

# Strategising Financial Structure/Architecture on Firm Performance in Nigeria

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**Abstract**— Our study is anchored on strategising financial architecture on firm financial performance in Nigeria using listed service industries from Nigeria. We strategised the independent variable with: short term debts STD; long term debts LTD and Equity EQT; while dependent variable apply return on investment ROI. The annual reports of sampled (9) service firms from 2012 to 2020 were extracted and analyzed using descriptive statistics, Pearson correlation and Ordinary least square regression (OLS). Results show R-squared value as (48.5%): indicating that the independent variables explained about 48.5% of the systematic variation in the pooled firms; while 51.5% is explained by other factors, the unspecified variables captured by the error term. In the same vein, the R-squared adjusted value is (46%) of the predictive power in the dependent variable; was jointly explained by the independent variables of the study: STD, LTD and EQT. Other analyses evidences show that strategizing STD and LTD are both negative and significant on ROI; while EQT is positive and significant on return on investment ROI of the pooled firms in Nigeria. Matching our findings with financial structure theories: EQT being positive and significant agrees with Miller & Modigliani, (1954; 1963) and Signaling, (1977) theories who earlier supported positive relationship; while STD and LTD being negative and significant, agrees with Agency (1976); Trade-off and Pecking order (1984), whose earlier theories supported negative relationship with ROI. From our findings, we recommend that firms should reduce STD, LTD and keep increasing equity to enhance ROI. The study contributes with the rich empirical literature, the modernized model applied in the study.

**Keywords**— Strategizing, Financial Structure, Short term debts, Long term debts, Equity.

## I. BACKGROUND TO THE STUDY

### Introduction

Strategizing financial/capital structure on firm performances has been a bone of contention over the past decades, not only in Nigeria but elsewhere. Why? Every corporate focus regardless of its kind: sole proprietorship, partnership, multinational firms and what business ideas; have been on profit concern and profit maximization. To arrive at this desired goal, firms take a lot of time to strategize in their financial structure; brainstorming on how to source every available capital including intellectual capital. Because of this, firm managers strive not to be found wanting in proper financial mix to assist firms to grow and cope with the global business challenges. Firms without proper strategies of financial mix will end having trouble with daily business operating and meeting up debt liabilities during periods of adverse economic conditions. Improper strategic financial structure will cripple any firm's financial performance, and this can be identified as an immediate factor for financial crises and business failures. Nwangi, (2014) stated that most firm managers sometimes lack adequate knowledge on the dynamics of strategizing financial structure as it relates to firm's return on investment. Financial structure is on how firm strategizes capital structure such as debt and equity (combines both a certain percentage of debt and equity in the structure), (Ezeoha, 2011); which make up the total assets of the firm, (San & Heng, 2011), by using different accessible sources of funds to profit the organization. Care has to be taken on firm financial strategies. So, strategizing capital structure and ownership has serious implication on the profitability capacities of business owners, (Pandey, 2010).

In other words, proper strategy of financial structure has a critical function in any firm financial performance; specifically return on asset, return on investment and return on equity etc. Firm's return on investment serves as one of the benchmarks to measure the success or failure of any firm and the major aim of business which is profit maximization. Firm performance can be measured in terms of productivity, profitability, market share and social responsibility etc, (Omondi & Muturi, 2013). Some prior researchers on financial structure mix has been focused on ownership structure such as state, government and foreign ownership structure and evidences have shown that they impact on firm performance as in (Ugwu, 2020; Xu & Wang, 1999; Tian & Estrin, 2008; Jiang, Laurenceson, & Tang, 2008; Liao & Young, 2012). Empirical evidences of some of these prior works found mixed results. For instances: there was a positive effect as found by (Ugwu, 2020; Jiang, Laurenceson, & Tang, 2008; Liao & Young, 2012; Xu & Wang, 1999; Saad, 2010), but, inverse result on firm performance was found by (Sun, Tong, & Tong, 2002); while a negative impact were found by (Chen, Chen, Lin, & Zhong, 2005; Lin, Ma, & Su, 2009; Qi, Wu, & Zhang, 2000; Wei, 2007) and U- shape result by (Gunasekarage, Hess, & Hu, 2007; Hess, Gunasekarage, & Hovey, 2010; Ng, Yuce, & Chen, 2009; Tian & Estrin, 2008; Wei, Xie, & Zhang, 2005).

On the other hand, other empirical studies not centred on ownership structures but on strategizing the financial structure on firm performance in terms of leverage as in the focus of this study have found varying results as well that show that this subject matter still need to be researched. Evidences of these works, not only in Nigeria but also elsewhere show that there is still more needs to properly strategize financial structure on

firm performance: (Prahalthan & Ranjani, 2011; Nirajini & Priya, 2013; Logavathani & Lingesiya, 2018; Khan, 2012), Iran & Nikoo, 2015; Taani, 2013; Ramadan & Ramadan, 2015; Yogen, Cheruiyot, Sang, & Cheruiyot, 2014; Renoh & Ntoiti, 2015); Siddik, Kabiraj & Joghee, 2017; Mahfuzah & Raj, 2012). Even in Nigeria, today, some firms are still battling with poor performance due to improper strategic financial structure mix. These have earlier mounted financial stress on some firms and have resulted to involuntary liquidation (Okolie, 1995; Olaitan, 2006; Oboh, 2009). However, another research on this like Osazee and Aigbedo, (2019) found significant and negative effect on firm performance. There are other empirical results that show many managers in Nigeria do not know how to strategize firm structure to ensure firm performance and promote firm longevity (Salawu & Ile-Ife, 2007; Osotimehin, Jegede, Akinlabi, & Olajide, 2012). This study aims to show how firms can strategize their financial structure to enhance firm financial performance which basically will be measured by Return on Investment, ROI and the findings, recommendations and contributions to knowledge will be shown as well.

### *Objectives of the Study*

The focus of this study is on strategizing financial structure on firm performance, Return on Investment ROI of selected firms in Nigeria. Specific objectives are to strategize short term debt; long term debt and equity on the performance of listed firms in Nigeria.

### *Research Issues*

Can strategizing short term debt; long term debt and equity impact on performance of listed firms in Nigeria?

### *Posited Hypotheses*

H<sub>1</sub>: Strategizing Short term debt is not significant on firm performance of listed firms in Nigeria.

H<sub>2</sub>: Strategizing Long term debt is not significant on firm performance of listed firms in Nigeria.

H<sub>3</sub>: Strategizing equity is not significant on firm performance of listed firms in Nigeria.

## II. REVIEW OF RELATED LITERATURE

### *Concept of Strategizing Financial structure on Performance*

The word strategy is a plan of action intended to accomplish a specific goal or objective. It is the general or specific approach to investing that firms do employ to increase the return of investments. Thus, it is the use of advance planning to boost investment. This is a specific approach to employ firms financial structure in combination of various available sources of funds both internal and external employed by firms' financial managers, (Amara & Aziz, 2014). Firms with different intentions strategize their financial sources structure from different stakeholders in the society; capital structure is usually found in the statement of financial position (Modugu, 2013). Some firms have dependent on government ownership, thereby deriving most their financial sources from this type of structure with a specific intention. They have argued that state ownership brings a helping hand, and by this they assume that the higher involvement of state ownership of firm financial structure will

attract more capital subsidy provided by the government. Conversely, other opinions hold that state ownership is supposed to bring a grabbing hand, which assumes that the government will extract more of the firm's profit as a result of its ownership to the benefit of politicians and bureaucrats (Tian & Estrin, 2008). However, the major financial structure of a firm should not be relied on one major source as that of the government ownership which might be politicise as the case maybe. Huang and Xiao (2012) stated a net negative effect of government ownership and propose that less state ownership will result in an improvement in firm profitability and productivity Shleifer and Vishny (1994) argue that politicians, using the power of control to pursue political objectives, may damage firm performance with heavy regulation. Huang and Vu Thi, (2003) indicated that a firm has the opportunity to strategize the funding in three different ways: by the use of internal equity (retained earnings); external equity (issuing new shares) or debt capital (borrowing money through debt instruments). It is the duties of the financial managers of the firm to strategize the above-mentioned mix of funding operations collectively in the best proportions to cope with global financial challenges and achieve the firms' best return on investment. Brigham and Daves (2004) said that absolutely nothing is more important to a new business than raising capital. The way that money is raised can, however, have an enormous impact on the success of the business. This argument may be applicable to all businesses and not only to new businesses. How a firm chooses the combination of debt and equity in their capital structure depends on factors such as the age of the firm and size of the firm among other factors.

### *Strategizing Short Term Debt on Firm Performance*

In literature, Olaniyi, Elulu and Abdusalam (2015) defined short-term debt as an account shown in the current liabilities portion of a firm's statement of financial position and it comprises of any debt incurred by a firm that is due within a year period. Thus short term debt is part of a debt of a firm. In financial statement of a firm, debt is part of a firm's liabilities account which always comprises short term bank loans among other types. Firm's Short-term debts always finance the current assets which quickly turned back into cash etc; such as accounts receivable and inventories. Short term debt is always indicated mathematical as Short Term Debts measured by Total Assets. Thus, if short term debts are not properly strategized, this may push any firm into serious risk. Kwenda and Holden (2014) indicated that short-term debt serves as an important financing option especially in times of financial crises as a source of emergency funding. Short-term debt increases refinancing risks, even though prior studies have shown that it is known to reduce the cost of debt associated with long-term debt, (Chen, Ganum, Liu, Martinez & Peria, 2019). But the effect of short-term debt on financial performance still needs attention from prior researchers (Plesko, 2000). Some of these studies have observed that Short-term debt has a significant and negative impact on financial performance measured by return on assets (Nwude, Itiri, Agbadua & Udeh, 2016; Aziz & Abbas, 2019); while Baum, Schäfer & Talavera (2006) and Eton, Mwosi, Mutesigensi & Ebong, (2017) reported a positive relationship

between short-term debt and financial performance. Ebaid (2009) also showed that, short-term debt, long-term debt and total debt were found to have no significant impact on financial performance measured by Return on Equity and Gross Profit Margin

#### *Concept of Strategizing Long Term Debt on Firm Performance*

Apart from short term debt current liabilities there are non-current liabilities in the form of long-term debt, or debts that are applied to finance long-term assets, such as land and the construction of a building or ship (Julius & Lucky, 2020). Long term debt is defined as money that is owed to lenders for more than one year from the date of the current balance sheet. Long-term debts show the percentage of assets financed with debt which is payable after more than one year. According to Ubesie (2016), long term debt financing is a debt financing that matures in more than one year. This includes bonds and long-term loans. These bonds and loans typically have higher interest rates since lenders expect a bigger return in exchange for taking on the higher risk of making long-term loans. It arises when an organization raises money for working capital or capital disbursements by selling corporate bonds, trade bills or notes to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and expect the principal and interest on the debt will be repaid.

Business managers have viewed long term debts as the most preferred strategized sources of debt financing among well-established corporate firms as mostly measured by asset base, (Foyeke, Olusola & Aderemi, 2016). Pelham (2000) observed that long term debt provides firms with more competitive advantages when compared with other financial structures. The author found that long term debt was positively related to the growth/share/sales effectiveness and gross profit in small and medium-size manufacturing firms. At the same issue, Maniagi, Mwalati, Ondiek, Musiega, and Ruto (2013) observed that long term debt has a weak positive and insignificant relationship with ROE. Also, Ebaid (2009) found that there was no significant relationship between long term debt and financial performance measured by the return on assets; while Huang and Song (2006) found that long-term debt affect on ROA.

#### *Concept of Strategizing Equity on Firm Performance*

The concept of equity shows that equity capital is that part of capital which is free of debt and represents ownership interest in a firm (Moyer, McGiugan, & Kretlow, 1999). As a result, it is the sum that the owners have contributed, which typically consists of ordinary share capital, preferred capital, retained earnings, and reserves. Like debt providers, equity providers also earn returns in form of dividends from the profits generated by the firm (Titman, Keown, & Martin, 2011). Preference shareholders receive their dividends at an agreed rate before the ordinary shareholders and any un-appropriated profit is retained for firm's expansion, (Titman et al., 2011). Sibilkov (2009) observes that equity provides firms the opportunity to acquire funds without borrowing. Conversely, the money acquired in the form of equity will not be paid back to perpetuity as long as the firm exist as they belong to the owners of the firm. This is always known as share. Investors who acquired ownership rights (shares) in a firm hope to recoup their investment from

future earnings. Share owners of company take part in sharing the profits of the company in the form of dividends or future capital gains. In case of a company being wound up, the shareholders will only lose the amount they invested in the company, (Sibilkov, 2009). Equity consisted of; internal equity (retained earnings) and external equity (shares).

Equity is the discrepancy between an item's cost of obligations and the value of its assets or interest. The equity of a firm as distributed among individual shareholders of common or preferred stock is known in accounting as shareholders equity (also known as stockholders equity, shareholders funds, shareholders capital, or other similar words) (Kurfi, 2003). After all liabilities have been subtracted, equity is the remaining interest in the assets of the organisation. Equity is what the owners of an entity have invested in an enterprise and thus represents what the business owes to its owners. In addition, equity is a measure of the money still in the company after all liabilities have been settled with the help of its assets. In the case that the company is liquidated, the owners receive this (Erasmus, 2008). Total assets minus total liabilities is used to compute it.

### III. THEORETICAL FRAMEWORK

#### *Capital Structure Theories*

According to one idea, when using tax-deductible expenses, the presence of interest encourages lower tax payments, which enhances the firm's overall cash flows (Miller and Modigliani, 1954; 1963). They found that the company value is now positively correlated with financial leverage, suggesting that businesses might fully maximize their worth by taking on more debt.

Agency theory by Jensen and Meckling (1976), attempted to provide explanation to firm behaviors in area of choice financing and the relationship between equity holders and debt holders. Thus; while equity holders are interested in the return over and above the amount which is required to repay debt. Debt holders are only interested in debt payment specified in the contract.

Pecking Order Theory has been viewed as an alternative to the trade-off paradigm, which asserts a conflict between a firm's financial decision-making and performance. The pecking order (Myers, 1984) suggested two rules: (1) use internal funding and (2) issue safer securities first. In other words, internally generated funds, debt, and equity will be given primacy among financial instruments. The issues with knowledge asymmetry are typically what motivates this setup.

Signaling Theory Ross (1977) says that the choice of debt-to-equity ratio is independent of the optimum concept and rather represented by the willingness of a firm in sending certain messages to the investors. Profitable firms sometimes attempt to push up the stock price by excessively increasing debt over its optimal level and mislead buys on inflated growth opportunity in the future. The Signalling theory shows that there a positive relationship between leverage and firm performance.

From the prior literatures among the five theories: these two theories, Miller and Modigliani, (1954; 1963) and Signaling, (1977) support the positive relationship between leverage and

firm performance; while three theories: Agency (1976); Trade-off and Pecking order (1984), support the negative relationship of leverage and firm performance.

#### Empirical Review

Ramadan and Ramadan (2015) observed the effect of capital structure on the performance of 72 companies listed on the Amman Stock Exchange, 2005 and 2013. The authors used ROA as a measure of profitability and the ratios of long-term debt to total assets and total debt to total assets as indicators of capital structure. Applying OLS regression, they found that debt ratios are negatively related to performance. Well-performing firms are less dependent on credit. When businesses favour equity, this outcome is consistent with the Pecking-order idea.

Claessen, Djankov, and Lang (2000) investigated the separation of ownership and control in 2980 public companies in nine East Asian countries. They found that corporate control is typically enhanced pyramids structure and cross holding companies in all East Asian countries except Singapore where about half of the sample companies are controlled by state.

Mugisha, Omagwa and Kilika, (2020) determined Short-term debt and financial performance of small and medium scale enterprises in Buganda Region, Uganda using the sampled of 453 SME. Primary data was collected using survey questionnaire and analysed using descriptive statistics and simple linear regression analysis. They found that short-term debt had a negative and significant effect on financial performance of SMEs as measured by return on assets.

Binh and Tram (2020) investigated meta-analysis on capital structure and firm performance

using Hedges et al. (1985,1988), descriptive and quantitative analysis to confirm that corporate performance is negatively related to capital decisions, which inclines toward trade-off model with agency costs and pecking order theory.

Aziz and Abbas (2019) investigated Pakistani business performance and debt finance. The authors sought to investigate the connection between various funding sources and the performance of businesses in the non-financial sector. Short-term debt has a negative and significant impact on the success of the company as assessed by ROA, according to secondary data from 14 listed companies.

Jones and Edwin (2019) studied debt finance and corporate performance and determined the effect of debt measured by short-term debt, long-term debt and total debt on firm performance. Using data from 15 firms, the panel regression results indicated that short-term debt, long-term debt and total debt had a positive impact on performance in Nigerian consumer based corporations.

Narang (2018) studied the impact of capital structure on firm performance in India. The author examined the influence of capital structure represented by short-term debt, long-term debt and total debt on the profitability of publicly traded firms in India. Using five years data from twenty firms, the regression results indicated a positive relationship between short-term debt and firm performance as measured by ROA.

Shikumo, Oluoch and Wepukhulu, (2020) assessed the effect of short-term debt on financial growth of non-financial firms listed at Nairobi Securities Exchange, 2008 to 2017. They

used Agency Theory and Theory of Growth of the Firm on 45 non-financial firms. They analyzed the study with both descriptive statistics analysis and panel data. They found that long term debt positively and significantly influences financial growth measured using both growth in earnings per share and growth in market capitalization.

Mamaro and Legotlo, (2020) investigates the impact of debt financing on financial performance of retail firms listed on the Johannesburg Stock Exchange 2010–2019. They applied fixed effects using the financial performance ratios, ROE is used on dependent (profitability), and lagged ROE, long term debt LTD to total asset, total debt to total asset are used as independent; with size, sales growth as control. The lagged return on equity, total debt to total asset and growth in sales strongly influence performance ROE is statistically significant, whereas LTD to total asset and firm size is negatively and statistically significant.

Mohammad, Umme, Shahnaz and Ayrin, 2020 empirically investigate the impact of capital structure choice on the firm performance of the firms listed under the Dhaka Stock Exchange of Bangladesh. They used multiple regressions on three ratios of financial performance, return on assets ROA and return on equity ROE, and gross margin, 2010-2015. The result shows significant and negative of (LTD) and total debt (TTD) on (ROA), but no significant on short-term debt (STD) and ROA; while no significant of STDs, LTD and TTD on ROE.

The relationship between ownership structure and corporate performance in Spanish enterprises was investigated by Orden and Garmendia in 2005. Analysis of the ownership structure has been done in terms of the type of investor exercising control and the concentration of control. Performances, utilised as a proxy for return on equity and ROA (ROE). They discovered that businesses under government control perform worse than those with other ownership forms and have negative effects.

Wei, Xie and Zhang (2005) examines the performance of domestic Chinese companies in various ownership categories versus foreign-invested enterprises based on two nation-wide surveys conducted by the National Bureau of Statistics in 1998 and 2002. They found that both domestic non-state-owned companies and foreign-invested enterprises performed better than state-owned enterprises.

Osazee and Aigbedo (2019), examined the impact of capital structure on the performance of multinational firms in Nigeria, 2008-2017 The collected data was analyzed, using descriptive statistic, ADF statistic, Levin, Lin and Chut statistics, correlation analysis and panel regression techniques. They found that capital structure is significant and negative thereby confirming pecking order theory is valid. Other findings show that board size, firm age, firm size, and board independence were positive but not significant except for firm size.

Mwangi, Kilika and Maingi, (2019) investigate the effect of financial structure on performance of selected companies listed at (NSE), Kenya. Data was collected from 30 firms 2007-2015. The study tests applied Auto-correlation test, Normality test, Heteroscedasticity test, Unit root test and Regression. The study found that Equity had significant positive effect on financial performance of selected companies listed at NSE, Kenya.

Mursalim and Kusuma (2018) studied the determinants of capital structure of Malaysia, Thailand and Indonesia. The variables used gross domestic product (GDP rate), corporate governance, growth opportunity, volatility, profitability, firm size, inflation rate using the two stage least square regressions. They found that company's profit, size of the firm and volatility has consistent and significant roles in trying to explain the changes that occur in capital structure composition.

Again, Meero (2017) investigated the nexus between capital structure and firm performance in Gulf economies. The study differentiated between the Islamic banks and the conventional banks with respect to their capital structure and their performances. The results were that return on asset is significant and negatively related to financial leverage and positively correlated with the ratio of equity to asset.

Nassir (2016) investigated how Turkey's industrial enterprises' capital structures affected their performance. For the analysis, annual statements of 136 companies in the industrial sector listed on the Istanbul Stock Exchange (ISE) were used, covering the years 2005 through 2012. To evaluate the causal relationship between capital structure and firm performance, a multivariate regression analysis was used. The outcome revealed that the nexus between capital structure and firm performance is negative and statistically significant.

Nenu, Vintila and Gherghina (2017) evaluated the factors that influence the capital structure of firms quoted in the Romanian stock market within the period of 2000-2016. They applied fixed-effects regression analysis that is multivariate and the dynamic systems GMM (Generalized Method of Moments) on a panel data on quoted firms on the Bucharest Stock Exchange. The study revealed that leverage has positive correlation with the company's size and the volatility of share prices. Again, the structure of the debt has an impact that is different on the performance of corporate firms.

More-so, Akeem, Terer, Kiyanjui and Kayode (2019) applied the technique of regression to ascertain capital structure effect on firm performance within the pecking order framework. They results indicated that the relationship between firm performance and the debt-to-equity ratio is negative.

Then, Schulz (2017) applied the panel data of small and medium-scale firms in Netherland to evaluate the effect that capital structure has on performances from 2008-2015. The study utilized the panel regression method, and the results indicted a negative and significant relationship between capital structure and return on asset and thereby strongly supporting the theory of pecking order.

Hariem and Turgut, (2021) empirically examine the relationship between firm performance and capital structure with sample consists of the non-financial firms listed in Germany during the period 1993–2016. The results found a positive relationship between firm performance and capital structure. They also found that IFRS adoption has led to increased firm performance of the sample, whereas it weakened the relationship between capital structure and firm performance.

Hussain, Stefania and Mohsni (2020) examined whether corporate governance has a mediating or moderating effect on capital structure and firm performance using a sample of 224

Italian non-financial listed firms, 2013-2017. The analysis used OLS and GMM estimations test. Based on agency theory, pecking order theory, and trade-off theory, they found that capital structure has a negative and significant impact on firm performance; while a significant association exists between corporate governance mechanisms and firm performance and specifically, board size is negative, while board independence and managerial ownership is positive. Finally, corporate governance mechanisms do not mediate, but instead moderate the association between capital structure and firm performance.

Rafiuddin Ahmed and Rafiqul Bhuyan, (2020) examines the relationship between capital structure and firm performance of service sector firms from Australian stock market. They used cross-sectional panel data (2009–2019) and directional causalities of all performance measures to identify the cause of firm performance. They found that long-term debt dominates debt choices of Australian service sector companies.

Masavi, Kiweu and Kinyili (2017) determined the influence of capital structure on financial performance of agricultural companies listed in NSE using secondary from 2010-2014. Correlation and Multivariate Regression analysis was used and the result showed that an increase in debt increase financial performance, and debt-equity combinations increase will lead to a significant reduction in after tax profits of the firm and performance.

Igwe, Ogar and Ogbuu (2017) studied the effect of capital structure on the profitability of agro-allied companies quoted in Nigeria, 2005 - 2015. Data obtained was analyzed with OLS regressions and findings show that capital structure serves as the main determinant of the profitability of agro-allied companies

Otekunrin, Nwanji and Obasaju (2018) investigated the relationship between the capital structure of firms and profitability of 18 selected agriculture and agro-allied firms in Nigerian from 2007 through 2012. According to the empirical findings, shareholder equity and profitability are positively and strongly correlated, but long-term debt and profitability are negatively and significantly correlated.

Sebastain and Onuegbu (2018) examined the impact of capital structure on corporate performance of consumer goods firms in Nigeria. The results indicate a negative and insignificant impact on capital structure; while long-term debt ratio to total asset is negative and insignificant on returns on assets, while total debt ratio to equity also had a negative and insignificant impact on returns on assets.

Aransiola and Aransiola (2015) examined the effect of capital structure on the performance of quoted manufacturing firms in Nigeria. Secondary data was collected and analyzed with Descriptive and Correlation analysis and the result revealed a negative relationship between capital structure and profitability.

#### IV. RESEARCH METHODS

##### *Research Design, Population and Sample Size*

The researcher design is ex-post facto based on past data extracted from financial statements of the firms under consideration.

The area of this study is Nigeria.

The population of this study consists of all Sectors listed in Nigerian Stock Exchange.

But the focus was Service sectors as not much work has been done on them in Nigeria. Further purposive sampling techniques reduced the sample size to nine (9) Communication firms that has the required detailed annual reports and accounts from 2012 to 2020.

*Model Definitions, Specifications and Measurements*

We strategize financial structure according to the studies of the following authors: Otegunrin, Nwanji and Obasaju (2018); Rafiuddin Ahmed and Rafiqul Bhuyan, (2020); Mohammad, Umme, Shahnaz and Ayrin, 2020.

The dependent variable, firm performance is proxy by Returns on Investment (ROI) as in Mamaro and Legotlo, (2020); the independent variable capital structure is proxy by (Short Term Debt STD as specified and as measured in: (Nwude, Itiri, Agbadua & Udeh, 2016; Aziz & Abbas, 2019; Schäfer & Talavera, 2006; Eton, Mwosi, Mutesigensi & Ebong, 2017 and Ebaid, 2009) and calculated as Short Term Debts measured by Total Assets = Short term debt to capital in percentage which is computed as current liabilities divided by Total liabilities + Equity;

While Long Term Debt, LTD is specified and as measured in: (Foyeke, Olusola & Aderemi, 2016; Pelham, 2000; Maniagi, Mwalati, Ondiek, Musiega, & Ruto; 2013; Ebaid, 2009) Huang and Song, 2006) and is calculated as Long term debt to capital in percentage which is computed as non-current liabilities divided by Total liabilities + Equity; where EQT is specified and as measured in: Mamaro and Legotlo, (2020); Mohammad, Umme, Shahnaz and Ayrin, 2020; Orden and Garmendia (2005) and as calculated by total assets minus total liabilities.

We specify our model function with this model:

$$ROI_{it} = \beta_0_{it} + \beta_1STD_{it} + \beta_2LTD_{it} + \beta_3EQT_{it} + v_{it} \dots\dots\dots (1)$$

Given the above evaluation, we have the mathematical equation is expressed as below:

Where: ROI= Return on Investment; STD = Short Term Debt; LTD = Long Term Debt

EQT = Equity.

ROI = Return on Investment, i in period it;  $\beta_0$  = Constant term (intercept) of the study model;  $\beta_1$ -  $\beta_3$  = Coefficients of return on investment of the firms;  $\mu_{it}$  = Component of unobserved error term of the firms, i in period t;  $STD_{it}$  = Short term debt i in period t;  $LTD_{it}$  = Long Term Debt, i in period t;  $EQT_{it}$  = Equity i in period t, while t = 5years period.

*Method of Data Analyses*

The analyses of this study employed: Descriptive statistics; Pearson Correlation and Ordinary least square regression (OLS). *A Priori Expectation*

Our a priori expectation is that within the 9 year period comprising 81 observations; that the possible effects of strategizing financial structure on ROI of the selected firms; that the findings will be positive or negative and will eventually agree with the Financial Structures theories applied in this study. Thus, strategizing financial structure will be significant or insignificant on profitability of firms.

*Data Analysis Presentation and Interpretation*

We posited the possible effects of financial structure on the performance of selected firms in Nigeria measured with returns on investment (ROI). Prior to the test of hypotheses, the study carried out preliminary analysis with descriptive statistics and Pearson correlation.

*Descriptive Statistics*

TABLE 1. Descriptive Statistics

	ROI	STD	LTD	EQT
Mean	0.217325	0.453012	46.00570	0.952201
Median	0.111080	0.333550	0.180750	0.648250
Maximum	2.137800	1.638820	164.0000	4.716900
Minimum	0.004200	0.079800	0.016600	0.003680
Std. Dev.	0.421104	0.308755	274.2849	1.179067
Skewness	3.759329	1.956694	5.747039	2.015498
Kurtosis	16.22466	7.519156	34.02850	6.095484
Jarque-Bera	347.1327	53.60607	1642.322	38.74641
Probability	0.000000*	0.000000*	0.000000*	0.000000*
Sum	7.823690	16.30842	1656.205	34.27924
Sum Sq. Dev.	6.206504	3.336539	2633127.	48.65698
Observations	90	90	90	90

Source: Researchers Computation, (2021)

Note 1: ROI = return on investment, STD = short term debt, LTD= long term debt, EQT= equity

Note2: \*1% level of significance, \*\*5% level of significance, \*\*\*10% level of significance.

The dependent variable returns on investment (ROI) has a mean value of 0.2173; STD has 0.4530; LTD has 46.00 and EQT is 0.952. The maximum value of ROI is 2.1378 while the minimum value was 0.0042 have positive ROI. All the explanatory variables have positive mean, median and standard deviations.

The Skewness value for ROI shows a positive Skewness distribution with a long right tailed that is skewed to the right; while all the independent variables have positive and normal Skewness and this implies a symmetric distribution.

The Kurtosis Measures value for ROI, STD, LTD and EQT are (Kurtosis > 3) which is said to be Leptokurtic and these have positive values and by standard shows they are fat tailed.

The Jarque–Bera test for normality or existence of outliers or extreme value among the variables shows that return on investment (ROI), Short Term Debt (STD), Long Term Debt (LTD) and Equity (EQT) are normally distributed and has no variables with outlier to distort the conclusion and thus reliable for drawing generalization. We thus justify the use of ordinary least square estimation techniques.

*Pearson Correlation*

TABLE 2. Pearson Correlation

	ROI	STD	LTD	EQT
ROI	1.00000			
STD	-0.20067	1.00000		
LTD	-0.04195	-0.06012	1.00000	
EQT	0.36216	0.04864	-0.12380	1.00000

Note 1: ROI = return on investment, STD = short term debt, LTD= long term debt, EQT= equity

Source: Authors Computation, (2022)

There is a positive and but not so strong correlation between the independent variable ROI and equity with a value of 0.3621 and a negative correlation among the other two dependent variables STD and LTD. The table did not find any Multicollinearity among the dependent variable and with any of

the explanatory variables to establish any case of an outlier. Thus, this model is justified to be applied for our result conclusion.

TABLE 3. Regression Table

Dependent Variable: ROI				
Method: Least Squares				
Date: 02/02/22				
Sample: 9 years				
Included observations: 81				
Variable	Coeff.	Std. Error	t-Statistic	Prob.
C	0.23651	0.13422	1.76210	0.0889
STD	-0.30645	0.22228	-1.37866	0.0786
LTD	-1.87305	0.00052	-1.07237	0.0426
EQT	0.13136	0.05892	2.2594	0.0317
R-squared	0.48486	Mean dependent var	0.21725	
Adjusted R-Sqcd	0.45819	S.D. dependent var	0.42104	
S.E. of regression	0.40446	Akaike info criterion	1.15465	
Sum squrd resid	5.06355	Schwarz criterion	1.37498	
Log likelihood	-15.7797	Hannan-Quinn criter.	1.23028	
F-statistic	12.7471	Durbin-Watson stat	1.86081	
Prob(F-statistic)	0.00415			

Note: \*1% level of significance, \*\*5% level of significance, \*\*\*10% level of significance.

Note 1: ROI = return on investment, STD = short term debt, LTD= long term debt, EQT= equity

Source: Researchers Computation, (2022)

The model shows the F-statistics value as 12.74 with a corresponding P-value of 0.00415 indicating that the regression models is generally significant and well specified. The R-squared value is 0.4848 (48.5%) indicates that the independent variables explained about 48.5% of the systematic variation in the pooled firms; while 51.5% is explained by the outside factors, the unspecified variables captured by the error term, thus, show the exogenous is explained. In the same vein, the R-squared adjusted value is 0.45819 (46%) of the predictive power in the dependent variable jointly explained by the independent variables STD, LTD and EQT. The unexplained part of the dependent variable can be attributed to exclusion of very important independent variables that can explain the dependent variable but are outside the scope of this study.

The Durbin Watson statistic of 1.860 indicates that the model is well spread since the value is approximately 2 and shows absence of self or auto correlation problem and that error term are independent of each other.

#### Testing the Posited Hypotheses and Discussions of the Findings

*H<sub>1</sub>: Strategizing Short Term Debt is Not Significant on Firm Performance of Listed Firms in Nigeria.*

The model indicates that Short term loan STD has a negative value of -0.30645 and a probability of 0.0786. By applying 10% significance level in our decision, we reject the null hypothesis and accept the alternate that strategizing STD has a negative and significant impact on ROI. This shows that any decrease in the STD result to a corresponding increase in the ROI of the pooled firms in Nigeria.

*H<sub>2</sub>: Strategizing Long Term Debt is Not Significant on Firm Performance of Listed Firms in Nigeria.*

The model indicates that Long term loan LTD has a negative value of -1.87305 and a probability of 0.0426. By applying 10% significance level in our decision rule, we reject the null hypothesis and accept the alternate that strategizing LTD has a negative and significant impact on ROI. This shows that any decrease in the LTD result to a corresponding increase in the ROI of the pooled firms in Nigeria.

*H<sub>3</sub>: Strategizing Equity is Not Significant on Firm Performance of Listed Firms in Nigeria.*

The model indicates that Equity EQT has a positive value of 0.13136 and a probability of 0.0317. By applying 5% significance level in our decision rule, we reject the null hypothesis and accept the alternate that strategizing Equity EQT has a positive and significant impact on ROI. This shows that any increase in the Equity EQT result to a corresponding increase in the ROI of the pooled firms in Nigeria.

#### V. DISCUSSIONS OF THE FINDINGS

Strategizing Short term debt STD has a negative and significant impact on return on investment ROI of the polled firms in Nigeria. This our finding agree with the findings of (Nwude et al., 2016; Aziz & Abbas, 2019; Mugisha et al., 2020) and disagree with the findings of (Baum et al., 2006; Eton et al., 2017; Jonas & Edwin, 2019; Narang, 2018) who found positive impact; while (Ebaid, 2009), found a negative significant in disagreement to our finding.

Strategizing long term debt LTD has a negative and significant impact on return on investment ROI of the pooled firms in Nigeria. This finding agrees with the findings of the following authors: (Mamaro & Legotlo, 2020; Otekunrin et al., 2018; Mohammed et al., 2020; Meero, 2017); and (Maniagi et al., 2013) found weak positive and insignificant effect; while (Huang & Song, 2006; Jonas & Edwin, 2019; Refiuddin et al., 2020; Shikuroo et al., 2020; Massive, et al., 2017) found positive and significant effect in contradiction to our own findings.

Strategizing Equity EQT has a positive and significant impact on return on investment (ROI) of the pooled firms in Nigeria. This finding agrees with the findings of (Mamaro and Legotlo, 2020; Mwangi, et al., 2019; Meero, 2017 and Otekunrin et al., 2018), who also found equity financing to be positive in firm performance.

The overall model in our finding in strategizing capital structure is negative and significant in return on investment agrees with the findings of the following authors who also found it negative and significant on firm performance; (Osazee & Aigbedo, 2019; Nassir, 2016; Gabrijelcic et al., 2016; Akeem, et al., 2019; Hussien, et al., 2020).

In relating our findings with the a priori expectations and the existing theories; the findings that equity financing is positive and significant in firm performance in Nigeria agrees with the theories of Miller and Modigliani, (1954; 1963) and Signaling, (1977) who support the positive relationship between leverage and firm performance; while our two findings that Short term debts and Long term debts are negative and significant in performances of the selected firms in Nigeria agrees with Agency (1976); Trade-off and Pecking order (1984)

theories which support the negative relationship of leverage and firm performance.

## VI. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

### Summary of Findings

We summarize that the R-squared value is 0.4848 (48.5%) which indicates that the independent variables explained about 48.5% of the systematic variation in the pooled firms; while 51.5% is explained by outside factors, the unspecified variables captured by the error term. In the same vein, the R-squared adjusted value is 0.45819 (46%) of the predictive power in the dependent variable jointly explained by the independent variables STD, LTD and EQT. Again, strategizing Short term debts STD is negative and significant; Long term debt LTD is negative and significant and Equity EQT is positive and significant on return on investment ROI of the pooled firms in Nigeria.

### Conclusions

From our findings we can conclude that proper strategizing capital structure variable of short term debt, Long term debt and equity financing strongly impact firm performance. Thus firms can enhance their performance by possibly reducing the short term debt, long term debt and increasing the equity.

### Recommendations

We recommend based on our findings that firms should reduce short term debt and long term debts and keep increasing equity to increase return on investment.

### Contributions to Knowledge

The study contributes with the rich empirical literature, the modernized model applied in the study and the linking of the findings with the capital structure theories.

### Suggestions for Further Study

Further study should be carried out to include more financial structure variables to bridge the 51.5% of the systematic variations not captured by our study variables

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