THE ASSOCIATION BETWEEN CAPITAL STRUCTURE AND THE FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED ON THE GHANA STOCK EXCHANGE (GSE)

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Abstract

This study sought to examine the association between capital structure and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). Panel data extracted from the audited financial statements of 15 listed non-financial firms for the period 2008 to 2017 was employed for the study. The descriptive and inferential techniques of data analyses through the use of STATA version 15 software package with a 5% level of significance ($p \leq 0.05$), was adopted for the study. From the study's Pearson Product-Moment Correlation Coefficient estimates; capital structure proxied by DA had a significantly inverse affiliation with the firms' financial performance as measured by ROA; capital structure proxied by DE had an insignificantly positive association with the firms' financial performance as measured by ROA; capital structure proxied by ETA had a significantly positive association with the firms' financial performance as measured by ROA; capital structure proxied by DA had an insignificantly positive association with the firms' financial performance as measured by ROE; capital structure proxied by DE had a significantly inverse affiliation with the firms' financial performance as measured by ROE; capital structure proxied by ETA had an insignificantly negative connection with the firms' financial performance as measured by ROE; capital structure proxied by DA had an insignificantly positive relationship with the firms' financial performance as measured by

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ROCE; capital structure proxied by DE had a significantly adverse association with the firms' financial performance as measured by ROCE; and capital structure proxied by ETA had an insignificantly inverse association with the firms' financial performance as measured by ROCE. Based on the findings the study recommended that, the firms' should pay proper attention to their capital structure compositions. The capital structure compositionsof the firms should be made with due consideration to information asymmetry and should be the ones that would minimize costs and maximize shareholders wealth. The government and other financial institutions,putting in place measures to lower the cost of borrowing would also be of great benefit to the firms in that, it would allow them to borrow at lower costs to advance their operations, thereby boosting their final bottom line.**Key Words:**Association, Capital Structure, Financial Performance, Non-FinancialFirms,Ghana Stock Exchange (GSE), Return on Assets (ROA), Return on Equity (ROE), Return on Capital Employed (ROCE)

1.0 INTRODUCTION

Memoona, Syed, Mobeen and Muhammad (2017) viewed capital structure as the blend of debt and equity. According to the authors, an optimal capital structure is the one that minimizes costs and maximizes the wealth of firms. Findings from empirical and theoretical studies have shown that capital structure has an affiliation with firms' financial performance(Ngoc, Trang&Payel, 2017; Mbahijona, 2016; Mbahijona, 2016; Gabrijelčič, Herman &Lenarčič, 2016; Akeem, Terer, Wanjiru & Kayode, 2014; Shehryar, 2017;Jeannine, Gregory &Silas, 2016; Hiller, Clacher, Ross, Westerfield & Jordan, 2014; Myers, 1984; de Jong, Verbeek & Verwijmeren, 2010; and Schulz, 2017).This makes capital structure decisions one of the key tools for firms' survival. Since choosing a wrong capital structure composition will have serious consequences on the prospects of corporations (Adeyemi, Unachukwu & Oyeniyi, 2017), financial managers are tasked to come out with an optimum capital structure mix that will maximize the market value of firms' shares and ensure sufficientfinancial fluidity. Thus, a suitablebalance has to be struck between the need for returns and the threats of risk (Uremadu, 2012).

Ropafadzi (2017) examined the effect of capital structure on the profitability of 52 industrial companies listed on the Johannesburg Stock Exchange, and found a significantly adverse association between capital structure and the firms' profitability. Mohammed, Ahmed

and Mohammed (2016) also investigated the link between capital structure and the performance of seven consumer goods' companies listed on the Nigerian Stock Exchange,and discovered a significantly positive association between capital structure and the firms' financial performance. Merugu and Ravindar (2016) further studied the connection between capital structure and the profitability of 18 listed cement firms on theNational Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) of India, and established an insignificantlypositive association between capital structure and the profitability of the firms. Shehryar (2017) also studied the effect of capital structure on the financial performance of 50 firms listed on Bursa Italiana,and disclosed a significantly inverse affiliation between capital structure and the firms' financial performance. Additionally, Ayad and Mustafa (2015) delved into the association between capital structure and the financial performance of four (4) industrial firms listed on the Iraqi Stock Exchange, and found a significantly positive connection between capital structure and the firms' financial performance.Irrespective of the countless studies and their diverse conclusions on the relationship between capital structure and firms' financial performance, there have been limited research that particularly sought to explore the association between capital structure and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). This study was therefore conducted to help fill that gap.

1.1 Purpose of the Study

This study mainly sought to explore the association between capital structure and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE).The study is to among others, add more modernized empirical evidence to the existing finance literature in Ghana with regards to the association between capital structure and firms' financial performance. This would be of excessive benefit to the academic field as it will serve as a reference material for students and future researchers who may want to conduct more research on this current topic. Specifically, the study sought to;

1. Explore the relationship between capital structure and the firms' financial performance as measured by ROA.
2. Examine the association between capital structure and the firms' financial performance as measured by ROE.

3. Establish the affiliation between capital structure and the firms' financial performance as measured by ROCE.

1.2 Study Hypothesis

The goal of this study could not be achieved without testing some research hypothesis. Therefore based on the purpose of the study, the following hypothesis were formulated to help direct the study's focus;

H_{01}:Capital structure has no significant relationship with the firms' financial performance as measured by ROA.

H_{02}:Capital structure has no significant association with the firms' financial performance as measured by ROE.

H_{03}: Capital structure has no significant affiliation with the firms' financial performance as measured by ROCE.

2.0 LITERATURE REVIEW

In this section, reviews on trade-off and the pecking order theories of capital structure are first presented. The second aspect of the section covers empirical findings on the association between capital structure and firms' financial performance, whilst the study's conceptual model or framework forms the concluding part of the section.

2.1Theoretical Reviews

Peavler (2018) viewed capital structure as the composition of long-term liabilities; specific short-term liabilities like bank notes; common equity; and preferred equity, which make up the funds a business uses for its operations and growth.Capital structure focusses on choosing a proposal which minimizes cost of capital and maximizes earnings per share. As such, the choice of equity capital only; preference capital only; debt only; a mixture of equity and debt; a mixture of debt and preference capital; a mixture of equity and preference capital; and a mixture of equity, preference and debt capital in different proportions, are the various options firms could opt for in their capital structure mix(Kennon, 2018; Mahira, 2011; and Zhu, 2014). The above composition is supported by Pandey (2010) who put forward that, the capital structure of a firm can take the form of 0% debt, 100% equity; or 100% debt, 0% equity; or X% debt, Y% equity.

Theories related to capital structure and firms' financial performance are numerous. This study was however built on the trade-off and pecking order theories of capital structure.

2.1.1 Trade-Off Theory

According to the trade-off theory, the most favorable capital structure is where the benefits of expending debt are in equilibrium with the costs connected to the debt (Myers, 1984). As explained by de Jong, Verbeek and Verwijmeren (2010), establishments under this hypothesis, have a particular debt ratio as a main objective and try to attain that set objective. To them, the targeted debt ratio takes into consideration the payments of interests on debt positions, which are tax deductible and hence, lower the gains on which taxes have to be funded as postulated by Modigliani and Miller (1963).According to Hiller, Clacher, Ross, Westerfield and Jordan (2014), when deductible tax benefit matches the cost of financial distress, the targeted debt ratio is met.Nonetheless, debt commitments lead to funds outflows as interest and reclamations have to be settled, thereby dwindling corporations' liquidity (Schulz, 2017). Likewise, when firms go in for funds, the costsassociated with financial distress have to be taken into consideration (Myers, 1984). Myers (1984) indicated further that, the costs of alterations in capital structure impede firms in realizing their ideal ratio, because unanticipatedevents could lead to nonconformities to the optimum. Thus, the trade-off hypothesis predicts a positive association between leverage and firms' financial performance under normal economic settings. However, in the event of financial crisis, leverage is predicted to have an inverse link with firms' financial performance, as the rising risk and scarcity of capital could make debt more costly (Hiller, Clacher, Ross, Westerfield & Jordan, 2014; Myers, 1984;de Jong, Verbeek & Verwijmeren, 2010; and Schulz, 2017).

2.1.2 Pecking Order Theory

The main assumption of the pecking order concept is information asymmetry, as the administrators of firms have more ideas about the firms'operations and future prospects than outsiders (Harrison & Wisnu, 2014). According to the pecking order hypothesis, firms prefer internal financing to that of external financing, giving the asymmetry of information and the costs associated with the generation of capital (Hiller, et al., 2014). In case corporations are to go in for external source of funds, they fancy debt to equity in that, there is minor costs linked to

debt than equity (Frank & Goyal, 2002). Schulz (2017) opined that, wealthy or cost-effective establishments use less debt because they finance their operations with internal funds. In cases of economic down turn however, their final bottom line might reduce forcing them to go in for external funds.Fama and French (2002) in summarizing the pecking order hypothesis postulated that, firms favour the utilisation of inward funds, as such, the more wealthy a firm is, the lesser its debt-to-equity ratio. Thus, leverage is predicted to have an adverse affiliation with firms' financial performance, which is in support of Adeyemi, Unachukwu and Oyeniyi (2017), Ngoc, Trang and Payel (2017), Mbahijona (2016),Mbahijona (2016), Gabrijelčič, Herman and Lenarčič (2016), Akeem, Terer, Wanjiru and Kayode (2014), Shehryar (2017) and Jeannine, Gregory and Silas (2016). However, in the event of financial predicaments where the profitability of corporations fall, the association between leverage and firms' financial performance is predicted to be positive as firms may look for external sources of funds to run their operations.

2.2 Empirical Reviews on the Link between Capital Structure and Financial Performance

Ngoc, Trang and Payel (2017), explored the influence of capital structure on the financial performance of firms in the United Kingdom. Secondary data derived from 739 very large and large firms listed on the London Stock Exchange for the period 2006 to 2015 was employed for the study. From the study's regression estimates, capital structure proxied by long-term liabilities had a significantly adverse effect on the firms' financial performance as measured by ROA, ROE and Tobin's Q in most of the studied sectors, whilst capital structure proxied by short-term liabilities had an insignificant influence on the firms' ROA, ROE and Tobin's Q. The study's findings also established an insignificant impact of long-term liabilities and short-term liabilities on the firms' EPS.Adeyemi, Unachukwu and Oyeniyi (2017) analyzed the impact of capital structure on the financial performance of insurance companies in Nigeria. Panel data extracted from the records of six listed insurance companies for the period 2012 to 2016 was used for the study. From the study's correlation and regression analysis, capital structure proxied by the debt ratio and the debt-equity ratio had an inverse association with the firms' financial performance as measured by ROA and ROE.

Merugu and Ravindar (2016) examined the influence of capital structure on firms' profitability and shareholders' wealth maximization in India. Panel data obtained from 18 listed cement firms on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) for

the period 2007 to 2014 was employed for the study. From the study's multiple regression analysis, capital structure measured by the debt-equity ratio had an insignificantly positive effect on the firms' profitability as measured by ROA, Tobin's Q and EPS.Muhammad, Humaira, Naila and Aneela (2017) studied the effect of capital structure on the financial performance of Sharia and Non-Sharia complaint companies in Pakistan. Panel data deduced from the annual reports of three (3) Shariah and five (5) Non-Shariah complaint firms listed on the Pakistani Stock Exchange for the period 2009 to 2015 was employed for the study. From the study's multiple linear regression output, capital structure represented by short-term debt ratio, long-term debt ratio, sales growth ratio, non-debt tax shield and insider holding, had a pertinent influence on the financial performance of Non-Sharia complaint companies measured in terms of ROA and ROE, but did not significantly affect the ROA and the ROE of Sharia complaint companies in Pakistan.

Ayad and Mustafa (2015) analyzed the impact of capital structure on the profitability of firms in Iraq. Secondary data obtained from the annual reports of four (4) industrial firms listed on the Iraqi Stock Exchange for the period 2004 to 2013 was used for the study. From the study's multiple regression estimates, capital structure had a significantly positive influence on the firms' financial performance.Achchi (2015) examined the effect of capital structure on the profitability of firms listed on the Colombo Stock Exchange. Secondary data extracted from the annual reports of firms operating in the food, beverages and tobacco sectors of Sri Lanka for the period 2007 to 2012 was used for the study. From the study's multivariate regression estimates, capital structure proxied by the ratio of debt to total assets and the ratio of debt to equity had no significant effect on the firms' financial performance as measured by ROE and ROCE.Suleiman and Ahmed (2016) studied the effect of capital structure on the performance of firms in Nigeria. Data sourced from the financial statements of seven (7) listed firms operating in the building materials sector for the period 2005 to 2014 was adopted for the study. From the study's regression output, capital structure proxied by long-term debt, short-term debt and equity had an insignificant influence on the firms' financial performance as measured by ROA.

Bhushan and Mohinder (2016) explored the influence of capital structure on the profitability of firms in India. Secondary data sourced from 10 cement companies listed on the Bombay Stock Exchange for the period 2009-10 to 2013-14 was employed for the study. Through the correlational analysis, capital structure proxied by the ratio of debt to equity and the

ratio of debt to total fund, had a significantly positive association with the firms' financial performance as measured by gross profit, return on capital and return on equity. Muhammad (2016) examined the influence of capital structure on the performance of firms in Pakistan with corporate governance playing a moderating role. Panel data from 100 non-financial firms listed on the Karachi Stock Exchange was employed for the study. From the study's fixed effects regression analysis, capital structure surrogated by the total debt ratio and the long-term debt ratio had a significantly positive impact on the firms' financial performance as measured by Tobin's Q.Mbahijona (2016) analyzed the effect of capital structure on the financial performance of firms listed on the Namibian Stock Exchange. Panel data extracted from the annual financial statements of 21 listed firms for the period 2010 to 2013 was employed for the study. From the study's findings, capital structure proxied by long-term debt, short-term debt and total debt had a significantly adverse effect on the firms' financial performance as measured by ROA, ROE and NPM.

Sharifa and Hafinaz (2017) investigated the effect of capital structure on the financial performance of Malaysian publicly listed construction firms. Secondary data extracted from the audited financial statements of 36 listed construction firms on Bursa Malaysia Stock Exchange for the period 2011 to 2015 was employed for the study. From the study's findings, capital structure proxied by the ratio of debt to total assets had an insignificantly adverse association with the firms' financial performance as measured by ROA, ROE and NPM, but capital structure measured by the ratio of debt to equity had a significantly inverse link with the firms' ROA, ROE and NPM.Shehryar (2017) studied the effect of capital structure on the financial performance of firms in Italy. A nine (9) year quarterly panel data of 50 firms listed on the Bursa Italiana for the period 2007 to 2015 was used for the study. From the study's results, capital structure proxied by the ratio of total debt to total assets and the ratio of total debt to total equity, had a significantly inverse connection with the firms' financial performance as measured by ROA and ROE.

Sushil and Neeti (2017) examined the effect of capital structure on the profitability of oil and gas companies in India. Data from seven (7) firms listed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) for the period 2005 to 2015 was adopted for the study. From the study's findings, capital structure proxied by the degree of operating leverage

had a significant influence on the firms' financial performance as measured by ROA. Jeannine, Gregory and Silas (2016) examined the effect of capital structure on the financial performance of firms listed on the Rwandan Stock Exchange. Primary and secondary data obtained from six listed firms on the stock market was used for the study. From the study's correlational findings, capital structure had a significantly negative relationship with the firms' financial performance as measured by ROA and ROE, whilst the regression results established a significantly adverse influence of capital structure on the financial performance of the firms' measured by ROA and ROE.Gichuhi (2016) examined the influence of capital structure on the profitability of firms listed on the Nairobi Securities Exchange. Secondary data deduced from the annual reports of 36 listed firms for the period 2011 to 2015 was employed for the study. From the study's findings, there was no significant association between capital structure and the firms' profitability.Chin, Muhammad, Amran, Sang and Owee (2016) studied the impact of capital structure and internal governance mechanisms on Malaysian manufacturing firms' performance. Data from 183 firms listed on Bursa Malaysia for the period 2007 to 2010 was used for the study. From the study's discoveries, capital structure had a significantly positive influence on the firms' financial performance.

Ahmad (2015) examined the influence of capital structure on the financial performance of listed establishments on the Bahrain Bourse. Data derived from the records of 17 non-financial listed firms for the period 2009 to 2013 was used for the study. From the study's multivariate regression estimates, capital structure recoursed by the ratio of total liabilities to total assets had a significantly positive influence on the firms' financial performance as measured by ROE, but not by ROA, EPS and Dividend Yield (DIYILD).Mutwiri (2015) analyzed the impact of capital structure decisions on the financial performance of energy and petroleum sector firms listed on the Nairobi Securities Exchange (NSE). Secondary data obtained from the annual reports of the five (5) listed firms operating in the energy and petroleum sector for the period 2004 to 2014 was employed for the study. From the study's multiple regression analysis, capital structure proxied by the debt ratio had a significantly positive effect on the firms' financial performance as measured by ROE.Schulz (2017) explored the effect of capital structure on the performance of Dutch unlisted SMEs. Panel data deduced from the records of 3,363 unlisted SMEs for the period 2008 to 2015 was used for the study. From the study's findings, capital structure

surrogated by the ratio of long-term debt to total assets, short-term debt to total assets and total debt to total assets had a significantly adverse impact on the firms' financial performance as measured by ROA.Ubesie (2016) examined the influence of capital structure on the financial performance of Nigerian quoted conglomerates. Secondary data obtained from the annual reports of listed conglomerates for the period 2011 to 2015 was used for the study. From the study's pooled OLS regression estimates, capital structure had a significant impact on the firms' ROA, but not on the firms' ROE and EPS. Manjuru (2015) studied the effect of capital structure on the financial performance of non-financial firms quoted on the Nairobi Securities Exchange. Secondary data extracted from the annual financial statements of 40 listed non-financial firms for the period 2009 to 2013 was adopted for the study. From the study's multivariate regression analysis, capital structure proxied by the ratio of long-term liabilities to total assets, short-term liabilities to total assets and total liabilities to total assets had a significantly inverse influence on the firms' financial performance as measured by ROA.Mugambi (2016) explored the influence of capital structure on the financial performance of firms listed on the Nairobi Securities Exchange (NSE). Secondary data extracted from the annual reports of 47 listed non-financial firms for the period 2011 to 2015 was adopted for the study. From the study's multivariate regression output, capital structure represented by the debt ratio had a significantly negative effect on the firms' financial performance as measured by ROA, supporting the pecking order hypothesis of capital structure.
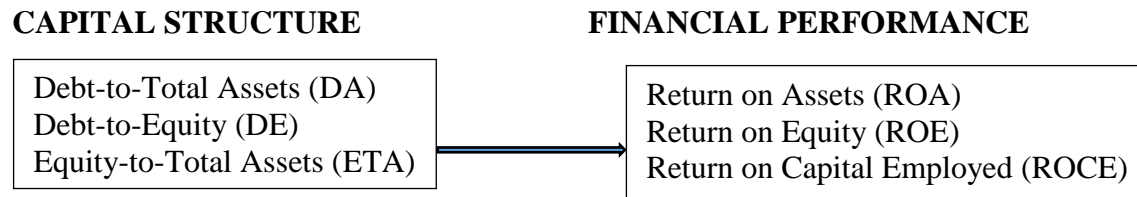
Yong (2015) studied the influence of capital structure on the performance of plantation firms in Malaysia. Panel data sourced from the financial statements of ten (10) plantation firms listed on Bursa Malaysia Stock Exchange for the period 2008 to 2014 was used for the study. From the study's findings, capital structure surrogated by short-term debt and long-term debt had a significantly positive association with the firms' financial performance as measured by ROA and ROE, but capital structure proxied by total debt had a significantly adverse connection with the firms' ROA and ROE.Seyedeh (2015) studied the influence of capital structure on banking performance in Iran. Secondary data extracted from the financial statements of 17 listed banks on the Tehran Stock Exchange for the period 2009 to 2014 was used for the study. From the study's regression estimates capital structure surrogated by the ratio of debt to equity, had a significantly adverse effect on the banks' financial performance measured in terms of ROA and ROE.Assad

(2016) researched on the impact of capital structure on the profitability of firms in London. Data from 30 selected firms from FTSE-100 index of the London Stock Exchange for the period 2005 to 2014 was employed for the study. From the study's multiple regression analysis, capital structure proxied by interest coverage had a significantly positive effect on the firms' profitability as measured by ROA, ROE and ROIC, whilst capital structure proxied by the debt-equity ratio had a significantly negative impact on the firms' ROA and ROIC, but significantly positively affected the firms' profitability through ROE.

Jumanne (2015) researched on the effect of capital structure on the performance of SMEs in Tanzania. Primary and secondary data obtained from 100 SMEs who were selected through the stratified random sampling technique was used for the study. From the study's simple regression output, capital structure had a significantly positive impact on the SMEs' profitability.Memoona, Syed, Mobeen and Muhammad (2017) studied the effect of capital structure on the performance of non-financial firms in Pakistan. Data from 213 listed firms on the Karachi Stock Exchange for the period 1999 to 2015 was adopted for the study. From the study's full sample regression analysis, capital structure measured by long-term debt to total assets had a significantly negative influence on the firms' financial performance as measured by ROA, ROE, Tobin's Q and Price Earnings (PE) ratio, but capital structure represented by short-term debt to total assets had a significantly adverse effect on the firms' financial performance measured by ROA and ROE. The study further revealed a significantly inverse impact of debt-equity ratio on the firms' ROE and Tobin's Q.

2.3 Conceptual Model

Figure 1 shows the conceptual model that guided the conduct of the study.The model indicates that capital structure proxied by the DA, DE and ETA had a link with the firms' financial performance as measured by ROA, ROE and ROCE. The model also shows that, capital structure proxied by the DA, DE and ETA had a connection with the firms' financial performance as measured by ROA, ROE and ROCE. The model finally depicts that, capital structure proxied by the DA, DE and ETA had an affiliation with the firms' financial performance as measured by ROA, ROE and ROCE.

Figure 1: Conceptual Model

CAPITAL STRUCTURE   **FINANCIAL PERFORMANCE**

Debt-to-Total Assets (DA)
Debt-to-Equity (DE)
Equity-to-Total Assets (ETA)

Return on Assets (ROA)
Return on Equity (ROE)
Return on Capital Employed (ROCE)

(Source: Authors, 2019)

Return on Assets (ROA) was calculated as the ratio of net income to total assets of the firms. Return on Equity (ROE) was also calculated as the net income divided by the total equity of the firms, whilst the ratio of net income to capital employed was used to compute the firms' ROCE. The Debt-to-Total Assets (DA) ratio was calculated as the total liabilities divided by the total assets of the firms. The Debt-to-Equity (DE) ratio was computed as the ratio of total liabilities to the total equity of the firms, whilst the Equity-to-Total Assets (ETA) ratio was calculated as the total equity divided by the total assets of the firms.

3.0 RESEARCH METHODOLOGY

Soeters, Shields and Rietjens (2014), Ndira, Alana and Bucknam (2011) and Silverman (2011) explained a research methodology as a structure of wide values or procedures from which explicit approaches or techniques could be obtained to interpret or resolve diverse hitches within the range of a specific discipline. This aspect of the study presents the research model and methodology. The section is sub-divided into research design, population and sampling, data collection procedure, research model or the conceptual framework, measurement of study variables and data analysis.

3.1 Research Design

According to Creswell (2014), Creswell (2012) and Adèr, Mellenbergh and Hand (2008), a research design is a set of procedures and techniques employed in gathering and studying measures of variables identified in a research problem. This study was a quantitative research.The quantitative research method was adopted because; it allowed for broader study involving a greater number of subjects, thereby enhancing the generalization of results; and its studies could be replicated or repeated due to their high reliability (Babbie, 2010; McNabb, 2008; and Singh, 2007). Specifically,the study was *correlational* in nature because it sought to

measure two or more variables and assess the statistical relationship (association) that existed between them with little or no effort to control or manipulate predictor variables (Pelham, Carvallo & Jones, 2005). The study was also *panel or longitudinal* in nature because it followed the sample over time and made repeated observations (Forgues, Bernard & Vandangeon-Derumez, 2011; and Teotonio, 2012). The study was finally conclusive in nature because, it was carried out to test formulated hypothesis; it provided a reliable or representative picture of the population through the application of valid research instrument; and its findings were viewed as significant as they could have theoretical or applied implications (Nargundkar, 2008).

3.2 Population and Sampling

Allnon-financial firms listed on the Ghana Stock Exchange formed the study's target population. Currently, the total number of listed firms on the Ghanaian stock market total forty one (41). Out of this figure, non-financial firms account for twenty eight (28) representing 68.29% of the total number of listed firms. Because the study wanted to use a balanced data, the purposive or selective sampling method was employed to make a sample out of the total population. The number of years in existence, technical suspension due to one reason or the other, unaudited financial records, non-existence of trend records, incomplete financial statements and the presentation of annual reports in foreign currencies either than that of the currency of Ghana (because of the non-stability of the Ghana Cedi to major foreign currencies) were the factors or filters that were considered during the sampling process. Firms that failed in any of the above filters or factors did not form part of the study's sample. In all, thirteen (13) firms were rejected as they failed in one or more of the factors that were considered for the sampling. The sample therefore totaled fifteen (15) representing 53.57% of the target population or 36.59% of the total number of listed firms. The fifteen (15) selected non-financial firms were the Ghana Oil Company Ltd, Total Petroleum Ghana Ltd,Starwin Products Ltd, Camelot Ghana Ltd, Aluworks Ltd, Clydestone Ghana Ltd, African Champion Industries Ltd, Benson Oil Palm Plantation Ltd, Fan Milk Ltd, Guinness Ghana Breweries Ltd, Unilever Ghana Ltd, PZ Cussons Ghana Ltd, Produce Buying Company Ltd, Mechanical Lloyd Company Ltd and Sam Woode Ltd.

3.3 Data Collection Procedure

Secondary dataextracted from the audited and published annual reports of the selected firms for the period 2008 to 2017 was adopted for the study. The annual reports comprised of the comprehensive income statement, statement of financial position, statement of cash flows, statement of changes in equity and notes to the accounts. Ratios relating to the firms' capital structure and financial performance were then computed from the annual reports using various measurements or formulas outlined for the study. In this study, validity was ensured by collecting data from the right source (i.e. the Ghana Stock Exchange). Also, only annual reports audited by authorised Certified Chartered Accountants was considered for the study. To further ensure the validity and accuracy of the final results, the data collection and calculation process was triple checked. The study ensured reliability in the data by making sure that, the data collected was within the study period; the data was complete and accurate; and the data was obtained from its original source and not from a source where it might have been manipulated or altered.On ethical considerations, Tripathy (2013) indicated that, if the data is freely available on the Internet, books or other public forums, permission for further use and analysis is implied but the ownership of the original data must be acknowledged. This study acknowledged all sources from which data or information was obtained.

3.4 Data Analysis

Descriptive and inferential techniques of data analysis were used for the study. In the descriptive analysis, the mean, standard deviation, variance, minimum and maximum values, range,skewness and kurtosis of the variables were analysed. Whilst the Pearson Product-Moment Correlation Coefficient technique of data analysis was adopted to examine the relationship between capital structure and the firms' financial performance. All the analysis were conducted through STATA version 15 software package with a 5% level of significance ($p \leq 0.05$).

4.0 RESULTS OF THE STUDY

This section presents the study's results. The section first presents descriptive analysis on the study's variables. Secondly, correlational analysis on the relationship between capital structure and the firms' financial performance is brought to light.

4.1 Descriptive Analysis

This section presents descriptive analysis of the study's variables with respect to their means, standard deviations, variances, minimum and maximum values, range, skewness and kurtosis.From Table 1, ROA had a mean value of 0.0052693. The mean ROA figure of 0.0052693 implies, the firms were making 0.52693 pesewas of profit on each cedi of investments made from the year 2008 to 2017. The positive mean figure for ROA is an indication that, the assets or investments of the firms were been used efficiently by management to generate profits. The ROA distribution had a maximum value of 0.7656 and a minimum value of -5.6487 leading to a range of 6.4143. ROA for the firms also had a standard deviation of 0.4849762 and a variance of 0.2352019. This implies, data values of ROA deviated from both sides of the average by 0.4849762, which is an indication that, the data values were not too widely dispersed from the average. The figure -10.64317 being the skewness for ROA indicates that, the ROA distribution was highly negatively skewed or skewed to the left. This is an indication that, a greater portion of the ROA distribution fell on the right side. In other words, the left tail of the ROA distribution was longer than that of the right tail. The kurtosis coefficient of 124.8778 [excess (K)=124.8778-3.0=121.8778] shows that, the ROA distribution was *leptokurtic* or *slender* in shape. In other words, the ROA distribution was not normally distributed as it had *fatter* tails that asymptotically approached zero more slowly than a *Gaussian distribution,* and therefore produced more outliers than the normal distribution.The ROE of the firms had an average value of 0.167214. This implies, on the average, every cedi of common stockholders' equity generated 16.7214 pesewas of net income. The positive mean ROE is an indication that, management were efficiently utilizing shareholder's capital to generate income and profits. This serves as a favourable sign for potential investors because, they are likely to get a return on their investments.

Table 1: Descriptive Statistics on Study Variables

Variables	ROA	ROE	ROCE	DA	DE	ETA
Mean	0.0052693	0.167214	0.1945633	0.7674467	2.7978	0.217868
Std. Dev.	0.4849762	1.184918	1.09571	1.717878	11.78329	1.719649
Variance	0.2352019	1.404031	1.20058	2.951105	138.8459	2.957194
Minimum	-5.6487	-4.5277	-1.5666	0.0493	-64.6981	-20.1263
Maximum	0.7656	12.8951	12.8951	21.1263	119.1717	0.9507
Range	6.4143	17.4228	14.4617	21.077	183.8698	21.077
Skewness	-10.64317	7.859589	10.44939	11.24853	5.325699	-11.19163
Kurtosis	124.8778	91.75657	122.057	133.372	71.798	132.4414
Obs (N)	150	150	150	150	150	150

(Source: STATA Output, 2019)

The positive average ROE is also not just an indication of the firms' profitability, but shows that, the firms were good at using their retained earnings (which have minimal risks because it does not increase the debt position of establishments) efficiently to generate revenues. The positive average ROE of the firms further indicates that, the firms had the ability to maintain competitive advantage over their competitors by protecting their long-term profits and market share. The firms having an economic moat also implies, they were worthy enough to generate economic profits for a longer stretch of time, and were able to reinvest those cash flows at a high rate of return for a longer period. The firms' ROE also had a standard deviation of 1.184918 and a variance of 1.404031. This is an indication that, data values of ROE deviated from both sides of the average by 1.184918, implying, the values were a bit much dispersed from the mean. Return on Equity (ROE) of the sampled firms also had a minimum value of -4.5277 and a maximum value of 12.8951leading to a range of 17.4228.

The distribution for ROE was positively skewed with a coefficient of 7.859589, implying, the right tail of the ROE distribution was longer than that of the left tail. The kurtosis value of 91.75657 [excess (K)= 91.75657-3.0 = -88.75657] shows that, the ROE distribution was *leptokurtic* or *slender* in shape. In other words, the ROE distribution was not normally distributed as it had *fatter* tails that asymptotically approached zero more slowly than a *Gaussian distribution,*and therefore produced more outliers than the normal distribution.The ROCE of the firms had an average value of 0.1945633. The mean ROCE figure implies, for every cedi invested in capital employed, the firms made 19.45633 pesewas of profits. The positive ROCE figure depicts that, the firms were efficiently using their capital employed as well as their long-term financing strategies. The return on capital employed ratio must however be always higher than the rate at which firms borrow to fund their assets. For instance, if the sampled firms had borrowed at 10% and have achieved a return of 19.46% as the average ROCE figure (0.1945633) have shown, it means the firms have made gains.

Conversely, if the mean ROCE of the firms was to be lesser than the rate at which they had borrowed (say 0.05 or 5%), it means a loss on the part of the firms. The ROCE of the sampled firms had a standard deviation of 1.09571 and a variance of 1.20058. This means that, the data for ROCE deviated from both sides of the mean by 1.09571, which is an indication that, the data

was a bit widely dispersed from the average. The minimum and maximum values of ROCE were -1.5666 and 12.8951 respectively, leading to a range of 14.4617. The distribution for ROCE was highly positively skewed with a coefficient of 10.44939, implying a greater portion of the ROCE distribution fell on the left hand side. In other words, the right tail of the ROCE distribution was longer than that of the left tail.The kurtosis value of 122.057 [excess (K)=122.057-3.0=119.057] is an indication that, the ROCE distribution was higher and peakier *(leptokurtic)* than the *Gaussian distribution*which shows itsabnormality.

Non-financial firms listed on the GSE had an average DA ratio of0.7674467. The mean DA ratio of 0.7674467 is an indication that, 76.74% of the firms' assets are being funded via debt. The ratio is also an indication that, the firms' own more assets than liabilities and can meet their obligations by selling their assets if needed. In other words, the firms are not putting themselves at a risk of not being able to pay back their debts, which is a particular problem businesses encounter when they operate in highly cyclical industries where cash flows can suddenly decline.An increasing trend of the average DA figure will imply, the firms will be unwilling or unable to pay down their debts when they fall due, meaning a default at some point in the future and possible bankruptcy; whilst a decreasing trend of the figure will imply the contrary. Thus, the higher the ratio, the greater the degree of leverage and financial risk, whilst the lower the ratio, the lesser the degree of leverage and financial risk. The DA distribution had a minimum value of 0.0493and a maximum value of 21.1263 resulting in a range of21.077.The DA of the firms also had a standard deviation of 1.717878 and a variance of 2.951105. This implies, the DA distribution deviated from both sides of the average by 1.717878, which is an indication that, data values of DA were a bit widely dispersed from the mean.

The figure 11.24853being the skewness for DA indicates that, the DA distribution was highly positively skewed or skewed to the right. This is an indication that, a greater portion of the DA distribution fell on the left hand side. In other words, the right tail of the DA distribution was longer than that of the left tail. The kurtosis coefficient of 133.372[excess (K)=133.372-3.0=130.372] shows that, the DA distribution was *leptokurtic* or *slender*in shape. In other words, the DA distribution was not normally distributed as it had *fatter* tails that asymptotically approached zero more slowly than a *Gaussian distribution,* and therefore produced more outliers

than the normal distribution.The DE ratio of the sampled firms had a mean value of 2.7978. This is an indication that, the firms had 2.7978 cedis of debt for every cedi of equity they held. The ratio is also an indication that, the firms got more of their financing from borrowing which poses a risk to their operations. The firms having gotten much of their financing from borrowing also implies, they are at a greater risk of bankruptcy if their operations decline. Thus, for highly leveraged firms like the listed non-financial firms in Ghana, declines in their sustained earnings could lead to their financial distress or bankruptcy. However, it's not as simple as saying a high DE ratio is a sign of poor business practices. In fact, debt can help firms to expand their operations and generate additional income for both the firms and their shareholders. Some firms, especially those into auto and construction, usually have higher DE ratios than others because getting started and maintaining inventory are capital-intensive. Other firms with intangible products such as online services, may have lower standard DE ratios. It is therefore advisable for investors to evaluate firms' historical ratios, as well as those of similar firms in the same industry when evaluating the financial health of organisations.

The firms' DE also had a standard deviation of 11.78329and a variance of138.8459. This is an indication that, data values of DE deviated from both sides of the average by 11.78329, implying, the values were widely dispersed from the mean. The DE of the sampled firms also had a minimum value of -64.6981 and a maximum value of 119.1717 leading to a range of 183.8698. The distribution for DE was positively skewed with a coefficient of 5.325699, implying, the right tail of the DE distribution was longer than that of the left tail. The kurtosis value of 71.798[excess (K)= 71.798-3.0 = 68.798] shows that, the DE distribution was *leptokurtic* or *slender* in shape. In other words, the DE distribution was not normally distributed as it had *fatter* tails that asymptotically approached zero more slowly than a *Gaussian distribution,* and therefore produced more outliers than the normal distribution.The Equity-to-Total Assets (ETA) ratio sought to determine the financial health and long-term profitability of the firms. This ratio is one of the precise measures of the firms' solvency, thus, the ability of the firms to meet their debt obligations if they were to convert all their assets into cash to pay their creditors. The ETA ratio is often used by investors to determine whether corporations' shares are a safe investment. The firms' ETA had an average value of 0.217868, meaning, they were burdened with debts. In other words, the firms were not mostly owned by their shareholders.

This situation makes it very difficult for them to borrow money, due to concerns about their solvency.

The ETA of the sampled firms had a standard deviation of 1.719649and a variance of 2.957194. This implies, the data for ETA deviated from both sides of the mean by 1.719649, which is an indication that, the data was a bit widely dispersed from the average. The minimum and maximum values of ETA were -20.1263 and0.9507 respectively, leading to a range of 21.077. The distribution for ETA was highly negatively skewed with a coefficient of -11.19163, meaning, a greater portion of the ETA distribution fell on the right hand side. In other words, the left tail of the ETA distribution was longer than that of the right tail.The kurtosis value of 132.4414[excess (K)=132.4414-3.0=129.4414] is an indication that, the ETA distribution was higher and peakier *(leptokurtic)* than the *Gaussian distribution*which shows itsabnormality.

4.2 Correlational Analysis

The Pearson Product-Moment Correlation Coefficient or Pearson's Correlation Coefficient technique of data analysis was adopted to establish the association between capital structure and the firms' financial performance, and from Table 2there was a significantly adverse affiliation between ROA and DA at the 5% level of significance [r=-0.9630, (p=0.0000)<0.05]. The inverse association between DA and ROA implies, an increase in DA led to a decrease in ROA and vice-versa. The link between DA and ROA can be justified by the coefficient of determination (r^2 =0.9274) which indicates that 92.74% of the variations in ROA was accounted for by DA and 92.74% of the variations in DA was explained by ROA. The unexplained variance [7.26% or (1-r^2 =0.0726)] may be attributed to other variables that were not covered in the study. The study also revealed an insignificantly positive relationship between ROA and DE at the 95% confidence interval [r=0.0258, (p=0.7540)>0.05]. The positive relationship between DE and ROA implies, an increase in DE led to an increase in ROA and vice-versa, and a decrease in DE led to a decrease in ROA and vice versa, even though the association between them was not significant.

The association between DE and ROA can also be substantiated by the coefficient of determination (r^2 =0.0007) which indicates that 0.07% of the variations in ROA was accounted

for by DE and 0.07% of the variations in DE was explained by ROA. The unexplained variance [99.93% or ($1-r^2$ =0.9993)] may be attributed to other elements that were not incorporated in the study. The connection between ETA and ROA was strongly positive (r =0.9623) and statistically significantly different from 0 at α=5%[(p=0.0000)<0.05]. The positive link between ETA and ROA is an indication that an increase in ETA led to an increase in ROA and vice-versa, and a decrease in ETA led to a decrease in ROA and vice versa, though the association between them was not pertinent.The power of association that existed between ETA and ROA can be proven by the coefficient of determination (r^2 =0.9260) which shows that 92.60% of the variations in ROA was accounted for by ETA and 92.60% of the variations in ETA was explained by ROA. The unexplained variations [7.40% or ($1-r^2$ =0.0740)] may be aligned to other factors that were not included in the study.

Table 2: Correlations of Capital Structure with the Firms' Financial Performance

Variables	ROA	ROE	ROCE	CR	QR	CFR
ROA	1.0000					
ROE	0.0037	1.0000				
	(0.9642)					
ROCE	-0.0156	0.9516*	1.0000			
	(0.8498)	(0.0000)				
DA	-0.9630*	0.0154	0.0223	1.0000		
	(0.0000)	(0.8515)	(0.7867)			
DE	0.0258	-0.6917*	-0.4875*	-0.0079	1.0000	
	(0.7540)	(0.0000)	(0.0000)	(0.9233)		
ETA	0.9623*	-0.0188	-0.0254	-0.9981*	0.0128	1.0000
	(0.0000)	(0.8198)	(0.7579)	(0.0000)	(0.8760)	

*Note: * implies significance at the 5% level and values in parenthesis ( ) represent probabilities.*

(Source: STATA Output, 2019)

Also from the study's results, DA and ROE were insignificantly positively linked to each other with a correlation coefficient of 0.0154 and a *p value* of 0.8515at the 5% level of significance. The positive relationship between DA and ROEmeans, an increase in DA led to an increase in ROE and vice-versa, and a decrease in DA also led to a decrease in ROE and vice-

versa, though the association between them was not significant. The strength of association that existed between DA and ROE can be justified by the coefficient of determination (r^2 =0.0002) which shows that 0.02% of the variations in ROE was accounted for by DA and 0.02% of the variations in DA was explained by ROE. The unexplained variances [99.98% or (1-r^2 =0.9998)] may be attributed to other issues that were not included in the study.The study further revealed a significantly negative relationship between DE and ROE at the 95% confidence interval [r = -0.6917, (p=0.0000)<0.05]. The *r* value of -0.6917is an indication that, an increase in DE led to a decrease in ROE and vice-versa. The association between DE and ROE can be explained by the coefficient of determination (r^2 =0.4784) which indicates that, 47.84% of the changes in ROE was explained by DE and 47.84% of the changes in DE was accounted for by ROE. The unexplained variabilities [52.16 % or (1-r^2 =0.5216)] may be attributed to other inherent variabilities that were not incorporated in the study.

The study also disclosed an insignificantly negative association between ETA and ROE at α=5% [r =-0.0188, (p=0.8198)>0.05]. The trivially adverse association between ETA and ROE means, an increase in ETA led to a decrease in ROE and vice-versa. The link between ETA and ROE can be substantiated by the coefficient of determination (r^2 =0.0003) which indicates that, 0.03% of the variations in ROE were explained by ETA and 0.03% of the variations in ETA were accounted for by ROE. The unexplained variations [99.97% or (1-r^2 =0.9997)] may be attributed to other issues that were not covered by the study. A positive and insignificant relationship was further found between DA and ROCE at the 95% confidence interval [r =0.0223, (p=0.7867)>0.05]. The value 0.0223 being the correlation coefficient between DA and ROCE is an indication that, as DA increased, ROCE also increased in the same direction and vice-versa, and as DA decreased, ROCE also decreased in the same direction and vice-versa, even though the association between the two variables was not significant. The affiliation between DA and ROCE can also be proven by the coefficient of determination (r^2 =0.0005) which shows that, 0.05% of the changes in ROCE were explained by DA and 0.05% of the variations in DA were accounted for by ROCE. The unexplained variations [99.95% or (1-r^2 =0.9995)] may be attributed to other elements that did not form part of the study.

The study also established a significantly negative link between DE and ROCE at the 5% level of significance [r =-0.4875, (p=0.0000)<0.05]. The significantly inverse association between DE and ROCE is an indication that, an increase in DE led to a decrease in ROCE and vice-versa.The connection between DE and ROCE can also be justified by the coefficient of determination (r^2 =0.2377) which shows that, 23.77% of the variations in ROCE was accounted for by DE and 23.77% of the variations in DE was explained by ROCE. The unexplained changes or variations [76.23% or (1-r^2 =0.7623)] may be accounted for by other factors that did not form part of the study.The study finally discovered an insignificantly inverse relationship between ETA and ROCE at α=5% [r =-0.0254, (p=0.7579)>0.05]. The inverse association between ETA and ROCE implies, an increase in ETA led to a decrease in ROCE and vice-versa. The link between ETA and ROCE can be justified by the coefficient of determination (r^2 =0.0006) which indicates that 0.06% of the variations in ROCE was accounted for by ETA and 0.06% of the variations in ETA was explained by ROCE. The unexplained variances [99.94% or (1-r^2 =0.9994)] may be attributed to other variables that were not incorporated in the study.

5.0 DISCUSSIONS

In this section of the paper, discussions on the major findings of the study are outlined. The discussions are conducted in relation to the review of relevant literature that supported the topic understudy and are presented in the order of; the association between capital structure and the firms' financial performance as measured by ROA; the link between capital structure and the firms' financial performance as measured by ROE; and the connection between capital structure and the firms' financial performance as measured by ROCE.

5.1 TheAssociation between Capital Structure and Financial Performance (ROA)

The study discovered a significantly negative association between DA and ROA at the 5% level of significance [r= -0.9630, (p=0.0000)<0.05]. This finding was in support of the pecking order theory's prediction of a negative association between debt and firms' profitability. The finding was also in support of Ngoc, Trang and Payel (2017) whose study on 739 very large and large firms listed on the London Stock Exchange found a significantly adverse relationship between capital structure and the firms' financial performance.The finding further supportedAdeyemi, Unachukwu and Oyeniyi (2017) whose studyon six listed insurance companies in Nigeria, discovered an inverse link between capital structure and the firms'

financial performance.The finding was however in disagreement with the trade-offtheory's prediction of a positive association between debt and firms' profitability. The finding was also at variance with Merugu and Ravindar (2016) whose study on 18 listed cement firms on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) in India, found an insignificantly positive affiliation between capital structure and the firms' profitability.The study also revealed an insignificantly positive relationship between ROA and DE at the 95% confidence interval [r=0.0258, (p=0.7540)>0.05]. This finding was in tandem with Muhammad, Humaira, Naila and Aneela (2017) whose study on listed Sharia and Non-Sharia complaint companies in Pakistan found an insignificant connection between capital structure and the financial performance of listed Sharia complaint companies.

The finding was also in line with Achchi (2015) whose research on food, beverages and tobacco firms listed on the Colombo Stock Exchange in Sri Lanka,found no significant relationship between capital structure and the firms' financial performance. The finding was however in disagreement with Ayad and Mustafa (2015) whose study on four (4) industrial firms listed on the Iraqi Stock Exchange, established a significantly positive association between capital structure and the firms' financial performance.The finding was also not consistent with Muhammad, Humaira, Naila and Aneela (2017) who discovered a significant relationship between capital structure and the financial performance of listed Non-Sharia complaint companies in Pakistan.The affiliation between ETA and ROA was strongly positive (r =0.9623) and statistically significantly different from 0 at α=5%[(p=0.0000)<0.05]. This finding was consistent with Bhushan and Mohinder (2016) whose study on 10 cement companies listed on the Bombay Stock Exchange, found a significantly positive association between capital structure and the firms' financial performance.The finding was also in line with Muhammad (2016) whose study on 100 non-financial firms listed on the Karachi Stock Exchange disclosed a significantly positive link between capital structure and the firms' financial performance.The finding was however not consistent with Suleiman and Ahmed (2016) whose study on seven (7) listed firms operating in the building materials sector in Nigeria, established an insignificant association between capital structure and the firms' financial performance. The finding was also in disparity with Mbahijona (2016) whose research on 21 firms listed on the Namibian Stock Exchange,

found a significantly adverse connection between capital structure and the firms' financial performance.

Test of Hypothesis One:From the study's findings, capital structure proxied by DA had a significantlynegative relationship with the firms' financial performance as measured by ROA. The study therefore failed to accept the *null hypothesis(H_{01})* that, capital structure has no significant relationship with the firms' financial performance as measured by ROA, and conclude that, capital structure proxied by DA had a significantly inverse affiliation with the firms'financial performance as measured by ROA.The study also discovered an insignificantlypositive relationship between ROA and DE. The study therefore failed to reject the*null hypothesis(H_{01})* that, capital structure has no significant relationship with the firms' financial performance as measured by ROA, and conclude that, capital structure proxied by DE had an insignificantlypositive association with the firms' financial performance as measured by ROA.A significantly positive association between ETA and ROA was further disclosed by the study. The study therefore failed to accept the *null hypothesis(H_{01})* that, capital structure has no significant relationship with the firms' financial performance as measured by ROA, and conclude that, capital structure proxied by ETA had a significantly positive association with the firms' financial performance as measured by ROA.

5.2 The Link between Capital Structure and Financial Performance (ROE)

The study revealed an insignificantly positive connection between DA and ROE at the 5% level of significance [r =0.0154, (p=0.8515)>0.05]. This finding was consistent with Gichuhi (2016) whose study on 36 listed firms on the Nairobi Securities Exchange, found no significant association between capital structure and the firms' profitability. The finding was also in line withSharifa and Hafinaz (2017) whose study on 36 listed construction firms on Bursa Malaysia Stock Exchange,found an insignificant connection between debt to total assets and the firms' financial performance. The finding was however in contradiction with Shehryar (2017) whose study on 50 firms listed on Bursa Italiana,discovered a significant relationship between capital structure and the firms' financial performance. The finding was also at variance with Sushil and Neeti (2017) whose study on seven (7) firms listed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) found a significant association between capital structure and

the firms' financial performance. The studyalso revealed a significantly negative relationship between DE and ROE at the 95% confidence interval [r = -0.6917, (p=0.0000)<0.05]. This result was in line with the pecking order theory's prediction of a negative association between leverage and firms' profitability. The finding was also in support of Jeannine, Gregory and Silas (2016) whose study on six (6) listed firms on the Rwandan Stock Exchange, discloseda significantly negative relationship between capital structure and the firms' financial performance.The finding further agreed withSharifa and Hafinaz (2017) whose study in Malaysia, found a significantly inverse link between the ratio of debt to equity and the firms' financial performance. The finding was however not in support ofthe trade-off theory's prediction of a positive association between leverage and firms' profitability. The finding was also at disparity with Chin, Muhammad, Amran, Sang and Owee (2016) whose study on 183 listed Bursa Malaysian manufacturing firms, established a significantly positive association between capital structure and the firms' financial performance. The finding further disagreed with Ahmad (2015) whose study on 17 non-financial listed firms on the Bahrain Bourse, discovered a significantly positive affiliation between capital structure and the firms' financial performance.

The study furtherdisclosed an insignificantly negative association between ETA and ROE at α=5% [r =-0.0188, (p=0.8198)>0.05].This finding was in support of Muhammad, Humaira, Naila and Aneela (2017) whose study on listed Sharia and Non-Sharia complaint companies in Pakistan, found an insignificant connection between capital structure and the financial performance of listed Sharia complaint companies. The finding was also in line with Achchi (2015) whose research on food, beverages and tobacco firms listed on the Colombo Stock Exchange, found no significant relationship between capital structure and the firms' financial performance. The finding was however in disagreement withSchulz (2017) whose research on 3,363 Dutch unlisted SMEs,disclosed a significantly adverse association between capital structure and the firms' financial performance.The finding was also not consistent with Mutwiri (2015) whose study on five (5) listed firms operating in the energy and petroleum sectorsin Kenya, discovered a significantly positive relationship between capital structure and the firms' financial performance.

Test of Hypothesis Two:From the study's findings, capital structure proxied by DA had an insignificantlypositive relationship with the firms' financial performance as measured by ROE.The study therefore failed to reject the *null hypothesis(H$_{02}$)* that, capital structure has no significant association with the firms' financial performance as measured by ROE, and conclude that, capital structure proxied by DA had an insignificantlypositive association with the firms' financial performance as measured by ROE. The study also discovered a significantly negative relationship between DE and ROE.The study therefore failed to accept the null hypothesis *(H$_{02}$)* that, capital structure has no significant association with the firms' financial performance as measured by ROE, and conclude that, capital structure proxied by DE had a significantlyinverse affiliation with the firms' financial performance as measured by ROE.The studyfurtherdisclosed an insignificantly negative association between ETA and ROE. The study therefore failed to reject the *null hypothesis(H$_{02}$)* that, capital structure has no significant association with the firms' financial performance as measured by ROE, and conclude that, capital structure proxied by ETA had aninsignificantlynegative connection with the firms' financial performance as measured by ROE.

5.3 The Connection between Capital Structure and Financial Performance (ROCE)

The study found an insignificantlypositive relationship between DA and ROCE at the 95% confidence interval [r =0.0223, (p=0.7867)>0.05]. This finding was in support of Suleiman and Ahmed (2016) whose study on seven (7) listed firms operating in the building materials sector in Nigeria, established an insignificant association between capital structure and the firms' financial performance. The finding was also in agreement with Muhammad, Humaira, Naila and Aneela (2017) whose study on listed Sharia and Non-Sharia complaint companies in Pakistan found an insignificant association between capital structure and the financial performance of listed Sharia complaint companies. The finding was however not consistent withUbesie (2016) whose study on quoted conglomerates in Nigeria, discovered a significant link between capital structure and the firms' financial performance. The finding did not also support Manjuru (2015) whose research on 40 non-financial firms quoted on the Nairobi Securities Exchange,discovered a significantly inverse relationship between capital structure and the firms' financial performance.The study also established a significantly negative link between DE and ROCE at the 5% level of significance [r =-0.4875, (p=0.0000)<0.05]. This finding was in line withthe

pecking order theory's prediction of a negative association between leverage and firms' profitability.

The finding also supported Mugambi (2016) whose research on 47 non-financial firms listed on the Nairobi Securities Exchange (NSE), revealed a significantly negative connection between capital structure and the firms' financial performance. The finding was further consistent with Seyedeh (2015) whose study on 17 listed banks on the Tehran Stock Exchange, disclosed a significantly adverse affiliation between capital structure and the banks' financial performance.The finding was however not consistent with the trade-off theory's prediction of a positive relationship between leverage and firms' profitability. The finding was also in disagreement with Yong (2015) whose research on ten (10) plantation firms listed on Bursa Malaysia Stock Exchange, found a significantly positive association between capital structure and the firms' financial performance.The finding further contrasted with Assad (2016) whose study on 30 selected firms from FTSE-100 index of the London Stock Exchange, revealed a significantly positive relationship between capital structure and the firms' profitability.

The study finally discovered an insignificantly inverse relationship between ETA and ROCE at $\alpha=5\%$ [r =-0.0254, (p=0.7579)>0.05]. This finding was in support of Gichuhi (2016) whose study on 36 listed firms on the Nairobi Securities Exchange, found no significant association between capital structure and the firms' profitability. The finding was also in line withSharifa and Hafinaz (2017) whose study on 36 listed construction firms on Bursa Malaysia Stock Exchange, found an insignificant link between capital structure and the firms' financial performance. The finding was however not consistent with Memoona, Syed, Mobeen and Muhammad (2017) whose research on 213 non-financial firms listed on the Karachi Stock Exchange, disclosed a significantly negative affiliation between capital structure and the firms' financial performance. The finding did not also agree with Jumanne (2015) whose study on 100 SMEs in Tanzania, discovered a significantly positive association between capital structure and the firms' profitability.

Test of Hypothesis Three:From the study's findings, capital structure proxied by DA had an insignificantly positive association with the firms' financial performance as measured by ROCE.

The study therefore failed to reject the *null hypothesis (H_{03})* that, capital structure has no significant affiliation with the firms' financial performance as measured by ROCE, and conclude that, capital structure proxied by DA had an insignificantlypositive relationship with the firms' financial performance as measured by ROCE.The study also established a significantly negative link between DE and ROCE.The study therefore failed to accept the *null hypothesis(H_{03})* that, capital structure has no significant affiliation with the firms' financial performance as measured by ROCE, and conclude that, capital structure proxied by DE had a significantlyadverse association with the firms' financial performance as measured by ROCE. The study finally found an insignificantly inverse relationship between ETA and ROCE. The study therefore failed to reject the *null hypothesis (H_{03})* that, capital structure has no significant affiliation with the firms' financial performance as measured by ROCE, and conclude that, capital structure proxied by ETA had an insignificantlyinverse association with the firms' financial performance as measured by ROCE.

6.0 CONCLUSION AND RECOMMENDATIONS

This study sought to examine the association between capital structure and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). Panel data extracted from the audited financial statements of 15 listed non-financial firms for the period 2008 to 2017 was employed for the study. From the study's Pearson Product-Moment Correlation Coefficient estimates; capital structure proxied by DA had a significantly inverse affiliation with the firms' financial performance as measured by ROA; capital structure proxied by DE had an insignificantly positive association with the firms' financial performance as measured by ROA; capital structure proxied by ETA had a significantly positive association with the firms' financial performance as measured by ROA; capital structure proxied by DA had an insignificantly positive association with the firms' financial performance as measured by ROE; capital structure proxied by DE had a significantly inverse affiliation with the firms' financial performance as measured by ROE;capital structure proxied by ETA had an insignificantly negative connection with the firms' financial performance as measured by ROE; capital structure proxied by DA had an insignificantly positive relationship with the firms' financial performance as measured by ROCE; capital structure proxied by DE had a significantly adverse association with the firms' financial performance as measured by ROCE; and capital structure proxied by

ETA had an insignificantly inverse association with the firms' financial performance as measured by ROCE.Based on the findings the study recommends that, the firms' should pay proper attention to their capital structure compositions. The capital structure compositions of the firms should be made with due consideration to information asymmetry and should be the ones that would minimize costs and maximize shareholders wealth. The government and other financial institutions,putting in place measures to lower the cost of borrowing would also be of great benefit to the firms in that, it would allow them to borrow at lower costs to advance their operations, thereby boosting their final bottom line.

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