# EFFECT OF FIRM AGE AND ASSET TANGIBILITY ON TOTAL DEBT OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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*Abstract:* **The selection of a financial structure is one of the most difficult tasks that commercial enterprises must complete. The choice of financial structure is crucial since it impacts the companies' the company's financial results. Since retained earnings may not be available or adequate, total debt is a major source of financing for many expanding businesses. On the other hand, if businesses choose poorly for debt financing, the result could be excessive capital costs and a decline in overall financial performance. This study aimed at investigating the effect of firm age and asset tangibility on total debt of firms listed on Nairobi Securities Exchange. Study was anchored on pecking order theory and trade off theory. The study utilized descriptive research design. The study used secondary data from annual accounting report of quoted firms on Nairobi securities exchange. 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. Firm age had a negative and insignificant effect on total debt. Result showed a negative and significant relationship between asset tangibility and total debt. Due to the negative effect, firms especially new to the market should explore alternative options such as venture capital, equity financing carefully considering all possibilities.**

*Keywords:* **Asset Tangibility, Firm Age, Pecking Order Theory, Trade off Theory and Total Debt Theory.**

## 1. INTRODUCTION

The selection of a financial structure is one of the most difficult tasks that commercial enterprises must complete. The choice of financial structure is crucial since it impacts the companies' the company's financial results (Nguyen, Dang, Phan & Nguyen, 2020). The management of a company typically has to strike a balance between the amount of money that should be raised internally from non-owners (debt) and the amount that should be raised externally from owners/shareholders (equity) (Mutegi, 2016). Since retained earnings may not be available or adequate, total debt is a major source of financing for many expanding businesses (Momanyi, 2018). On the other hand, if businesses choose poorly for debt financing, the result could be excessive capital costs and a decline in overall financial performance. Therefore, the management should consider a variety of financing sources together with the costs and benefits of each while making this decision (Liaqat *et al*., 2017).

A company's age can be ascertained by looking at its financial resources base, market position, or functional covering area, such as the variety of locations. As a result, a company's age can affect its investment choices, older companies leverage their operational economies of scale to invest across multiple industries in an effort to increase revenues and cut expenses (Wambua, 2019). Due to their scale, which attests to the capacity they have to finance the funds they have borrowed, older enterprises have a competitive edge when raising additional funding from the capital markets.

Furthermore, older businesses might make more money than newer ones because they rely less on internally generated capital (Alghusin, 2015).

The fixed-equipment to total resources ratio of the company is referred to as the tangible assets ratio. Fixed assets have a significant impact on a company's debt load, turnover, as well as ultimately revenue. The company's fixed assets are more valuable economically than its intangible belongings, which have less disparities in information and a propensity for declining value swiftly in the event of insolvency (Wambua, 2019). The tangibility of a firm's assets has a positive association with both long-term and total indebtedness, according to Ohman and Yazdanf (2017) analysis of the capital structure of SMEs. Consequently, as institutions like to deal with more diversified and steady cash-flowing enterprises, the likelihood that a firm may turn to long-term debt through them increases with the number of tangible assets the organization has (Lussuamo & Serrasqueiro, 2021).

The main exchange In Kenya which offers a computerized framework for registering and trading securities is the NSE. After the Johannesburg Stock Exchange in South Africa, it is the second exchange system in Africa to demutualize as well as public its ownership interests. The Kenyan security marketplace now provides a trading space for bonds, stocks, and quasi-equity assets. Derivatives products trading is about to be introduced. Eleven industries comprise the 63 listed businesses on the NSE (Berger & van Helvoirt, 2018).

In order to become more flexible in response to changing circumstances, a company needs to manage its capital structure to optimize the utilization of funds. In light of this, modern businesses must embrace competition in order to operate in an extremely competitive climate (Luseka, 2021). As a result, businesses must take into account how decisions about total debt may affect overall corporate performance. In this manner, a study on the percentages of return as well as debt by Prempeh and Nsiah (2016) discovered that the long-term debt financing as well as the percentage of return and debt had an adverse correlation.

Studies have revealed financial limitations among Kenyan-listed companies, which have serious ramifications for less developed capital markets (Berger & van Helvoirt, 2018). Low customer focus and category management, a bloated and unmotivated workforce, corruption, poor supplier relationship management, low asset utilization, and inefficient use of space are all results of Kenya's poor performance (Nzomo, 2017). All told, these problems have resulted in less money being invested on business expertise. Furthermore, Berger and van Helvoirt (2018) state that the low rate of economic growth is a result of issues in the business sector.

## 2. THEORETICAL REVIEW

**Pecking Order Theory**

This idea was developed by Myers and Majluf in 1984. According to this hypothesis, businesses favor internal financing over external funding. In the unlikely event that outside funding is required, a company is more likely to opt for debt financing than equity financing. As a last resort, they would rather have stock than borrowed finance. Due to asymmetric information, there is no ideal debt-to-equity ratio. Long-term assets are financed by dividends, or income from stock, while debt is employed to maximize the firm's worth. This hypothesis goes so far as to contend that businesses use a particular order of preferences for funding their business activities.

The corporation favors retained profits over debt since there is information asymmetry between its numerous stakeholders, especially the business and potential investors. Concurrently, a business will go for total debt. Total debt can be used by a company to fund its operations without requiring the use of new security, according to Myers and Majluf (1984). This effectively addresses the challenge of asymmetric information. This illustrates how the growing information asymmetry amongst investors and employees drives up the cost of equity issuance. Consequently, it was advised that businesses that are heavily impacted by information asymmetry employ debt as a funding option, preferably entire debt, in order to avoid having to sell assets at extremely low prices.

**Trade off Theory**

Myers (1984) put forth this theory. According to the idea, balancing the advantages and disadvantages of borrowing will result in the best possible CS. Therefore, after weighing the costs and benefits of each, management of the company determines how much debt to incorporate overall in the capital structure. Total debt yields benefits such tax shied, but excessive capital structure levels of debt can lead to agency costs and insolvency. Divergent interests amongst the many corporate stakeholders and information asymmetry are the causes of agency expenses (Jensen & Meckling, 1976).

The trade-off argument has been challenged by a number of academics, though. Trade-off theory was proposed in response to the addition of corporate tax on the grounds that it provided debt advantages by acting as a tax shield and implied 100% debt financing, as stated by Luigi and Sorin (2009). Businesses with tangible assets as well as high returns will employ more debt than businesses with more hazardous assets and low returns (Sheikh & Wang, 2011). The theory suggests that certain firms might pursue projects with negative net present value due to mispriced securities, which would result in adverse selection costs. A firm's choice of financing can mitigate these costs, so capital structure is crucial in situations involving asymmetric information (Kemsley & Nissim, 2002). The theory is relevant because the firms that were quoted and thoroughly considered their debt and equity levels were better able to generate higher profits than those that overlooked these factors.

**Empirical Review**

Harc (2015) examined examined the connection between the capital structure of small and medium-sized businesses (SME) in Croatia and their tangible assets. A sample of 500 Croatian SMEs from the years 2005 to 2010 were used in this study. The empirical investigation encompassed data extracted from the yearly reports of the firms. The Pearson Correlation Coefficient is utilized to investigate the connection amongst indicators of leverage and physical assets. The study's findings suggest that there is a distinct correlation between overall debt leverage and tangible assets. In every year that has been studied, there has been a statistically substantial adverse correlation among tangible assets and short-term leverage. It is statistically substantial that physical assets and long-term leverage have a positive association in all of the years that it has been examined. The findings indicate that small and medium-sized businesses utilize their collateral to draw in long-term loans, which implies that these businesses use long-term loans' lower interest rates and expenses than those of short-term loans.

Irungu, Muturi, Nasieku, and Ngumi (2018) ascertain how asset tangibility affects the financial performance of companies that are registered on the Nairobi Securities Exchange. The research used a non-experimental panel methodology. Every one of the 64 companies trading on the Nairobi Securities Exchange was the focus of this investigation. The analytical unit was a census of all 64 companies registered on the Nairobi Securities Exchange. The appropriate ratios were calculated using secondary data that was taken out of the financial statements and included panel data. ANOVA was utilized to examine the correlation among the factors across the industries, and a dynamic panel data regression model was utilized in the research. The notion was tested with a 95% confidence interval. The research discovered that asset tangibility and the financial performance of both financial and nonfinancial enterprises were positively and significantly correlated. The study found that the financial performance of listed firms on the Nairobi Securities Exchange is positively and significantly impacted by asset tangibility.

Arilyn (2019) examined the impact of business age and tangibility on capital structure. The study's research goal is automobile and related firms that traded on the Indonesia Stock Exchange between 2007 and 2018 and published publicly accessible yearly reports. In order to evaluate the hypotheses, assessment is carried out utilizing panel data regressions using random effect models and descriptive statistics utilizing the approach to quantitative research and purposive sampling as a sampling methodology. The study's conclusions demonstrate that while firm age have no effect on the capital structure, tangibility have an effect on capital structure.

Hossain, Akib, and Rahman (2020) investigated how the manufacturing companies registered on the Bangladeshi Dhaka Stock Exchange (DSE) fared financially in relation to their firm age. The sample size from the population has been chosen using a non-probability sampling technique. A secondary analysis of data from forty manufacturing companies was conducted between 2015 and 2019. The impact of firm age on leverage of the firms under study was explored through the use of multiple regression approaches. Based on the results of the regression models, firm age has a substantial negative correlation with a company's leverage.

Xuezhou, Hussain, Hussain, Saad, and Butt (2020) sought to examine the influence of asset tangibility as a moderator on the likelihood of company financial difficulty in relation to leverage framework, with a focus on enterprises associated with agricultural. Using a panel data logit regression model, the effects of well-known variables like business size, taxation, and profitability are controlled for when estimating the association between capital structure, loan maturity structure, and financial hardship. 187 non-financial companies with a connection to agriculture that have been listed on the Pakistan Stock Exchange (PSX) over a five-year period (2013-2017) make up the data set. The findings show that the association among the maturity of debt structure and the likelihood of financial distress is negatively moderated by asset tangibility.

# 3. RESEARCH METHODOLOGY

The study adopted descriptive research design as it sought to examine the effect of firm age and asset tangibility 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. 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.

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;

$$Y_{it} = \alpha + \beta X_{1it} + \beta X_{2it} + \varepsilon_{it}$$

Where

$\varepsilon_{it}$ = error term

$Y_{it}$ = Total Debt for $i^{th}$ firm in $t^{th}$ year.

$X_{1it}$ = Age (Date of incorporation up to 2011)

$X_{2it}$ = Tangibility (sum of Fixed Assets and Stock divided by Total Assets)

$\beta$ = Vector of Coefficient

# 4. RESULT DISCUSSIONS

**Fixed Effects Panel Regression**

| Fixed-effects (within) regression | | | | Number of obs | = | 520 | |
|---|---|---|---|---|---|---|---|
| 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] | |
| Tangibility | -0.2397501 | 0.0374824 | -6.40 | 0.000 | -0.3134086 | -0.1660916 | |
| Age | -0.0016106 | 0.0028955 | -0.56 | 0.578 | -0.0073006 | 0.0040795 | |
| _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 | | | |

The Table above presents the fixed effects regression for total debt. From the table, the overall r-squares is 30.4% which means overall 30.4% of the variations in total debt were explained as shown by independent variables. 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 variations between the variables were explained as shown by model. It was also observed that tangibility was significantly as well as negatively related with the total debt. Firm age had insignificant and negative relationship with total debt.

The result supports the pecking order theory and trade off theory as firms will rely less in external financing as they mature and accumulate earnings. Also it supports firms with more collateral will be able to secure debt financing at more favorable terms, making it more attractive. Pecking order theory explains the initial preference for internal funds and sequential progression towards external financing. As firms grow older, their financial profiles improve and benefits of debt financing outweighs the associated costs, leading to a lower reliance on total debt. The result supports Arilyn (2019) as asset tangibility showed a significant relationship. Hossain, Akib, and Rahman (2020) supports result as it indicated a negative and significant relationship.

## 5. CONCLUSION AND RECOMMENDATION

The study objective was to examine the effect of firm age and asset tangibility on total debt. The study found that firm age has insignificant effect on total debt. Results further showed a negative and significant relationship between asset tangibility and total debt. This shows that as firm matures, they should have accumulate retained earnings, reducing reliance on total debt to avoid negative effect. Also, firms that possess more diversified operations and stronger financial profiles likely to secure debt financing at favorable terms.

Firms should leverage on accumulated earnings and strong financial profiles to reduce reliance on total debt, optimizing their capital structure and reducing financial risk. Due to the negative effect, firms especially new to the market should explore alternative options such as venture capital, equity financing carefully considering all possibilities. Firms should strategically utilize asset tangibility to secure debt financing at favorable terms, balancing the benefits and costs of cost against other financial sources. Further studies should be carried out on East African securities exchange firms. Studies can also be carried out on banks, insurance firms and microfinance institutions.

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