THE RELATIONSHIP BETWEEN SIZE AND FIRMS' FINANCIAL PERFORMANCE: AN EMPIRICAL EVIDENCE FROM THE GHANA STOCK EXCHANGE (GSE)

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Abstract: *The goal of this study was to examine the association between size and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). Specifically, the study sought to; determine the affiliation between size and the firms' financial performance as measured by Return on Assets (ROA); examine the association between size and the firms' financial performance as measured by Return on Equity (ROE); and to establish the link between size and the firms' financial performance as measured by Return on Capital Employed (ROCE). This study was a quantitative study. The study was quantitative because, it aimed to classify features, quantify them in terms of numbers and create a statistical model to test hypothesis and explain observations. The study was specifically correlational in nature because, it sought to explore the bivariate associations between size and the firms' financial performance. The study was finally panel in nature because, it sought to gather information on the same study units at different points in time. Secondary panel data extracted from the audited and published annual reports of 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 for the period 2008 to 2017 was used for the study. Both the descriptive and inferential techniques of data analysis were employed for the study. In the descriptive technique of data analysis, the mean, standard deviation, variance, minimum and maximum values, range, skewness and kurtosis of the study's variables were analysed, whilst the Pearson Product-Moment Correlation Coefficient technique of data analysis was employed to establish the bivariate associations between size and the firms' financial performance (inferential analysis). All the data analysis were conducted through the use of STATA version 15 statistical software package at an alpha (α) level of 5% (p≤0.05). From the study's correlational estimates, size had a significantly positive association with the firms' financial performance as measured by ROA. However, an insignificantly adverse relationship between size and the firms' ROE and ROCE was also uncovered. Based on the findings, the study recommended that, since an increase in size led to an increase in the firms' financial performance as measured by ROA, authorities of the sampled firms should take a keynote on the predictors of the firms' size, as such predictors could directly influence the firms' size and then their final bottom line. In order for the firms to increase their profitability, there is also the need for them to increase their size in the aspects of customer base, net assets, sales volume and market share. The firms' increasing their size will not only boost them in terms of profitability, but will aid them to gain competitive advantage over others in that, larger establishments are expected to be more efficient than their smaller counterparts and have better resources to survive economic downturns.*

Key words: *Relationship, Size, Financial Performance, Non-Financial Firms, Return on Assets (ROA), Return on Equity (ROE), Return on Capital Employed (ROCE), Ghana Stock Exchange (GSE).*

1.0 INTRODUCTION

Firm size has become a construct of scholarly interest since it generally has a high explanatory power, as such, understanding size and its significance is advantageous for firms who operate in today's competitive environment (Nzioka, 2013). The European Commission defined a firm with turnover less or equal to EUR 2 million as micro, firms with turnover less or equal to EUR 10 million as small and firms with turnover less or equal to EUR 50 million as medium-sized firms. The Commission also defined firm size using staff headcount. According to the Commission, firms with less than 10 employees are micro, firms with less than 50 employees are small and firms with less than 250 employees are medium-sized firms. The European Commission further differentiated between firm size using balance sheet total. According to the Commission, firms whose balance sheet total are less or equal to EUR 2 million are micro, firms whose balance sheet total are less or equal to EUR 10 million are small and firms whose balance sheet total are less or equal to EUR 43 million are medium-sized firms.

As explained by Al-Jafari and Al Samman (2015), Nzioka (2013), Kaguri (2013), Pandey (2005) and Orshi (2016), larger corporations are more viable than their smaller counterparts even if the numerical values of their financial ratios are alike. This means, smaller firms are more prone to failure during the period of slump (Al-Jafari & Al Samman, 2015; Nzioka, 2013; Kaguri, 2013; Pandey, 2005; and Orshi, 2016). Also, smaller establishments tend to experience higher volatility in their rate of return than their larger competitors. Comparing the financial ratios of

these two groups of corporations because they are of similar nature will therefore lead to unfair conclusions (Al-Jafari & Al Samman, 2015; Nzioka, 2013; Kaguri, 2013; Pandey, 2005; and Orshi, 2016).Larger firms use better technology, are more diversified in terms of risks and have better expense management (Ndolo, 2015; & Vijayakumar & Tamizhselvan, 2010). Additionally, the size of a firm determines its volume of investments in assets, and the bigger the size the higher the returns expected from the firm's investments (Lee, 2009; and Amato & Burson, 2007). It can also be inferred that as the size of a company grows, it enables the company to enjoy economies of scale (Falope & Ajilore, 2009; Vijayakumar & Tamizhselvan, 2010; Lee, 2009; Amato & Burson, 2007; Orshi, 2016; and Ndolo, 2015).

A lot of studies on firm size and its association with firms' financial performance have been undertaken. The findings or conclusions drawn from these studies are however contradictory. For instance, Anila and Shila (2014) examined the profitability determinants of 50 firms listed on the Karachi Stock Exchange. From the study's findings, a positive association between size and the firms' profitability was established. Elisa and Guido (2016) also investigated the profitability determinants of 35 top European commercial banks. From the study's results, size had a positive connection with the banks' profitability. In Nigeria, Salawu, Asaolu and Yinusa (2012) analyzed the financial policy and corporate performance of 70 listed firms. From the study's findings, size had an inverse link with the firms' performance.

Ayako, Githui and Kungu (2015) also researched into the determinants of the financial performance of non-financial firms listed on the Nairobi Securities Exchange. Panel data from 41 firms for the period 2003 to 2013 was employed for the study. From the study's findings, size had a statistically insignificant affiliation with the firms' financial performance. Rachna and Sudipa (2018) delved into firm specific and macroeconomic factors that affected the financial performance of insurance companies in the UAE. Data for the period 2009 to 2013 was employed for the study. The study's findings provided evidence of size having a statistically significant association with the firms' profitability. Finally, Nousheen and Arshad (2013) examined the influence of firm specific factors on the profitability of food sector firms listed on the Karachi Stock Exchange for the period 2002 to 2006. The study uncovered a significantly inverse relationship between size and the firms' profitability.

From the aforementioned studies, it can be concluded that studies on size and it's link-up with firms' financial performance have not been done in a more comprehensive manner. This is demonstrated by the scarcity of a particular research that sought to examine the association between size and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). The researchers therefore saw it as timely and necessary to undertake this study to help fill that void.

1.1 Purpose of the Study

The purpose of this study was to explore the association between size and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). It is hoped that, the study's findings would add to the existing pool of literature on the link between size and firms' financial performance. By so doing, the study would serve as a reference material for students and future researchers who may want to fill gaps identified in this present study. More specifically, the study sought to:

a. Establish the association between size and the firms' financial performance as measured by ROA.

b. Examine the relationship between size and the firms' financial performance as measured by ROE.

c. Explore the link between size and the firms' financial performance as measured by ROCE.

1.2 Research Hypothesis

A statistical hypothesis test is a method of making statistical decisions using data; it is sometimes called confirmatory analysis (Hari, 2011). Hypothesis testing tells whether the proof for rejecting a null hypothesis is reliable or not (Schick & Vaughn, 2002). According to Schick and Vaughn (2002), Patricia and Hassan (2006) and Patricia and Nandhini (2013), a statistically significant hypothesis or result is considered not to have occurred by chance. In order to determine the significance of the study's results, the following hypothesis were formulated for testing:

H_{0a}. There is no significant association between size and the firms' financial performance as measured by ROA.

H_{0b}. There is no significant relationship between size and the firms' financial performance as measured by ROE.

H_{0c}. There is no significant link between size and the firms' financial performance as measured by ROCE.

2.0 REVIEW OF RELATED LITERATURE

Muhammad, Zheng and Sadaf (2017) researched on the influence of free cash flow on the profitability of firms listed on the Karachi Stock Exchange (KSE). Data obtained from the annual reports of 580 listed companies for the period 2010 to 2014 was used for the study. From the study's regression analysis, size had a significantly positive impact on the firms' profitability as measured by ROCE. Majumder and Uddin (2017) examined the profitability determinants of nationalised banks in Bangladesh for the period 2010 to 2014. From the study's empirical results, size was significantly inversely associated with the banks' profitability as measured by ROA.

Dey, Adhikari and Bardhan (2015) analyzed factors that determined the financial performance of 13 life insurance companies in India. From the study's multiple regression model, size had a significantly positive effect on the firms' financial performance as measured by ROE. Ranjan and Bishnu (2017) delved into the determinants of the financial performance of textile sector firms listed on the Dhaka Stock Exchange. From the study's findings, size had

an insignificant influence on the firms' financial performance as measured by ROA. Nanik and Halim (2017) examined the influence of leverage change, size, market to book ratio, transaction cost and interest rate after merger or acquisition on the profitability of bidder companies listed on the Indonesian Stock Exchange. Cross sectional data from public bidder companies for the period 2009 to 2015 was employed for the study. From the study's multiple regression analysis, size had an insignificant influence on bidder firms' profitability as measured by ROA or ROE.

Kimondo, Irungu and Obanda (2016) explored the effect of liquidity on the financial performance of non-financial firms quoted on the Nairobi Securities Exchange. Secondary data obtained from the audited annual reports of 39 quoted non-financial firms for the period 2010 to 2014 was used for the study. From the study's multivariate regression estimates, the control variable size, had an insignificant influence on the firms' financial performance as measured by ROA. Al-Jafari and Al Samman (2015) explored the profitability determinants of 17 industrial firms listed on the Muscat Securities Market for the period 2006 to 2013. From the study's ordinary least squares regression analysis, size had a significantly positive influence on the firms' profitability as measured by profit margin and ROA. The study concluded that, large growing firms with efficiently managed assets improved revenue and ultimately enhanced profitability.

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 Borsa Italiana for the period 2007 to 2015 was used for the study. From the study's results, the control variable size measured by the log of total assets, had a significantly positive connection with the firms' financial performance as measured by ROA and ROE. 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, size had a significantly positive influence on the firms' financial performance.

Ogbeide and Akanji (2018) examined the link between cash flows and the financial performance of insurance companies in Nigeria. Time series data obtained from twenty seven (27) listed insurance companies for the period 2009 to 2014 was employed for the study. Through the OLS regression analysis, the control variable size, had an insignificant influence on the firms' financial performance. Opoku (2015) analyzed the impact of liquidity management on the profitability of firms listed on the Ghana Stock Exchange. Data from 33 companies listed on the Ghana Stock Exchange for the period 2005 to 2009 was employed for the study. From the study's regression output, size being a control variable had no significant effect on the firms' 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, size being a control variable, had a significantly positive effect on the firms' financial performance as measured by ROE and the PE ratio. Amraoui, Ye, Shinta and Hapzi (2017) studied the influence of capital structure on the performance of 53 firms in Morocco. Panel data for the period 2014 to 2016 extracted from the Casablanca Stock Exchange and the Moroccan Authority of Capital Markets was used for the study. From the study's panel least squares regression analysis, size had a significantly positive impact on the firms' ROE, but insignificantly negative effect on the firms' ROA.

Zachary and Kombo (2014) examined the effect of firm characteristics on the performance of 48 microfinance firms in Kenya. Adopting the correlational research design, the study found out that, size and age had a positive connection with the firms' financial performance. 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, size being a control variable had a significantly positive impact on the firms' financial performance as measured by ROA and ROCE.

Figure 1: Conceptual Framework
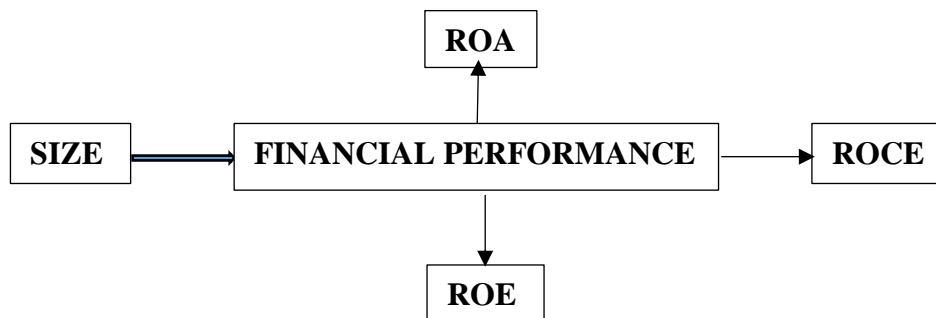
(Source: Authors, 2019)

Figure 1 shows that size had an association with the sampled firms' financial performance as measured by Return on Assets (ROA), Return on Equity (ROE) and Return on Capital Employed (ROCE). Return on assets was calculated as the ratio of net income to total assets of the firms. Return on equity 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. On the other hand, SIZE was calculated as the log of the firms' total assets.

3.0 RESEARCH METHODOLOGY

As explained by Kallet (2004), research methodology describes the actions to be taken to investigate a research problem and the rationale for the application of specific procedures or techniques used to identify, select, process and analyse information applied to the understanding of the research problem, thereby, allowing readers to critically evaluate a study's overall validity and reliability. According to Denscombe (2014) and Lunenburg (2008), the methodology section of a paper answers the questions: How was the data collected? And, how was the data analysed? This study was a quantitative study. The study was quantitative because, it aimed to classify features, quantify them in terms of numbers and create a statistical model to test hypothesis and explain observations. The study was specifically correlational in nature because, it sought to explore the bivariate associations between size and the firms' financial performance. The study was finally panel in nature because, it sought to gather information on the same study units at different points in time.

All non-financial firms that listed and traded their shares on the Ghana Stock Exchange (GSE) as of 31st December, 2017 formed the study's target population. Because the study wanted to deal with a balanced data, a sample was made out of the entire 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 Ghana currency (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. Considering these factors or filters in making a choice out of the entire population implies, the study adopted the purposive or judgemental sampling technique in its sampling process. After critically considering the various factors or filters during the sampling process, fifteen (15) firms comprising of 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 were selected for the study. This number represented 36.59% of the total number of listed firms or 53.57% of the total number of non-financial firms listed on the Ghana Stock Exchange (GSE).

A balanced secondary panel data extracted from the audited and published annual reports of the sampled firms for the period 2008 to 2017 was used for the study. The annual reports of the firms comprised of the comprehensive income statement, statement of financial position, statement of cash flows, statement of changes in equity and notes to the accounts. These annual reports were obtained from the official website of the Ghana Stock Exchange (GSE). Both the descriptive and inferential techniques of data analysis were employed for the study. In the descriptive technique of data analysis, the mean, standard deviation, variance, minimum and maximum values, range, skewness and kurtosis of the study's variables were analysed, whilst the *Pearson Product-Moment Correlation Coefficient* technique of data analysis was employed to establish the bivariate associations between size and the firms' financial performance as measured by ROA, ROE and ROCE (inferential analysis). All the data analysis were conducted through the use of STATA version 15 statistical software package at an alpha (α) level of 5% ($p \leq 0.05$).

4.0 RESULTS OF THE STUDY

This section first presents the descriptive analysis of the study variables. The descriptive analysis touches on the mean, standard deviation, variance, minimum and maximum values, range, skewness and kurtosis of the study's variables. The second and final part of the section presents the bivariate associations between size and the firms' financial performance as measured by Return on Assets (ROA), Return on Equity (ROE) and Return on Capital Employed (ROCE).

4.1 Descriptive Analysis of Study Variables

As explained by Kenton (2018), descriptive statistics are brief descriptive coefficients that summarise a given data set, and can either be a representation of an entire population or a sample of a population. In short, descriptive statistics help to describe and understand the features of a specific data set by giving short summaries about the sample and measures of the data (Dodge, 2003; Trochim, 2006; Earl, 2009; and Nick, 2007). As displayed in Table 1, non-financial firms listed on the Ghana Stock Exchange (GSE), had a mean ROA of 0.0052693, a standard deviation of 0.4849762 and a variance of 0.2352019. This shows that, the ROA of the sampled firms deviated from both sides of the mean by 0.4849762, implying, the ROA data values were not too widely dispersed from the average. The maximum and minimum values of ROA were 0.7656 and -5.6487 respectively, leading to a range of 6.4143. The ROA distribution was negatively skewed with a coefficient of -10.64317. This shows that, the left tail of the ROA distribution was longer than that of the right tail. In other words, a large portion of the ROA distribution fell on the right side of the normal curve. The kurtosis coefficient of 124.8778 implies, the ROA distribution was not normally distributed.

Non-financial firms listed on the Ghana Stock Exchange (GSE) also had an average ROE of 0.167214, a standard deviation of 1.184918 and a variance of 1.404031. This is an indication that, the data values of ROE deviated from both sides of the mean by 1.184918, implying, the ROE data values were a bit widely dispersed from the average.

The maximum and minimum values of ROE were 12.8951 and -4.5277 respectively, leading to a range of 17.4228. The ROE distribution was positively skewed with a coefficient of 7.859589. This shows that, the right tail of the ROE distribution was longer than that of the left tail. In other words, a greater portion of the ROE distribution fell on the left side of the normal curve. The kurtosis coefficient of 91.75657 shows that, the ROE distribution was not of normal shape.

Further, non-financial firms listed on the Ghana Stock Exchange (GSE) had a mean ROCE of 0.1945633, a standard deviation of 1.09571 and a variance of 1.20058. This indicates that, the data values of ROCE deviated from both sides of the mean by 1.09571, implying, the ROCE data values were a bit widely dispersed from the average. The maximum and minimum values of ROCE were 12.8951 and -1.5666 respectively, leading to a range of 14.4617. The ROCE distribution was positively skewed with a coefficient of 10.44939. This shows that, the right tail of the ROCE distribution was longer than that of the left tail. Put simply, a large portion of the ROCE distribution fell on the left side of the normal curve. The kurtosis coefficient of 122.057 implies, the ROCE distribution was of abnormal shape.

Table 1: Descriptive Statistics on Study Variables

Variables	ROA	ROE	ROCE	SIZE
Mean	0.0052693	0.167214	0.1945633	4.600553
Std. Dev.	0.4849762	1.184918	1.09571	0.8196015
Variance	0.2352019	1.404031	1.20058	0.6717466
Minimum	-5.6487	-4.5277	-1.5666	2.5093
Maximum	0.7656	12.8951	12.8951	5.9545
Range	6.4143	17.4228	14.4617	3.4452
Skewness	-10.64317	7.859589	10.44939	-0.4200851
Kurtosis	124.8778	91.75657	122.057	29.23077
Obs (N)	150	150	150	150

(Source: STATA Output, 2019)

Finally, SIZE of the sampled firms had a mean value of 4.600553, a standard deviation of 0.8196015 and a variance of 0.6717466. This means, the distribution for SIZE deviated from both sides of the average by 0.8196015, implying, the data values of SIZE were a bit widely dispersed from the average. The maximum and minimum values of SIZE were respectively 5.9545 and 2.5093, leading to a range of 3.4452. The SIZE distribution was negatively skewed with a coefficient of -0.4200851. This is an indication that, the left tail of the SIZE distribution was longer than that of the right tail. In other words, a large portion of the SIZE distribution fell on the right side of the normal curve. The kurtosis coefficient of 29.23077 means, the SIZE distribution was not normally distributed.

4.2 Bivariate Associations between Size and the Firms' Financial Performance

According to Earl (2009), Chatterjee (2012) and Haghighat, Abdel-Mottaleb and Alhalabi (2016), bivariate analysis involves the analysis of two variables (often denoted as X and Y), for the purpose of determining the empirical relationship between them. Bivariate analysis helps to determine the extent to which the value of one variable can be predicted if the value of the other variable is known (Earl, 2009; Chatterjee, 2012; and Haghighat, Abdel-Mottaleb & Alhalabi, 2016). The Pearson Product-Moment Correlation Coefficient technique of data analysis was employed to examine the strength and direction of the association between size and the firms' financial performance.

From Table 2, SIZE had a significantly positive connection with the firms' ROA at the 95% confidence interval [r= 0.2750, (p=0.0007)<0.05]. The positive coefficient between SIZE and ROA implies, an increase in SIZE led to an increase in ROA and vice-versa, and a decrease in SIZE also led to a decrease in ROA and vice-versa. The degree of association between SIZE and ROA is substantiated by the coefficient of determination (r^2 =0.0756) which indicates that 7.56% of the variations in ROA was accounted for by SIZE and 7.56% of the variations in SIZE was explained by ROA. The unexplained variations [92.44% (100-0.0756)] may be attributed to other factors that did not form part of the study. The study also discovered an insignificantly adverse association between SIZE and the firms' ROE at the 5% level of significance [r= -0.1387, (p=0.0905)>0.05]. The inverse link between ROE and SIZE means, an increase in SIZE led to a decrease in ROE and vice-versa. The degree of association between SIZE and ROE is justified by the coefficient of determination (r^2 =0.0192) which shows that 1.92% of the variations in ROE was accounted for by SIZE and 1.92% of the variations in SIZE was explained by ROE. The unexplained variations [98.08% (100-1.92)] maybe accounted for by other inherent variabilities.

Table 2: Correlational Matrix on Study Variables

Variable	ROA	ROE	ROCE	SIZE
ROA	1.0000			
ROE	0.0037 (0.9642)	1.0000		
ROCE	-0.0156 (0.8498)	0.9516* (0.0000)	1.0000	
SIZE	0.2750* (0.0007)	-0.1387 (0.0905)	-0.1157 (0.1587)	1.000

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

(Source: STATA Output, 2019)

The study finally uncovered, an insignificantly negative relationship between SIZE and the firms' ROCE at $\alpha=5\%$ [r = -0.1157, (p=0.1587)>0.05]. The converse connection between SIZE and ROCE implies, an increase in SIZE led to a decrease in ROCE and vice-versa. The strength of association between SIZE and ROCE is justified by the coefficient of determination (r^2 =0.0134) which shows that 1.34% of the variations in ROCE was explained by SIZE and 1.34% of the variations in SIZE was accounted for by ROCE. The unexplained variations [98.66% (100-0.05)] may be accounted for by other variables that were not included in the study.

5.0 DISCUSSIONS AND TESTS OF HYPOTHESIS

This aspect of the study discusses the study's findings. The discussions are conducted in relation to the review of relevant literature, and are presented in the order; the link between SIZE and the firms' financial performance as measured by ROA, the association between SIZE and the firms' financial performance as measured by ROE and the relationship between SIZE and the firms' financial performance as measured by ROCE. Each sub-section ends with its test of hypothesis.

5.1 The Link between SIZE and the Firms' Financial Performance (ROA)

The study discovered a significantly positive association between SIZE and the firms' ROA at the 95% confidence interval [r= 0.2750, (p=0.0007)<0.05]. This finding supported that of Dey, Adhikari and Bardhan (2015) whose study on 13 life insurance companies in India, found a significantly positive association between SIZE and the firms' financial performance. The finding also supported that of Muhammad, Zheng and Sadaf (2017) whose research on 580 companies listed on the Karachi Stock Exchange (KSE), discovered a significantly positive affiliation between SIZE and the firms' profitability. The finding did not however support that of Majumder and Uddin (2017) whose study on nationalised banks in Bangladesh, disclosed a significantly inverse connection between SIZE and the banks' profitability as measured by ROA. The finding was also not consistent with Ranjan and Bishnu (2017) whose research on listed textile firms on the Dhaka Stock Exchange, found an insignificant association between SIZE and the firms' financial performance as measured by ROA.

Test of Hypothesis One: A significantly positive association between SIZE and the firms' ROA was uncovered at the 5% level of significance [r= 0.2750, (p=0.0007)<0.05]. The study therefore failed to accept the null hypothesis *(H$_{0a}$)* that, there was no significant affiliation between SIZE and the firms' financial performance as measured by ROA, and concluded that, SIZE had a significantly positive relationship with the firms' financial performance as measured by ROA.

5.2 The Association between SIZE and the Firms' Financial Performance (ROE)

The study also discovered an insignificantly adverse association between SIZE and the firms' ROE at the 5% level of significance [r= -0.1387, (p=0.0905)>0.05]. This finding was in line with that of Nanik and Halim (2017) whose study on bidder companies listed on the Indonesian Stock Exchange, discovered an insignificant affiliation between SIZE and the firms' profitability as measured by ROE. The finding was also in tandem with that of Kimondo, Irungu and Obanda (2016) whose research on 39 non-financial firms quoted on the Nairobi Securities Exchange, found an insignificant association between SIZE and the firms' financial performance. The finding was however inconsistent with that of Shehryar (2017) whose study on 50 listed firms on Borsa Italiana, uncovered a significantly positive connection between SIZE and the firms' financial performance as measured by ROE. The finding was also inconsistent with that of Chin, Muhammad, Amran, Sang and Owee (2016) whose research on 183 firms listed on Bursa Malaysia for the period 2007 to 2010, discovered a significantly positive link between SIZE and the firms' financial performance.

Test of Hypothesis Two: An insignificantly negative association between SIZE and the firms' ROE was discovered at the 95% confidence interval [r= -0.1387, (p=0.0905)>0.05]. The study therefore failed to reject the null hypothesis *(H$_{0b}$)* that, there was no significant relationship between SIZE and the firms' financial performance as measured by ROE, and concluded that, SIZE had an insignificantly inverse association with the firms' financial performance as measured by ROE.

5.3 The Relationship between SIZE and the Firms' Financial Performance (ROCE)

The study finally disclosed an insignificantly negative relationship between SIZE and the firms' ROCE at α=5% [r = -0.1157, (p=0.1587)>0.05]. This finding supported that of Ogbeide and Akanji (2018) whose study on 27 listed firms in Nigeria, found an insignificant link between SIZE and the firms' financial performance. The finding also supported that of Opoku (2015) whose research on 33 companies listed on the Ghana Stock Exchange (GSE), discovered no significant connection between SIZE and the firms' profitability. The finding was however inconsistent with that of Memoona, Syed, Mobeen and Muhammad (2017) whose study on 213 listed firms on the Karachi Stock Exchange, disclosed a significantly positive association between SIZE and the firms' financial performance. The finding was also inconsistent with that of Amraoui, Ye, Shinta and Hapzi (2017) whose research on 53 firms listed on the Casablanca Stock Exchange, found a significantly positive affiliation between SIZE and the firms' financial performance.

Test of Hypothesis Three: An insignificantly inverse association was discovered between SIZE and ROCE at α=5% [r = -0.1157, (p=0.1587)>0.05]. The study therefore failed to reject the null hypothesis *(H_{0c})* that, there was no significant association between SIZE and the firms' financial performance as measured by ROCE, and concluded that, SIZE had an insignificantly negative relationship with the firms' financial performance as measured by ROCE.

Table 3: Summary of the Test of Hypothesis

Hypothesis		Analytical Tool	Result
H_{0a}. There is no significant association between size and the	firms'	Correlation	Rejected
financial performance as measured by ROA.			
H_{0b}. There is no significant relationship between size and the	firms'	Correlation	Accepted
financial performance as measured by ROE.			
H_{0c}. There is no significant link between size and the firms'	financial	Correlation	Accepted
performance as measured by ROCE.			

(Source: Authors, 2019)

6.0 CONCLUSION AND RECOMMENDATIONS

The motivation of this study was to explore the connection between size and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). The study specifically sought to determine the affiliation between size and the firms' financial performance as measured by ROA, examine the association between size and the firms' financial performance as measured by ROE and to establish the link between size and the firms' financial performance as measured by ROCE. Secondary panel data extracted from the audited and published annual reports of 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 for the period 2008 to 2017 was used for the study.

From the study's Pearson Product-Moment Correlation Coefficient estimates, size had a significantly positive association with the firms' financial performance as measured by ROA. However, an insignificantly adverse relationship between size and the firms' ROE and ROCE was also uncovered. Based on the findings, the study recommends among others that, since an increase in size led to an increase in the firms' financial performance as measured by ROA, authorities of the sampled firms should take a keynote on the predictors of the firms' size, as such predictors could directly influence the firms' size and then their final bottom line. In order for the firms to increase their profitability, there is also the need for them to increase their size in the aspects of customer base, net assets, sales volume and market share. The firms increasing their size will not only boost them in terms of profitability but will aid them to gain competitive advantage over others in that, larger establishments are expected to be more efficient than their smaller counterparts and have better resources to survive economic downturns.

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