



Corporate Social Responsibility Reporting and its Effects on Market Valuation: A case of Ghanaian listed companies

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Abstract

Purpose: This paper investigated the importance of corporate social responsibility (CSR) reporting and its effects on the share price of the companies registered with the Ghana stock exchange. The study also investigates the indirect effect of CSR disclosure on the firm's stock price

Method: This study analyzed data from 2013 to 2018 of 25 listed companies registered on the Ghana Stock Exchange. Moreover, panel ordinary least square and robust least square estimators were employed to analyze data for robust findings.

Results: The study's findings include the significant direct relationship between CSR disclosure and firms share price. The study also found that CSR disclosure by companies operating in environmentally-sensitive industries is associated with higher market valuations. The study results confirm that CSR reporting is promoted with increased valuations; this study delivered evidence for involvement in such a strategy. The study findings do not call that all firms should be necessitated to provide CSR information.

Originality: The study highlights the importance of CSR reporting in a firm's performance and its benefits to shareholders and future investors. The CSR disclosure created debates among the stakeholders. However, it contributes to the existing literature by including highly sensitive environment-based companies to answer how CSR reporting of highly sensitive environment positively affects the stock price.

Keywords: Corporate social responsibility disclosure; Firm value; Ghana stock exchange; value relevance; developing countries



1. Introduction

For two decades, the concept of corporate social responsibility (CSR) has well-developed, and CSR practices play a significant role in the sustainability of the environment and society. The relationship between CSR practice and corporate competitiveness is becoming the consensus of more scholars and practitioners. The prior scholars hold different meanings related to CSR. Such as, Jamali (2008) stated that "it is concerned with companies' commitment to contribute to sustainable development, stakeholder interests and enhancement of societal conditions." From the stakeholder's perspective, it is concerned with "how the firm interacts with its employees, suppliers, and customers" (Zhao, Davidson, & Zuo, 2012). In contrast, it is also considered the defensive approach to social pressures regarding stakeholders' expectations and demands, social demand, and environmental concerns (Kim, Marshall, & Afzali, 2018; Lopatta, Jaeschke, & Chen, 2017; Tran 2019; Boateng & Vitenu-Sackey, 2019). Similarly, from the environmental and societal viewpoint, it refers to "how business operations worry about the natural environment, and the social dimension are related to how the enterprise contributes to a better society by integrating its business with social concerns" (Hameed 2018).

In recent times, the Issues of CSR continue to be in the front burner in many corporate board rooms of many business corporations as the public's awareness and interest in environmental and social issues has increased. This view is endorsed by (Nielsen & Thomsen, 2007) when they opined that the need for transparency and accountability from organizations operating worldwide has pushed them to put CSR high on their agendas.

Recently, as the public's awareness and interest in environmental and social issues and the increased attention in the mass media have led to more social disclosures (Deegan & Gordon, 1996; Gray et al., 1995; Hooghiemstra, 2000; Kolk, 2003), in this case, more and more companies are required to be accountable to a broader audience than shareholders and creditor groups.

As companies become more committed to publishing sustainability reports, many national and international institutions have developed frameworks. CSR report is the primary disclosure content of non-financial information of a company. However, the CSR report has also sparked a heated debate about whether disclosure of non-financial information is useful to stakeholders

Globally, companies indulged in CSR's investment to flourish both environmental and social criteria to add-on the customary financial information employed to make decisions specific to an investment (Hameed 2018). Henceforth, it is understood that CSR is the option left to integrate environmental, social, and economic activities into their strategies, culture, values, operations, and decision making in a translucent and liable manner. There is an emerging consent about the prospective linkage between CSR and firms success factors. Deswal and Raghav (2013) show that a rational CSR strategy is grounded on a long-term approach, sound values, and integrity and provides translucent benefits to firms and addition to society's development.

According to Initiative (2012); Adams and Narayanan (2007), the societal perspective of sustainable development concerns with the effects that the firms may have on societal systems in which it executes, and exist, while the economic perspective of sustainable development refers to the influence that the firms may have on the monetary conditions of its investors and economic systems at global, local, and national. Likewise, organizations are committed to publishing sustainability reports (Fernandez-Feijoo, Romero, & Ruiz 2014). Expose of non-financial information such as CSR reporting has produced,



nevertheless, passionate discussions about whether such information is useful for stakeholders and whether disclosure along CSR dimensions should be mandated by regulation.

CSR has gained attention in recent times, and more attention has been focused on the considerable role of CSR in developing economies, of which Ghana is no exception. Moreover, CSR is one of the emerging terms in developing countries and hot issues due to distinctive reasons. For instance, In Ghana, CSR has become a front-burner issue due to several developments such as globalization, the liberalization of the economy, a government commitment to making the private sector the "engine" of growth, a promising and an emerging capital market with remarkable performance. The corporate environment in Ghana is very diverse. There are small, medium, and large firms that are locally owned and well as foreign firms. All these firms are subject to varying degrees, to principles of CSR.

Even though at the international level there is a rapid increase of initiatives to promote CSR in the face of public concerns about the political, economic, social, and environmental impact of the activities of corporations in societies in which they operate, there is no comprehensive policies, documents on corporate social responsibility in Ghana. What stipulates the CSR frameworks in Ghana are a variety of policies, laws, practices, and initiatives (Atuguba&Dowuona-Hammond, 2006). That is to say, CSR in Ghana is regulated by legislation, policies, and other forms of law.

Although the literature on the relationship between financial and environmental/social performance is growing, there is limited evidence regarding whether investors value firms that engage in CSR reporting transparency to other firms that do not. Therefore this study contributes mainly to the existing literature on developing countries. First, it offers proof of the value significance of CSR reporting for stakeholders in the context of developing countries. This paper mainly focuses on Ghana, one of the leading developing countries in CSR reporting globally (Ofori and Hinson 2007; Abukari and Abdul-Hamid 2018; Bokpin 2011). A study conducted by Ofori and Hinson (2007), which involved the comparative study of Ghana club 100 in terms of the CSR adoption by foreign companies in Ghana, revealed that international companies tend to pay more attention to CSR practice than local companies do. The study samples included some parameters such as healthcare, safety, education, consumer protection, and environmental damage.

Moreover, the previous study also investigated the perception, type, nature, and the level of CSR activities on organizations and the Ghana Stock Exchange (GSE). Abukari and Abdul-Hamid (2018) investigated the CSR reporting in the telecommunication sector of Ghana and found that sampled companies poorly indicate their CSR problems online. Most remarkably, in their reports, most of the attention is given to community involvement. Bokpin (2011) analyzed the panel data from 2002 to 2007 of 23 organizations and examined the interaction among corporate governance, ownership structure, and dividend performance on GSE. The present study confirms the relationships in considering the different sectors and lessens the previous studies' limitation dedicated to a single sector. Moreover, prior work mainly focused on international companies, whereas this study includes both local and international.

Second, this article supplements the existing literature on the value relevance of non-financial (VRNFI) measures. In general, the study's conclusion in this area states that the value relevance of traditional financial information has lessened over the past few years, mainly as a result of the emerging significance of non-reported intangible means in the value creation process. From this perspective, stakeholders are mostly conscious of the significance of firms' information, which is usually not exhibited in financial reports, thus portentous the concern of the latent VRNFI like social and environmental.



Third, this study contributes to the existing literature by the value relevance of CSR by examining direct and indirect impacts of CSR reporting on stock price and the moderating role of the stock price on the book value of equity and relevance of earnings. This study argues that CSR reporting also influences stock prices due to CSR information provision, which is prone to decrease economic insecurity, more predictable earnings, and lesser risk for investors. This study recommends that sharing of CSR reporting influences the market changes to predicts future earning changes (Reverte 2016), improves the extent of an organization's future cash flow forecasting, or lessens the observed inconsistency of its cash flows (Gregory et al. 2014).

Fourth, this study also contributes to the existing literature by including highly sensitive environment-based companies to answer how CSR reporting of highly sensitive environment positively affects the stock price.

In order to assess the extent of CSR reporting, this study employ rating of a firm's CSR reporting activates expanded by the Observatory on Corporate Social Responsibility (OCSR). This rating is founded on a comprehensive content analysis of sustainability reports grounded on the extent of information revealed by a specific firm related to approximately 500 indicators/requirements Moreover, this study also involves societal problems.

The remainder of the paper is structured as follows. First, the paper present the theoretical background and the research hypothesis. This is followed by the study's research methodology, focusing on data sampling and the study model. Finally, the data analysis, main findings, discussions, and conclusions of the entire work are presented.

2. Theoretical Background and Hypothesis Development

2.1 Theoretical background

Corporate social responsibility (CSR) has become a strategic issue for organizations attempting to communicate their ethical activities to various stakeholders' groups. In particular, CSR disclosure plays a key role in investors' decisions (Xu and Liu 2018). In recent times, the debate on whether CSR disclosure produces value for stakeholders' in the capital market (Cortesi and Vena 2019; Subaida, Nurkholis, & Mardiatr, 2018) has been hot. Most of the studies focused on CSR reporting effects on stock price grounded on socio-political and economic theories.

More profoundly, the economic agency theory proposed that information disclosure is value relevant and highlights an organization as a nexus of bridges among several economic agents who act as opportunity seekers within efficient markets. From this perspective, it is argued that environmental and social disclosure may prove valuable in determining contractual debt obligations, implicit costs, and managerial compensation contracts. Some scholars suggest that agency theory focuses on wealth or monetary considerations between agents who trade in informationally effective markets does limit the scope of relevant environmental and social disclosure apart from intended goals (Cormier, Magnan, & Van Velthoven, 2005; Shogren, Wehmeyer, & Palmer, 2017).

In contrast, legitimacy theory highlighted a more detailed viewpoint related to CSR disclosure as it explicitly identifies that organizations disclose information to encourage stakeholders (Seibert and Macagnan 2019; Lu and Abeysekera 2017). This theory argues that firms always search to confirm that they operate within society's norms and bounds (Baumann-Pauly, Nolan, Van Heerden, & Samway, 2017). Suchman (1995) defines legitimacy as "a generalized perception or assumption that the actions



of an entity are desirable, proper or appropriate within the socially constructed system of norms, values, beliefs, and definitions." Also, Hooghiemstra (2000) and others assume that most insights towards the CSR disclosure come from utilizing a theoretical model, which holds that environmental and social disclosure is a way to legitimize an organization's continuous existence and operation to society at large. In comparison, some scholars argued that CSR's exhibition is irrelevant and negatively influences stock prices (Wang, Chen, Yu, & Hsiao, 2015; Rekker, Benson, & Faff, 2014; Feng and Tseng 2019).

Moreover, the stakeholder's theory holds that corporate disclosure is a tool to manage and stimulate the needs of several investors groups such as employees, suppliers, customers, government institutions, etc. Some studies found a positive relationship between CSR disclosure and its performance (Platonova et al. 2018; Wuttichindanon 2017); in contrast, few of the negative relationships (Hou 2019; Fatemi, Glaum, & Kaiser, 2018). Hence, the firm with poor CSR activities leads to exhibits a greater level of CSR reporting (Shiu and Yang 2017). Most scholars mainly employ a value relevance approach dedicated to environmental concerns (Areneke and Kimani, 2019; Schaltegger and Burritt 2017). Minimal studies emphasize environmental accountability and performance (Latan, Jabbour, De Sousa Jabbour, Wamba, & Shahbaz, 2018).

2.2 Hypotheses development

The irregularity of information among shareholders and managers is argued to have proven voluntary corporate disclosure (Al Maskati and Hamdan 2017). In addition, agency theory holds that asymmetrical information mainly exists where there is a separation of control and ownership within managers and shareholders. In most large organizations, corporate disclosure may act as a monitoring and bonding instrument to lessen the agency conflicts among shareholders and executives (de Villiers and Hsiao 2018; Goshen and Squire 2017). Moreover, information may decrease the asymmetrical information between organizations and their shareholders and lessen uncertainty leading to the firms' economic risks and benefits (Pruthi and Koul 2019). As a result of which shareholders can employ information to make a wise decision and predict the firm's value and prices, they are willing to pay for its shares. Increased translucent and accurate forecasting of future earnings helps shareholders estimate the organization's exact share price (Espahbodi, Espahbodi, 2015; Drobetz, Gounopoulos, Merika, & Merikas, 2017).

More specifically, CSR reporting, it usually offers non-financial information related to firms' environmental and social perspectives. Such type of information is mainly provided in separate reports irrelevant to financial-one. According to Jain et al. (2015), CSR disclosure is voluntary practice. Given the voluntary viewpoint, organizations will share CSR information only when its benefits exceed its cost. Furthermore, the CSR information also lessens the asymmetrical information between external shareholders and internal shareholders (Hawn and Ioannou 2016). Shareholders can use both financial and non-financial information to predict the fluctuations in the market better. Therefore, we proposed the following hypothesis:

H1: The CSR disclosure is positive and significantly linked with a company's share price and delivers relevant information comparative to earnings and book value of equity.

Qiu, Shaukat, & Tharyan (2016); Reverte (2016); Muttakin, Khan, & Azim (2015) investigate whether firms having a higher reputation for being socially responsible are estimated to disclose the more extensive market valuation of book value and earnings when contrast with organizations without such reputation. Hence, it is evaluated whether CSR has a moderating effect by influencing both book value



and earnings' value relevance. Gao and Zhang (2015), Albuquerque et al. (2018) stated that the firms with higher CSR reputation in the market lead to less economic uncertainty, lower risk for investors, and more estimated earnings. Also, Cormier and Magnan (2015), Crane, Matten, & Spence (2019) holds that by CSR disclosure pertinent to environmental concerns, an organization can enhance its expected transparency towards shareholders and enable them to have broader accurate predictions of its future earnings.

The prior studies have shown that CSR information disclosure can influence the stock price both directly and indirectly through its effects on the relevance of financing constructs such as book value of equity and earnings (Grougiou, Dedoulis, & Leventis, 2016; Nekhili, Nagati, Chtioui, & Rebolledo, 2017)

This reason is that CSR reporting is employed by shareholders to be a valuable source of information. The existing scholars also confirm that CSR reporting contains the information pertinent to future policies (Rogge and Reichardt 2016). Moreover, the confirmation comes from Schmelzer (2013) that CSR reporting can exhibit a piece of information specific to the persistence of earnings. It is predicted that book value and earnings' value relevance increases when a construct for CSR reporting is added to the model. In order to corroborate the whether CSR reporting provides shareholders with complementary information, and may, therefore, utilize a moderating influence on the relevance of both book value and earnings, therefore, the following hypothesis is suggested;

H2: CSR disclosure positively moderates the relationship between financial information and the company's share prices, thereby having an indirect impact on the company's share prices.

Grounded on the theory of legitimacy prior to work Giannarakis (2014); Nikolaeva and Bicho (2011), Dyduch and Krasodomska (2017), dedicated to CSR exhibits that industry plays a significant role in elaborating the extent and content of environmental and social disclosure. The theory of legitimacy proposed that firms' actions of disclosing CSR reporting results from stakeholders' pressure. Such as the manufacturing industry detrimental to environmental sustainability. More profoundly, firms from mining, power generation, oil extraction, chemical industries focus on information relevant to safety, health, and environmental concerns (Sengupta 2018; Yakovleva 2017; Owusu-Agyemang 2017).

The outcomes of which organizations operating in such industries have higher risk regarding governmental regulations, upcoming environmental liabilities, and are prone to greater societal concerns (Epstein 2018). However, CSR disclosure delivers the information, which enables shareholders to decide better evaluation of such risks. More CSR information exhibitions also reduce the information asymmetry between investors (Cuadrado-Ballesteros, Martinez- Ferrero, & Garcia- Sánchez, 2017). Therefore, given the fact, it is estimated that the company's market value will be increasingly higher when a greater level of CSR reporting or disclosing of information exists. Therefore, the following hypothesis recommended;

H3: CSR disclosures of companies operating in environmentally sensitive industries have a greater impact on stock prices compared with companies operating in nonenvironmentally insensitive industries.

3 Methodology

3.1 Data sampling

The financial and non-financial data of 25 companies registered with Ghana stock exchange (GSE) and ASANKO GOLD Incorporation registered with NASDAQ collected from their official website and reliable sources from 2014 to 2018. In particular, the ASANKO GOLD Incorporation "jointly owned



by Asanko and Gold Fields (JSE, NYSE: GFI), the Asanko Gold Mine is a large scale, multi-pit asset" (AG 2019) from the period 2014 – 2018. The CSR disclosure is based on the Global Rating Initiative (GRI) standards, including (GRI 102 – General disclosure; GRI 200 – Economic standard; GRI 300 – Environmental standard; GRI 400 – Social standard). Besides, the Asanko Gold Inc. (AKG) indexed in NASDAQ, and the statistical, historical, and financial data comes from the annual reports (AG 2018) and Yahoo finance (YF 2019). Based on corporate social responsibility (CSR) and environment, social, governance (ESG) metrics rating of (CSRHUB 2019), the companies are rated.

3.2 Model of the study

This study employed Feltham and Ohlson (1995), the model which relates market capitalization to earnings and book value as a grounds to assess the value relevance (Camodeca et al. 2014).

$$MV_{it} = \alpha_0 + \alpha_1 EARN_{it} + \epsilon_{it} \quad \text{--- 1}$$

Whereas MV_{it} is the market value of firm i at time t , $EARN_{it}$ is earnings of firm i for period t , and ϵ is the regression error.

Moreover, this work used a modified version of the model due to share price specification and scale effect. Hence,

$$P_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \epsilon_{it} \quad \text{--- 2}$$

Whereas P_{it} is the share price of firm i at time t , $BVPS_{it}$ equals the book value of equity per share of firm i at time t , and EPS_{it} is earnings per share of firm i for period t , ϵ is the regression error.

The study's objective is to measure the value relevance of CSR disclosure by Asanko Gold incorporation. Additionally, to investigate the cumulative impacts of financial information with disclosure of CSR enlighten market value better than financial information only. Hence, this add make the addition of CSR disclosure to reflects the non-financial information in the model above

$$P_{it} = \gamma_0 + \gamma_1 BVPS_{it} + \gamma_2 EPS_{it} + \gamma_3 CSR_{it} + \epsilon_{it} \quad \text{--- 3}$$

Whereas P_{it} is the share price of firm i at time t , $BVPS_{it}$ equals book value of equity per share of firm i at time t , EPS_{it} is earnings per share of firm i for period t CSR_{it} equals CSR disclosure of firm i at time t , and ϵ is the regression error.

$$P_{it} = \gamma_0 + \gamma_1 BVPS_{it} + \gamma_2 EPS_{it} + \gamma_3 CSR_{it} + \gamma_4 BVPS_{it} \times CSR_{it} + \gamma_5 EPS_{it} \times CSR_{it} + \epsilon_{it} \quad \text{--- 4}$$

-why use the model 4, still need to give the explanation

In estimating the coefficients of parameters, the study utilized the ordinary least square regression method. The ordinary least square regression method's choice is due to the inability to establish a cointegration relationship between the dependent and independent variables. According to Salahuddin et al. (2015), the ordinary least square regression method is considered an appropriate estimator when no cointegration relationship is established. The ordinary least square estimator has some weakness, thus cross-sectional heterogeneity among panels. Therefore, the study relied on the robust least square estimator for a robust check to resolve the cross-sectional heterogeneity problem that could occur in the model. Moreover, the robust least square regression method is an advanced version of the ordinary least square regression method with the statistical strength of resolving serial correlation, simultaneity, and cross-sectional heterogeneity problems.

4 Results

Table 1 presents the descriptive statistics of the variables used in the study. From the table, the mean of each company's share price was GHs 2.799 per annum; the average score for the sampled companies' corporate social responsibility activities signals fairly poor performance as the average score for each was 0.356. Moreover, earnings per share of the companies increased annually by GHS 0.346 (see table



1 for more details). Also, the standard deviation of the variables signals homogeneous relation and the Jarque-Bera test confirms that the variables are not normally related.

Table 1 Descriptive Statistics

	P	BVPS	BVPS_CSR	CSR	CSR_EPS	EPS	LNEARN	LNMV
Mean	2.799	1.437	0.500	0.356	0.130	0.349	10.869	15.725
Median	0.720	0.777	0.212	0.340	0.029	0.115	12.263	16.298
Maximum	18.400	10.600	4.452	0.700	2.318	4.830	19.067	20.067
Minimum	0.020	-1.707	-0.591	0.010	-0.043	-0.132	0.000	8.165
Std. Dev.	4.733	1.999	0.826	0.204	0.293	0.619	6.155	2.663
Skewness	2.366	1.994	2.660	-0.035	4.680	3.739	-0.871	-0.184
Kurtosis	7.655	7.565	10.678	1.863	29.812	22.681	2.423	1.805
Jarque-Bera Probability	275.341	229.588	545.350	8.109	5040.578	2770.297	21.060	9.778
Observations	150	150	150	150	150	150	150	150

In table 2 below, the outcome is displayed to represent the unit root tests performed. The test for unit root deciphers the stationarity status of the variables selected. Evidence of unit root signals that further step to perform the regression analysis would produce spurious coefficients. Therefore, it is statistically prudent to unravel the stationarity status of the variables under study. However, four-unit root tests were performed; thus, Levin, Lin, & Chu test (2002), Im, Pesaran, & Shim test (2003) and Maddala and Wu test (1999). The tests were performed at the level form but could not establish any unit root in the variables as most tests confirmed unit-roots. Furthermore, the tests were performed at the first difference, and at that stance, evidence of no unit root was established at a 1% and 5% significance level, respectively.

Table 2 Unit root test—why you did this test?

	P	CSR	LNMV	LNEARN	BVPS	EPS	BVPS*CSR	CSR*EPS
level form								
LLC	-7.439***	-9.277***	-7.035***	-246.474***	-1.013	-7.864***	-3.622***	-6.142***
IPS	-1.108	-1.777**	-0.250	-30.072***	2.408	-1.260	-0.052	-0.921
ADF-Fisher	62.657	75.532**	64.697	83.175***	31.772	70.422**	61.855	75.107**
PP-Fisher	77.638**	99.698***	85.542***	92.381***	43.074	97.594***	74.848**	105.881***
First Difference								
LLC	-18.741***	-18.423***	-17.913***	-232.539***	-9.064***	-10.955***	-12.518***	-17.863***
IPS	-6.454***	-5.765***	-4.763***	-34.250***	-3.337***	-3.352***	-4.384***	-4.964***
ADF-Fisher	101.524***	100.058***	89.012***	107.264***	78.508**	76.196**	88.492***	95.239***
PP-Fisher	115.041***	127.221***	102.572***	118.053***	97.032***	90.018***	115.615***	115.050***

*** p<0.01, ** p<0.05, * p<0.1. P=Share price, CSR= Corporate social responsibility, MV= Market



value, BVPS = Book value per share price, EPS = Earnings per share, EARN = Earnings, BVPS*CSR= Book value per share * Corporate social responsibility, CSR*EPS = Corporate social responsibility*Earnings per share. LLC = Levin, Lin & Chu test, IPS=Im, Pesaran, & Shin test, ADF & PP-Fisher chi-square = Maddala& Wu tests.

The next step after the established no unit roots in the variables is to compute the correlation matrix. The correlation matrix reveals two important information, thus correlation with the variables and evidence of collinearity or multicollinearity. From the results, it can be reported that there is no evidence of collinearity or multicollinearity in that the variable with the highest correlation coefficient was 0.524 (BVPS). The rule of thumb for multicollinearity stipulates that no two variables (independent) should have correlation coefficients of ± 0.70 with the dependent variable. Also, positive correlations were established between CSR, BVPS, BVPS*CSR, CSR*EPS, EPS, LNEARN, and P at a 1% significance level, respectively, but LNMV had an insignificant correlation with P. The results are presented in Table 3.

Table 3 Correlation matrix

Correlation	P	BVPS	BVPS_CSR	CSR	CSR_EPS	EPS	LNEARN	LNMV
P	1							
BVPS	0.524***	1						
BVPS_CSR	0.425***	0.806***	1					
CSR	0.070***	-0.029	0.320***	1				
CSR_EPS	0.394***	0.564***	0.746***	0.272***	1			
EPS	0.501***	0.718***	0.670***	0.047	0.908***	1		
LNEARN	0.199**	0.298***	0.264***	-0.010	0.215**	0.251**	1	
LNMV	-0.031	-0.204**	-0.126	0.141*	-0.101	-0.179**	0.231**	1

*** p<0.01, ** p<0.05, * p<0.1 P=Share price, CSR= Corporate social responsibility, MV= Market value, BVPS = Book value per share price, EPS = Earnings per share, EARN = Earnings, BVPS*CSR= Book value per share * Corporate social responsibility, CSR*EPS = Corporate social responsibility*Earnings per share.

Interpretation: As shown in table 4, model 1 depicts the assumption of market value and total earnings of companies determining their share price. The model shows LNMV (market value) insignificantly contributes to companies' share prices of listed companies on the Ghana Stock Exchange. Also, LNEARN (earnings) positively and significantly influence companies' share prices at a 5% significance level. The reported coefficient was 0.167; this implies that a percentage point increase in earnings could significantly lead to a 0.167% increase share prices. However, the model constructed to affirm this assumption displays a weak variation of the dependent variable's independent variables. The R-square reported a value of 0.045, which falls below the weak to be statistically reliable.

Subsequently, the study utilized a different model considering book value per share (BVPS) and



earnings per share (EPS), thus model 2. In model 2, the result confirms that book value per share and earnings per share positively and significantly influence share prices simultaneously. Specifically, a percentage point increase in book value per share and earnings per value could lead to a 0.804% and 1.969% increase in share prices. Notably, they explained about 31.1% variation of the dependent variable (share prices). In furtherance, the study performed another analysis, and this time included the variable of focus, thus corporate social responsibility, into model 2 to make a new model hence model 3. From the result in model 3, it was found that corporate social responsibility (CSR), book value per share (BVPS), and earnings per share (EPS) positively and significantly influence companies' share price. To be more specific, a percentage point improvement in corporate social responsibility activities improves the book value per share and earnings per share simultaneously, which ultimately influences companies' share price.

Moreover, including corporate social responsibility into the model explained a 31.2% variation in companies' share prices. The study aimed to assess further the relationship between the intercept of corporate social responsibility with earnings per share and book value per share, and share prices. Hence, model 4 was constructed to include those variables. In model 4, the study realized that CSR activities are beneficial to companies' book value per share and earnings per share. The results in model 4 confirm that increasing corporate social responsibility reporting could lead to positive outcomes regarding companies' share prices. In brief, the intercept of corporate social responsibility reporting with book value per share and earnings per share suggests that a percentage point increase in CSR could lead to an increase in share prices by 1.498%, 1.373%, and 6.546% at a 1% significance level, respectively.

In table 5, the estimations from the robust least square used for robust checks are displayed. The robust-check method results depict that the ordinary least square method correctly depicts the long-run estimations of the models constructed. It substantiates corporate social responsibility's pertinence to share price increase of companies listed on the Ghana Stock Exchange. Moreover, the results depict that corporate social responsibility positively influences the earnings per share and book value per share of listed companies. Therefore, a percentage point increase in corporate social responsibility could significantly increase their share prices by 1.703%, 1.498%, and 2.292%, respectively.

The tests for the models' fitness signal that all models had good statistical powers for the analyses performed. The test for heteroskedasticity confirms that none of the models had heteroscedasticity. Also, the robust check method was statistically stable for its inference.

Table 4 Estimation of models (Ordinary least square method)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
CSR			1.703 (1.063)***	1.498 (0.756)***
LNMV	-0.144 (-0.981)			
LNEARN	0.167 (2.624)**			
BVPS		0.804 (3.445)***	0.781 (3.336)***	0.231 (0.420)***



EPS		1.969 (2.612)**	2.048 (2.704)**	4.904 (1.976)**
BVPS*CSR				1.373 (1.018)**
EPS*CSR				6.546 (1.218)**
C	3.252 (1.421)	0.957 (2.393)**	1.569 (2.240)**	1.456 (1.787)*
R-squared	0.045	0.311	0.312	0.319
Adj. R-squared	0.032	0.298	0.298	0.296
F-statistics	3.517**	32.571***	22.110***	13.519***
Heteroskedasticity test	764.481	21.726	20.629	23.505
Prob.	1.000	0.652	0.713	0.548

Note: T-statistics are in parentheses. *** p<0.01, ** p<0.05, * p<0.1 P=Share price, CSR= Corporate social responsibility, MV= Market value, BVPS = Book value per share price, EPS = Earnings per share, EARN = Earnings, BVPS*CSR= Book value per share * Corporate social responsibility, CSR*EPS = Corporate social responsibility*Earnings per share.

Table 5 Estimation of models (Robust least square method): Robust check

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
CSR			2.292 (2.623)**	1.498*** (0.756)**
LNMV	-0.144 (-0.981)			
LNEARN	0.167 (2.634)**			
BVPS		0.804 (3.445)**	0.781 (3.336)**	0.231 (0.420)**
EPS		1.969 (2.612)**	2.048 (2.704)**	4.904 (1.976)**
BVS*CSR				0.162 (1.018)**
EPS*CSR				0.560 (1.218)**



C	3.252 (1.421)	0.957 (2.394)**	1.569 (2.240)**	1.456 (1.787)*
LR-statistics	7.034**	65.143***	66.330***	67.593***
Ramsey Reset test	7.271**	8.571**	9.454**	6.186**

Note: Z-statistics are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ P=Share price, CSR= Corporate social responsibility, MV= Market value, BVPS = Book value per share price, EPS = Earnings per share, EARN = Earnings, BVPS*CSR= Book value per share * Corporate social responsibility, CSR*EPS = Corporate social responsibility*Earnings per share.

Finally, as shown on Table 6, the CSR coefficient is significantly higher for companies operating in environmentally-sensitive sectors comparing with those operating in non-sensitive industries (vs.; p value of the t test =), thereby supporting the third hypothesis. That is to say, CSR disclosure by companies operating in environmentally-sensitive industries is associated with higher market valuations than those companies operating in nonsensitive industries.

5. Discussion

This paper investigated the relationship between the rating of CSR disclosure and the share price of companies registered in GSE. By employing Feltham and Ohlson (1995), modified model, this study found that CSR disclosure provides value: the companies with higher CSR rating appears to have higher stock prices. CSR disclosure provides comprehensive value-relevant information to stakeholders apart from other financial information. This encounter that CSR reporting is a part of a company's communication strategy aims to decrease asymmetric information among investors and managers (Hung, Shi, & Wang, 2013; Schadewitz and Niskala 2010). Hence, CSR disclosure benefits the company's since it can lead to a decrease in the risk of adverse selection by investors or stakeholders and higher market valuation of company shares (Reverte 2016).

Hypothesis 1 of the study found positive beta coefficients and significance in Ghana's context. These result of the study consistent with a recent study of Zuraida, Houqe, & Van Zijl (2018), who found that CSR disclosure is valuable and relevant, the firms having disclosure of non-financial information seems to have a higher stock price. Also, Brunelli and Delvaile (2020) found a positive link between non-financial information and stock price disclosure. In contrast, the study's findings inconsistent with Ilmi, Kustono, & Sayekti (2017) conclude the insignificant relationship between CSR disclosure and share price. Moreover, it shows that ambiguity between managers and shareholders are existing. This study result proposed that CSR disclosure is substantial to link CSR performance to future financial performance, which is pertinent for stakeholder decision making. This study contributes to CSR disclosure of existing literature by delivering evidence on the value relevance of CSR reporting in the context of developing countries other than the traditional UK and US institutional settings.

This study investigated CSR disclosure's importance and the direct effect of CSR disclosure on stock price and the effects on earning and a book value of equity. The CSR disclosure also influences stock prices indirectly, given the fact that CSR disclosure leads to lessening the economic uncertainty, lower risk for investors, and more predictable earnings. This study proposed that CSR disclosure influences the marketability to expect future changes regarding earnings (De Klerk, De Villiers, & Van Staden,



2015), increases the estimation for the level of an organization's future cash flows, or decreases the variation of its cash flows (Barth, Cahan, Chen, & Venter, 2017). This study supported CSR disclosure's indirect influences through moderation on book value's value relevance and earning of equity. Hypothesis 2 was supported with positive coefficients in all the models. This study proposes that CSR disclosure influences the market's fluctuations to increase investment and alleviate financing (Ruonan and Hong 2019), anticipate upcoming earnings

per share, enhance the firm's level of cash flows, and lessen the firm's variability's cash flows. Indeed, Zhong and Gao (2017) investigated the effects of CSR disclosure under-investment shadow and found CSR disclosure and investment efficiency is more vital for organizations with lower financial reporting quality. Moreover, Ruonan and Hong (2019) disclose non-financial information offers adequate information that contributes to lessening asymmetrical information and promotes investment and cash flows.

Moreover, this study evidences the CSR reporting by firms operating in highly sensitive industries is linked with greater share prices than firms operating in less sensitive industries. The results of these findings consistent with (Reverte 2016; Fatemi, Glaum, & Kaiser, 2018). The companies operating in the sensitive environment have increased uncertainty regarding future liabilities and potential litigation and thus are exposed to a broader public concern level (Ellimäki, Gómez-Bolaños, Huartado-Torres & Aragón-Correa, 2019; Cormier and Magnan 2007). From this perspective, CSR reporting provides information that enables investors to evaluate better such risks, which is revealed in the market valuation of companies' shares. Besides, we have to consider that CSR reporting needed firms to commit financial resources and efforts to voluntary initiatives in Ghana and other countries. Henceforth, hypothesis 3 support with with positive coefficients and significance. Also, Siregar and Maksum (2018) examined the moderating role of CSR between systematic risk, earning response coefficient, and earning persistence.

6. Conclusions

Globally, shareholders and stakeholders use the company's financial information through annual reports to make better decisions related to their investment and interest in the company. These reports also contain the operational and strategic activities of the firms. Moreover, the other type of information is considered non-financial information (for example, environmental and social information in CSR reports) of firms. The CSR disclosure created debates among the stakeholders. The study results confirm that CSR reporting is promoted with increased valuations; this study delivered evidence for involvement in such a strategy. The study findings do not call that all firms should be necessitated to provide CSR information. It may be the case that only the firms for which CSR reporting is pertinent mainly provide such information.

This study also has a few limitations, Such as this study only focused on companies registered with GSE and used five years of data of the 25 companies. A few companies did not publish any sustainability reports; hence, an average was used to calculate. Hence the results of the study may variate in future studies. The study's main limitation includes the CSR score employed may be potentially subjected to assessment error, and therefore study result should be interpreted with extra caution. The study's future direction involves comparing local and multinational companies operating in the country and adopting CSR activities. Moreover, this study proposed to be employed in other developing countries. This study's potential extension should be directed at investigating the individual components of CSR reporting (e.g., environmental, governance, and social) to examine whether potential investors



distinctively value them.

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