

PROFITABILITY IMPLICATIONS OF CAPITAL STRUCTURE: EVIDENCE FROM CONSUMER GOODS COMPANIES QUOTED ON THE NIGERIAN STOCK EXCHANGE

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Abstract

This study examined the profitability implications of capital structure with emphasis on consumer goods companies quoted on the Nigerian stock exchange for a period of ten years from 2006-2015. Panel data regression analysis was employed in estimating the variables. The sample size consisted of 15 companies with a total of 150 observations. A key finding of this study was that debts which are long term in nature have contributed positively to the growth of the consumer goods firms in the last ten years, while short term debts had negatively affected the firms' performance. This study recommended the use of debt in financing the operation of the consumer goods companies. The study further recommended that long term debts conditions should be made more attractive to consumer goods companies in Nigeria. This will enhance the production of consumer goods, reduce over dependency on foreign goods and improve the welfare of shareholders of the firms'.

Keywords: Financing mix, Consumer Goods companies, Leverage, Return on Assets, Net Income

Introduction

The ability of a company to finance its operations through debt or equity or both is an important consideration in the profitability of a company (Ross, 1977). While the method of financing may differ, the likely impact on profitability largely depends on the sources and mixture of funding options. Two key theories of capital structure have emerged to explain the interaction among capital structure, namely financial structure and firm profitability. The traditional trade-off theory, a key theory of capital structure suggests that capital structure has implication on cost of capital and its value, hence there is need to have optimal level of indebtedness signifying a cost- benefits structure. On the contrary, the pecking order theory argues that the optimal selection of capital structure by the traditional theory may lead to adverse selection. Myers (1984), corroborate the later theory by averring that adverse selection connotes that retained earnings are better than debt and debt is better than equity. A firm which prefers internal to external financing and debt to equity follows the pecking order theory. The question is what financing mix will determine the optimal profitability of firms? A firm's debt- equity ratio serves as a signal to managers because the use of leverage implies higher bankruptcy risk for low quality firm and will always have information advantage over the outsiders. Modigliani and Miller (1958) in a seminal work had demonstrated that leverage was unrelated to the firm value, while tax-deductible interest payment will show that firm value and capital structure are positively related. A lot of imperfections have been added to capital structure such as bankruptcy costs, agency cost, and debt capacity. However, Long and Malitz (1985), as well as Titman and Wessel (1988) supported bankruptcy and or agency cost as partial determinants of leverage and of optimal capital structure. The extent to which firm's capital structure mix affects profitability is open for debate. As the leverage of any company grows, the interest payment will also grow and the earnings per share of the company will decrease. When a company decides to use debt finance, it simply means reallocating some expected future cash flow away from equity claimants in exchange for cash up front. The maximization of the shareholders' wealth is a function of the profitability of the firm. A good measure of profitability of a firm is the return on asset (ROA). It shows how profitable firm assets are generating revenue. In addition to revenue generation, it is used to measure internal growth and capital intensity which are the growth rate a firm can achieve without resorting to external financing and the amount of fixed or real capital present in relation to other factors of production.

The debt-equity mix has an overall implication for the owner's earnings and risk which in turn affects the cost of capital and performance of the company and the wealth of the company. The wealth of the owners of a company is a reflection of the level of return on equity (ROE) and earnings per share (EPS). Earnings per share are the measure of the profitability of the common shareholders' investment. The EPS shows the profitability of the firm on a per share basis. As a profitability index, it is a valuable and widely used ratio (Pandey, 1999). Leverage magnifies the EPS for a firm with positive earnings and also magnifies the losses for a firm with negative earnings. Profitability is a measure of the earning power of a firm. Profitability as a measure is the ability of a company to gain profit through goal oriented financial plans and decision. There is no doubt that benefits abound in the use of debt in capital structure of the firms. There is a benefit of debt financing which is tax deductibility of interest charges which result in lower cost of capital. This does not however imply that firms should go ahead to increase the debt proportion in their capital structure. It is important to mention that firms differ in size, cost of funds and earning capacities.

The decision on how to combine debt and equity for the optimal profitability of a firm has been an issue of contention to managers of finance for a considerable time. Thus it has generated debate among researchers and there is scanty empirical evidence to assert how capital structure has affected profitability of quoted consumer's goods companies in Nigeria. The raising of fund for a firm will help in its operation, hence it is important that firms know the debt-equity mix that gives effective and efficient performance. From observations of annual report and accounts, most companies are involved in short term debts. Again there is much external financing among firms which has the effect of over-leveraging. When there is over leverage, the firm has excessive obligations to institution(s) and individual(s) who can disrupt firm's operation and budgeted profits on investment if their demand(s) are not met. Debt financing and its associated types has a fixed repayment interest period irrespective of the firm's rate of return on assets. The essence of employing debt is based on the assumption(s) that the fixed charges can be obtained at a cost lower than the firm's rate of return on net assets. Investors look at the earning power (profit) of the firm as their security. On the other hand, the equity financing avoids this repayments and interest, firm allow the investor to become part owners of the business. Most firms may not have taken a serious analysis of the implications of capital structure in measuring their profit. A well-articulated capital structure will ensure success of the firm. On the contrary, a company's capital structure may have negative impact such as bankruptcy or liquidation on the firm. A study on the impact of capital structure on profitability will help to know the potential problems in performance and capital structure. This research aims at finding the impact of capital structure on profitability with focus on consumer's goods companies quoted on Nigerian Stock Exchange. To estimate the variables under investigation, this research was guided by the following research questions. 1. *How does financial leverage affect a firm return on assets of consumer goods companies?* 2. *In what ways does operating leverage influence return on assets of consumer goods companies?* 3. *To what extent does short term debt to total assets affects return on assets of consumer goods companies?* 4. *How does the degree of financial leverage affect the return on assets of consumer goods companies in Nigeria?* 5. *To what extent does equity share capital affects return on assets of consumer goods companies?* To answer these questions, the following hypotheses in null forms were tested: 1. *Financial leverage has no significant impact on the return on assets of consumer goods companies in Nigeria.* 2. *Operating leverage has no significant effect on the return on assets of consumer goods companies in Nigeria.* 3. *Short term debt to total assets has no significant influence on the return on assets of consumer goods companies in Nigeria.* 4. *Degree of financial leverage has no significant impact on the return on assets of consumer goods companies in Nigeria.* 5. *Equity share capital has no significant influence on the return on assets of consumer goods companies in Nigeria.*

This study for the purposes of clarity has been divided into five sections. Section one is introduction followed by literature review in section two, which encompasses the concept of the study, the theoretical underpinning and related empirical review. Section three is methodology while section four is the results and discussions. The summary of findings, conclusion and recommendations are presented in section five.

Literature Review

Conceptual Framework

The concept of profitability and capital structure is anchored on accounting profit, economic profit, technique of measurements and classifications. Accounting profit is the monetary costs a firm pays out and the revenue a firm receives. It is the book profit and it is higher than economic profit. It is the total monetary revenue minus total costs. Accounting profit must be calculated according to generally accepted accounting principles (GAAP). It includes the explicit cost of doing business such as operating expenses, depreciation, interest and taxes. After calculating the gross revenue, all operating costs are subtracted to arrive at the firm operating profits or earnings before interest, taxes, depreciation and amortization (EBITDA). Gross profit is a firm total sale minus the cost of goods sold. It is the cost associated with providing its services. Gross profit assesses a firm efficiency at using labor and supplies. It only considers variable cost. That is cost that fluctuates with the level of output materials, direct labor assuming it is hourly or otherwise dependent on output level. A generally defined gross profit does not include fixed costs or costs that must be paid regardless of the level of output e.g. rent, advertising, insurance, salaries for employee not directly involved in production.

Operating profit also known as operating income is a measure of firm efficiency. It is a profit generated from core business of a firm before accounting for interest and taxes. In accounting terminology, operating profit is known as earnings before interest and taxes (EBIT). Operating profit is important because it is an indirect measure of efficiency. The higher the operating profit, the more profitable a firm core business is. Operating profits is also a measure of managerial flexibility and competency, particularly during tough economic times. Earnings not directly related to the core business operations are not included when calculating operating profit. It helps to measure the health of a firm and it is one of the factors to consider when an investor is looking where to invest. If a firm is experiencing a decline in its operating profit, this shows that there is less money for future expansion, paying off debt burden. Strong operating profit shows that profit from a core firm business is not diluted with income from other sources and thus reveal a lot about the operating capacity of the management.

Net profit also referred to as the bottom line, net income or net earnings is a measure of the profitability of a venture after accounting for all costs. It is the actual profit without inclusion of working expenses in the calculation of gross profit. Net profit is one of the most closely followed figures in financial statement and it plays a key role in ratio analysis and interpretations. Shareholders look at net profit because it is the source of compensation for them having invested their funds. If a firm cannot generate enough profit to take care of owners of the business, the value of the stock will plummet. One of the concepts to understand about net profit is that it is not measured by how much cash a firm earned during a given period. This is because the income statement includes a lot of noncash expenses. It is more appropriate to consider net profit as a percentage of sales known as profit margin. Another is price to earnings ratio (P/E) which tells investors how much they are paying (stock price) for each naira of net profit the firm is able to generate.

Economic profit or loss is the difference between revenue received from the sale of an output and the opportunity cost of the inputs used. In calculating economic profit, opportunity costs are deducted from revenue earned. Economic profit is a measurement of an opportunity cost. When a decision is made, the value of the trade-off is the opportunity cost. It must be noted that economic profit is not recorded in the firm financial statement, neither is there any law that mandate the firm to disclose it to investors, regulators etc. Business profit is the amount left after expenses have been subtracted from the income of a business within a specified period of time. Business profit is important because without it the firm may cease to exist. Managers and owners keep track of the business profit by completing the profit or loss statement.

Measurement tools of Profitability: If the revenue from your products or services is covering your expenses, you are turning out profit. However, a naira profit amount won't tell how profitable. By calculating a handful of financial metrics, you can identify areas of your business that is doing well and areas that need improvement. We have already discussed some of the areas in details such as net profit margin, gross profit margin, comparative expenses analysis, and profit by segments. To be successful and remain in business, it is important that a firm grows and remain profitable. This is the only thing

that will bring investors and ensure long term survival. This is the significance of profitability because the bottom line is that no business can survive for a period of time without making profit. This been the case, the measurement of a firm profitability both now and in future is critical to the firm evaluation. Though a firm present profitability may be good, opportunities for growth should always be explored, because it offers greater overall opportunity and future growth.

Profit and Profitability: These two terms are used interchangeably; they do not mean the same thing. Profit is an absolute number determined by the amount of income above and beyond the cost of expenses a firm incurs. It is calculated as total revenue minus total cost and it appears on a firm financial statement. Profitability is a relative and not absolute number. It is a measure of efficiency. Profitability can also be defined as the ability of a business to produce a return on an investment based on the resources in comparison with an alternative investment. A firm can make profit, but yet not profitable. If a firm is having profit, but not profitable, some measures can be taken to redeem the firm from issues that are making it unprofitable. The use of profitability index is important to know if a project is worth investing into. This metric provides the management with insight into cost and benefits and it is calculated by dividing present value of future cash flow by a project initial investment.

Ratio analysis is a form of financial statement that is used to obtain a quick indication of a firm's financial performance in several key areas. The ratios are categorized as short term solvency, Debt management, Asset management, Profitability, and Market value ratios. The computation of ratios facilitates the comparison of firms which differ in size. Ratios can be used to compare a firm financial performance with industry average. In addition, ratios can be used in a form of trend analysis to identify areas where performance has improved or deteriorated over time. Because ratio analysis is based upon accounting information, its effectiveness is limited by the distortions which arise in financial statements due to such things as historical cost and inflation. Therefore, ratio analysis should only be used as a first step in financial analysis to obtain quick indication of a firm performance and to identify areas which need to be investigated further. The importance of ratio as a useful management tool to improve understanding of financial results and trends overtime cannot be over emphasized. It provides key indicators of organizational performance. It helps to pin down areas of strength and weakness by managers. Funders use ratio analysis to measure results against other organization or make judgments concerning management effectiveness and mission impact. Profit or loss ratio refers to a trading system's ability to generate profit over losses. The profit or loss ratio is the average profit on winning trades divided by the average loss on losing trades over a specific time period. Profitability ratio is a class of financial metrics that are used to assess a business ability to generate earnings compared to its expenses and other relevant costs incurred during a specific period of time. It compares income statement account and categories to show a firm ability to generate profits from its operations. It focuses on a firm return on investment in inventory and other assets. These ratios basically show how well firms can achieve profits from their operations. Investors and creditors can use profitability ratios to judge a firm return on investment based on its relative level of resources and assets. This can be used to judge if a firm is making enough operational profits from their assets. Profitability ratios relates to efficiency because it shows how well firm use their assets to generate profit.

Theoretical Underpinning

The theory of capital structure is the basis of firm's profitability and is a major discourse in the field of finance. Theories on capital structure are based on the appropriate mix of debt and equity. The four (4) known theories of capital structure are presented below.

Net Operating Income Theory: This theory is of the view that the weighted average cost of capital, k_{cd} is insensitive to changes in the capital structure. It further states that k_{cd} and k_d are constant and k_e increases with the level of gearing.

Net Income Theory: This theory asserts that the cost of debt (k_d) and the cost of equity (k_e) are independent of the capital structure, hence a rising level of gearing leads to a higher value of the firm due to declining weighted average cost of capital (k_{cd}).

Traditional Theory: The traditional theory posits that there is an optimal capital structure and that a firm can increase her value through manipulating the gearing ratio.

Modigliani and Miller Theory: Modigliani and Miller approach states that the average cost of capital does not change with change in the debt weighted equity mix in a perfect market environment. Their seminal work was challenged by many authors and researchers including themselves.

Corporate Taxes and Capital Structure

Modigliani and Miller (1963) corrected their earlier proposition on capital structure with the inclusion of corporate taxes after nineteen years. This theory proposes that the value of the firm is equal to the value of the firm's cash flow with no debt tax shield (value of all equity firms) plus the present value of tax shield in the case of perpetual cash flows. The relation between capital structure and taxes has been the subject of another extensive theoretical analysis which had led to testable hypotheses. These hypotheses specify particular relations among the optimal capital structure, corporate tax rate and non-debt tax shields. Some previous empirical studies between leverage and corporate tax attributes have produced inconclusive results. Titman and Wessel (1988) find no evidence to support theoretical predictions that leverage levels are related to firm's non-debt tax shields.

Static Trade-off Theory

Theories suggest that there is an optimal capital structure that maximizes the value of the firm in balancing the costs and benefits of an additional unit of debt are characterized as models of trade off. Baxter (1967) states that the cost incurred by financial distress has been identified as non-trivial and could pay off the tax advantages of debt financing. The debt has advantages and disadvantages for firms. Benefits come from tax savings of debt clarified by Modigliani and Miller (1963) and disadvantages come from the increasing probability of bankruptcy for a firm with higher debt so that the cost of failure is increased. The prediction of the trade-off theory is that the optimal capital structure exists and is determined by the achievement of balance between tax benefits and cost of debt, considering other variables. Firms substitute debt with equity or equity with debt until the value of the firm is maximized. This is the original static trade-off which is derived from not taking into account the imposition and the nullity of bankruptcy costs in the theory of Modigliani and Miller. Jensen and Meckling (1976) based on the common knowledge that the debt had been widespread before the existence of subsidies tax on interest payments, given positive bankruptcy costs, they argued that there must be other important determinants of capital structure that have not been identified.

Review of Related Empirical Studies

Roden and Lewellen (1995) employed a sample of 48 United States firms during 1981-1990 and found a positive relation between profitability and capital structure. Analogous results were also observed by Champion (1999) who investigated the impact of capital structure on firm performance by analyzing the relationship between operating performance of Malaysian firms measured by ROA, ROE with short term debt (STD), long term debt (LTD), and total debt (TD). Four (4) variables found to have influence on firm operating performance namely size, asset growth, sales growth and efficiency were used as common variables. Two sectors of Malaysian equity market, consumers and industrial were used. A total of 58 firms were identified as sample size. Financial data were from 2005-2010 with 358 observations. The statistical tool used was regression analysis. Lag values for the proxies were also used to replace the non-lag value in order to ensure that any extended effect of capital structure on firm performance is also examined.

The study finds out that only STD and TD have significant relationship with ROA. ROE was significant on each of the debt levels. The lagged analysis shows that none of lagged values for STD, LTD, and TD has significant relationship with performance. Ghosh, Nag and Sirmans (2000) studied the impact of capital structure on performance of financial and non-financial firms in Bangladesh. A total of 50 banks and 50 non-banks were studied. A comparative analysis and descriptive statistics were used. The result shows that EPS does not vary between bank and non-bank firms. However, ROA and ROE varies significantly. In the non-bank sector, ROA and ROE are good than that of bank and are less levered firms than banks. About 90% debt is used to finance bank assets, confirming that banks are highly geared institutions. Hadlock and James (2002) researched on capital structure and firm performance of

commercial banks in Tanzania. The study used panel data for a period of 5 years. A total of 38 banks were studied with fixed effect regression to estimate relationship between firm leverage and performance. The result shows that banks in Tanzania use more debts as source of finance than equity, but more of short term debt. They all concluded that highly profitable firms use high level of debt. Margaritis and Psillaki (2010) investigated capital structure and ownership structure of firm performance across different industries and observed a significant positive relation between leverage and firm's performance. They used a sample of both low and high growth French firms for the period 2003-2005 and found that leverage have positive effect on firm's efficiency over the entire sample. Samuel (2013) using panel data consisting of 257 South African firms over the period 1998-2009, investigated the association between capital structure and firm performance. To test the relationship, he used GMM regression approach and found a positive and significant relation between financial leverage and firm's performance. Aliakbar, Seyed, & Pejman (2013) studied capital structure and firm performance in the Dhaka stock exchange from 2007-2012 using pooling panel data regression method, they found that EPS is positively related to short term debt while it is negatively related to long term debt. The study found capital structure has impact on firm performance which is consistent with pecking order theory. In contrasts, a rigorous study was performed by Rajan and Zingales (1995) to investigate the capital structure of 48 firms from the U.S during the period 1981-1990. Result of that study revealed that there is a negative relation between profitability and debt-level, and the relationship would be more visible if firm size gets bigger. They also added that if the return on stock and investments are fixed in a short term, and the main way of external financing is debt, there is a negative correlation between performance and leverage. Gleason, Lynette and Ike (2000) researched on capital structure and firm performance in the brewery industry in Nigeria for a period of 2004-2013. The use of regression method was applied and found that capital structure is negatively related to financial performance. They observed that firm's capital structure has a statistically significant negative effect on firm's performance matrixes that is, return on assets (ROA), growth in sales (Gsales), and pretax income (Ptax). A negative link between capital structure and firm performance was also witnessed by Fama and French (2002). They observed that highly profitable firms with lower risk of financial distress are actually less levered which contradicts the trade-off theory. Nor and Fatihah (2012) tried to explore the impact of debt and equity financing on the performance of firm's listed in Bursa Malaysia. Using a sample of 130 firms for the period 2001-2010 combined with multiple regression analysis, they cited a statistical significant negative relation between capital structure and firm performance. Manawaduge, Zoysa, Chowdhury and Chandarakumara (2011) empirically analyzed capital structure and firm performance in emerging economies of Sri Lankan firms. A total of 155 firms were used by application of both pooled and panel data regression model. The result shows that most of the Sri Lankan firms employ short term debt capital as against the long term debt and affirms that firm performance is negatively affected by the use of debt capital. It also found negative relationship between tangibility and performance indicating inefficient utilization of noncurrent assets. Amos and Jeremiah (2013) in their study of the relationship of capital structure to profitability of quoted firms in Nigeria from a period of 1996-2010 using panel data from 60 non-financial firms. The result shows there is a significant negative relationship between capital structure and profitability of quoted firms in Nigeria. Profitable firms do not target an optimal level of leverage to balance the benefits of cost of debt financing, rather firms use retained earnings first, then debts and finally equity. This is in agreement with the pecking order theory. With cross sectional tie series fixed effect model, Anup and Suman (2010) examined the link between capital structure and firm value in Bangladesh. They found that maximizing the wealth of shareholders demands a perfect mixture of debt and equity, whereas cost of capital has a negative correlation with performance. In this choice and it has to be as least as possible. Khairul (2013) did his work on the impact of capital structure choice of Bangladesh firms. Specific factors on capital structure decision for 44 firms listed on Dhaka stock exchange (DSE) during 2004-2011 were reviewed. To achieve the objectives, the study tests the null hypothesis that none of the firm specific factors such as liquidity, market to book value, collateral, dividend payment, profitability, size, and industry classification has significant impact on leverage using estimate of fixed estimate model under ordinary least square (OLS) regression. Checking multi co linearity and estimating regression

analysis through Pearson correlation model respectively, the study found that profitability, collateral, and liquidity has significant and negative impact on leverage. The study observed positive and significant impact on market to book value ratio on leverage. Dividend payment and size were not found as significant explanatory variable on leverage. Results also expose that total debt to total asset (TDTA) ratios were significant different across Bangladesh industries.

Krishnan and Moyer (1997) carried out an empirical study on the corporate performance and capital structure of large enterprises from four emerging economies in Asia namely Hong Kong, Malaysia, Singapore and Korea. The study also tries to investigate the influence of country of origin on both financial performance and capital structure of the corporations studied. The study uses analysis of variance to test for differences based on country of origin and estimated factor regression models to capture the effect of expressed variables on performance. They use four different measures of corporate performance vis-à-vis the return on equity (ROE), the return on invested capital (ROIC), the pretax operating profit margin (PTM) and the market return on stock (RETURN) and the measure of leverage namely the ratio of total debts to the market value of equity (TD/Equity) and the ratio of long term debt to the market value of equity (LTD/Equity). The study corrects for problems of short-term measurement instability and bias by taking five-year average of the variables. The study finds a negative and significant impact of total debt to total equity (TD/TE) and ROE of Asian corporations comprising of 81 companies. The study also finds out that profitability, performance and capital structure were influenced by the country of origin. The Hong Kong corporations have significantly higher returns on equity and invested capital while performance differences among firms from the other countries were not statistically significant. The stock market return model was not significant which suggests that expected differences in accounting performance across countries were rapidly incorporated in their stock prices. Overall, the evidence from the study only lends limited support to the extant capital structure theories in these emerging market economies.

Hall et al (2004) in their study on how the pecking order theory explains capital structure explored the most important factors on a firm's capital structure by pecking order theory. Hierarchical regression was used for analysis. The study examines the determinants of debt decision for 305 Taiwan electronic companies that are quoted in Taiwan stock exchange for the period 2004-2009. The result indicates that the determinants of capital structure are profitability and growth rate. The profitability negatively affects capital structure. It implies that firms prefer to use their earnings to finance business activities and thus use less debt capital. Growth rate positively affects capital structure. The greater growth opportunity they have, the more capital to finance the growth. Size is a moderator variable in the study which moderates the effects of tax rate on capital structure. Larger firms appear to take advantage of the tax deductibility of debt. Hurdle (1973) in his study of leverage, risk, market structure and profitability of public shareholding firms listed in Amman stock market. The study employed the use of multiple regression model represented by ordinary least square (OLS) as a technique to examine what effect capital structure has on performance by applying 76 firms (53 industrial and 23 service corporations) for a period of five years (2001-2006).

The result of the study concludes that capital structure associated negatively and statistically with firm performance on the sample generally. The study also found that there is no difference for the impact of the financial leverage between high financial leverage and low firms on their performances. The study finally shows that the effect of financial leverage on the basis of the growth, that there is no difference. Wippen (1966) in his study on impact of debt on profitability of firms, evidence from non-financial sector of Pakistan used different sets of variables to investigate the relationship between debt and profitability of firms. The study covers ten (10) years from 2003-2013. Return on asset (ROA) was used as profitability measure and as the dependent variable while STDTA, LTDTA and TDTA were used as independent variables. Size, sales growth and growth opportunity were used as control variables. Random effect regression analysis was used and the result shows a significant but negative relationship with short term, long term and total debts.

Ozkan (2002) in his study of the determinants of corporate debt maturity structure, evidence from UK firms explored the overview of contemporary theories on corporate debt maturity structure. The study made use of econometric regression model for a period of five years (2003-2007). The result shows that

long term debt increases with company size, leverage and asset maturity. It also shows that the impact of growth options, collateralized asset, corporate tax rate, and company level volatility proves statistically insignificant.

However, some authors revealed mixed results. Kinsman and Newman (1998) studied the relationship between debt tied to lower firm performance using ROA, ROE, Net profit margin (NPM) and liquidity ratios such as current ratio (CR), quick ratio (QR) cash conversion cycle (CCC) of low market capitalized firms listed on the Kuala Lumpur stock exchange (Bursa Malaysia). Samples of 50 low capital firms were chosen using a quota sampling based on sector for a period 2010-2013. Result generated using E views 6.0 shows that debt level has a negative correlation with current ratio, quick ratio, and cash conversion cycle, ROE, ROA, and NPM. A multiple regression model using a cross section fixed panel data technique shows that debt level has a significant positive impact on QR, and CCC. The gearing level has a significant negative impact on ROE, ROA, and NPM. A similar result was found by Mesquita and Lara (2003) in Brazil. Their study provided new empirical evidence on the impact of debt on corporate profitability. The impact was looked using these three (3) essential theories of signaling, tax and agency cost theory. A panel data sample of 2240 French non listed firms of service sector during 1999-2006. A generalized method of moments (GMM) econometric technique on (3) measures of profitability ratio (Prof 1, 2, and 3) was used. Result shows that debt ratio has no effect on corporate profitability regardless of the size of the firm. Tianyu (2013) examined the influence of capital structure on firm's performance in both developed and developing markets.

A sample of 1200 listed firms in Germany and Sweden and 1000 listed firms in China for the period 2003-2012 has been used in this study. Applying OLS regression method, he documented that capital structure has a significant negative effect on firm's performance in China, whereas, significant positive effect in two European countries, Germany and Sweden, before financial crisis in 2008. Salim and Yadav (2012) using a sample of 237 Malaysian companies during 1995-2011, studied the relationship between capital structure and firm performance using a panel data analysis. Their analysis revealed that firm performance measured by ROA, ROE and EPS have negative relationship with the capital structure while Tobin's Q has significantly positive relationship with short term debt and long term debt. Similar result was observed by Zeitun and Tian (2007) in their study during 1989-2003 investigated the effect of capital structure on corporate performance using a panel data sample of 167 Jordanian firms. The result shows that capital structure has a significant negative impact on the firm performance measures in both accounting and market measures. Short term debt to total asset (STDTA) level has a significant positive effect on the market performance measure (Tobin's Q).

Ali and Iman (2011) studied the influence of capital structure on firm performance. The work was done on a sample of 36 Bangladesh firms listed in Dhaka stock exchange for the period of 2007-2012. Four performance measures EPS, ROE, ROA, and Tobin's Q as dependent variables and three (3) capital structure ratios of short term debt (STD), long term debt (LTD), and total debt to total asset (TDTA) ratios as independent variables. Using pooling data regression method, they found that EPS is significantly positive related to short term debt, while significantly negatively related to long term debt. There is significant negative relationship between ROA and capital structure. No statistically significant relationship exists between capital structure and firm performance as measured by ROE and Tobin's Q. They came to the conclusion that capital structure has negative impact on firm performance which is consistent with pecking order theory. Ebrati, Farzad, Reza and Ghorban (2013) investigated the impact of capital structure on firm performance. Multiple regression analysis was used in the study in estimating relationship between leverage and firm performance using four (4) accounting based measures of financial performance ROE, ROA, market value of equity (MBVR) and Tobin's Q, based on a sample of 15 firms listed in Tehran stock exchange from 2006-2011. The result shows that firm performance which is measured by ROE, MBVR and Tobin's Q is significant and positively associated with capital structure while reported a negative relation between capital structure, ROA, and EPS. They concluded that firm performance is positively or even negatively related to capital structure.

Abor (2005) also investigated the link between capital structure and profitability of firms listed in Ghana stock exchange for the period 1998-2002. Using regression analysis, he witnessed a significantly

positive relation among ROE and the short term debt and total debt ratio, while a negative relation with long term debt.

Conversely, some researchers observed weak to no relation with capital structure and firm performance. Philips and Sipahioğlu (2004) researched on the relationship between capital structure and corporate performance with hotel firms. Using data collected from 43 UK quoted firms which show interest in owning and managing hotels. Modigliani and Miller (1958) capital structure irrelevancy theorem was tested. Empirical analysis revealed no significant relationship between level of debt found in capital structure and firm performance. These results are consistent with MM theorem. Also it highlights that low levels of return on equity are a feature of the sample. This latter point appears to be important issue for hotel investment, as hotel firms are continually looking to raise external finance to fund expansion. The paper suggests that management of the sample firms need to identify novel ways of expanding the business without increasing the levels of debt. Ibrahim (2009) also examined the influence of capital structure choice on firm performance in Egypt. His study based on a sample of non-financial listed firms for the period 1997-2005 and used multiple regression analysis. Results suggested that firm performance has weak to no relationship with capital structure choice. Likewise Khalaf (2013) investigated the relationship between capital structure and firm performance across different industries using a sample of 45 Jordanian manufacturing firms listed at the Amman stock exchange for a period of 5 years from 2005-2009. Multiple regression analysis was applied on performance indicators such as ROA, PM, STDTA, LTDTA and total debt equity (TD/Equity) as capital structure variables. The result shows that there is a negative and insignificant relationship between STDTA and LTDTA, ROA, and PM; while TD/E is positively related with ROA and negatively related with PM. STDTA is significant using ROA while LTDTA is significant with PM. The study concludes that statistically; capital structure is not a major determinant of firm performance. It recommends that managers of manufacturing firms should exercise caution while choosing the amount of debt to use in the capital structure as it affects their performance negatively.

Methodology

Model Specification

The model used for this work was adopted from Greene (1993). The Greene model is represented thus- $Lev_{it} = \beta_1 + \beta_2 (SG)_{it} + \beta_3 (TG)_{it} + \beta_4 (PR)_{it} + \beta_5 (LIQ)_{it} + \beta_6 (SZ)_{it} + u_{it} \dots \dots \dots (3.1)$

Where;

- Lev = Leverage (Dependent variable)
- SG = Sales Growth (Independent variable)
- TG = Tangibility (Independent variable)
- PR = Profitability (Independent variable)
- LD = Liquidity (Independent variable)
- SZ = Size (Independent variable)
- B₁-B_n = Coefficient of independent variables.

The parameters used in this study are capital structure variables represented by total debt to total asset (TDTA), long term debt to total asset (LTDTA), short term debt to total assets (STDTA), degree of financial leverage (DFL) and equity share capital (ESC). The profitability which is a measure of performance was represented by return on asset (ROA). The data for this study were sourced from secondary sources. The secondary sources were the annual reports of the sample consumer goods companies. All listed companies were required by law to submit their annual financial statements yearly to Nigerian Stock Exchange (NSE) and other statutory bodies.

In analyzing the variables under investigation, panel data regression model was employed. A panel data regression model is made up of three different models namely pooled data regression model, fixed effects model and random effects model.

Pooled Regression Model

This pooled regression model is also known as the constant coefficient model (CCM). It is the simplest among the three models of panel data. It does not regard the time and space dimensions of pooled data. In situations where there is neither significant cross section (firm) nor significant temporal effect, it is possible all the data and run an OLS regression. In such situations where neither firm (unit) nor temporal effects are statistically significant, the pooled regression model is stated as:

$$ROA_{it} = \beta_1 + \beta_2(TDTA)_{it} + \beta_3(LTDTA)_{it} + \beta_4(STDTA)_{it} + \beta_5(DFL)_{it} + \beta_6(ESC)_{it} + u_{it} \dots \dots \dots (3.2)$$

where i stands for the cross sectional unit and t the time period under consideration, $\beta_1 \dots \beta_6$ are regression parameters; u is the error terms.

In the pooled regression models (3.2) time and space dimensions are ignored. In fitting the model, we assume that the intercept terms for the fifteen (15) sample firms are the same. The slope coefficients associated with the six regressors' are equally assumed to be identical for all the fifteen firms. Furthermore, estimates of the regression parameters are obtained by virtue of the ordinary least squares method (Greene, 1993).

Fixed Effects Model

One way we can take into consideration the specific nature of each cross sectional unit (firm) is to let the intercept vary across firms while the slope coefficients are constant across firms. As a result of that fact, each cross section may have some characteristics which are personalized. This model is very suitable in situations where each specific intercept may be correlated with one or more independent variables. To quickly recognize the different intercepts, a dummy is always introduced to find which is more suitable. This model is also known as least squares dummy variable (LSDV). The LSDV gives us another means of calculating the estimator more especially when the number of observations (N) is small. However, it has a major limitation of reducing the degree of freedom when the observations (N) are large and its inability to identify time invariant variables. By introducing the fourteen dummy variables $D_{2i}, D_{3i} \dots D_{4i} \dots D_{14i}$ in equation (3.2), we obtain the fixed effects regression model denoted as $ROA_{it} = r_1 + r_2 D_{2i} + \dots + r_{14} D_{14i} + \alpha_2(TDTA)_{it} + \alpha_3(LTDTA)_{it} + \alpha_4(STDTA)_{it} + \alpha_5(DFL)_{it} + \alpha_6(ESC)_{it} + \mu_{it} \dots \dots \dots (3.3)$

Where;

- u_{it} is the error term
- $TDTA_{it}$ is total debt to total asset ratio (financial leverage).
- $LTDTA_{it}$ is long term debt to total asset ratio (operating leverage).
- $STDTA_{it}$ is short term debt to total asset ratio.
- DFL_{it} is degree of financial leverage.
- ESC_{it} is equity share capital

$D_{2i} = 1$ if observations belong to firms 2, zero otherwise, $D_{14i} = 1$ if observations belong to firm 15, zero otherwise.

r_1 represents the intercept for firm 1 and $r_2, r_3, \dots r_{15}$ are the differential intercepts. In the use of dummy variables, we must avoid falling into dummy variable trap known as perfect co linearity. The dummy must be less by one for comparison. Estimates of the parameters of the model (3.2) are obtained via OLS approach.

Random Effects Model

In the random effects model, the intercept term is assumed to be a random variable. Based on the dependent variable ROA, we have the random effects model.

$$ROA_{it} = \beta_1 + \beta_2(TDTA)_{it} + \beta_3(LTDTA)_{it} + \beta_4(STDTA)_{it} + \beta_5(DFL)_{it} + \beta_6(ESC)_{it} + u_{it} \dots \dots \dots (3.4)$$

By assuming β_1 as random variable with a mean value of β_1 instead of fixed, the intercept value for the 15 firms can be expressed as $\beta_{1i} = \beta_1 + \epsilon_i$

Where; $i = 1, 2, 3, \dots, 15$, ϵ_i is a random error term with mean value of zero and variance of $\delta^2 \epsilon$. By implication, the 15 firms have a common mean value for the intercept (β_1) and the differences in the

individual 15 firms are reflected in the error term. Recall equation (3.3), the introduction of ϵ_i will give as follows.

$$ROA_{it} = \beta_1 + \beta_2(TDTA)_{it} + \beta_3(LTDTA)_{it} + \beta_4(STDTA)_{it} + \beta_5(DFL)_{it} + \beta_6(ESC)_{it} + \epsilon_i + u_{it} \dots \dots \dots (3.5)$$

$W_{it} = \epsilon_i + u_{it}$ is the component error terms. The component error terms of a given cross sectional unit at two different points in time are correlated. Hence, parameters of the random effects models are obtained by the generalized least squares method (Gujarati, 2004).

Choice of an Appropriate Panel Data Regression Model

So far, the different panel data regression models have been discussed. This study adopts the use of Hausman test for test of best estimator.

Hausman Test

The Hausman test is used to choose between error component models (ECM) or random effect model and fixed effect model. To decide between fixed and random effect, we run the hausman test where the null hypothesis is that the preferred model is random effect and the alternative is that of fixed effect is preferred (Green, 1993). It basically tests whether the unique errors are correlated with the regressors, the null hypothesis or if they are not.

The Hausman test statistic can be stated as follows:

$$H = (\hat{\theta}_1 - \hat{\theta}_E) \text{Var}(\hat{\theta}_1 - \hat{\theta}_E)^{-1} (\hat{\theta}_1 - \hat{\theta}_E)'$$

In linear algebra which the Hausman test represents θ^+ denotes the Moore-penrose pseudo inverse matrix θ which is a generalization of inverse matrix. Under the null hypothesis, this statistic has asymptotic property as the chi square distribution with the number of degrees of freedom equal to the rank of matrix $\text{var}(b_0) - \text{var}(b_1)$.

Description of Research Variables

(a) Total Debt to Total Assets – This measures a company financial risk. It determines what proportion of the company asset(s) is financed by debt. It is calculated as:

$$\text{Total Debts} \over \text{Total Assets}$$

Total debts include, long term liabilities, short term liabilities, accounts payable income tax etc., while total assets include both tangible and intangible assets such as property, plant and equipment; inventories, investments, cash and cash equivalent, accounts receivables.

(b) Long Term Debt to Total Assets – It measures what percentage of the total assets that is financed through long term debts. Long term debts are liabilities that have maturity above 5 years.

It is calculated as: $\text{Long Term Debts} \over \text{Total Assets}$

(c) Short Term Debt to Total Assets – This has to do with debts which are due for repayment within a year. Some examples of short term debts are bank loans, wages due but not paid, lease payment, accounts payable, income taxes payable etc.

It is calculated as: $\text{Short Term Debts} \over \text{Total Assets}$

(d) Degree of Financial Leverage – It measures the sensitivity of a company’s earnings per share (EPS) to fluctuations in its operating income, as a result of changes in its capital structure.

DFL affects earnings after interest and taxes, or the earnings available to common stock holders.

Degree of Financial Leverage is calculated as:

$$\frac{\text{Percentage change in EPS}}{\text{Percentage change in EBIT}} = \frac{\text{EBIT}}{\text{EBIT} - 1}$$

where;

$$\begin{aligned} \text{EBIT} &= \text{Earnings Before Interest and Taxes} \\ \text{I} &= \text{Interest Paid} \end{aligned}$$

(e) Equity share capital – Equity share capital is the contributions made by the individual owners of the company. It measures the company’s net worth.

Equity share capital is calculated by subtracting a company’s total liabilities from its total assets.

(a) Return on Assets (ROA) – It is an indicator of how profitable a company is relative to its total assets.

It is calculated by:

$$\frac{\text{Net Profit}}{\text{Average Total Assets}}$$

Average total assets are current year assets plus previous year assets divided by two.

Results and Discussions

Analysis of Results

This section of the study presented the results of the analysis performed. It showed the results of descriptive analysis, pool, fixed effect, and random effect regressions. The best estimator model was determined using Hausman test. Also the interpretations to these results were equally presented in this section of the study.

Descriptive Analysis

The table below presented the result of the descriptive analysis. It showed the mean, maximum, minimum, and standard deviation of the variables used.

Table 4.1: Descriptive Statistics (ROA)

Variables	Mean	Maximum	Minimum	Std. Dev.	Observations
ROA	0.404015	2.633000	0.001000	0.433252	150
TDTA	0.696959	5.940500	0.014200	0.716783	150
LTDTA	0.474587	2.093400	0.000000	0.416975	150
STDTA	0.444878	2.573200	0.000000	0.499869	150
DFL	0.631621	1.982000	0.002600	0.448867	150
ESC	10742327	57857130	2058652	11148031	150

Source: formatted by researcher from Eview 8. Descriptive result. See Appendix B1.

From table 4.1, the mean value of the dependent variable (ROA) for the 150 observations were as indicated was 0.404015. This indicated that the average value of return on asset of the fifteen companies in ten (10) years was 0.40. Thus on average, the companies in ten years were able to make returns of 40% on every ₦1 value of assets. Secondly, the total debt to total assets (TDTA) mean value was 0.696959. Meaning that the average of total debt to total assets across the fifteen companies in ten years was approximately 0.70. This implied that about 70% of the total assets of consumer goods companies were financed by debt. This value showed that these companies operated more with debt finance than equity finance. Considering the long-term debt to total assets (LTDTA), the descriptive statistics indicated that the average level of long term debt to total assets was 0.474587. Thus, for every ₦1 asset, an average of ₦0.47 long term debt was used to finance it. On the other hand, the average of short term debt to total asset (STDTA) was 0.444878. This simply implied that short term debt accounts for about 44% of the asset on the average. The descriptive statistics mean result also showed that the degree of financial leverage accounted for an average of 0.631621, while equity share capital was 10742327 among the fifteen companies in ten years. Considering the minimum and maximum values for the variables, the result of the descriptive analysis further disclosed that the dependent variable (ROA) accounted for a minimum of 0.001000 and a maximum of 2.633000. Total debt to total asset recorded

0.014200, 5.059900 for minimum and maximum of ROA. For long term debt to total assets, the minimum and maximum recorded 0.00, and 2.093400 respectively. Short term debt to total assets recorded 0.00 and 2.573200 for minimum and maximum, degree of financial leverage was 0.0022600 and 1.982000 for minimum and maximum respectively. Equity share capital recorded 2058652 and 57857130 for minimum and maximum respectively.

The standard deviations of ROA for TDTA, LTDTA, STDTA, DFL and ESC were 0.433252, 0.716783, 0.416975, 0.499869, 0.448867, and 11148031 respectively.

Test of Hypotheses

This section of the study presented the inferential statistics results, which was used for hypotheses testing. This study employed three models, which are: pool regression model, fixed effects model, and random effects model. The best estimator between fixed effect and random effect from the two panel data models were determined by Hausman test.

The overall Econometric Models

Table 4.2 Econometrics Estimates with ROA as Profitability Proxy

Variables	Pool Model	Fixed Effect Model++	Random Effect Model
	0.225889	0.220644	
TDTA	(4.110344)***	(3.370196)***	0.225889 (4.440147)***
LTDTA	0.235224 (1.795693)*	0.306319 (2.320064)**	0.235224 (1.939774)*
STDTA	-0.094993 (-0.962774)	-0.097680 (-0.758716)	-0.094993 (-1.040025)
	0.245193	0.376522	0.245193
DFL	(2.771478)***	(3.547064)***	(2.9933854)***
		-3.15E-08 (-	
EQUITY	6.24E-09 (1.311542)	2.246764)**	6.24E-09 (1.416777)
	-0.219684 (-		
C	2.16322)**	0.053190 (0.260232)	-0.219684 (-2.336794)**
R-Squared	0.496756	0.656241	0.496756
Adjusted R-squared	0.460289	0.537488	0.460289
F-statistic	13.62207	5.526094	13.62207
Prob (F-statistics)	0.000000	0.000000	0.000000
Durbin-Watson	1.610699	2.187257	1.610699

Source: formatted by researcher from Eview result of regressions (see appendix B2, B3, & B4)

****, ** and * represent 1%, 5%, and 10% significance levels respectively.*

Figures in brackets are t- statistics values.

++ = lead equation.

The overall Econometric Model

The econometrics estimates as presented in table 4.2, the first estimate was of the pooled regression model. The pooled ordinary least square estimator ignores the panel structure of the data and simply estimates the parameters and its usual standard errors are incorrect (Kurt, 2015). Though this model resulted to significantly close value to the random effect model, it was rejected. Thus, by pooling the data, the pooled regression model denied the heterogeneity or individuality that may have existed among the companies in our study. In addition, the R-squared and the adjusted R-squared were very low when compared with other models, and the model was not statistically fit, since the F-statistics probability value was greater than 0.05. Based on these facts, this study rejected the pooled regression model. The fixed effects or least square dummy variable (LSDV) model allows for heterogeneity or individuality. While the random effect model has a common mean value for the intercept.

Hausman Test

In deciding whether to choose fixed effects model or random effects model, the Hausman test was conducted. The null hypothesis of the Hausman test states that the preferred model is random effects,

while the alternative hypothesis is that the fixed effects model is preferred (Green, 2008). The Hausman test result is presented below.

Table 4.3 Hausman Test Result for ROA

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Cross-section random	17.42073	5	0.0038	
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
TDTA	0.220644	0.225889	0.001698	0.8987
LTDTA	0.306319	0.235224	0.002727	0.1734
STDTA	-0.09768	-0.09499	0.008233	0.9764
DFL	0.376522	0.245193	0.004561	0.0518
EQUITY	0.000000	0.000000	0.000000	0.0046

Source: Researcher's Computation Using E view 8 (see appendix B5.)

The Hausman test presented in table 4.3 showed the chi-square statistic value as 17.42073 and its probability value as 0.0038. Based on the probability of the chi-squared statistic, the study rejected the null hypothesis of the Hausman test and accepted the alternative. It will be recalled that the Hausman test stated that random effect model is preferred. Thus by rejecting the Hausman test null hypothesis, the study rejected the random effect model and accepted the alternative which is the fixed effect model. In other words, since the probability value of the chi-squared statistic was less than 0.05, the study preferred the fixed effect model. Therefore, to investigate the impact of capital structure on the profitability of consumer goods companies in Nigeria, the fixed effect model was preferred.

Based on the fixed effects econometrics estimate presented in table 4.3 above, the value of R-squared (R^2) was 0.656241. Meaning that about 65.62% of the total variations observed in the dependent variable (ROA), was explained by the independent variables (TDTA, LTDTA, STDTA, DFL and ESC). This implied that capital structure proxies explained about 65.62% of the total variations observed in the profitability of consumer goods companies in Nigeria. However, the coefficient of multiple determinations (R-squared) is biased, because of the inflation effect of adding more independent variables in the model, which consequently increase the value of R-squared. Thus, over-fitting the model and making it appeared better and acceptable model because it had more variables. This can be misleading, and can lead to type 1 or 2 error. In order to correct this, the R-squared was adjusted. The adjusted R-square was a modified version of R-squared that had been adjusted for the number of predictors in the model. Unlike the R-squared, the adjusted R-squared increased only if the new variable improved the model more than would be expected by chance. Considering the result presented in table 4.3, the adjusted R-squared of the fixed effects model was 0.537488. This implied that the unbiased explained proportion of the total variations observed in the dependent variable by the independent variables was about 53.75%. This mean that capital structure explained about 53.75% of the total variations observed in the return on assets of consumer goods companies in Nigeria. Simply put, capital structure proxies had about 53.75% influences on profitability of consumer goods companies in Nigeria. However, to test if this influence was statistically significant, the F-statistics was considered.

The value of the F-statistics of the fixed effect model presented in the econometric estimates in table 4.2 showed that the overall goodness of fit of the model was acceptable. It equally indicated that the influence of capital structure proxies on profitability of consumer goods companies was statistically significant, since the value of F-statistics was 5.5261 with a probability value of 0.00000, which was

less than 0.05. Therefore, the study concluded that capital structure had a significant effect on return on assets of consumer goods companies in Nigeria.

The Durbin-Watson Statistics of the fixed effects model was used to test any evidence of autocorrelation of the model and it indicated that there was minimal evidence of autocorrelation in the model; since the value of Durbin-Watson Statistics 2.187257 was greater than the coefficient of multiple determination (R^2) (Gujarati, 2004). Here, the study concludes that there was minimal evidence of autocorrelation and that the fixed effect model was fit for the study.

Interpretation of Results

Total Debt to Total Assets (TDTA)

H₀₁: Total debt to total assets has no significant impact on the return on assets of consumer goods companies in Nigeria.

Considering the individual coefficients of the return on assets (ROA) variable, the fixed effects model estimate indicated that the total debt to total assets (TDTA) coefficient was 0.220644 for ROA. This implied that a unit increase in total debt to total assets will lead to about 0.22 proportional increases in return on assets of consumer goods companies in Nigeria. The t-test value of 3.370196 with probability value of 0.0014 indicated that the impact of total debt to total assets on return on assets of consumer goods companies was statistically significant at 5%, since the probability value was less than 0.05. Hence, the study concluded that total debt to total assets has significant impact on return on assets of consumer goods companies in Nigeria. Therefore, the study concluded that there was a relationship between total debt to total assets and profitability of consumer goods companies in Nigeria.

Long-Term Debt to Total Asset (LTDTA)

H₀₂: Long-term debt to total assets has no significant effect on the return on assets of consumer goods companies in Nigeria.

The coefficient of long-term debt to total assets (ROA) was 0.306319 showed that a positive impact existed between long-term debt to total assets and (ROA) in consumer goods industry. Implying that a unit increase in long-term debt to total assets will improve return on assets by 0.306319. Simply put an increase in the level of long-term debt in consumer goods companies of Nigeria will lead to about 0.306319 increases in its financial performance. The t-statistic value of 2.320064 and its probability value of 0.0241 indicated that the positive relationship between long-term debt to total assets and return on assets is statistically significant at 5%, since the probability value was less than 0.05. The study concluded that though there was a positive relationship between capital structure and return on assets and return on equity, but the relationship was significant only on the return on assets of consumer goods companies in Nigeria.

Short-Term Debt to Total Assets (STDTA)

H₀₃: Short-Term Debt to Total Assets has no significant influence on the return on assets of consumer goods companies in Nigeria.

The fixed effects model in table 4.2 equally showed that the coefficient of short-term debt to total assets was -0.097680. This indicated that short-term debt to total assets negatively affected return on assets of consumer goods companies in Nigeria. This implied that a unit increase in the short-term debt to total assets will lead to about 0.0977 decreases in the return on assets of consumer goods companies in Nigeria. However, the influence of short-term debt to total assets was not statistically significant at 5% since the t-statistics value is -0.758716 and its probability of 4.513 was greater than 0.05 alpha levels. Hence the study concluded that using ROA as profitability indicator; there was no relationship between STDTA and ROA.

Degree of Financial Leverage (DFL)

H₀₄: Degree of financial leverage has no significant impact on the return on assets of consumer goods companies in Nigeria.

The result presented the coefficient of degree of financial leverage as 0.376522. This revealed that degree of financial leverage had positive impact on return on assets of consumer goods companies in Nigeria. This implied that a unit increase in the degree of financial leverage led to 0.376522 increases in return on assets of consumer goods companies in Nigeria. The t-statistic of 3.547064 with probability value of 0.008 indicated that the impact of degree of financial leverage on return on assets of consumer goods companies in Nigeria was statistically significant at 5%.

Equity Share Capital (ESC)

H₀₅: Equity share capital has no significant influence on the return on assets of consumer goods companies in Nigeria.

Considering the coefficient of equity share capital in the fixed effect model estimate of ROA, the value stood at -3.15. It is implied that there was a negative relationship between equity share capital and return on assets of consumer goods companies in Nigeria. It also indicated that an increase in one unit of equity share capital led to about 3.15 decreases in one unit of return on assets of the consumer goods companies in Nigeria. The t- statistic value of -2.246764 and the probability of 0.0287 implied that the relationship was statistically significant at 5%, since the probability value was less than 0.05.

Based on the ROA estimates, the study concluded that there were a negative and significant relationship between equity share capital and return on assets, on consumer goods companies in Nigeria.

Discussion of Result

From hypothesis one, which stated that total debt to total assets had no significant impact on the return on assets of consumer goods companies in Nigeria. The result of this study indicated that there was a significant positive relationship between total debt to total assets and return on assets. The result further showed that higher level of debt led to greater returns on assets. This finding was consistent with the findings of previous studies such as Roden & Lewellen (1995), Hadlock & James (2002), Margaritis & Psillakin (2010), Samuel (2013) and Aliakbar *et al* (2013). The positive and significant coefficient of TDTA supported Brick and Ravid's (1985) argument that long term debt increases a firm's value, which could be due to the high ratio of long term debt in the capital structure of consumer goods companies in Nigeria. These findings supported the pecking order theory of capital structure which suggested that profitable firms may rely more on debt finance than equity. The descriptive statistic indicated that the consumer goods companies use more debt financing option than equity or internal generated finance options.

On the second hypothesis, which stated that Long-term debt to total assets had no significant effect on the return on assets of consumer goods companies in Nigeria, it had been argued that debt financing especially long term debt finance tend to be cheaper than equity. This was because debt providers have less risk than equity providers and therefore the returns (Rajan & Zingales, 1995; and Zhang 2009). In addition, debt finance is tax deductible, which effectively reduced the overall cost of debt, but equity finance is not tax deductible. The federal government good aids and intervention programs for the building of local manufacturing and production companies may have contributed to the low cost of debt financing in the consumer goods industry. Through the Federal government economic intervention programs, the consumer goods industry may have better option of financing its operation by debt, since the cost is reduced to encourage local production.

Thirdly, the negative relationship found between short term debt and return on assets of consumer goods companies in Nigeria indicated that short term credit to the industry adds no significant value to the returns to the industry. Though, the direction tends to negativity, however, it makes no significant difference in the returns of the industry. The insignificant relationship with the performance measure of ROA indicated that short term debt has no significant impact on returns of the industry, which suggested that short term debt may not necessarily expose these firms to the risk of refinancing as it does for firms in developed economy. The negative relationship between short term credits and ROA also suggested

that there might be agency issues which may lead the consumer goods companies to use higher than appropriate levels of debt thereby producing lower performance (Salawu, 2007). The significant negative relationship further reflected that the bond market in the Nigerian economy was under developed and consistent with signs of underdeveloped bond market in all markets (Olokoyo, 2012).

From hypothesis four, the result indicated that the coefficient of the degree of financial leverage (DFL) was positive and statistically significant at 5%. The higher the degree of financial leverage of a company, the greater was the sensitivity of its profits and tax to changes in PBIT. The combined leverage factor which was the product of operating leverage and financial leverage determined the overall sensitivity of profits before tax to change in sales. As income taxes are calculated as a percentage of profit before tax, the net profit will normally be proportionate to the profit before tax. Therefore, fluctuations in profit before tax will bring about corresponding fluctuations in net profits which in turn will bring about fluctuations in earnings per share (EPS). EPS equals net profit divided by the number of equity shares. Therefore, the combined leverage factor influences the extent to which net profits and EPS will fluctuate for a given fluctuation in sales. Thus, the degree of financial leverage significantly affects the return on equity of consumer goods companies in Nigeria.

From hypothesis five which stated that equity share capital has no significant influence on the ROA of consumer goods companies in Nigeria. The fixed effect model estimate for return on assets (ROA) showed that there was a negative relationship between equity share capital and return on assets. It further showed that the relationship was significant at 5% level since the probability value of 0.0287 was less than 5%.

The result is in agreement with Myers, (1977) which stated that equity share capital add value to shareholders by way of improving capital structure of firms to an optimal level so as to balance the benefits of tax shield and costs of financial distress.

Summary of Findings, Conclusion and Recommendations

Summary of Findings

The capital structure decision has been a major decision facing the management of firms. Different theories have tried to explain the optimum capital structure that can help firms achieve their objectives. However, a review of empirically studies indicates that there are contradicting views regarding the effect of capital structure on the performance of firms. In this study, the random effects econometric model used indicates that capital structure has significant effect on the performance of consumer goods companies in Nigeria. The following are the specific findings of this study:

1. Total debt to total assets ratio has significant impact on the return of assets of consumer goods companies in Nigeria.
2. There is a significant positive impact between long-term debt to total assets and return on assets of consumer goods companies in Nigeria.
3. There is an insignificant negative impact between short-term debt to total assets ratio and return on assets of consumer goods companies in Nigeria.
4. The degree of financial leverage has positive impact on the return on equity of consumer goods companies in Nigeria.

Conclusion

This study examined the profitability implication of capital structure in consumer goods companies. Cross section data covering 15 consumer goods companies for ten (10) years period from 2005 to 2014 was used. Secondary data were obtained from the various annual reports of the companies. Random effects model of panel regression was the best panel data estimator used to analyze the data collected with the aid of Econometrics Views (E view) version 8.0.

The random effect econometric estimator employed in this study shows that capital structure has profitability implications in consumer goods companies in Nigeria. Thus, capital structure has significant effect on the profitability of consumer goods companies in Nigeria.

Recommendations

Having examined the effect of capital structure on performance of consumer goods companies, the following recommendations are made based on the findings:

1. Based on the positive relationship found between total debt to total assets ratio and return on assets of consumer goods companies, this study recommended the use of debt in financing in the operation of the consumer goods companies. This will enhance the profitability of the consumers, increase production of consumer goods and reduce over dependency on foreign goods.
2. In addition, the use of debt in financing the operations of consumer goods companies should be limited to long term debt as it has proved to contribute positively to the return on assets of the companies.
3. The negative relationship between short term debt to total assets and return on assets indicates that short term debts have not really improved the profitability of consumer goods companies. Therefore, the study recommended a reduction or non-use of short term debt within the consumer goods companies.

Contribution to Knowledge

This study has contributed to the literature by examining firm-specific factors that influence the performance of Nigerian firms from the view point of their capital structure choices. This has helped us to understand the impact of capital structure choices on performance of consumer goods companies. This study will be of help to board members, chief executive officers and finance managers of consumer goods companies in Nigeria as a useful database and resource material in the area of capital structure choices and firm performance. The following are the specific contributions of the study:

1. The study uses a panel econometric model which takes into account the individuality of the companies to examine the impact of capital structure on the profitability of the companies.
2. The study establishes the significance of the relationship between capital structure and corporate performance in Nigerian consumer goods sector.
3. This study has contributed to methodological discourse in terms of techniques used in the analyses of the data of Nigerian firms.

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