variations between the variables was explained by the model. From the Table 1, firm size is insignificantly as well as positively related to the Long term debt. This means that a point increase in the Long term debt would increase firm size by 0.012 and over time there will be an increase in long term debt. Also the result showed that there is a negative and significant relationship amongst profitability and long term debt. This means that a point increase in the Long term debt would reduce risk by 0.0878, reduce profitability by 0.1363 and over time there will be a reduction in long term debt (age Coefficient -0.006).

The negative and significant effect between profitability and long term debt is supported by the tradeoff theory and pecking order theory. The result is consistent in the state that firms with higher profitability tend to have

less need for external financing, including long term debt, as they have more retained earnings from their operations.

The result however did not support Afinindy, Salim, and Ratnawati [5], but supported the study result of Kartika, Fatimah, and Ladewi [6] which showed a significant relationship between firm size and profitability on long term debt.

5 Conclusion and Recommendation

The study examined the effect of firm size and profitability on long term debt of listed firms at the Nairobi Securities Exchange in Kenya. The result demonstrates a positive and siginifcant relationship between firm size and long term debt, which implies that larger firms tend to rely more heavily on long term debt financing compared to smaller firms. This connection can be attributed to factors like better access to capital markets, tax benefits associated with long term debt.

The relationship between profitability and long term debt is a negative and significant effect. This indicates that more firms listed on NSE, Kenya tend to have lower levels of long term debt, as they can generate sufficient funds from their operations to finance investments.

The study recommends that larger firms should leverage their greater access to capital markets to secure long term debts financing at favorable terms, balancing the benefits of debt against potential risks. However smaller firms should use other alternative of financing. Firms also with high profitability should encourage internal financing sources to reduce reliance on external debt and minimize financial cost. Authorities should implement good monitoring techniques to identify potential risks associated with excessive debt accumulation, particularly among larger firms. Further studies can be carried out on listed banking institutions or listed insurance companies within the country.

Competing Interests

Author has declared that no competing interests exist.

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