# Financial Structure and Corporate Profitability of Firms in Nigeria: Does Firm Age Act as a Moderator?

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## ABSTRACT

The study determines the relationship between the financial structure and profitability of listed firms in the conglomerate sector in Nigeria, 2000-2020. It used secondary data sourced from the annual reports and accounts of the firms. The sample size comprised six conglomerate firms listed on the Nigerian Exchange Group as the sample size. Descriptive statistics and cross-sectional panel regression analysis were employed to analyze the data using E-view version 10.0 software. The results show that debt-equity financing has a significant relationship with return on equity, and the moderating variable, firm age, also has a significant relationship with return on equity. The study concludes that debt-equity financing and firm age have a positive and significant relationship with corporate profitability.

**Keywords:** Debt-Equity Financing, Returns on Equity, Firm's Age.

## INTRODUCTION

The financial structure is the financing mix that a firm uses in financing its business operations. It is very important in the survival of a company and the company's financial managers are responsible for the capital structure mix decision **(**Ohaka et al., 2020). Capital structure is the greatest key decision of company managers because of its effect on the risk and return of owners of the business (Pandey, 2010). Ohaka et al., (2020) assert that business financing sources are categorized into equity and debt. The equity financing sources are derived from equity shares floated on the floor of the exchange, friends and personal funds, etc., while the debt financing sources are derived mainly from borrowings from worthy investors through the capital market such as bonds, debentures, preference stock, etc. Yakubu and Gbenga (2019) see capital structure as how a company finances its general operations and growth by using different sources of finance. It is the mix of long-term debt, short-term debt, common equity and preferred equity.

Kenn-Ndubuisi and Nweke (2019) assert that the more debt financing a company uses in its capital structure, the more financial leverage it employs. Hence, leverage is one of the tools needed by a company to enhance its profitability. In the analysis of financial edifice, the company's percentage of short-term and long-term debt is needed. A company's debt-to-equity ratio provides an understanding on how risky its operations may be. Ordinarily, a company that is heavily financed by debt has a more aggressive financial edifice and poses a risk to investors. This risk may be the main source of the company's growth. It is assumed that a firm with a strong capital structure may have enhanced returns and value. Several firm managers believe that a better mixture of a firm's capital is the oil that greases its performance and growth. However, outside investment decisions, capital structure decisions have turned out to be one of the main financial decisions of business financing. This is because it has a long-term financial effect on its operations, precisely on return maximization and value of the firm **(**Ngwoke & Udeh, 2019).

Modigliani and Miller (1958) argue that firms can issue a large sum of debt or a large sum of equity. Therefore, deploy firm needs to deploy the right mix of debt and equity that can maximize its total market value. Ishaya and Abduljeleel (2014) posit that firms with a particular percentage of debts in their capital structure may allocate a quota of the profit after tax to servicing such debt. The capital structure decision of a company is a very serious issue and essential in the life of a business. This is not simply profiting maximization to the shareholders, but the positive influence such a decision has on sustainability and its ability

to fulfill external objectives. The capital structure theory is seen as a sinequanon to the administration of a company that desires to raise capital for financing its business. It addresses the means of financing that are available to a firm as well as the best mix of sources that can reduce the total cost of capital and maximize returns on acquisition.

## STATEMENT OF THE PROBLEM

A Financial structure is a structure put in place by corporate governance for companies' management to understand the needs of financing decisions for the survival of businesses, and financial managers determine the financial edifice that firms undertake. The type of financing decision management would undergo in sourcing funds for business operations is based on the firm's financial edifice. Several of financial managers' ideas is to source for short-term debts, while other managers have interest in medium-term debts or long-term debts because they believe it is more beneficial in running companies' operations. However, some financial managers believe that it is better to make use of both debt finance, equity finance and preferred stock financing as a financing mix for optimizing companies' profitability and to ensure that the providers of finance have the best of return on their finance employed. Other studies have proxy financial edifices by equity financing, debt financing, debt equity financing and preferred stock financing with profitability indices of returns on capital employed, returns on asset, returns on equity and earnings per share for the period of five to ten (5-10) years. However, this study concentration is on debt-equity financing for 20 years. This background forms the basis for this study to determine the link between the financial structure and the profitability of firms in Nigeria. The predictor variable is debt-equity financing, while the criterion variable is return on equity. The moderating variable is the firm's age.

### Objective of the Study

The broad objective of this study is to ascertain the relationship between financial structure and the profitability of listed firms in Nigeria.

The specific objectives are to:

(i) determine the relationship between debt-equity financing and return on equity of listed firms in Nigeria;
(ii) ascertain the relationship between the moderating effect of firm's age and the return on equity of listed firms in Nigeria.

### Hypotheses of the Study

The following hypotheses were formulated and tested in this work.

(i) There is no positive and significant relationship between debt-equity financing and the return on equity of listed firms in Nigeria;
(ii) There is no positive and significant the relationship between the moderating effects of a firm's age and the return on equity of listed firms in Nigeria.

## LITERATURE REVIEW

### Financial structure

The financial structure is the means a firm uses to finance its operations, which is use of equity and debt (Tsai et al, 2010). Firms use equity and debt method in financing their businesses and it can be a long-term financing (ordinary and preference shares, bonds, debentures, loans, loan stock, etc.) including short-term financings such as overdraft and other payables (Nirajini & Priya, 2013). The financial edifice is concerned with how a firm chooses to categorize its money tides, it is categorized into two major components, a fixed component that is reserved for meeting the obligations toward debt finance and the other component goes to equity shareholders (Chandra, 2011). For this reason, a firm's financial structure is termed as the finance mix of debt

and equity finance in financing its assets. The financial edifice is the mixture of different securities a firm uses in financing its profitable ventures (Lambe, 2014; Akinyomi & Olagunju, 2013; Salawu, 2009).

The similarity in the definition stated above is that the financial structure reveals every component of business finance from equity to debt that a firm uses in financing its operations and activities. The firms undergo the problem of choosing between equity and debt, especially in funding their long term investment opportunities. To finance a larger volume of a debt depends on the amount of interest on the debt, financial distress cost, income taxes, imperfections in the market, taxes that were refused to pay corporate income, etc. Long-term financing increases the desire of an entity if the reduction is in the interest rate. For instance, the increase in leverage will offer an upsurge the financial distress. The more increase in leverage of a business, the more it will result to the firm's stock unattractiveness to investors. This will be a consequence of the increase in financial distress. Corporations may find it challenging to satisfy a required service obligation, which can result in administrative expenses, legal expenses and bankruptcy (Ajibola et al., 2018).

Leverage shows the sensitivity of equity ownership in the increase and decline of the dominant value of an organization. Particularly, the leverage ratio can be an independent, dependent and moderating variable in financial structure research studies. The more a firm's leverage increases, the more the reduction of the management costs of outside equity, then also boosts the firm's worth by restraining or reassuring managers in accomplishing their goals in the interest of shareholders' demands (Berger & Di Patti, 2006). However, such inducement will be profitable to investors at debt-holders loss. If not properly used, the administration of leverage to increase profitability may lead to an increase in management difficulty and cost. The financial edifice is the different means of financing a firm and is the proportionate relationship between debt and equity it is a major aspect of decision-making, because it has effects on shareholder's return and risk as the market value of the share may be affected by the financial structure decisions (Pandey, 2010). Adesina et al., (2015) see financial edifice as the major decisions by finance managers.

**Debt-Equity Financing**

Debt equity is a financing mix, it is a component of financial edifice, it is acknowledged as the amount of the different long-term sources of financing. It's about choosing the sources of business funds appropriately in relative amount and percentage (Omaliko & Okpala, 2020). Financing mix is the mixture of the debt and equity structures of a corporation and is an approach a firm uses to finance its assets through equity, debt or hybrid securities i.e., the mixture of both debt and equity (Akeem, 2014). All business firms do not use a consistent financial structure because there are differences that exist in their financial decisions under the various terms and conditions in the financing mix. Uremadu and Efobi (2012) see it as a difficult state for firms to determine their financial mix in which risks and costs will be at a minimum and that can raise the worth of shareholders' wealth or maximize their profits. A good financial structure intends to maximize value, minimize cost, increase share price and offer investment openings.

Omaliko and Okpala (2020) assert that an entity's debt-equity financing is acknowledged as the mix of its financial liabilities. This is the concern from the strategic management perspective since it has relationship with a company's ability to fulfill-fulfill the demands of various stakeholders. Amordi (2015) asserts that the financing mix is the major aspect of a business operations. It is a decision that is key with huge implications for a firm's sustainability. Finance and investment are the two foremost decision areas in a firm. In the financing decision, managers are concerned about determining the best financing mix or financial structure for their firms. Damodaran (2011) explains that financial structure decision is the mix of debt and equity that a firm applies to finance its business. Alalade et al. (2015) looked at firms' financial edifice and profitability performance: a study of selected food Product companies in Nigeria determines the correlation between firms' financial edifice and strength in improving financial performance, regarding to profitability motivation. The work investigates the influence of gearing on return on asset, return on equity, and return on capital employed on selected food product companies. The work adopts the non-probabilistic sampling and purposive sampling techniques. The population consists of food product companies that are quoted on the Nigeria Exchange Group covering five (5) years, 2009-2013. The data gathered from the yearly reports of the designated firms. The finding reveals that gearing has no substantial influence on return on asset, return on equity, and return on

capital employed. Rather, gearing causes a negative -0.0411856-unit change in return on assets of the companies. Also, the coefficients of gearing reveal that one unit change in gearing causes a negative -0.0099022 effect on return on equity; whereas, the coefficients of gearing for return on capital employed indicates that one unit change in gearing causes a positive 0.0049688-unit change in return on capital employed of the designated firms. The work concludes that financial edifice has an undesirable influence on the return on assets, return on equity, but has an affirmative influence on the return on capital employed by the designated companies in Nigeria.

A study conducted on the impact of leverage financing on the financial performance of selected consumer goods companies on the Nigerian Exchange Group, ascertains the influence of leverage financing on financial performance and it employs a quantitative method of data collection, the population comprises twenty-four (24) listed consumer goods companies that are registered under the Nigerian Exchange Group with a sample of four (4) companies used for the work. The study employs regression analysis and descriptive statistics in analyzing the data. The finding reveals that financial leverage has a substantial influence on the financial performance of selected consumer goods companies in Nigeria (Orajaka, 2017). Asen et al (2021) studied the influence of capital structure on corporate performance in Nigeria. The paper ascertains the influence of capital structure measures on manufacturing company's performance in Nigeria. The population comprises one hundred and two (102) listed manufacturing companies on the Nigeria exchange group and employing the annual financial report of the companies from period 1999-2018 of fifteen (15) listed companies in all the seven (7) sectors of Oil and Gas, Agriculture, Consumer Goods, Basic Material, Information Communication and Telecoms, Health Care, and Industrial Goods using panel data with the aid of panel least squares model of random effect model (error components model) or the fixed effect model (least squares dummy variables approach (LSDV) in analyzing the data. The finding reveals that Return on Equity, Tobin's Q has a substantial influence on Short-Term Debt to Total Asset, Firm Size, Long-Term Debt to Total Asset and Total Debt to Total Asset, but Return on Asset has an undesirable influence on Long-Term Debt to Total Asset, Debt Equity Ratio and Total Debt to Total Asset.

A study carried out on the financial edifice and financial performance of chosen listed companies in Nigeria, evaluates the influence of capital structure on the financial performance of chosen listed companies in Nigeria. The paper employed multiple regressions in analyzing the dataset. The finding shows that short-term debt, long-term debt and debt-equity have affirmative substantial influence on the financial performance of the designated listed firms in Nigeria. The paper concluded that, short-term, long-term debt and debt-equity influence the financial performance of chosen listed companies in Nigeria (Abubakar & Olowe, 2019). A study carried out on the financial edifice and profitability of Nigerian listed companies: The agency cost theory perspective, examines the financial edifice and profitability of the Nigerian listed companies. The population consists of two hundred and forty-five (245) firms quoted on Nigerian Exchange Group and a size of seventy (70) firms sample was selected for the work. The data was sourced from the Nigeria Exchange Group Fact Book covering ten (10) years, 2000-2009. The study employs panel data in the analyses using fixed-effects, random-effects and Hausman Chi Square estimations. The finding reveals that debt-equity has a negative relationship with profitability. However, equity has a positive relationship with profitability. The work concludes that the finding shows consistency with prior empirical studies and provides evidence against the agency cost theory (Ishaya & Abduljeleel, 2014).

Ndubuaku, et al (2021) studied financial development on the employment rate in Nigeria. The paper ascertains the influence of financial development on the employment rate of Nigeria in the center of goal 8 of the sustainable development goals (SDGs). The study makes use of quantitative data collection of time series that were gathered from the Central Bank of Nigeria (CBN) Statistical bulletins, the National Bureau of Statistics, International Financial Statistics, and World Development Indicators from 1999-2019. The study employs the Autoregressive Distributed Lag Model (ARDL), and Error Correction Model (ECM), as the major techniques of analysis in analyzing the data. The finding shows an affirmative and substantial influence of financial development on the employment rate, and supporting the Phillips curve of an inverse nexus between the inflation rate and unemployment rate, while flouting Okun‟s law of undesirable association between economic growth and unemployment rate.

## Corporate Profitability

A corporation is a corporation, it is group of entities, generated by law or under power of law, having an incessant survival self-governing of the survivals of its members, and powers and liabilities that are different from those of its members. Profit is the capability of a corporation to make a profit after all its liabilities are paid off or settled. Profitability is used in the maximization of its owner's wealth. Profitability is defined as a degree of a corporation's capability to control its resources (Omar, 2014). Ebrahim et al., (2015) state that profitability is seen as an indicator in agency theory for meeting the necessities of stockholders, particularly when return on equity is employed as the profitability dimension because it gauges the performance of corporates. In the survival and growth of a company over time, an entity is to make profits. Profits are very important, but corporations should not assume that every decision taken by their management is directed at increasing profits, irrespective of the influence on employees, consumers, suppliers, or social expenses. Profits are perceived as abused because some companies strive to exploit profits, and to neglect their employees, consumers, and society. Still, in such special conditions, it is acknowledged that adequate profits must be made for the business to continue to be in operation for foreseeable future and enable companies to raise cash from investors for expansion and growth, and also to donate to social costs for the benefit of people. Profit is demarcated as the variance between revenues and expenses for a particular period, usually a year. Profit is a company's last 'output,' it also has no future if it does not produce satisfactory profits. For this reason, the financial management should appraise the organization's productivity in relation to profits consistently. Profit can willingly motivate stockholders to put funds into the investment of the company (Subramanyam, 2013). The profitability ratio is the dissimilarity between the profit on sale and the profit on investment. Every company is striving to attain a high degree of profitability (Van et al. 2005). A research work on the debt financing and companies' financial performance in Nigeria, ascertains the influence of debt financing on a company's financial performance in Nigeria, employs quantitative data, and employs random sampling technique. The study employs panel econometric tools such as panel least square, random and fixed effect, and also uses Huasman test statistics in analyzing the dataset of the various companies across sectors in the financial market. The finding shows that company size is inversely linked with the return on assets as it was expected in the prior expectation that the company size would be inversely linked with the companies' performance, while short-term debt has an undesirable and inconsequential influence on the company's return on assets, also reveals that long term debt has an affirmative and substantial influence on the return on assets of the listed companies in the Nigeria financial market. In the long run, the work concluded that, debt financing is vital in a firm's financial performance, as it has affirmative and substantial correlation amid the variables (Ohaka et al., 2020).

Foyeke et al. (2016) looked at financial edifice and the profitability of consumer goods companies in Nigeria, and determined the influence of financial edifice on the profitability of consumer goods companies in Nigeria. The study employs the use of quantitative data using a sample of twenty-five (25) consumer goods companies that registered under the Nigerian Exchange Group from 2008-2012. The study employs spearman's rank correlation regression analysis with the aid of the STATA Package in analyzing the data. The results reveal that equity has a substantial affirmative association with the profitability of manufacturing firms in Nigeria.

## Return on Equity

Stockholders are eligible for a percentage of a firm's remaining profits. In ascertaining the profit of investor's investment, a return on stockholders' equity is determined. Return on equity determines the worth of a corporation on its owners' resources that are been utilized. The return on equity is a metric that determines the profit made by ordinary shareholders on their resources in an organization (Gatimbu & Wabwire, 2016). An organization cannot get or invite outside finances or shareholders when is not profitable (Gitman, 2009). However, Managers must assess the return (cash inflows net of cash outflows) and potential risk when making business decisions to decide whether it will upsurge or reduce shareholders' value (Gitman & Zutter, 2015). Tripathi et al. (2018) argue that in comparison to every part of investor equity, the return on equity measures a corporation's net income. The return on equity shows whether corporation's net income is satisfactory for its size when compared to its entire capital. Asen et al (2021) studied the influence of capital structure on corporate performance in Nigeria. The paper ascertains the influence of capital structure measures on

manufacturing company's performance in Nigeria founds a good association between Tobin's Q and Financial performance when equated to other book values.

Alalade et al. (2015) looked at firms' financial edifice and profitability performance: a study of selected food Product companies in Nigeria determines the correlation between firms' financial edifice and strength in improving financial performance, regarding to profitability motivation. The work investigates the influence of gearing on return on asset, return on equity, and return on capital employed on selected food product companies. The work adopts the non-probabilistic sampling and purposive sampling techniques. The population consists of food product companies that are quoted on the Nigeria Exchange Group covering five (5) years, 2009-2013. The data gathered from the yearly reports of the designated firms. The finding shows that the coefficients of gearing reveal that one unit change in gearing causes a negative -0.0099022 effect on return on equity. The work concludes that financial edifice has an undesirable influence on the return on equity. by the designated companies in Nigeria.

A study conducted on the effect of financing mix on financial performance of healthcare companies in Nigeria, investigates the influence of the financing mix on financial performance of the companies. The financing mix was proxy by equity financing, debt financing, debt equity financing and preferred stock financing, while financial performance was measured by ROE. The study employs a quantitative method, data gathered were from the yearly financial reports of nine (9) health care sector companies registered with Nigerian Exchange Group for the spanning from 2015 to 2019. The study employs multiple regression in analyzing the data. The finding reveals that equity financing, debt financing and debt-equity financing have-had an affirmative and substantial influence on companies' performance, while preferred stock financing has a damaging and inconsequential influence on firms' performance. The study, therefore, concludes that the financing mix of firms has a substantial influence on firms' performance in the healthcare sector in Nigeria (Omaliko & Okpala, 2020). A work conducted a study on financial leverage and company financial performance in Nigeria: A panel data analysis approach, ascertains the correlation between financial leverage and company financial performance in Nigeria. The study exploit eighty (80) non-financial companies quoted under the Nigerian Exchange Group spanning from 2000-2015. The study employs a panel data regression model, fixed effect, random effect, and marginal model for testing the hypotheses. The finding reveals that earnings per share have a substantial and undesirable correlation with debt-to- equity ratio, and the total debt-to-total asset indices of financial leverage. The study reveals that, return on equity shows an insignificant correlation with the financial leverage indices in Nigeria, while disparity is in the route of the correlation from one variable to another. This shows affirmative course with the total debt to capital ratio and the debt cost. It also finds negative correlation among the total debt-to-asset ratio, long-term debt to-capital ratio and the debt-to-equity ratio of the non-financial companies (Kenn-Ndubuisi & Nweke, 2019).

**Firm's Age**

A firm's age is how old a business is in its growing or going concerns about its operations. It is the foundation of its reputation that is gathered from experience in the years it has been in operation for the foreseeable future which then results in goodwill. By way of a corporation's operation over some years, it establishes and strengthens itself as a concern which gives it the opportunity of taking further debts. Hence, it is understood that firm age has a positive relationship with capital structure (Ishaya & Abduljeleel, 2014). However, Esperanca et al., (2003) discovered a negative link between firm's age and firm capital structure. Petersen and Rajan (1994) to find a positive association between firm's age and firm capital structure. Firm age is the years of operations corporate has existed and it could have affirmative links and at the same time undesirable links with the company's health. A work conducted on financial edifice on company's performance in Nigeria, evaluates the optimum level of financial edifice through which a corporation could increase its financial performance. The work employs annual data of ten companies covering five (5) years. The results from the Im, Pesaran and Shine unit root tests reveal that the variables were non-stationary. The study further reveals an undesirable correlation between financial edifices on operational firm performance, the panel least square finding indicates that asset turnover, and company's size, the company's age and the firm's asset tangibility have a positive relationship with the company's performance. The work also finds an undesirable and substantial correlation between asset tangibility with return on assets. The inference is that, the companies used

were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance (Muritala, 2012).

**Pecking Order Theory**

This theory was recommended by Donaldson (1961) and was developed by Myers (1984) as another capital structure theory, which supports the behavior of a finance manager in optimizing the financial edifice of a corporation. The theory clarifies that firms prioritize their sources of financing (from internal financing to equity) in regards to the belief of least effort, or of least resistance, choosing to raise equity as a financing means of the last option. In business, internal financing is employed to finance firm's operation at the beginning, and once more funds are needed to be induced, the debt financing is considered and issued, and when the firm has more shares, equity is issued (Muritala, 2012). The theory was modified and captured the irregular information effect upon the mispricing of new securities, stating no well-defined target debt ratio. It further states that investors usually observe that directors are better informed of the price-sensitive information of the companies, and investors' view is that managers issue risky securities once when overpriced, which leads to underpricing of new equity issues (Myers & Majluf 1984). Occasionally, the underpricing becomes very bad and causes an ample loss to the existing shareholders. Olaniyan et al. (2017) opine that the theory advocates that due to asymmetric information and transaction costs, companies assume a hierarchical order for prioritizing financing sources so that internal financing is chosen over external financing. External financing is needed in optimizing the firm's debt capital relative to its sales growth (Chadha & Sharma, 2015; Muritala, 2012). Ohaka et al. (2020) posit that the main idea of finance managers is to maximize capital structure as a factor in its performance. The method of debt a firm prefers can show sign of its need for external funding (Muritala, 2012). This theory is promoted by Myers (2001), by his argument that equity is a fewer chosen means of raising capital because when managers issue new equity, investors have the belief that managers think that the firm is overvalued and managers are taking the opportunity of the overvaluation. Hence, investors will place a lower price on the new equity issuance.

**Agency Theory**

This theory is about the business association among owners or shareholders (principals) and managers (agents) of corporate. It proposes that corporate is seen as the tie of deals among investors, and agency association comes to play when the owners of businesses hire managers to act on their behalf in carrying out the day-to0day business operations of the company, also delegating decision-making responsibility to managers. Due to an incessant dilution of equity ownership of enormous companies, possession and controller have become more divided in the operation of companies (BERLE Means, 1932). These circumstances gave managers the chance to fight for their interest instead of the stockholders (Jensen & Runback, 1983). In a corporation, stockholders are the principals of the company, and the duty of its agent is to see that shareholders' interests are protected and maximized. In business operations, the manager's responsibility is to run the company in such a way that the wealth of shareholders will be maximized, to enable the long-term return to the shareholders to eventually maximize the company's profit and cash flow (Elliot & Elliot, 2002).

The problem in the association among the stockholders and directors is that their interests are not congruent in pursuit of the firm's objectives. Accordingly, managers who are in the policymaking procedure of corporate-corporations are after their interests instead of the owner's interest. This shows that managers will continually tend to spend the free cash flow available to fulfill their need for self-aggrandizement and respect rather than returning it to shareholders (Jensen & Ruback, 1983). This reveals the core problem of shareholders is to ensure that managers will return surplus cash flow to them through dividend payouts, rather than investing it in non-profitable projects (Jensen, 1986). For the shareholders to ensure that managers put their interest on firms, they must undertake agency costs of monitoring the happenings of managers. The more shareholders want to control managers' decisions, the bigger the agency costs to the organization. Previous work has shown that financial edifice can, to a certain extent, deal with the problem of owners and directors in the company without considerably increasing the monitoring activities cost by principals with the trading of equity for debt (Pinegar & Wilbricht, 1989). Lubatkin and Chatterjee (1994) maintain that companies can discipline managers to run businesses more effectively and efficiently by increasing their debt-to-equity ratio. Debt formation ensures

contractually that managers will return surplus cash flow to investors rather than investing it in projects that have negative net present values. The reason is that high degrees of leverage involve high-interest expenses, which force managers to pay more attention to essential activities to ensure that firm financial responsibilities are met.

Therefore, having less cash flow available, managers of highly leveraged firms use their talent by spending the company's funds at their discretion and regularly spend the resources excessively, thereby reducing available cash flow. For this reason, firms that are generally financed by debt, give managers less decision power than those that are financed generally by equity, and so debt can be employed as a control mechanism to which creditors and shareholders become the principal parties in the best practice of governance edifice. Managers who are not able to meet debt obligations can certainly, and on time, be fired and relieved from their job bringing in new managers who can carry out their duties based on stakeholders' interests. Leveraged firms are in one way or another healthier for shareholders because they ensure that managers do not have the capability (cash) to waste the corporation's resources excessively in the manner that is not beneficial to the company. The final result of debt formation is to transfer wealth from businesses and managers to investors (Jensen & Ruback, 1983). Debt financing firms are at all times healthier for investors than equity financing firms. It is seen that not every corporation is financed by debt. Debt financing increases equity costs and other costs. Highly leveraged companies are more likely to face cash problems and it upsurges their prospect of liquidation, and also upsurges other costs that are linked to liquidation. Besides, highly leveraged firms which are mostly considered risky tend to be low-rated by rating agencies. The classification of risky firms upsurges their total equity cost, as their responsibility is to guarantee higher returns than those firms that are guaranteed by high-rated firms once need to attract investors (Muritala, 2012). This work is anchored on pecking order theory and agency theory.

## METHODS

The study employs already existing data yearly reports and accounts of the companies. The study covered two decades (20 years). The population comprises the 6 registered companies under the Nigerian Exchange Group as at 31st December, 2020. The study made use of the 6 listed companies (i.e. Transnational Corporation of Nigeria Plc., Chellarams Plc., UACN plc., A.G. Leventis Nigeria Plc. [BLS], John Holt Plc., and SCOA Nig. Plc.,) as a sample since the work population is small. A quantitative method was employed, and the data was gathered from the yearly report and accounts of the firms covering 2000-2020. The study employs panel pool models of cross-sectional data with the help of E-views version 10.0 software in analyzing the data.

### Models Specification

The analysis is established on multiple linear regression models. Thus, Idamoyibo (2020) model was used for this work and it is stated below:

$ROE = f(DEQF_t, FAGE_t)$ .....equ(i)

These are further stated in econometric forms below:

$ROE_t = b_0 + b_1 DEQF_t + b_2 FAGE_t + U_i$ .....equ(ii)

Apriori expectations: $b_1 - b_2 > 0$

Where:

ROE – Return on Equity

DEQF – Debt Equity Finance

CAGE –Firm Age from registration and commencement of the operation in Nigeria

$\beta_0$ – Constant Term

$\beta_1$ – Coefficients of Predictor

$\mu$ – Stochastic Error term

**Data Analysis and Interpretations**

This work employs three econometric models (i.e. fixed effects, random effects and hausman test) to accomplish the purpose of the work. The models determine the Panel Regression, a stationarity of the variable by applying the panel unit root test using the Augmented Dickey-Fuller (ADF) test. While also, assesses the presence of the long-run correlation of the variables using the co-integration test.

**Panel Unit Root Test**

The stationarity of the variable's series was exploited in this work to determine unit root attributes of the time series. The decision is to agree with the alternate hypothesis if the ADF test statistics are lower than the Mackinnos Critical Values at 1%, 5% and 10% degree of importance.

**Descriptive Statistics results**

| | ROE | FAGE | DEQF |
|---|---|---|---|
| Mean | 17.07857 | 753347.4 | 256749.4 |
| Median | 17.35000 | 640143.2 | 64181.76 |
| Maximum | 21.10000 | 2695072. | 1165895. |
| Minimum | 12.30000 | 45461.70 | 53013.48 |
| Std. Dev. | 2.583432 | 598720.7 | 345935.8 |
| Skewness | -0.457203 | 2.557802 | 1.761016 |
| Kurtosis | 2.403806 | 9.342508 | 4.809338 |
| Jarque-Bera | 0.695092 | 38.73148 | 9.145740 |
| Probability | 0.706420 | 0.000000 | 0.410333 |
| Sum | 239.1000 | 10546864 | 3594492. |
| Sum Sq. Dev. | 86.76357 | 4.66E+12 | 1.56E+12 |
| Observations | 14 | 14 | 14 |

**Source: Author's computation using E-views 10.0, 2022.**

The result above, reveals that the Skewness for company age and debt-equity finance has the values of 1.76 < 3 and 2.56 < 3, which reveals normal Skewness and clearly Platykurtic. Return on equity has a value of 0.46< 3, which indicates a normal Skewness and it is Mesokurtosis. Kurtosis for firm age and debt-equity finance has the values of 9.34 > 3 and 4.81> 3 showing a positive Kurtosis and clearly Leptokurtic. The return on equity has a value of 2.40< 3, which shows a negative Kurtosis and is Platykurtic. The Jarque-Bera result reveals that, the return on equity, debt-equity finance was normally distributed except firm age.

**Panel Regression Analysis** The panel-pooled cross-sectional data models are presented and analyzed below. The Hausman test was used in testing the hypotheses of work and to choose the appropriate fit models between fixed and random analysis.

**Table 1 Panel Regression Tests: Model I**

| | **Pooled OLS** | | **Panel OLS (Fixed effects)** | | **Panel OLS (Random effects)** | |
|---|---|---|---|---|---|---|
| **Variables** | **Coeff** | **Prob.** | **Coeff.** | **Prob.** | **Coeff.** | **Prob.** |
| C | | | 2.95988 | 0.0211 | 0.7778 | 0.7011 |
| FAGE | 41.50215 | 0.0000 | 4.7778 | 0.0000 | 0.5093 | 0.3711 |
| DEQF | 1.115406 | 0.0000 | 2.5093 | 0.0012 | 0.1504 | 0.3104 |
| R-Square | 0.9255 | | 0.6989 | | 0.1247 | |
| F-Test | 65.56025 | | 3.5468 | | 0.8247 | |
| DW | 2.11173 | | 1.961173 | | 0.766540 | |

**Source: E-views 10.0, 2022.**

**Hausman Test**

The underlying idea of the Hausman test is to compare two sets of evaluation, one of which is reliable under both the null and the alternate and another that is reliable only under the null hypothesis. A big dissimilarity between the two sets of evaluation is taken as evidence for the alternate hypothesis.

The analysis below indicates that, the fixed effect models of the panel data analyses are appropriate fit models, and were employed in the explanation of the hypotheses.

**Model II**

| **Correlated Random Effects - Hausman Test** | | | |
|---|---|---|---|
| Equation: Untitled | | | |
| Test cross-section random effects | | | |
| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
| Cross-section random | 1.41124 | 2 | 0 |

**Source: E-views 10.0 computation, 2022.**

**Tests of hypotheses**

**$H_{01}$:** There is no positive and significant relationship between of DEQF and ROE of registered Firms in Nigeria.

The analysis is based on the fixed effects as shown by the significance of the Hausman test. The analysis indicates that the goodness-of-fit, $R^2 = 0.70$. Therefore, 70% of the changes in the dependent are caused by the changes in the independent variable. The f-test of 3.5 indicates that the model is statistically substantial when taken together. The analysis reveals that DEQF has an affirmative substantial link with ROE. The results show that as DEQF increases by a unit, ROE increases by 2.50932 and vice versa. The result also indicates that DEQF is statistically substantial using the t-test 0.0012. We therefore disagree with the null hypothesis, then

agree with the alternate hypothesis and conclude that, there is a positive and significant relationship between DEQF and ROE for the period studied.

**$H_{02}$:** There is no positive and significant relationship between the moderating effect of FAGE and ROE of registered Firms in Nigeria.

Also, the analysis reveals that the moderating effect of FAGE has an affirmative and substantial link with ROE. The results indicate that as FAGE increases by a unit, ROE increases by 4.77784 and vice versa. The result also reveals that the moderating effect of FAGE is statistically substantial using the t-test 0.0000. We therefore disagree with the null hypothesis, then agree with the alternate hypothesis and conclude that, there is a positive and significant relationship between the moderating effect of FAGE and ROE over the period studied.

## DISCUSSION OF FINDINGS

Having studied the correlation among financial structure and corporate profitability of registered companies in Nigeria covering the time frame 2000-2020. The finding shows that DEQF has a positive and significant relationship with ROE, the finding of this study disagrees with the findings of Ishaya and Abduljeleel (2014) who found an undesirable link between debt equity financing with firms' profitability. But agrees with the findings of Asen et al (2021), Omaliko and Okpala (2020), Abubakar and Olowe (2019), and Abubakar and Olowe (2019) who found an affirmative and substantial link between debt equity financing and return on equity of the companies in Nigeria.

The results reveal that the moderating effect of FAGE as represented by the date of/from registration and commencement of the business in Nigeria, has a positive and significant relationship with returns on equity. The finding of this study agrees with that of Ishaya and Abduljeleel (2014), and Muritala (2012) whose findings show that firm age has a positive relationship with capital structure.

## CONCLUSION

The study was able to analyze the parallel between financial structure and corporate profitability of listed firms in Nigeria covering 2000-2020. The study used debt-equity finance to proxy financial structure, and returns on equity were used to measure profitability, while, the firm's age is the moderating variable. The yearly report and accounts of the six (6) listed firms were used to collect the data for the study over the period, employing panel regression analysis. Using the Hausman test, the researcher chose the fixed effect model as the appropriate fit to test the hypotheses of the study. Also, panel unit roots and co-integration were analyzed. The study concludes that debt-equity financing and a firm's age have a positive and significant relationship with the return on equity of corporate profitability.

## RECOMMENDATIONS

This study recommends that the financial structure of the companies should be continued as it produces returns to the investors through the measure of returns on equity. Conversely, the need for the companies to make certain that debt equity financing is well to keep an eye on to elude the penalties of negligence that will lead the companies into business failure and liquidation.

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