

Corporate Social Responsibility, Risk Factor and Financial Performance of Listed Firms in Ghana

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Abstract

Corporate managers over the years have been confronted with the task of making decisions relating to financing, investment, dividend policy and social responsibility expenditure on behalf of their shareholders. However, decision about corporate social responsibility and its relationship with performance of firms has been a subject of unending debate among scholars. This study therefore provides evidence using companies listed on the Ghana Stock Exchange. The empirical results from the panel random effect regression suggested that the level of CSR disclosed has, a significant negative relationship with firm performance while firm risk, measured by asset-to-equity, significantly and positively relates to firm performance. The link between growth and firm performance on one hand, and size and firm performance on the other revealed positive and negative but insignificant relationships respectively.

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1 Introduction

Corporate Social Responsibility (CSR) has been recognized by business organizations globally as a key to business success (Ikharehon, 2014). As a result, it has become part of business practice that many corporations dedicate a section of their annual reports and

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corporate websites to it, illustrating the importance they attach to such activities (Servaes and Tamayo, 2013). Business organizations are voluntarily devoting a portion of their resources to promoting and satisfying societal welfare mainly within their operating communities. On the whole, the association between business and other stakeholders is deemed to return more benefits to shareholders in terms of higher profits and maintenance of legitimacy than when corporations seek to maximize returns for only shareholders. For instance, Fombrun, Gardberg and Bernett (2000) argued that by acting as corporate citizens, businesses build strong reputational capital that translates into economic returns and shareholder value. This line of reasoning was later echoed by Godfrey (2005). The author argued that corporate philanthropy generates positive moral capital that provides insurance-like protection for firm's assets.

Additionally, several researchers posited that CSR practices are perceived as powerful tool to attract talented and quality workforce into an organization which eventually become a competitive advantage to that organization. In this regard, Greening and Turban (2000) tested this position and found that prospective job applicants are more likely to pursue jobs from socially responsible firms than from firms with poor social performances. More so, the work of Jones, Willness and Madey (2014) returned similar results. The authors found that CSR sends signals to job seekers and thus able to inform their perceptions and expectations about the organization, and it is through these signal-based mechanisms that CSR ultimately influence job seekers' attraction to the organization. These results suggest that CSR can give organizations a competitive advantage by attracting a larger pool of applicants from which to draw quality talents to enhance performance.

Issues concerning CSR have also been practised by companies operating in Ghana, particularly, those listed on the Ghana Stock Exchange. For more than a decade, several of these listed companies disclose this in their annual reports. In 2012 and 2013, the HFC bank (Ghana) limited disclosed in their annual reports that an amount of GHS 119,666 and GHS 276,973 respectively were spent on fulfilling the bank's social obligations (HFC Bank Ghana Limited annual report, 2012; 2013). Other organizations also made similar contributions as part of giving back to society. These amounts were, in most cases, directed towards education, healthcare, sports, provision of portable water and other amenities in their area of operation.

Additionally, Atuguba and Dowuona-Hammond (2006) explained that these corporations are critical in the economic, political and socio-cultural development of the country. The authors further indicated that aside the goods and services they provide, they are also an important source of livelihood for many people and contribute to smooth running of government. Also, their impact can be felt on the physical environment. Again, Quartey and Quartey (2015) opined that CSR is well understood and practised in the high-risk industry in Ghana and mostly driven by institutional stakeholders such as employees and shareholders. These researchers suggested that core among the corporate social responsibility practices in the high-risk industries are profit making and environmentalism. Clearly, it can be observed that Ghanaian businesses are not left behind in their practise of CSR. The paper examined how Corporate Social Responsibility and Risk Factor relate to Financial Performance using of listed firms in Ghana.

1.1 Literature on Corporate Social Responsibility

A review of the existing literature revealed that current findings on the linkage between CSR and Firm Performance have been largely inconclusive. Previous researchers such as Orlitzky, Schmidt and Rynes (2003) found positive relationship between CSR (philanthropy) and corporate financial performance in their meta-analysis. This is consistent with the positive results obtained by Waddock and Graves (1997). On the contrary, Ikharehon (2014) observed that the corporate social responsibility- corporate financial performance(CSR-CFP) relationship is negative. In view of these conflicting results which are attributed to measurement problems (Wood and Jones, 1995; and Russo and Fouts, 1997), there is the need to conduct a comprehensive study into the field which this study seeks to do. More so, though firm's operations involve risk, only the elements of debt-equity ratio and debt-asset ratio are commonly included in the models examining the issue so far to the neglect of equity multiplier which also represents an important risk factor in the corporate world.

Several authors in the past have attempted to explain CSR but there has been no conclusive definition (Dahlsrud, 2006). The author observed that from 1980 to 2003, there were about 37 definitions of the term CSR. This perhaps underscored the argument put forward by Voatw (1973) that the term is a brilliant one; it means something, but not always the same thing, to everybody. The definitions consisted of those shed from individual perspectives (see Carroll, 1983; Wood, 1991) to institutional or organizational perspectives (see European Commission, 2001). The paper, however, associates with Jones (1980) which indicated that corporations have an obligation to constituent groups in society other than stockholders and beyond that prescribed by law and union contract since it isolated both the economic and the legal aspects, and so the impact of these other social expenditures can be analyzed to determine how they relate to firm performance.

Several theories have been used in the determination of CSR-CFP (corporate financial performance) linkage. Garriga and Mele (2004) explained that the CSR field presented not only a landscape of theories but also a proliferation of approaches, which are controversial, complex and unclear. Nonetheless, this study considers only the Shareholder theory, Stakeholder theory and Social Contract theory. Shareholder Theory considers profit maximization for shareholders as the only objective of the firm, and any attempt to include other constituents or stakeholders is viewed as inappropriate. Though many authors associate with this approach, the most explicit and profuse perspective was put forward by Friedman (1962) and in his later version Friedman (1970). This explains why the Shareholder Theory is widely attributed to him. The authors argument is that the only social responsibility of business is to maximize profit for its shareholders (Friedman, 1962); and anything contrary to the profit motive amounts to window-dressing, imposition of tax and spending of stockholders' money (Friedman, 1970). As Ferrero, Hoffman and McNulty (2014) see it, through these words, Friedman articulated essential tenet of what came to be known as Shareholder Theory. However, it is worth mentioning that other authors such as Levitt (1958) and Lantos (2001) expressed similar concern for the rejection of the concept. For instance, Levitt (1958) explained in his article that government and business are completely different, and involvement of business in social responsibilities would divert the profit motive of firms.

Contrary to the Shareholder theorists, the Stakeholder theory posits that the profit maximization motive of the firm can best be achieved when firms satisfy other

stakeholders or constituent groups and not just shareholders. Freeman (1984) is the main proponent of this theory. The core argument of Freeman is that there are other groups which can affect and also are affected by business and thus need to be involved. This collective relationship Freeman asserted would lead to better wealth maximization. The Stakeholder Theory was further expanded by Jones (1995) to the Instrumental Stakeholder Theory. Jones explained that the repeated transactions that companies engage in with stakeholders is done because of trust and cooperation and this motivation is due to the high returns expected. Jensen (2001) refined it into Enlightened Stakeholder Value Maximization Theory arguing that the multiple objectives of Freeman's (1984) Stakeholder Theory makes it difficult to achieve and so must be narrowed to enlightened stakeholder value maximization. Then, Stakeholder Theory: A Libertarian Defense with the notion of freedom and voluntary actions (Freeman and Philips, 2002).

A plethora of studies have been carried out in the field to establish the true relationship between CSR and firm performance. Definitely, this study cannot consider all of them; however, some of them are worth considering. The work of Parket and Eilbirt (1975) is the first to be looked at. The authors were able to get 96 firms from Forbes 1971 Annual Directory to reply to forms indicating their endeavours to engage in CSR. The authors concluded that because these 96 firms responded, they had been more oriented towards social responsibility than those who did not respond. Based on this conclusion, they used performance measures such as net income, profit margin, ROE, and earnings per share (EPS) to compare 80 of the supposed socially responsible firms to Fortune 500 firms. The researchers then concluded that by the four performance measures, the 80 respondent firms which showed up to be socially responsible are more profitable. Though the researchers made an attempt to provide us with the understanding of the CSR and firm performance linkage, there are flaws in this study. First of all, the authors failed to carry out any rigorous or significant statistical test. More so, even the ROE and EPS look as though there is no significant difference between the two variables as far as socially responsible firms and the other firms are concerned. Another limitation is that the profitability measures were used covered only a year, besides data subjectivity issues. McWilliams and Siegel (2000) argued that previous researchers had reported a positive, negative, and neutral impact of corporate social responsibility (CSR) on financial performance; and that this inconsistency might be due to flawed empirical analysis. Specifically, the authors identified that studies which excluded R&D and advertising intensity are mis-specified. In their bid to correct for this, authors estimated two models; one that excluded research and development (R&D) and advertising intensity and the other including R&D and advertising intensity. Comparing the two results, the authors concluded that since the model including R&D showed neutrality, the relationship between CSR and firm performance is neutral. The authors were also able to achieve the hypothesis that R&D is positive and significantly correlated with CSR and firm performance.

However, this study is also riddled with weaknesses. The attempt by the researchers to combine a categorical data such as CSR and regress this against continuous data such as firm performance, R&D to sales ratios, size among others is inappropriate and violates the basic assumption underpinning regression analysis that all variables be measured on the same level or scale. Secondly, the author dwelled mainly on the inclusion of R&D but said little about the impact of advertising intensity even though it was also one of the omitted variables according to the authors. Also, the authors reported only the results for firm performance, CSP (corporate social performance) and R&D but failed to report the

results of the other variables. Clearly, this indicates inadequate reporting. One other error that the authors had committed is their failure to state the particular accounting measures they used. This is necessary because there are different kinds of accounting measures which can include ROA, ROE, and PM among others.

Additionally, this study looks at the work of Enahoro, Akinyomi and Olutoye (2013). The authors examined the relationship between CSR and firms' financial performance with focus on the Nigerian manufacturing sector from 2002 to 2011. The CSR data were the various expenditures incurred by the selected manufacturing firms while the firms' financial performance measures were profit after tax (PAT) and turnover. They sourced their data from the audited annual reports of the selected firms. Using simple random sampling method, the authors arrived at a total sample size of two out of the eight manufacturing firms. The correlation and the regression results conducted made the researchers to conclude that there is a significant relationship between CSR and profit before tax on one hand; and CSR and turnover on the other hand. Based on the results obtained, the authors recommended that the manufacturing firms should increase their investments in CSR as this would boost their financial performance in the long run.

Though the authors achieved their objectives of determining the relationship between CSR, PAT and turnover, there are problems with the study. The authors failed to provide the formula they used to, first of all, determine the sample size before using the simple random sampling to arrive at the two firms selected. This is important because a sample size has a reflection on the result by way of reliability and generalizability. Even if the authors had used panel regression so that the total years' observation would be 20 observations, the authors would still not have met the regression sample size assumption of at least 30. Per the results, the conclusions arrive at by the authors and the recommendation they gave are also misleading.

For instance, since the authors were using time series data, they should have reported the recommendation separately for each of the two firms and not generalized it. Also, the results showed correlation between CSR and PAT on one hand and CSR and CTURN on the other but in both cases the relationship was insignificant. In fact, the insignificant correlation results would have been confirmed by the OLS regression results if the coefficients and the ANOVA tables had been reported instead of the reported model summary table. Only one independent variable was used so giving us the significance. The authors failed to reject the null hypothesis when the results clearly indicated so. Besides, the Durbin Watson statistics in both cases were low indicating the presence of autocorrelation. By rule of thumb, the DW should be two or closer to two. Diagnostic tests such as multicollinearity were also not conducted. These results indicate that though there are genuine studies out there, there are also those that are misleading.

2 Preliminary Notes

2.1 Methodology

The study adopted quantitative design, particularly, panel study design. This is to ensure that complex problems are tackled, and the impact of certain forms of omitted variables biases in regression results removed (Brooks, 2008). For the population, the study focuses on all the 35 listed companies. However, some of the listed companies failed to meet the criteria of having the CSR expenditures disclosed and being listed from 2003 to 2013.

Consequently, only 10 of the listed companies met the criteria and were used (see appendix A), making a total of 110 observations. The period was chosen in order to collect more information. The research document was documentation. This comprises the audited annual reports and accounts of the listed companies obtained from the companies official websites, the library of the GSE, African financials and annual report Ghana. Furthermore, the secondary data collection was carried out by performing content analysis and extracting all the information on the variables involved individually. Diagnostic tests such as unit root, correlation, collinearity and heteroskedasticity were also performed to ensure the fitness of the data.

2.2 Model Specification and Estimation

The model to be estimated in this study is adopted and modified from the previous work of Waddock and Graves (1997). Their econometric model was:

$$PERF_i = f(CSP_i, SIZE_i, RISK_i, IND_i) \quad (1)$$

Where

$PERF_i$ = long run economic or financial performance of firm i (measures of accounting profits)

CSP_i = a proxy for corporate social responsibility of firm i (based on an index of social performance)

$SIZE_i$ = a proxy for the size of firm i

$RISK_i$ = a proxy for the risk of firm i (debt/asset ratio)

IND_i = industry of firm i (4 digit SIC code)

i = cross-sectional dimension (though not defined in the original model)

Equation 1 is modified as a general panel model and used in this study. Due to insufficient observations, firm's industry was excluded. The model is thus stated as:

$$ROE_{it} = f(CSRED_{it}, AE_{it}, G_{it}, SIZE_{it}) \quad (2)$$

This is explicitly stated as:

$$LROE_{it} = \beta_0 + \beta_1 LCSRED_{it} + \beta_2 LAE_{it} + \beta_3 LG_{it} + \beta_4 LSIZE_{it} + U_{it} \quad (3)$$

Where:

ROE = Return on Equity. A proxy for firm performance and defined as profit after tax on total equity.

$CSRED$ = Corporate social responsibility expenditures disclosed and defined as corporate social responsibility expenditures disclosed on profit before tax.

AE = Risk factor or equity multiplier and defined as total asset on total equity.

G = Firms' Growth and defined as current sale minus previous sale all on previous sale.

$SIZE$ = Firm size and defined as total asset.

L = Natural log

U = Disturbance term.

β_0 = Constant.

β_{1-4} = Coefficients to be estimated.

it = Cross-sectional time series dimensions of the variables.

Natural log are taken of all variables to make partial derivatives interpretable as elasticities and also help remove heteroskedasticity in disturbances (Adams and Hardwick, 1998).

2.3 Description of Variables

Firm Performance

Following the precedence of previous studies, this study used accounting metrics to measure firm performance, particularly, ROE. This is informed by three reasons: Orlitzky et al (2003) in their meta-analysis found that it is better to capture the relationship between CSR and firm performance, also that this study sought to establish how corporate social performance relates to the actual returns to shareholders, and finally for comparability.

Corporate Social Responsibility

CSR variable is measured by aggregating all the expenditures and donations spent on fulfilling social obligations scaled by profit before tax in the same year. This scaling was used because the firms indicated it as a charge against their profit before tax (i.e., the amounts represent a portion of their profit before tax devoted to social obligations). This measure is also a fair measure (Campbell and Slack, 2006).

Risk Factor (Equity Multiplier, EM)

Firm's performance involves elements of risk. This element of risk is always taken into consideration by management. Previous studies have focused mainly on D/A, D/E and beta. This study reconsidered this element of risk which is also important in business and can inhibit a firm's ability to honour its social obligations. According to Waddock and Graves (1997), management's risk tolerance influences its attitude towards activities that have the potential to illicit saving and incur future or present costs (See also Jensen and Meckling, 1976). In this study, the risk factor is measured as asset-to-equity.

Firm Growth

Generally, an increase in a firm's sale represents an increase in the resources at the disposal of the firm to undertake its social obligations. This means growth is expected to be positively related to firm's profitability. To test this assumption, firm growth is measured in this study using the firm's current sale minus previous sale all on previous sale.

Firm Size

Firm size has also been found to be an important factor that drives performance, and thus CSR. For example, Seifert, Morris and Bartkus (2004) suggested that large firms have greater visibility which would attract greater public scrutiny and a higher standard of corporate citizenship while Waddock and Graves (1997) explained that smaller firms may not exhibit as many overt socially responsible behaviours as do larger firms. To explore this assumption further, this study employed total asset as a measure of firm size.

Hypotheses

Based on the explanations adduced, the following hypotheses are tested in the null and alternative forms:

H₀: there is no significant relationship between the level of CSR expenditures disclosed and firm profitability.

H₁: there is a significant relationship between the level of CSR expenditures disclosed and firm profitability.

H₀: there is no significant relationship between firm risk and firm profitability.

H₁: there is a significant relationship between firm risk and firm profitability.

H₀: there is no significant relationship between firm growth and firm profitability.

H₁: there is a significant relationship between firm growth and firm profitability.

H₀: there is no significant relationship between firm size and firm profitability.

H₁: there is a significant relationship between firm size and firm profitability.

3 Main Results

3.1 Empirical Results and Discussions

The main objective of the study was to examine how corporate social responsibility and risk factor relate to financial performance using the companies listed on the Ghana Stock Exchange with a panel year's observation of 110. This was broken down specifically to examining the relationship between the level of CSR expenditures disclosed and firm profitability, determining the relationship between firm risk and firm profitability, identifying the relationship between firm growth and firm profitability and examining the relationship between firm size and firm profitability. A summary of the descriptive statistic is presented next. Where skewness values do not fall between 0.5 and -0.5, the median and the quartile deviation are reported in order that the results will not be affected by outliers.

3.2 The Descriptive Statistic

Table 1 shows the descriptive statistic for the variables used in the study. From table 1, the median ROE is 0.228611 (mean = 0.242139, skewness = -1.029126) with a quartile deviation of 0.1046. This means that, on the average, the listed companies were able to give their owners or shareholders 22.8611% returns on their investment. Sometimes, the companies record losses and profits as indicated by the minimum and the maximum values. Also, the median CSRED is 0.004676 (mean = 0.019721, skewness = 8.214336) and this is quarterly deviated by 0.004439. What this means is that the listed companies spent only about 0.4676% of their profit on fulfilling their social responsibility obligations. The minimum and the maximum values show that these social expenditures were made during good times and bad times (i.e., in times of losses and profits). Table 1 also revealed the mean figure for AE. This is indicated as 5.397473 (median = 5.653661, skewness = 0.361588) and a standard deviation of 3.223214. This confirms the high risk factor of the companies over the period. Meaning that the companies have, on the average, about 539.7473% of their assets as liabilities.

Observation from Table 1 revealed yet another important aspect of the growth nature of the listed companies. It suggested a median figure of 0.226611 (mean = 0.900177,

skewness = 10.29816) and a quartile deviation of 0.152664. This suggested that the rate of growth of the companies is only about 22.6611% for the period covered by the study which is very low. In fact, the low growth rate reflected in the profitability of the companies. For the asset, the median figure is 1.65E+08 (mean = 4.77E+08, skewness = 2.252069) with a quartile deviation of GHS243991021 . This implies that the median total asset of the companies is about GHS 16500000000.

4 Labels of Figures and Tables

Table 1: Descriptive Statistics

	ROE	CSRED	AE	G	SIZE
Mean	0.242139	0.019721	5.397473	0.900177	4.77E+08
Median	0.228611	0.004676	5.653661	0.226611	1.65E+08
Maximum	0.615937	0.927461	14.48351	67.89641	3.39E+09
Minimum	-0.579865	-0.020057	0.574773	-0.974470	2454218.
Std. Dev	0.175109	0.097589	3.223214	6.455981	7.01E+08
Skewness	-1.029126	8.214336	0.361588	10.29816	2.252069
Quart. Dev	0.1046	0.004439	2.98188	0.152664	243991021

4.1 Diagnostic Tests

Unit Root Test Results

Table 2 displays the unit root results for the variables used in the study. The unit root test is necessary because it ensures that the regression results especially, R^2 are not spurious and mis-specified. It is also to ensure the appropriate type of statistical technique to estimate equation 3 (ie, whether to use OLS or co-integration). As can be observed, the variables showed, at least, one integration vector at 10% significance level, thus eliminating the possibility of spurious or mis-specified regression results. It also means that since the variables are stationary at level, the pooled panel least square can be estimated. Refer to Table 2 for further details.

Table 2: Unit Root Results

Variable	LLC	IPS	ADF Chi-sq	PP Chi-sq
LROE_{it}	-5.47194 (0.0000)	-2.94971 (0.0016)	42.9043 (0.0021)	49.2824 (0.0003)
LCSRED_{it}	-4.85446 (0.0000)	-3.54237 (0.0000)	47.0976 (0.0006)	46.3338 (0.0007)
LG_{it}	-10.4702 (0.0000)	-5.49182 (0.0000)	63.2315 (0.0000)	49.3195 (0.0003)
LAE_{it}	-4.36097 (0.0000)	-1.59550 (0.0553)	33.8278 (0.0273)	38.3646 (0.0080)
LSIZE_{it}	-1.42997 (0.0764)	2.71235 (0.9967)	7.14351 (0.9962)	7.08913 (0.9964)

NB: The values reported without the brackets are t-statistics and those in the brackets are the p-values.

4.2 Correlation Matrix Results

In multivariate regressions, inclusion of variables (as dependent and independent) cannot be possible if they show no relationship. As a result, correlation and covariance tests are conducted in this study to confirm existence of relationship between the dependent and the independent variables, and also between the independent variables. From Table 3, LCSRED_{it} and LG_{it} show negative relationship with LROE_{it}, while LAE_{it} and LSIZE_{it} indicate positive relationship with the LROE_{it}. The negative relationship between LCSRED_{it} and LROE_{it} for example means that an increase in LCSRED_{it} leads to a decrease in LROE_{it}. The correlation results are similarly confirmed by the covariance. Two other statistics (the t-statistics and the p-values) show whether the established relationships are significant or insignificant. For instance, LCSRED_{it} is significantly related to LROE_{it} at 5% alpha (p-value = 0.0000). This is also confirmed by the t-statistic (7.156530).

Table 3: Correlation Matrix Results including covariance, t-statistic and p-values

	LROE_{it}	LCSRED_{it}	LAE_{it}	LG_{it}	LSIZE_{it}
LROE_{it}	2.721575				
	1.000000				
	-				
	-				
LCSRED_{it}	-2.349621	6.306040			
	-0.567165	1.000000			
	-7.156530	-			
	0.0000	-			
LAE_{it}	0.295698	0.222126	0.534361		
	0.245200	0.121005	1.000000		
	2.628435	1.266831	-		
	0.0000	0.2079	-		
LG_{it}	-0.175406	-0.418290	-0.368757	15.15720	
	-0.027310	-0.042785	-0.129573	1.000000	
	-0.283921	-0.445040	-1.358008	-	
	0.7770	0.6572	0.1773	-	
LSIZE_{it}	0.648672	-0.585547	0.842721	-0.053986	2.607525
	0.243501	-0.144401	0.713925	-0.008587	1.000000
	2.609067	-1.516550	10.59566	-0.089245	
	0.0104	0.1323	0.0000	0.9291	

N.B. The values are covariance, correlation, t-statistic & probability respectively

4.3 Collinearity Results

More so, to ensure that there is no issue with multicollinearity, the tolerance and the variance inflation factor (VIF) are estimated. From Table 4, the VIF values are more than 10 and the tolerance values are not less than 0.10. Therefore, the results are not expected to be affected by multicollinearity.

Table 4: Collinearity Statistics

Dependent Variable: LROE _{it}		
	VIF	Tolerance
LCSRED _{it}	0.877	1.141
LAE _{it}	0.426	2.347
LG _{it}	0.969	1.032
LSIZE _{it}	0.430	2.325

5 WhiteHeteroskedasticity Test Results

To provide valid and reliable results, error terms have to be uncorrelated or identically distributed. However, this problem was found to exist in this study (as it is normally the case in panel data analysis), therefore, the White Heteroskedasticitytest becomes reliable and so all the regression results in this study are based on it. Note that this test does not change regression co-efficient results. The test only validates the standard errors (see Table 5).

Table 5: White Heteroskedasticity Consistent Covariance Test Result

Dependent Variable: LROE _{it}				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSRED _{it}	-0.423087	0.075623	-5.594702	0.0000
LAE _{it}	0.993160	0.326682	3.040140	0.0030
LG _{it}	0.000319	0.049100	0.006489	0.9948
LSIZE _{it}	-0.167210	0.134407	-1.244062	0.2162
C	-5.861392	2.262249	-2.590957	0.0109
R-squared	0.433296			
Adjust. R-sq	0.411708			
F-statistic	20.07051			
Prob(F-stat)	0.000000			
Durbin-Wat	1.115425			

Having gone through the various diagnostic tests, this section presents the OLS results. The pooled panel least squares results in Table 6 indicate that LCSRED_{it} is negative and significantly related to LROE_{it} at 5% significant level (p-value = 0.0000). Also, LAE_{it} shows a significant positive relationship with LROE_{it} at 5% significant level (p-value = 0.0002). LG_{it} is also positively related to LROE_{it} at 5% significant level but the relationship is not significant (p-value = 0.9920), and that of LSIZE_{it} is negative and is also not significant (p-value = 0.1470). Similarly, the results show that the independent variables altogether explained about 43.3296% of the variations in the dependent variable

(R-squared = 0.433296) with an adjusted R-squared of about 41.1708%. The model also indicates fitness with a Prob(F-statistic) value of 0.000000, however, by rule of thumb the Durbin-Watson statistic should be two but it is just one. The low DW suggests a possible autocorrelation among the variables. This is resolved by estimating the fixed and the random effect models and using the Hausman test to choose the one which is more appropriate.

Table 6: Pooled Panel Least Squares

Dependent Variable: LROE _{it}				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSRED _{it}	-0.423087	0.051549	-8.207428	0.0000
LAE _{it}	0.993160	0.253979	3.910402	0.0002
LG _{it}	0.000319	0.031630	0.010073	0.9920
LSIZE _{it}	-0.167210	0.114440	-1.461115	0.1470
C	-5.861392	1.828216	-3.206072	0.0018
R-squared	0.433296			
Adjust R-squ	0.411708			
F-statistic	20.07051			
Prob(F-stat.)	0.000000			
Durbin-Wat.	1.055010			

In order to present an efficient result, both fixed and random effect models are estimated. The fixed effect model assumes an identical unit effects. That is, it considers the listed companies to have a unique intercept thus eliminating the possibility of autocorrelation. The results are shown in Table 7. There are some variations when compared to the pooled least squares. The LCSRED_{it} still indicates a significant negative relationship with LROE_{it} at 5% significant level (0.0000) while LAE_{it} shows a positive and significant relationship with LROE_{it} at 5% significant level (0.0000). The relationship between LG_{it} and LROE_{it} is positive but insignificant at 5% alpha level (p-value = 0.6505). LSIZE_{it} is also positively but insignificantly related with LROE_{it}. Additionally, the independent variables explained about 70.2984% of the variation in the dependent variable (R-squared = 0.702984) and adjusted R-squared of 0.662763. This shows a much improvement over the pooled least squares. Again, the model shows fitness (pro(F-statistic) = 0.000000) and an improvement in the DW statistic (1.916050).

Table 7: The Fixed Effect Result

Dependent Variable: LROE _{it}				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSRED _{it}	-0.456102	0.048199	-9.462899	0.0000
LAE _{it}	1.497311	0.281495	5.319137	0.0000
LG _{it}	0.011335	0.024942	0.454460	0-6505
LSIZE _{it}	0.002024	0.108616	0.018635	0.9852
C	-10.11277	1.966214	-5.143270	0.0000
R-squared	0.702984			
Adjust R-sq.	0.662763			
F-statistic	17.47808			
Prob(F-stat)	0.000000			
Durbin-Wat.	1.916050			

Source: Eviews 7 output

In a likewise manner, the random effect model treats the error term as composite in nature. In this case, the unobserved effect becomes part the error term and so able to deal with the autocorrelation. The random effect results are therefore presented in Table 8. The coefficients are not so much different from the fixed effect results. Except the direction of LSIZE_{it}, all the probability values returned similar outcomes as the fixed effect results.

Table 8: The Random Effect

Dependent Variable: LROE _{it}				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSRED _{it}	-0.452298	0.047362	-9.549718	0.0000
LAE _{it}	1.345108	0.262536	5.123515	0.0000
LG _{it}	0.008641	0.024827	0.348049	0.7285
LSIZE _{it}	-0.041256	0.104768	-0.393787	0.6945
C	-9.040199	1.882010	-4.803480	0.0000
R-squared	0.516009			
Adjust. R-sq	0.497572			
F-statistic	27.98660			
Prob(F-stat)	0.000000			
Durbin-Wat.	1.785192			

To choose which of the model (i.e, fixed effect and random effect) is more appropriate to base the empirical results on, the Hausman test is estimated. It means the Hausman test allows a decision to be made between the fixed effect and the random effect models. From Table 9, the Hausman test failed to reject the null hypothesis that the random effect is more appropriate. Therefore, all the empirical discussions will be based on the random effect model.

Table 9: Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq.d.f.	Prob.
Cross-section random	2.777496	4	0.5957

Source: Eviews 7 output

5.1 Discussion of the Empirical Results.

The regression results indicated that CSR expenditures incurred by the listed companies have a significant negative relationship with firm profitability as measured by $LROE_{it}$ (p-value = 0.000) at 5% alpha level. The implication is that a 100% increase in the level of social expenditures incurred by the listed companies leads to about 45.2298 decrease in profitability (measured by $LROE_{it}$) of these listed firms. As a result, return to shareholders is decreased. These findings suggest that indeed there is a relationship between CSR and firm performance, and this relationship is negative and significant. In view of these findings, this study rejects the null hypothesis which states that there is no significant relationship between the level of corporate social responsibility expenditures disclosed and firm profitability, and accept the alternative. As evident by the results, the study also aligns with the shareholder theory that corporate social performance represents cost and reduces profitability, and therefore affects shareholder wealth maximization. While also confirming the study of Ikharehon (2014), it contradicts the findings of Orlitzky et al (2003) and Waddock and Graves (1997).

Also, in determining the relationship between firm risk and profitability, the results show that firm risk (measured by asset-to-equity ratio) is positive and significantly related to firm profitability (i.e., $LROE_{it}$) (p-value = 0.0000) at 5% alpha level. From Table 8, the results indicate that a 100% increase in the level of debt (measured by asset-to-equity ratio) will increase profitability of the firms to about 134.5108. This means that even though the listed companies have a relatively high amount of their assets in debt, they are able to turn it into positive net value projects which have favourable impact on their profits. Perhaps, this confirms the assertion that corporate debt may not necessarily be bad. In view of these findings, the null hypothesis of no significant relationship between firm risk and firm profitability is rejected and the alternative of a significant relationship between firm risk and firm profitability accepted. As mentioned earlier, previous studies have mostly used D/A, D/E, and sometimes beta for firm risk, thus, this measure shows a slight departure from the past studies on CSR-FP linkage.

On the third objective, it was identified that the relationship between firm growth and firm profitability is positive but non-significant (p-value = 0.7285) at 5% alpha level. The effect of this is that a 100% increase in the growth (LG_{it}) of the listed companies will lead to about 0.8641 increases in the firms' profitability ($LROE_{it}$). However, because the statistic is not significantly different from zero, this result is not scientifically proven. With this result, the study failed to reject the null hypothesis of no significant relationship between firm growth and profitability. This is based on the fact that although there is a relationship, the relationship is not significant.

With regard to the fourth objective, the study obtained a negative but non-significant relationship between firm size and firm profitability (p-value = 0.6945) at 5% alpha level. This indicates that when there is a 100% increase in the natural log of firm size, there is about 4.1256 decreases in the profits ($LROE_{it}$) of the listed firms. In other words, when these firms increase in size, they are unable to manage their resources efficiently probably due to longer delays and operational costs hence the negative effects. However true this may seem, the empirical result does not lend credence to this assertion. This confirms the previous study of Waddock and Graves (1997).

6 Conclusion

6.1 Conclusion and Recommendation

Based on the results of the research, this study has found a trade off relationship between CSR and firm performance and noted with concern that, the call that, by engaging in CSR managers will be prudently analyzing, evaluating, and balancing multiple stakeholder preferences is not truly reflective in the profitability of Ghana's listed companies. It is therefore advisable that for the concept to be more meaningful, management should find a strategic way of implementing it. However, many companies listed on the Ghana Stock Exchange engage in corporate social responsibility to ensure legitimacy, visibility and gain market for their products and services. In a similar manner, this study has found that though risk (asset-to-equity) may pose long-term solvency problems, this is actually being managed well by corporate managers on the GSE. However, the relation of firm growth and size on firm performance seemed not to be an issue of significance. For further study on the link between CSR and firm performance, there is the need to widen the scope, and a better form of quantifying the other constructs explored and used.

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