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Original Research Article

Weighted Average Cost of Capital, Capital Structure and Financial Performance: Evidence from Listed Consumer Goods in Nigeria

[1]Dr. Abubakar Bala*, [2]Prof. Bala A. Kofar-Mata, & [3]Prof. Aminu K. Kurfi

[1]Department of Business Administration Faculty of Arts and Social Sciences Gombe State University, Nigeria
[2&3]Department of Business Administration and Entrepreneurship Faculty of Social and Management Sciences Bayero University Kano, Nigeria

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***Corresponding author:** Dr. Abubakar Bala
Department of Business Administration Faculty of Arts and Social Sciences Gombe State University, Nigeria

Abstract

This study examined the mediating effect of weighted average cost of capital on capital structure and financial performance of listed consumer goods companies in Nigeria**.** Return on assets was used as measures of dependent variable (financial performance), debt ratio and equity ratio were used as measures of independent variable (capital structure) and weighted average cost of capital was employed as mediating variable. However, firm size, was used as control variable. Secondary data were used in conducting the study. The data were extracted from the annual reports of fifteen listed consumer goods companies in Nigerian stock exchange for the period of fifteen years (2005 – 2019). A multivariate regression was used to analyze the data, through the aid of STATA version 14.0. The result of the study revealed that debt ratio has significant effect on financial performance measured by both ROA. Equity ratio also has significant effect on financial performance measured by ROA. Similarly, weighted average cost of capital has significant and mediating effect on both debt ratio and equity ratio on financial performance measured by ROA. Lastly, firm size has significant effect on financial performance measured by ROA. The study recommends that management of consumer goods companies should have mix of both debt and equity capital (50% of debt and 50% of equity) at minimum cost. This is because an average capital structure (mix of both debt and equity capital) at minimum cost leads to healthy financial performance of firm which in turn leads to maximization of firm value.

Keywords: Capital Structure; Cost of Capital; Financial Performance; Debt and Equity;

I. INTRODUCTION

There is a consensus of opinion between scholars, researchers and policy makers in both developing and developed countries about the role of consumer goods companies in economic growth and development. Consumer goods companies also play a very significant role in provision of qualitative, healthy and safety products that are meant for consumption by populace or citizenry. This is because consumer goods companies irrespective of their size contribute much in employment creation, revenue generation, improving standard of living, per capital/income, balance of payment, balance of trade etc. This argument is supported by Agyapong, Agyapong and Poku (2017) that consumer goods companies contribute much in economic growth and development of both developing and developed nations. In the same vein, they do not contribute only to the growth of the National Gross Domestic Product (NGDP) as mentioned earlier, but in job creation and employment generation among populace or citizenry as well as provision of goods and services for consumption (Abor & Quartey, 2010; Atandi & Wabwoba, 2013; Denis, Achesa & Gedion, 2015). The assertion is supported by the National Bureau of Statistics (NBS) reports (2019) that in 2019 third quarter (Q3), the average number of employed persons in companies was thirty five thousand, nine hundred and thirty four (35934) compare to thirty two thousand, five hundred and twenty three (32523) in 2018 third quarter (Q3). This represents an increase of 10.5% in employment numbers. For instance, in February 2018 Nestle Nigeria launched operations at a second beverage

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production plant located on the Agbara industrial estate in Ogun state. The N4.1bn ($11.4m) plant will produce 8000 tonnes of the brand's Milo malt-powder ready drink annually and create around 100 new jobs. Furthermore, the contribution of such companies to the socioeconomic well being do not limit to job creation and generation, but extends to the promotion of economic activities, provision of social services, revenue generation, supporting economic growth and livelihoods, social stability,and economic diversity (Agyapong, Agyapong & Poku, 2017).

Similarly, study conducted by Hursh and Adegboye (2019) revealed that seventy countries with eighteen from developing or emerging economies have achieved certain development threshold of job creation and per capita GDP growth of at least 3.5% annually over 50 years or 5% annually over 20 years as a result of companies with reference to consumer goods companies. Hursh and Adegboye (2019) further noted that the revenue of such companies in relative to GDP in these economies have tripled from 22% between 1995 and 1999 to 64% between 2011 and 2016. At the same time, their contribution to the value added to GDP rose from 11% to 27%. According to one report from OC&C Strategy Consultants (2018) revealed that consumer goods companies in the last years, has risen strongly from 0.5% in 2016 to 5.7% in 2017 because its market reached its highest level since 2011. The report further revealed that, French multinational food company saw growth of 12% in 2017, and revenues of $27.8 billion. The firm was closely followed by a group of four companies. Kraft-Heinz, British American Tobacco Mondelez and Heineken grew by 38%, and their revenues were boasted between $24 billion and $26 billion. Archer Daniels Midland and WH Group were the last firms to see revenues of more than $20 billion. Meanwhile, in Nigeria companies remains a critical segment and plays an integral role in the development and advancement of the Nigerian economy. It has a nominal GDP expansion of about 40% (year-on-year) recorded in the third quarter of 2019, which is much higher than their performance in corresponding period of 2018. These *companies* have contributed significantly to the nation's economic diversification strategy *(*Onyema, 2019). He made reference with the National Bureau of Statistics (NBS) report that companies' activity accounted for about 12% of GDP in Q3-2019 compared to 10% of GDP in the same period last year. Specifically, consumer goods companies especially the Food, Beverage and Tobacco subsector accounts for 41% of overall companies' activity and grew by 2.98% in Q3 2019 versus 1.22% in Q2 2019. This had made the contribution of consumer goods companies to GDP to be high as revealed.

Having identified and realized the contribution of consumer goods companies in job creation and per capita - GDP in almost all countries of the world and Nigeria specifically as stated above, the contribution of such companies would be in theory or unrealistic if such companies are not performing very well especially in monetary terms. This is because the performance of company plays a very significant role in determining the investor's interest in the company. It equally serves as one of the key areas of interest for managers, practitioners and academics (Ukaegbu, Oino & Dada, 2014; Hunjra, 2018). Furthermore, appraising the performance of a company allows management to access the results of business strategies and objectives in monetary terms (Hunjra, 2018). Henceforth, it is very significant and important to measure the financial performance of company so as to attract investors. While various scholars have defined performance in different ways as postulated by (Ebire, Mukhtar & Onmonya, 2018), however, Rahel and Serkalem (2010) looked at performance in dimension of profitability. This is because profitability is a major goal of every company and used it to expand the company, and also serve as a cushion for future slow periods. They further stated that profitability also helps a company to ensure its solvency for prospectors and owners to invest in the future. A company or firms can go out of business, if it incurs loses and become insolvent and profit is generally attained only when a company operates effectively and financially performs well.

Financial performance also had recorded several dimensions/indicators as presented by different scholars, depending on the level of firm, industry, and country (Capon, Farley & Hoenig, 1990; Setiadharma & Machali 2017; Ebire, Mukhtar & Onmonya, 2018). While others are looking at the indicators of company's financial performance at the angle of market based performance others are looking at the side of accounting based performance or at operational performance. However, this study will look at it from the side of both accounting and market based performance, because it revealed how well a company is making a profit. Financial performance is the procedure of measuring the results of a company's policies and operations in monetary terms (Erasmus, 2008). In other opinions a companies' financial performance is measured by how well off the company is at the end of an every financial period than it was at the initial stage (Yahaya & Andow, 2019). While there are several ways to measure financial performance, the use of financial ratios has gained general acceptance. Financial ratios give an indication of whether the firm is achieving its objectives or not. The ratios can be used to compare a firm's ratios with other firms or to find trends of performance over a time.

Meanwhile, financial performance of any company largely depends to a large extent on its financing decisions. This is because company's basic resource is the stream of cash flows produced by its assets. So, every business whether newly born or an ongoing, small or large requires fund to carry out its activities as failure is inevitable or success will not be recorded in the absence of fund. Furthermore, the need of fund arises as a result of daily running of a firm or for business expansion (Uremadu & Onyekachi, 2018). This reveals how important fund is in the life of every business, and this fund is referred to as capital. Capital, therefore, refers to the means of funding a business, (Uremadu &

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Onyekachi, 2018). Conventionally, this capital will be a combination of equity and debt or either debt or equity alone. However, when firm is finance by mixture of both debt and equity to operate its business is called capital structure, (Damodaran, 2001). This means that firm's capital structure refers to the mix of its financial liabilities. So capital structure has been an important issue from the strategic management standpoint since it is linked with a firm's financial performance or ability to meet the demands of various stakeholders (Uremadu & Onyekachi, 2018). Therefore, decision regarding the capital structure always must be one of the three, either, 100% of the business investments to be financed by the shareholders' equity (external sources) or to be financed by retained earnings (internal source) and debt (external source) or the combination of the three depending on the percentage of the combinationdecided (Shahwan, 2018).

Perhaps, cost of such capital is considered as an integral component of both accounting and financial analysis for a company. This is because cost of capital is a necessary benchmark in picking the fair allowed rate of return (Villadsen & Kolbe, 2017). A minimal cost of capital implies that a company successfully manages its finances. However, a huge or high cost of capital implies that a company is not managing its financing decision well. So, it is very significant for companies, with reference to consumer goods companies to assess and examine the cost of capital employed. This is because cost of capital has strong relationship with the performance of a company. So, capital with high cost certainly will affect the performance of a company. Based on the above submission, it seems that only capital with minimum cost has the ability to influence the financial performance of consumer goods companies.

This means that, organization cannot perform well or survive without capital and considering its cost, because all the activities of company are carried out or geared with fund. It is the capital that determines the profit (return on assets, returns on equity, tobin's q, as well as earning per shares etc). That is why a large number of studies were conducted in order to ascertain the effects of such capital structure on financial performance of firms. Perhaps most of these studies revealed the existence of positive and significant relationship between capital structure and firm's financial performance (Budiyanto & Riyadi, 2016; Chandra, Fachrudin, Sadalia & Siburian, 2017; Juwita 2018; Singh & Bagga, 2019). Despite the existence of positive and significant relationship of such studies, the financial performance of some consumer goods companies of most countries in the world with reference to Nigeria is relatively low and not impressive. The low and unimpressive performance of such companies' means that, more studies need to be conducted using more variables or period as well as the cost implication of such capital. It is against this background that this study was intended to assess the weighted average cost of capital on capital structure and financial performance of listed consumer goods companies in Nigeria.

II Objective of the Study

The main objective of study is to examine the weighted average cost of capital on capital structure and financial performance of listed consumer goods companies in Nigeria. However, the specific objectives are to;

i. Evaluate the effect of debt ratio on influencing the financial performance of listed consumer goods companies in Nigeria;
ii. Assess the effect of equity ratio on improving the financial performance of listed consumer goods companies in Nigeria;
iii. Ascertain the mediating effect of weighted average cost of capital on debt ratio and financial performance of listed consumer goods companies in Nigeria;
iv. Examine the mediating effect of weighted average cost of capital on equity ratio and financial performance of listed consumer goods companies in Nigeria.

III. Methodology

The methodology employed in this study was ex-post facto panel data research design. Kerlinger and Lee (2000) postulated that ex-post facto research design is appropriate where the researcher is attempting to use secondary data to explain how a phenomenon operates by identifying the underlying factors that produce or influence changes in it. Similarly, Johnson and Christensen (2008) opined that, ex-post facto research design is responsible to investigate, explores and explain phenomenon that have already occurred. It covered the period of fifteen years (2005- 2019), so only consumer goods Company that has available data for fifteen years period and listed with NSE before 2005. Regression analysis was used to analyse the data through the aid of STATA Version 14.0.

IV. Literature Development and Empirical Review

Abdur Rouf **(**2015) assessed the effect of capital structure on financial performance of some listed non-financial companies in Dhaka Stock Exchange (DSE) for the period of 2008-2011 using judgmental sampling method. Multiple regression models were used to estimate the influence of capital structure on firm performance. The results showed that debt ratio, debt equity ratio and proprietary of equity ratio have negative and significant relationship with return on assets (ROA) and return on sales (ROS). Saputra, Achsani and Anggraeni (2015) investigated the effect of capital structure on firm performance of financial sector in the Indonesia Stock Exchange (IDX) during 2009 to 2013. Panel data analysis

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was applied to estimate the relationship between capital structure and firm performance. Findings show that capital structure has negative effect on firm performance measured by ROA, consistent with the Pecking Order theory. Capital structure has different effect on each financial subsector. Capital structure has negative effect on securities companies, funding companies and other financial subsectors while capital structure has positive effect on banking and insurance subsectors. Furthermore, the results show that financial sector is using high leverage and banking has the highest leverage with 89% total debt to total assets.

Although, the study of Abdur Rouf **(**2015); Saputra, Achsani and Anggraeni (2015) displayed the existence of positive and significant effect between capital structure and firm's financial performance, however, the studies were conducted on financial sector but not consumer goods companies. Furthermore, the studies were not conducted in Nigeria and perhaps may not reflect the real situation in the country. The studies used five years period data and accounting based measures of performance only, five years period and accounting based measures may not be adequate to examine the phenomenon. However, this study used both accounting and marketing based measures as well as fifteen years period data.

Abata, Migiro, Akande, and Layton (2017) analysed the impact of capital structure on firm performance metrics in South Africa. One hundred and thirty six (136) listed companies on the Johannesburg Stock Exchange (JSE) were used as sample, from January 2000 to December 2014 and GMM was used as analysis tool. The study revealed that total debt to total equity and total debt to total assets are inversely related to both Tobin's q and return on assets, while long-term debt to total assets was related positively to both Tobin q and return on assets. On the other hand, total debt to total equity and long-term debt to total assets were inversely related to return on equity, while total debt to total assets were positively related to return on equity.

While the study of Abata, Migiro, Akande, and Layton (2017) displayed the existence of positive and significant effect between capital structure and firm's financial performance, however, other study displayed the existence of not significant effect between capital structure and firm's financial performance. While the first study used two proxies to measure capital structure and two proxies to measure financial performance. However, the other study used one proxy each to measure both capital structure and financial performance. Meanwhile, this study had introduced a mediating variable (cost of capital) with one proxy to measure it. The independent variable (capital structure) was measured by three proxies, while the dependent variable (financial performance) was measured by four proxies. This may change the narration of the previous findings.

Sivalingam and Kengatharan (2018) carried out a study on the relationship between capital structure and financial performance of listed licensed commercial banks in Sri Lanka for the period of ten years, from 2007 to 2016. Panel data were used to conduct the empirical study, and data were extracted from the annual reports of 10 selected banks. Total debt to total assets ratio, long term debt to total assets ratio, and short term debt to total assets ratio were used to measure the capital structure. Return on assets (ROA) and return on equity (ROE) were used as financial performance measures. Size of the banks and growth in banks deposit were considered as control variables. Descriptive statistics, correlations, fixed effect and random effect models were used for the data analysis. Findings of the model revealed that, total debt to total assets ratio was significantly negatively related to ROA, however growth in banks deposit was significantly and positively related to ROA. Size, short term debt to total assets ratio and long term debt to total assets ratio did not show any relationship with ROA. Random effect model was considered as the most suitable model to examine the relationship between capital structure and ROE. As per the model, total debt to total assets ratio was significantly negatively related to ROE, while growth in bank deposit was significantly and positively related to ROE. Short term debt to total assets ratio, long term debt to total assets ratio and size were not significantly related to ROE. Results of the study suggest that financial managers should try to finance from internal sources rather than relying heavily on debt capital in their capital structure. Henceforth, outcome of the study may useful to the practitioners, investors and decision makers in order to maximize their return from their investments.

Aziz and Abbas (2019) examined the relationship between debt financing and firm's performance in fourteen (14) sectors of Pakistan listed firms. Secondary data were collected from fourteen (14) different sectors listed in Pakistan Stock Exchange, over the period of nine (9) years (2006 to 2014). The results of the study indicated that debt financing have negative but has significant impact on firm performance in Pakistan. It is very important to understand that, the fourteen firms were drawn from different sectors, and the impact of debt financing on the performance of such different sectors might not be the same. Equally, such study was conducted in Pakistan not Nigeria, and the period covered by such study is nine years not fifteen years as in the case of this study. Furthermore, the above study places more attention on debt financing alone, however, this study focuses on both debt and equity capital. Hunjra and Chan (2019)) examined the impact of corporate diversification and financial structure on the firms' financial performance. A total of five hundred and twenty (520) manufacturing firms from Pakistan, India, Sri Lanka, and Bangladesh were used as sample for over fourteen (14) years from 2004–2017. Two-step dynamic panel approach was applied to test the

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hypotheses. It was found that product diversification and geographic diversification significantly affected the firms' financial performance. It further found that dividend policy and capital structure had a significant impact on the firms' financial performance.

Artes and Dizon (2020) examined the influence of capital structure and interest rate as determinants of profitability and efficiency of universal and commercial banks in the Philippines. Equity capital and debt capital were used ton to measure capital structure, while return on assets and return on equity were used to measure efficiency and profitability respectively. The method used to examine the relationship of these banks was multivariate regression analysis. The results show that capital and interest rate have significant effect to return on asset and return on equity by showing a p-value of less than five percent in the regression analysis. Capital structure in terms of debt capital has negative effect while equity capital shows positive impact to ROA and ROE. Moreover, interest rate also shows a negative effect to the performance of banks. Zaman, Ullah and Ali (2020) assessed the relationship between capital structure and profitability of Islamic and conventional banks, listed on the Karachi Stock Exchange. The data were extracted from 250 banks between 2006 and 2016 from their financial statements. Regression analysis was used to check the proposed relationship. It found a strong correlation between debt-to-equity (D/E) ratio and return on equity (ROE) in conventional banks while no significant relationship existed in Islamic banks. The findings can be explained in terms of the different deposit mechanisms employed by the two systems i.e. the conventional banking system considers all deposits as liabilities of the banks while on the other hand Islamic banks only write the current accounts as a debt. The modaraba-based deposit accounts of Islamic banks are considered as equity. Arulvel and Ajanthan (2013) conducted a study on capital structure and financial performance of listed trading companies in Sri Lanka the results show that debt ratio is negatively correlated with all financial performance measures [Gross Profit (GP); Net Profit (NP) and Return on Equity (ROE). Similarly, debt-equity ratio (D/E) is negatively correlated with all financial performance measures except GP and only debt-equity ratio (D/E) shows significant relationship with Net Profit (NP).

Perhaps the above studies were carried out on effects of capital structure and corporate performance; however, it used short term debt, long term debt, debt to equity ratio, total debt to total asset ratio, equity capital, debt capital, firm diversification and growth as independent variable measures, while return on assets, return on equity and Tobin's q are used as measures of dependent variable. Perhaps, there is strong argument on whether short term debt is part of capital structure or not. However, this study introduced two new additional measures (debt ratio and equity ratio) of independent variable (capital structure). Similarly, earning per shares was added as new proxy to measure dependent variable (financial performance). This had made this study to be unique from other studies.

V. Results and Discussion

This section presents the regression results for testing the mediating effect of cost of capital represented by the weighted average cost of capital on capital structure represented by debt ratio, equity ratio and debt to equity ratio and financial performance of listed consumer goods companies in Nigeria represented by return on assets. The study applied a two-step regression to test the mediation effect (Baron & Kenny, 1986; Sial, Zheng, Cherian, Gulzar, Thu, Khan & Khuong, 2018). First, capital structure proxies were regressed on financial performance elements or proxies. In the second step, the study regressed capital structure proxies and cost of capital proxy together on the financial performance components or elements.

Table 1:

Multivariate Regression Results for Cost of Capital, Capital Structure Variables and ROA

Variables	Model I (DR)		Model II (WDR)		Model III (ER)		Model IV (WER)	
	Coef.	p-Value	Coef.	p-Value	Coef.	p-Value	Coef.	p-Value
Constant	-0.58***	0.016	-0.56**	0.020	-0.65***	0.007	-0.64***	0.009
DR	-0.37***	0.025						
ER					-0.07	0.415		
WACC			-0.58**	0.002			-0.09*	0.061
FMS	0.09***	0.000	0.08***	0.001	0.09***	0.000	0.09***	0.001
Obs	240		240		240		240	
Obs	240		240		240		240	
F	5.04		4.63		3.83		3.53	

Source: Result Output from STATA 14.0

Note: ***, ** and * indicate 1%, 5% and 10% significant levels respectively

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The coefficient of debt ratio on Table 1 for model I of the study was negative and significant at the 1% level of significance (b = -0.37, p < 0.05). The negative effect of debt ratio on ROA implies that for every increase in debt ratio by 1%, ROA of the sampled listed consumer goods companies in Nigeria will decrease by 37%. In other word, 37 percent reduction on debts ratio will lead to an increase in return on asset (ROA) of the consumer goods companies in Nigeria. P value of debt ratio depicts 0.025 at 1 percent level of significance. This implies that P value does not support the null hypothesis, because it does not exceed 5 percent (Torres—Reyna, 2007). Therefore, going by the foregoing analysis, the null hypothesis one (1) of the study which states that debt ratio has no significant effect on financial performance measured by ROA of listed consumer goods companies in Nigeria is rejected (b = -0.37, p < 0.05). This implies that debt ratio has negative and significant effect on financial performance measured by ROA. The findings collaborate with the findings of Abdur-Rouf (2015); Saputra, Achsani and Anggraeni (2015); Nassar (2016); Aziz and Abbas (2019) and Artes and Dizon (2020) who found that debt ratio has negative and significant effect on return assets. However, it negates the findings of John (2013) and Twairesh (2014) who documented positive and significant relationship between debt ratio and return on assets.

Table 1 also shows the coefficient of weighted average cost of capital and debt ratio (WACCDR) for model II as negative and significant at 1% level of significance (b = -0.58, p < 0.05). The negative effect of weighted average cost of capital and debt ratio (WACCDR) on ROA implies that for every reduction in the cost of debt by 58%, ROA of the sampled listed consumer goods companies in Nigeria will increase. In other word, increase in cost of debt by 1%, ROA of the sampled listed consumer goods companies in Nigeria will decrease by 58%. P value of weighted average cost of capital and debt ratio reveal 0.01 at 1 percent level of significance. This implies that P value does not supported the null hypothesis, because it does not exceed 5 percent (Torres—Reyna, 2007).The negative effect of WACCDR on ROA implies that cost of capital can negatively and significantly mediate the relationship between debt ratio and financial performance measured by ROA of the sampled listed consumer goods companies. Based on the above analysis, the study rejects the null hypothesis two (2) of the study which states that cost of capital has no significant and mediating effect on the relationship between debt ratio and financial performance measured by ROA of listed consumer goods companies in Nigeria (b = -- 0.58, p < 0.01). This means that cost of capital has negative and significant mediating effect on the relationship between debt ratio and financial performance measured by ROA of listed consumer goods companies in Nigeria. This is in line with the findings of Abdul Sattar (2015) that revealed negative and significant effect of WACC on debt ratio and return on assets. The findings is also similar with the findings of Aoun and Heshmati (2006); Kaviani et al (2014); Al- Omar and Al-Okdeh (2020) who revealed that cost of capital has significant and mediating effect on the relationship between debt ratio and return on assets. However, it disagreed with the findings of Alrjoub and Ahmad (2017) which revealed that cost of capital has no significant and mediating effect on the relationship between debt ratio and return on assets.

Table 1 also reveals the coefficient of equity ratio for model III as negative and insignificant at 5% level of significance (b = -0.07, p > 0.05). The negative effect of equity ratio on ROA implies that for every decrease in equity ratio by 1%, ROA of the sampled listed consumer goods companies in Nigeria will not experience any change or increase. In other word, 7 percent reduction in equity ratio will not lead to any increase in return on asset (ROA) of the consumer goods companies in Nigeria. P value of equity ratio exhibits 0.415 at 5 percent level of significance. This implies that P value has not supported the null hypothesis, because it has exceeded the 5 percent (Torres—Reyna, 2007). Based on the above analysis, the study fails to reject the null hypothesis three (3) of the study which states that equity ratio has no significant effect on financial performance measured by ROA of listed consumer goods companies in Nigeria (b = -0.07, p > 0.05). This supported the results of Uremadu and Onyekachi (2018) who found negative and insignificant effect of equity ratio on return on assets. However, it is contrary with the findings of Chadha and Sharma (2016) and Aziz and Abbas (2019) that displayed negative and significant effect of equity ratio on return on assets.

Table 1 also depicts the coefficient of weighted average cost of capital and equity ratio (WACCER) for model IV as negative and significant at 5% level (b = -0.09, p < 0.05). The negative and significant effect of weighted average cost of capital and equity ratio (WACCER) on ROA implies that for every reduction in the cost of equity by 9%, ROA of the sampled listed consumer goods companies in Nigeria will bring a change or increase. In other word, decrease in cost of debt by 1%, ROA of the sampled listed consumer goods companies in Nigeria will also bring any change or increase. P value of weighted average cost of capital and equity ratio reveal 0.06 at 1 percent level of significance. This implies that P value had not supported the null hypothesis, because it has not exceeded 5 percent (Torres—Reyna, 2007). The negative effect of WACCER on ROA implies that cost of capital has negative and significant mediating effect on equity ratio and financial performance measured by ROA of the sampled listed consumer goods companies. Based on the above analysis, the study rejects the null hypothesis four (4) of the study which states that cost of capital has no significant mediating effect on the relationship between equity ratio and financial performance measured by ROA of listed consumer goods companies in Nigeria (b = -0.09, p < 0.05). This is in line with the findings of Abdul Sattar (2015) and Al- Omar and Al-Okdeh (2020) that revealed negative and significant mediating effect of WACC on return on assets. However, it opposed the findings of Ibrahim and Ali (2015) that showed insignificant mediating effect of WACC on equity ratio and

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return assets. It also opposed the findings of Alrjoub and Ahmad (2017); who revealed that cost of capital has negative and insignificant mediating effect on the relationship between equity ratio and return on assets.

It is also evidenced from Table 1 that the coefficient of debt to equity ratio for model V was negative and insignificant at 5% level (b = -0.08, p > 0.05). The negative and insignificant effect of debt to equity ratio on ROA implies that for every decrease in debt to equity ratio by 1%, ROA of the sampled listed consumer goods companies in Nigeria will not portray any change or increase. In other word, 8 percent reduction on debt to equity ratio will not lead to any change or increase in return on asset (ROA) of the sampled listed consumer goods companies in Nigeria. P value of debt to equity ratio exhibits 0.32 at 5 percent level of significance. This implies that P value has supported the null hypothesis, because it has exceeded 5 percent (Torres—Reyna, 2007). Based on the above analysis, the study fails to reject the null hypothesis five (5) of the study which states that debt to equity ratio has no significant effect on financial performance measured by ROA of listed consumer goods companies in Nigeria (b = -0.08, p > 0.05). This opposed the findings of Saputra, Achsani and Anggraeni, (2015); Al-Omar and Al-Okdeh (2020) which shows negative and significant relationship between debt to equity ratio and return on assets. However, it corroborated with the findings of Notrivul, Subroto, Moeljadi and Djumahir (2017) who revealed the existence of no significant relationship between debt to equity ratio and return on assets.

Table 1 also shows the coefficient of weighted average cost of capital and debt to equity ratio (WACCDER) for model VI as negative and significant at 5% level (b = -0.02, p < 0.05). The negative effect of weighted average cost of capital and debt to equity ratio (WACCDER) on ROA implies that for every reduction in the cost of both debt and equity by 2%, ROA of the sampled listed consumer goods companies in Nigeria will lead to an increase. In other word, an increase in cost of both debt and equity by 1%, ROA of the sampled listed consumer goods companies in Nigeria will decrease by 2%. P value of weighted average cost of capital and debt to equity ratio reveal 0.05 at 1 percent level of significance. This implies that P value does not support the null hypothesis, because it does not exceed 5 percent (Torres—Reyna, 2007). The negative effect of WACCDER on ROA implies that cost of capital can negatively and significantly mediate the relationship between debt to equity ratio on financial performance measured by ROA of the sampled listed consumer goods companies. Based on the above analysis, the study rejects the null hypothesis six (6) of the study which states that cost of capital has no significant mediating effect on the relationship between debt to equity ratio and financial performance measured by ROA of listed consumer goods companies in Nigeria (b = -0.02, p < 0.05). This means that cost of capital has positive and significant mediating effect on the relationship between debt to equity ratio and financial performance measured by ROA of listed consumer goods companies in Nigeria. This is in line with the findings of Aoun and Heshmati (2006); Kaviani et al (2014); Al-Omar and Al-Okdeh (2020) who revealed that cost of capital has significant and mediating effect on the relationship between debt to equity ratio and return on assets. However, it contradicted the findings of Alrjoub and Ahmad (2017) who revealed that cost of capital has positive and insignificant mediating effect on the relationship between debt to equity ratio and return on assets.

The coefficient of firm size on Table 1 in models I-VI were positive and significant at the 1% level (b = 0.09, p < 0.05), (b = 0.08, p < 0.05), (b = 0.09, p < 0.05), (b = 0.09, p < 0.05), (b = 0.09, p < 0.05) and (b = 0.09, p < 0.05) for models I-VI respectively. This means that firm size has positive and significant effect on financial performance measured by ROA. This implies that as the size of sampled listed consumer goods companies in Nigeria increased, ROA will also increase. This agreed with the findings of Abdul Sattar (2015) that firm size has positive relationship with return on assets.

VI. Conclusion and Recommendations

Based on the findings of this study, it can be concluded that cost of capital mediates the relationship between capital structure and financial performance of listed consumer goods companies in Nigeria. This is attributed to the fact that, both the two measures of capital structure (debt ratio and equity ratio) used in this study has significant effect on financial performance measured by ROA of listed consumer goods companies in Nigeria. Similarly, cost of capital (weighted average cost of capital) has significant and mediating effect on both debt ratio and equity ratio on financial performance measured by ROA of listed consumer goods companies in Nigeria. In respect to the control variables of the study firm's size, it has significant effect on financial performance measured by ROA of listed consumer goods companies in Nigeria. This implies that cost of capital has mediating relationship between capital structure and financial performance of firms. Therefore, the study recommends that management of companies should ensure and have an average capital structure which comprises fifty percent of debt and fifty percent of equity as average of both debt and equity play a very significant role in influencing the financial performance of listed consumer goods companies in Nigeria which in turn lead to continuity and perpetuity.

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