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The Effect of Financial Structure on the Performance of Nigeria Consumer Goods Firms

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Authors' contributions

This research was carried out in collaboration between both authors. Author EFN conceptualized the study and sourced relevant literature. He also wrote the first draft of the manuscript and carefully reviewed it. Author AAC sourced the data, performed the analysis and interpreted the results. Both authors read and approved the final version of the manuscript.

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ABSTRACT

This study assesses the effect of financial structure on performance of consumer goods firms quoted in Nigerian Stock Exchange. In this study, twenty three (23) out of the twenty seven (27) firms were randomly chosen for the period 1993 to 2013. The study applied earnings per share and return on equity as performance indices. To add to this, total debt to total equity ratio, short term debt to total equity ratio were adopted to measure financial structure while tangibility, firm size, growth and risk were included as control variables capable of influencing performance. The effect of financial structure on performance was analysed using pooled ordinary least square, fixed effect and random effect regression technique. The results of the analysis divulged that financial structure represented by total debt to total equity ratio and short term debt to total equity ratio, negatively affect financial performance of consumer goods firms measured by earnings per share and return on equity. The negative effect of financial structure variables: total debt to total equity ratio and short term debt to total equity ratio tends to buttress that as result of agency conflict, performance of firms that are highly geared are negatively affected. The findings also were in conformity with the

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proposition of the pecking order theory that firm performance and financial structure are negatively correlated. This study concludes that financial structure has negative effect on financial performance of Nigeria consumer goods firms. In the light of this, we suggests that firm's management should established a debt-equity mix capable of improving financial performance notwithstanding the proxy adopted for assessing performance. Over investment in fixed assets should be discontinued and effective and efficient utilization of fixed assets vehemently upheld.

Keywords: Financial structure; performance; return on assets; return on equity; consumer goods firms.

1. BACKGROUND OF THE STUDY

Financial structure is the explicit mix of long term debt and common equity that a firm uses to finance its operations. It refers to the balance between all of the firm's liabilities and its equities. Thus, it deals with the total affairs in liabilities plus equities side of a firm balance sheet. This financial structure is a mix that directly affects the risk and value of a firm. Financial managers face uphill task in deciding how much fund a firm should seek externally via debt and the appropriate mix of debt and equity to increase shareholders wealth. In addition, where a firm decide to seek for debt financing, the financial manager is also expected to uncover the least expensive sources of debt for application by the firm. When firm uses debt then it has to pay a specific amount from the profit generated to pay off loan. On the other hand, if firm use only equity then net profit is divided just among shareholders after paying the tax or some amount may be retained to fulfil the future needs [1]. The greater the debt funding component (the higher the total debt to equities ratio), the higher the degree of leverage in the firm's financial structure. A highly leveraged firm provides greater profitability and a higher return on equity to its shareholders, than a firm with less leverage-if and only if business performance is good. However, the reverse is the case when the business is poor.

The ontological kinetics of financial structure and performance of firms started with the pioneering eminent scholarly work of [2]. [2] considered the value of the firm to be independent of its financial structure. They viewed the value of a firm as a function of expected operating income divided by the discount rate appropriate to its risk class, and proved that the average cost of capital within a given class is independent of the degree of leverage. They held that financial leverage increases to expected earnings per share while the share price remains constant. This is because the change in the expected earnings is offset by a corresponding change in the return required by the shareholders. A firm which finances its investment by equity can rewards shareholders effectively if and only if its yield exceeds the rate of capitalization. When a corporate income tax, under which interest is a deductible expense, is considered, gain can accrue to stockholders from having debt in the financial structure even when capital markets are perfect. The [2] irrelevance theory of financial structure is valid if the perfect market assumptions underlying their analysis are true. However, the theory was criticised on the ground that in a contemporary world where some market complexities such as presence of tax, fear of bankruptcy costs, agency costs and information asymmetries prevail, the basis of [2] irrelevance theory of financial structure is not validated.

Under the Modigliani and Miller [2] irrelevance theory, a large firm is expected to have a high rate of debt. However, in this present competitive business environment, such is not always the case, particularly due to high cost of capital. On the other hand, the pecking order theory as developed by [3] argued that financial structure is relevant in determining a firm's performance. According [3], firm's order of financial hierarchy is internal financing, debt and equity. If a firm decide to venture in a new projects, the firm should use its internal fund rather than resorting to external financing. This is based on believe that if such a firm should issue new equity to raise fund, the outside investors will be of the perspective that the firm lack capital to finance its operations effectively. This is likely to have negative effect on the value of the firms most especially via share pricing or market value. With the existence of information asymmetries between firm's management and outside investors, firms will prefer to retain their earnings rather than apply debt. The preference of internal financing over debt for financing investment opportunities is an important tool for resolving the issue of information asymmetries [3]. The pecking order of financial hierarchy has some effects on firm's investment. Firstly, the value of

a firm investment will be dependent on it source of financing. Secondly, some investment will be undertaken if it can be effectively and efficiently funded internally or with reasonable amount of debt that is safe for the firm but not with debt or equity that will put the firm at risk and thirdly, firms with little cash and high level of debt-equity ratio will be more disposed to under-invest. If a firm follows the pecking order theory its debt-equity ratio stems not from an attempt to reach a target level of debt-equity mix but on progression of financial decisions made by the firm. Furthermore, subject to the extent of information asymmetry, issuing of new equity may be beneficial and risk at some certain points in time.

Financial structure gives an insight on how risks and gains are divided between shareholders and debtholders. If a highly leveraged firm fails and enters bankruptcy, debt holders will probably take the larger loss: loans to the firm may have to be written off and debtholders may find their securities worthless. On the other hand if a firm with very low debt-to-equity ratios fails, debtholders will likely be paid off. When a bankrupt firm is liquidated, debtholders have preference over shareholders in receiving liquidation funds, and a low debt-to-equity ratio means there will probably be funding sufficient to cover outstanding obligations. Shareholders are recognised as legal owners of a firm by virtue of share or common stock allocation while the debtholders are the firm's creditors. Shareholders and debtholders have different rights and financial returns. In the event of a firm's liquidation, the debtholders have higher preference over shareholders as debtholders are entitled to be paid first ahead of shareholders. By liquidation, the firm is either sold or is declared bankrupt. When a firm is declared bankrupt, the firm creditors (debtholders and other secured creditors) will be paid off first, any other assets of the firm left would be shared to preferred stockholder prior to shareholders.

A firm can alter its financial structure by a small amount more or less uninterruptedly on the basis that the reported values of several structural components may be especially fluid from time to time: short term liabilities, long term liabilities, and even retained earnings, for instance. For the short term, a firm can intentionally increase leverage by taking out loans or issuing bonds. It can immediately decrease leverage and increase equity by issuing and selling new shares of stock. In keeping with [4] and [3], absent these actions, a profitable profit-making firm will gradually reduce leverage as long term loans and bonds are paid off, and as retained earnings from profits grow.

1.1 Statement of the Problem

Researches have been conducted to ascertain the effect of financial structure on performance of firms for both developed and developing countries of the world. However, the empirical findings of the studies differs from country to country. In a study by [5], the author observed that financial structure has a significant negative effect on performance of firms in China, whereas, significant positive effect on performance of firms on Sweden and Germany before the global financial crisis of 2008. [6] in the context of Ukraine found that financial structure effect firms performance negatively. [7-9] reported that firms performance are negatively affected by financial structure in Kenya, Bangladesh and Nigeria respectively. On the contrary, [10] and [11] established the positive effect of financial structure on performance for firms in Ghana and Nigeria respectively. This could be attributed to institutional differences such as legal systems, financial institutions, government subsidies, rate of inflation and the economy's growth rate between these countries [12], industry selection, position and administrative practice [13] or even political and cultural institutions [14].

There is no harmony among scholars on the effect of financial structure on firm performance as well as an ideal financial structure capable of maximizing firm's earnings per share and return on equity. These issues and the global debate on the nexus between financial structure and performance of firms raise two main questions. First, what is an appropriate mix of debt and equity that will maximize firm's earnings per share and return on equity? Second, under what state of affair should leverage be applied to maximize earnings per share and firms return on equity having in mind that debt and equity have long term repercussions for firm's corporate governance compared to its short term necessity?

1.2 Objectives of the Study

The main objective of this study is to carefully and unambiguously assess the effect of financial structure on the performance of consumer goods firms listed on the Nigerian Stock Exchange (NSE). Precisely, the study will:

1. Assess the effect of Financial Structure on Earnings per Share of Consumer Goods firms listed on the Nigerian Stock Exchange.
2. Evaluate the effect of Financial Structure on Return on Equity of Consumer Goods firms listed on the Nigeria Stock Exchange.

In the course of this study, two hypotheses were formulated and presented in the null format as:

1. Financial Structure has no significant effect on Earnings per Share of Consumer Goods firms listed on the Nigerian Stock Exchange.
2. Financial Structure has no significant effect on Return on Equity of Consumer Goods firms listed on the Nigerian Stock Exchange.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Clarification

2.1.1 Financial structure

According to [15], the word "structure" originated from the field of engineering, meaning different parts of a building. Similarly, financial structure consists of three elements namely assets, liabilities and capital. Financial structure is the way in which a firm's assets are financed, such as short-term borrowings, long-term debt, and owners' equity. Financial structure covers all of a firm's liabilities, whereas capital structure includes only equity and long-term debt. A firm's financial structure is influenced by a number of factors, including the growth rate and stability of its sales, its competitive situation (i.e., the stability of its profits), its asset structure, and the attitudes of its management and its lenders. It is the basic frame of reference for analyses concerned with financial leveraging decisions.

Task of formatting financial structure involves the decisions regarding the type of securities to be issued and the relative proportion of each type of security namely shares, debentures, retained earnings etc. in the total capitalization [16]. Each corporate security has got its own advantages and disadvantages. Hence, too much induction of one security in the financial structure may prove unprofitable or risky. For example, if a firm financial structure comprises mainly of equity capital and having inadequate debt capital, it may deprive of the benefits of trading on equity and hence may not fulfil the objective of maximum return to its owners. On the other hand, if a firm, with fluctuating income, has high capital leverage having greater risk, then such financial structure will maximize return to owners. However, in lean years the position of a firm may be very critical because the net income might not be enough to meet even the fixed charge obligations on preference shares or debentures.

2.1.2 Performance

The word 'Performance is derived from the word 'parfourmen', which means 'to do', 'to carry out' or 'to render' [16]. It refers the act of performing; execution, accomplishment, fulfilment, etc. In border sense, performance refers to the accomplishment of a given task measured against pre-set standards of accuracy, completeness, cost, and speed. In other words, it refers to the degree to which an achievement is being or has been accomplished. Financial performance is the level of performance of a business over a specified period of time, expressed in terms of overall profits and losses during that time. Financial performance applies to any of many different mathematical measures to evaluate how well a firm is using its resources to make a profit. Common examples of financial performance include operating income, earnings before interest and taxes, and net asset value. It is important to note that no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures. Evaluating the financial performance of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms.

2.2 Theoretical Framework

The theory of financial structure was attributed to [2] through their financial structure irrelevance proposition. Fundamentally, they hypothesized that in perfect markets, it does not matter what financial structure a firm uses to finance its operations. They postulated that the market value of a firm is determined by its earning power and by the risk of its underlying assets, and that its value is independent of the way it chooses to finance its investments or distribute dividends. Following irrelevance financial structure proposition of [2], other theories have been developed in examining the phenomenon of financial structure. Although there is no unanimity

by scholars on the theory that best suit an optimal financial structure, it becomes imperative to look at some of these theories and their propositions. However, this study is within the ambit of the pecking order theory.

2.2.1 The pecking order theory

Pecking order theory of financial structure as popularised by [3] assets that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing (retained earnings and the effects of depreciation) before resorting to any form of external funds. Internal funds incur no flotation costs and require no additional disclosure of proprietary financial information that could lead to more severe market discipline and a possible loss of competitive advantage. If a firm must use external funds, the preference is to use the following order of financing sources: debt, convertible securities, preferred stock, and common stock [4]. According to [17], this array reflects the motivations of the financial manager to retain control of the firm (since only common stock has a "voice" in management), reduce the agency costs of equity, and avoid the seemingly inevitable negative market reaction to an announcement of a new equity issue.

The pecking order theory marshalled out two key assumptions about financial managers. The first is the existence of asymmetric information or the prospect that firm's managers know more about the firm's current earnings and future growth opportunities than do outside investors. The availability of such vital information to financial managers may exclude potential investment by public investors. This is due to financial manager's vehement appeal to keep such information underground.pt secret from public usage. The use of internal funds precludes managers from having to make public disclosures about the company's investment opportunities and potential profits to be realized from investing in them. Secondly, financial managers will act in the best interests of the firm's existing shareholders. [3] observed that financial managers may even forgo a positive-Net Present Value (NPV) project if it would require the issue of new equity, since this would give much of the project's value to new shareholders at the expense of the old.

2.2.2 The agency cost theory

Agency cost is a type of internal cost that arises from, or must be paid to, an agent acting on behalf of a principal. Agency costs arise because of core problems such as conflicts of interest between shareholders and management. Shareholders wish for management to run the company in a way that increases shareholder value. But management may wish to grow the company in ways that maximize their personal power and wealth that may not be in the best interests of shareholders.

The agency cost theory was initially proposed by [18]. In line with [18], there is an increasing lacuna between ownership and control of large firms resulting from decline in equity ownership. This particular circumstance provides a conducive environment for managers to pursue their own selfish interest rather than of maximising returns to the shareholders. In 1976, the meaning of the agency cost theory was expanded by [19]. The central point of the Agency cost theory is on the relationship between the interest of management and shareholders - categories which partly cover when the owner is the manager. This happens due to the fact that managers put their private interest before that of the firm. When this is the case, the shareholders in turn may reject manager's interest as the firm will incur more cost which will reduce their rewards from the firm operations. Conflicts of interest between managers and shareholders can be minimized by a monitoring mechanism to adjust the related interest. But with the advent of such a mechanism would cause the cost of fees the agency said. This cost can be body or agency costs of equity. According to [19], an optimal ownership structure would be achieved by minimising agency cost.

[20] examined the effect of insider ownership, dividend policy and debt policy (ratio) of debt on public companies from different sectors in the United States. The results of their study revealed the existence of a negative relationship between insider ownership at the debt policy. These results suggest that, with increasing participation of insiders could jeopardize the interests of shareholders and directors, and ownership management can replace the role of debt in reducing agency costs. They noted also that the debt ratio is a function of insider ownership, dividends, business risk, profitability, research and development and capital.

2.2.3 The trade-off theory

The Trade-off theory of financial structure refers to the idea that a firm chooses how much debt

finance and how much equity finance to use by balancing the costs and benefits. Trade-off theory of financial structure fundamentally entails offsetting the costs of debt against the benefits of debt. The Trade-off theory of capital structure discusses the various corporate finance choices that a corporation experiences. The theory is an important one while studying the financial economics concepts. In general, the theory described that firms finance their operation through debt and equities.

The trade-off theory of financial structure highlighted to major perception which are cost of financial distress and agency costs. An important purpose of the trade-off theory of financial structure is to explain the fact that firms usually are financed partly with debt and partly with equity. The trade-off theory can also include the agency costs from agency theory as a cost of debt to explain why firms don't have 100% debt as expected from [2].

2.2.4 The static trade-off theory

In keeping with the static trade-off theory, a firm can minimize its cost of finance by applying an appropriate mix of debt and equity. Debt usage by firms provides tax benefits on one hand and on the other increases the potential of bankruptcy especially if the firms are highly geared (firms with high level of debt). In the statistic trade-off theory, a firm optimal financial structure would be attained if the firm can strike equilibrium between tax benefits associated with debt and costs of debt. Therefore, to strike a balance between the benefits and deficiencies correlated with debt and equity financing, it is expected that a firm should have an appropriate amalgam of debt and equity in its financial structure. Increasing the debt level only due to tax shield cannot effectively minimize the cost of capital because there will be a point in time when the cost of debt will be higher when compared with cost equity. In addition, increasing the debt level may put the firm in risk of bankruptcy due to high cost of fund and returns expected by debtholders. Hence, firms are adopt a debt-equity mix capable of minimizing cost of capital and increasing share price.

2.2.5 The dynamic trade-off theory

The dynamic trade-off model was developed by [21]. In the dynamic trade-off theory, it is expensive for a firm to issue and repurchase debt for sole aim of attaining a mixture of debt and equity capable of maximizing its value. [22] noted that the dynamic model proposed by [21] suggests that even small recapitalization costs lead to wide swings in a firm's debt ratio over time and that different firms allow the actual leverage ratio to deviate from the target ratio by different amounts. [23] tested the models of dynamic trade-off theory. Empirical estimates offer support for some of the predictions of dynamic trade-off theory. Namely, profitability and interest rates imply a narrower debt ratio range, and higher volatility implies a wider debt ratio range. While the results for bankruptcy costs are contrary to predictions of dynamic trade-off theory, they could be confounded by the fact that asset tangibility could also measure agency costs. According to [24], in the classical dynamic trade-off theory, the main cost of debt is the expected deadweight cost of default imposed on creditors, when the firms' owners decide to stop servicing the firm's debts. When committing to higher debt services, the firm 'burns' cash at a higher rate and therefore is more likely to run out of cash and incurs external financing costs [24].

2.3 Empirical Studies

Githire and Muturi [25] appraised the effect of financial structure on the performance of firms listed at the Nairobi Securities Exchange. The population of interest was the firms listed at the Nairobi Securities Exchange and a census of all firms listed at the Nairobi Securities Exchange from year 2008-2013 was the sample. The study adopted an explanatory non-experimental research. Secondary data were obtained from the published annual reports and financial statements of the listed companies at the NSE covering the years 2008 to 2013. Multiple regression analysis method was used to analyse and test the hypotheses. The findings showed that equity and long term debt have a positive and significant effect on financial performance, while short term debt has a negative and significant effect on financial performance.

Ronoh [7] examined the effects of financial structure on financial performance of listed commercial Banks in Kenya, a case study of Kenya Commercial Bank Limited. Annual financial reports of 230 branches of Kenya Commercial Bank limited formed the target population. The financial and income statements panel data covering five-year period from 2009 to 2013 were applied. The multiple regression models used considered performance as the dependent variable and was measured in terms

of ROA and ROE. The results from the regression analysis indicated that Deposits, debt and equity was negative and significantly related to financial performance of listed commercial banks in Kenya as measured by return on assets. The regression analysis results indicated that the relationship between Retained Earnings ratio was positive although insignificantly related to financial performance as measured by return on assets. It was therefore was concluded that capital structure of listed commercial banks in Kenya is significant and affects financial performance of commercial banks negatively.

[26] investigated the influence of financial structure on corporate performance by using data from 150 Vietnamese listed manufacturing firms from 2008 to 2012. Comparing the results of random effects model and fixed effects model, the more appropriate model was applied in discussing some empirical results. The study found that the financial structure has significant and positive relationship with corporate performance in associated with debt to assets and short-term debt to assets. In contrast, corporate performance is insignificantly influenced by long-term debt to assets.

[27] evaluated the influence of ownership structure, financial capital structure, profitability and firm growth toward firm value measured by considering managerial ownership, institutional ownership, debt to equity ratio, return on equity and profit growth. The population of this research were companies which were belonged to Consumer Goods Industry and Miscellaneous Industry listed in Indonesia Stock Exchange (IDX) on the year period 2009-2013 period. Total samples of the study were 9 companies determined through purposive sampling. The results of the analysis showed that managerial ownership did not influence firm value significantly indicated by the t-test value which was 0.922 and significant value which was 0.362, institutional ownership had a significant effect on the firm value indicated by the t-test value which was 2,097 and significant value which was 0.043, financial structure insignificantly affected the firm value with t-test which was -1.583 and 0.122 as significant value.

[28] explored the relationship between financial structure and stock returns of firms in eight countries in the Asia Pacific region for a period of 22 years from 1990 to 2012. The methodology is Panel Regression. The results indicate that the effect of financial structure depends on the nature of industry as well as market. The regression outcome for the Consumer Service sector. Market value and debt to asset affect the return of firms significantly at 5% and 10% significance level respectively. Debt to asset negatively influences the return.

[1] ascertained the effect of financial structure on firm's financial performance in food sector. Firm's performance was measured by using the five dependent variables which are return on assets, earnings per share, net profit margin, return on equity, and return on capital employed. Four independent variables are taken for quantifying the financial structure like debt equity ratio, debt to total assets ratio, short term debt to total assets ratio and long term debt to total assets ratio. For this study, quantitative data were gathered from annual reports of 49 firms in food sector listed at Karachi stock exchange in Pakistan over the six years from 2007-2012. Linear Regression analysis was used to discover the effect of financial structure on financial performance of firms. Results of the study indicates that financial structure has a significant negative effect on firm's return on equity, net profit margin, return on capital employed and return on assets. It is also concluded that financial structure has insignificant negative effect on firm's earnings per share.

[29] analysed the relationship of financial structure and its effect on firm's performance. Sample included 33 listed companies from food sector of Pakistan. Debt ratios including debt to equity, short term debt to total assets and long term debt to total assets were used as explanatory variables while return on assets and earnings per share were used as proxy of performance. Results of regression analysis revealed negative relation of financial structure ratios with performance while among these, only debt to equity ratio has significant effect on firm's performance.

[8] studied the influence of financial structure on firm's performance. This investigation has been performed on a sample of 36 Bangladeshi firms listed in Dhaka Stock Exchange during the period 2007–2012. They used four performance measures; earnings per share , return on equity, return of asset and Tobin's Q; as dependent variables and three financial structure ratios; short-term debt, long-term debt and total debt ratios; as independent variables. Using pooling panel data regression method, they found that earnings per share is significantly positively

related to short-term debt while significantly negatively related to long-term debt. There is significant negative relation between return of asset and financial structure. On the other hand, there is no statistically significant relation exists between capital structure and firm's performance as measured by return of equity and Tobin's Q. Nonetheless, aside from the positive relation between earnings per share and short-term debt, they concluded that financial structure has negative impact on firm's performance which is consistent with the proposition of Pecking Order Theory.

[30] made an attempt to analyse the effect of financial structure and financial performance during 2006 to 2010 financial year of listed trading firms in Sri Lanka. For the purpose of this study, the data were extracted from the annual reports of sample firms. Correlation and multiple regression analysis are used for analysis. The results revealed there is positive relationship between financial structure and financial performance. And also financial structure is significantly impact on financial performance of the firm showed that debt asset ratio, debt equity ratio and long term debt correlated with gross profit margin, net profit margin, return on capital employed, return on asset and return on equity at significant level of 0.05 and 0.1.

[31] examined the effect of firm's financial structure components and leverage on firm's performance. Data of 10 firms of food sector were taken. All the firms are listed on Karachi stock exchange. Data duration of the paper consists of five years from 2007-2011. Variables used in the paper were assets turnover ratio, return on assets, current liabilities to total assets, long tern debts to total assets and debt to equity ratio. Results were derived by applying multiple regression models. The results of the model show that there is a significant positive impact of long term debts on firm's performance and significant negative impact of short term debts on firm's performance. There is a negative relationship of firm's leverage on firm's performance. As firm's leverage increases its performance decreases. Results show that firms using high amount of short term debts are facing negative trend in performance. So, results indicate that firms must try to use long term debts to meet their daily needs.

[32] investigated the effect of financial structure using debt to equity ratio and sales growth profitability proxied by return on equity of 40 listed firms in the consumer products sector in the Stock Exchange of Thailand from 2008 to 2012. Multiple linear regression analysis was employed to analyse the impacts of independent variables on dependent variable. The results showed that debt to equity ratio have negative impacts while sales growth has positive impact on return on equity.

[33] determined the impact of financial structure on financial performance of Nigerian firms using a sample of thirty non-financial firms listed on the Nigerian Stock Exchange during the seven year period, 2004 – 2010. Panel data for the selected firms were generated and analysed using ordinary least squares as a method of estimation. The result shows that a firm's financial structure surrogated by debt ratio has a significantly negative impact on the firm's financial performance measured by return on asset and return on equity.

[34] assessed the effect of capital structure on the performance of the public Jordanian firms listed in Amman stock market. The study used multiple regression model represented by ordinary least squares as a technique to examine what is the effect of financial structure on the performance by applying on 76 firms (53 industrial firms and 23 service corporation) for the period (2001-2006). The results of the study concluded that financial structure associated negatively and statistically with firm performance on the study sample generally. In addition, the study found out that there was no significant difference to the impact of the financial leverage between high financial leverage firms and low financial leverage firms on their performance.

[35] tested the influence of financial structure on the value of shares given different sizes, industries and growth opportunities with the companies incorporated in Dhaka Stock Exchange and Chittagong Stock Exchange of Bangladesh. For the robustness of the analysis samples are drawn from the four most dominant sectors of industry i.e. engineering, food and allied, fuel and power, and chemical and pharmaceutical to provide a comparative analysis. The interesting finding of the paper suggested that maximizing the wealth of shareholders requires a perfect combination of debt and equity, whereas cost of capital has a negative correlation in this decision and it has to be as minimum as possible. There is also evidence that changing the financial structure composition a firm can increase its value in the market.

3. METHODOLOGY

The primary aim of this study is to carefully and unambiguously assess the effect of financial structure on financial performance of consumer goods firms listed on the Nigerian Stock Exchange (NSE). In order to achieve this objective, annual data from financial statement of consumer goods firms were collected from the Nigeria Stock Exchange Fact book from 1993 to 2013. The regression model took the form of the fixed effects model, random effects model and the pooled ordinary least square model in order to establish the most appropriate regression with the highest explanatory power that is better suited to the data set employed in the study. The pooled ordinary least square was done in the first instance. However, in view of the weaknesses associated with it, the fixed effects model and random effect model was applied to capture the performance of the firms considered in the study. In order to choose the most appropriate model of interpretation, the Hausman specification test was conducted. In this study, the sample consists of the 23 firms, which are taken out of 27 consumer goods firms listed on the Nigerian Stock Exchange as at 12/12/2015. The selection was based on the availability of statement of accounts the firms submitted to Nigerian Stock Exchange for 21 years. Basically, the period 1993 -2013 are justified on the ground that firstly, this period is the relatively covered the period after the global financial crisis, therefore, the data gathered can reflect the most neutral business environment. Secondly, [36] in the report titled: "Nigerian Consumer- Investing for the Long Term," noted that given the size of the country's population, its gross domestic product size, growth forecasts, coupled with the current low penetration of packaged food and beverages, "we see significant opportunities for consumer players." Subsequently, it becomes important to examine this assertion by Renaissance Capital Nigeria Limited.

3.1 Empirical Model Specification

The in the process of model articulation for this study, the objectives, theoretical framework, abundant related empirical findings as well as the uniqueness of the Nigerian business environment were cautiously considered. As a result, two models were advanced. The dependent variables are earnings per share and return on equity and these represent financial performance indicators. On the other hand, the explanatory variables are total debt to total equity ratio and short term debt to total equity ratio signifying financial structure substitutes. Firm size, tangibility, growth and risk were introduced as a control variable capable of impeding on financial performance of firm. Return on equity, total debt to total equity and short term debt to total equity were calculated using the book values of debt and equity as contained in the financial statement of accounts of each firms. Earnings per share are a market ratio that measures the amount of net income earned per share of common stock outstanding. Tangibility is the ratio of fixed assets to total assets; firm size was measured by the natural log of assets and growth opportunities surrogated by the growth in sales. The risk as used in this study is ratio of cash flow (net income) surplus/deficit to total assets. On the premise of the risk return trade off proposition, a firm with higher net income erraticism is expected to have a higher return thus, a positive effect of cash flow is expected on performance. The empirical models estimated are as follows:

Model 1

$$EPS_{it} = \beta_0 + \beta_1 TDTE_{it} + \beta_2 STDTE_{it} + \beta_3 Tangibility_{it} + \beta_4 Size_{it} + \beta_5 Growth_{it} + \beta_6 Risk_{it} + \mu_{it} \quad (3.1)$$

Model 2

$$ROE_{it} = \beta_0 + \beta_1 TDTE_{it} + \beta_2 STDTE_{it} + \beta_3 Tangibility_{it} + \beta_4 Size_{it} + \beta_5 Growth_{it} + \beta_6 Risk_{it} + \mu_{it} \quad (3.2)$$

Where: EPS= Earnings per Share, *ROE* = Return on Equity, *TDTE* = Total Debt to Total Equity, *STDTE* = Short Term Debt to Total Equity, Tangibility = firm's ratio of fixed assets to total assets, Size = Firm's size reflected by natural log of assets, Growth = Growth opportunities of firms and Risk = Firms cash flow deficit/surplus.

β_0 is a constant term, μ is a random error/disturbance term and *it* is the time trend. These are normally included in standard time-series specifications to account for the omitted variables as well as unexplained random effects within the model.

3.2 A Priori Expectation

This refers to the supposed relationship between and/or among the dependent or independent

variables of the models. According to the perking order theory, financial structure negatively affect firm's financial performance. As a result, an inverse/negative relationship is expected to exist between financial structure and financial performance of firms represented by earnings per share and return on equity. The higher the growth opportunity of a firm the higher the performance of the firm financially thus, a positive relationship is expected to exist between performance and growth. Furthermore, the effect of tangibility, firm size and firm risk on performance of firms are expected to be positive.

4. ANALYSIS OF FINDINGS

4.1 Financial Structure and Earnings per Share (EPS)

To assess the effect of financial structure on earnings per share of consumer goods firms, this study applied the pooled OLS, fixed and random effect models. The Hausman specification test in Table 4.1 provided a p-value of 0.168300. This value is greater 0.05 thus, fixed effect model is most appropriate for estimating the results of the three models. The fixed effect estimation shows that financial structure variables: ratio of total debt to total equity and short term debt to total equity have negative insignificant effect on earnings per share. Tangibility and firm size also insignificantly and negatively affect earnings per share. On the contrary, growth of firm and risk have insignificant positive effect on earnings per share. The coefficient of the constant 130.3541 suggests that holding total debt to total equity and short term debt to total equity ratio, tangibility, firm size, growth and risk constant, earnings per share would stand at 130.3541.

The total debt to total equity ratio coefficient of -0.000111 indicates that a unit increase in debt to equity ratio would decrease earnings per share by 0.011%. This is in agreement with [29] and [8]. The negative effect of total debt to total equity ratio tends to buttress that as result of agency conflict, performance of firms that are highly geared are negatively affected. The higher the level of debt-equity ratio, the lower the earnings per share of Nigeria consumer goods firms. For short term to total equity ratio, the coefficient of -0.000611 implies that a unit increase in short term to total equity ratio would decline earnings per share by 0.061%. This is in unison with [29]. The implication of the negative effect of short term debt to equity ratio is that short term debt exposes the firm to risk of re-financing. For tangibility, the coefficient of 0.00011 means that a unit increase in the ratio of fixed assets to total assets would depreciate earnings per share by 0.011%. The higher the firm's tangibility ratio the lower the level of earnings per share. The implication is that investment in fixed assets by Nigeria consumer goods firms is much such that it does not positively influence their earnings per share and in most cases, fixed assets are under-utilized. This supports the work of [34]. For firm size, the coefficient of 6.07 reflects that a unit decrease in firm size would results in a corresponding 6.07 fall in earnings per share. This is consistent with [8].

On the other hand, the coefficient 2.76 and 0.000405 for growth and risk entails that a percentage increase in growth and risk would increase earnings per share by a factor of 2.76 and 0.00041 respectively. The positive effect of growth on earnings per share though not significant, unveils that firms with high growth opportunities have high performance ratio, as growth firms are able to generate income from investments. It can be deduced from the positive effect of risk that firms with higher variability in net income are expected to have higher returns and consistent with the risk return trade-off hypothesis. Furthermore, it may be adduced from the positive effect of risk that Nigeria consumer good firms have no known liquidity risk as they are no evident risk of default arising from vicissitudes in cash flow.

From the analysis in Table 4.1 the value of adjusted R squared for fixed effect estimation is -0.008060. This discloses that -0.806% variation in earnings per share was as a result of changes in financial structure (total debt to total equity and short term debt to total equity), tangibility, firm size, growth and risk. The Durbin Watson statistic of 2.0 indicates absence of autocorrelation. Furthermore, it envisages that the estimated equation can be depend upon in making justifiable conclusion regarding the effect of financial structure on earnings per share of Nigeria consumer goods firms.

The p-value in the regression analysis in Table 4.1 for fixed effect estimation shows that financial structure variables albeit total debt to total equity ratio and short term debt to total equity ratio have no significant effect on earnings per share of consumer goods firms. To this effect, the null hypothesis that financial structure has no significant effect on earnings per share of consumer goods firms could not be rejected.

4.2 Financial Structure and Return on Equity (ROE)

To determine the effect of financial structure on return on equity of Nigeria consumer goods firms, pooled OLS, fixed and random effect models analysis was performed. The Hausman specification test in Table 4.2 exhibits a p-value of 0.765900. This value is greater 0.05 thus, fixed effect model is most appropriate for estimating the results of the three models. The fixed effect estimation shows that financial structure variables: ratio of total debt to total equity and short term debt to total equity have negative insignificant effect on return on equity. On the other hand, tangibility, growth and firm risk insignificantly and negatively affect return on equity. Firm size has significant and positive effect on return on equity and it is statistically significant at 1% level of significance. The coefficient of the constant 60.51535 indicates that if total debt to total equity and short term debt to total equity ratio, tangibility, firm size, growth and risk are held constant, return on equity would stand at 60.51535.

The total debt to total equity ratio coefficient of -0.000228 shows that a percentage increase in debt to equity ratio would decrease return on equity by 0.023%. This agrees with the work of [1] and [32] for firms in consumer goods sector of Pakistan and Thailand respectively. For short term to total equity ratio, the coefficient of -0.002852 suggests that a percentage increase in short term to total equity ratio would decline return on equity by 0.28%. This also validates the findings of [1]. However, it contradicts the study of [31]. For tangibility, the coefficient of 0.001567 depicts that a percentage increase in the ratio of fixed assets to total assets would appreciates return on equity by 0.156%. This is consistent with [34]. For firm size, the coefficient of 6.08 reflects that a percentage increase in firm size would results in a corresponding 6.08 rise in return on equity. This also agrees with [34] but contradicts [8]. The positive effect of firm size on return on equity lays credence to the postulation that bankruptcy decreases with size. A large firm has a potential of high earnings due to investment diversification occasioned by the availability of capital.

Table 4.1. Pooled OLS, fixed effect and random effect regression result for Model 1

Dependent variable: Earnings per share (EPS)

Dependent Variable: EPS
Method: Panel Least Squares
Sample: 1993 2013
Periods included: 21
Cross-sections included: 23
Total panel (balanced) observations: 481

Variables	**Pooled OLS**		**Fixed effect**		**Random effect**	
	Coefficient	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
C	60.26863	0.6785	130.3541	0.3758	60.26863	0.6778
TDTE	-0.000443	0.9691	-0.000111	0.9924	-0.000443	0.9690
STDTE	-0.000812	0.9668	-0.000611	0.9754	-0.000812	0.9667
TANGIBILITY	-0.001899	0.9835	-0.000113	0.9990	-0.001899	0.9835
SIZE	1.29E-06	0.8239	-6.07E-06	0.3355	1.29E-06	0.8235
GROWTH	-4.79E-05	0.9777	2.76E-05	0.9874	-4.79E-05	0.9776
RISK	-0.001703	0.9823	0.000405	0.9959	-0.001703	0.9823
R-squared	0.000116		0.046543		0.000116	
Adjusted R-squared	-0.012541		-0.008060		-0.012541	
S.E. of regression	2911.433		2904.984		2911.433	
Sum squared resid	4.02E+09		3.83E+09		4.02E+09	
Log likelihood	-4515.632		-4504.198			
F-statistic	0.009163		0.852387		0.009163	
Prob(F-statistic)	0.999997		0.677434		0.999997	
Durbin-Watson stat	2.009438		2.006076		2.009438	
Hausman specification test						
	Chi-Sq. Statistic		9.095576			
	Probability		0.168300			

Source: *Computer analysis using E-views 8.0*

Table 4.2. Pooled OLS, fixed effect and random effect regression result for Model 2

Dependent variable: Return on equity (ROE)

Dependent Variable: ROE
Method: Panel Least Squares
Sample: 1993 2013
Periods included: 21
Cross-sections included: 23
Total panel (balanced) observations: 481

Variables	Pooled OLS		Fixed effect		Random effect	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	47.12919	0.0004	60.51535	0.0000	47.12919	0.0005
TDTE	0.002099	0.0440	-0.000228	0.7911	0.002099	0.0474
STDTE	-0.001239	0.4861	-0.002852	0.0567	-0.001239	0.4928
TANGIBILITY	0.000891	0.9155	0.001567	0.8216	0.000891	0.9168
SIZE	7.04E-06	0.0000	6.08E-06	0.0000	7.04E-06	0.0000
GROWTH	0.000493	0.0017	0.000107	0.4099	0.000493	0.0020
RISK	0.003978	0.5705	0.004593	0.4290	0.003978	0.5764
R-squared	0.292881		0.596732		0.292881	
Adjusted R-squared	0.283930		0.551924		0.283930	
S.E. of regression	265.3802		209.9262		265.3802	
Sum squared resid	33382239		19037804		33382239	
Log likelihood	-3363.523		-3228.459			
F-statistic	32.72095		13.31766		32.72095	
Prob(F-statistic)	0.000000		0.000000		0.000000	
Durbin-Watson stat	0.652531		0.893805		0.652531	
Hausman specification test						
	Chi-Sq. Statistic		3.334195			
	Probability		0.765900			

Source: *Computer analysis using E-views 8.0*

On the other hand, the coefficient 0.000107 and 0.004593 for growth and risk signifies that a unit increase in growth and risk (cash flow) would increase return on equity by 0.01% and 0.46% respectively. The positive effect of growth opportunities on return on equity affirms the assertion that high growth rates are associated with the lower cost of capital and high corporate performance. The positive effect of risk could also suggests that Nigeria consumer goods have no high risk capable of affecting their performance negatively.

From the analysis in Table 4.2 the value of adjusted R squared for fixed effect estimation is 0.551924. This signifies that 55.19% variation in return on equity was as a result of changes in financial structure (total debt to total equity and short term debt to total equity), tangibility, firm size, growth and risk (cash flow). The critical value of F-distribution at 5% level of significance and 14 degree of freedom, i.e. F (7, 14) is 2.76. F-statistic calculated as indicated in Table 4.2 is 32.72. This value is higher than tabulated F-statistic of 2.76, and by implication, the model in statistical term has goodness of fit. Furthermore, the probability of the F-statistic is 0.00000 and less than 0.05 (5% level of significance).

The p-value in the regression analysis in Table 4.2 for fixed effect estimation reveals that financial structure variables albeit total debt to total equity ratio and short term debt to total equity ratio have no significant effect on return on equity of consumer goods firms. Consequently, the null hypothesis that financial structure has no significant effect on return on equity of consumer goods firms could not be rejected.

5. CONCLUSION AND RECOMMENDATION

The objective of this study was to assess the effect of financial structure on financial performance of consumer goods firms by obtaining secondary data from Nigerian Stock Exchange factbook of various issues as important for the period 1993 to 2013. Estimation of the models was carried out using the pooled ordinary least square, fixed and random effect regression technique. The outcome of the analysis divulged that financial structure

represented by total debt to total equity ratio and short term debt to total equity ratio, negatively affect financial performance of consumer goods firms measured by earnings per share and return on equity. The negative effect of financial structure variables: total debt to total equity ratio and short term debt to total equity ratio tends to buttress that as result of agency conflict, performance of firms that are highly geared are negatively affected. The findings also were in conformity with the proposition of the pecking order theory that firm performance and financial structure are negatively correlated. In order to increment this allegation, firms risk was added in the analysis and it reveals that risk has positive effect on earnings per share and return on equity. It may be construed from this findings that Nigeria consumer good firms have no known liquidity risk as they are no evident risk of default arising from vicissitudes in cash flow. Furthermore, the positive effect of risk on performance of firms is in consistent with the risk return trade-off hypothesis that firms with higher variability in net income are expected to have higher returns. This study concluded that financial structure has negative effect on financial performance of Nigeria consumer goods firms. In the light of this, we suggests that firm's management should established a debt-equity mix capable of improving financial performance notwithstanding the proxy adopted for assessing performance. Nigeria consumer goods firms investment in fixed assets should be in such a way as it can improve earnings per share, over investment in fixed assets should be discontinued and effective and efficient utilization of fixed assets vehemently upheld.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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