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Corporate giving as earnings quality signal: some new evidence from Nigeria

Murumba Inekwe¹

¹ Federal Polytechnic Idah

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Abstract

Purpose – The purpose of this paper is to re-examine the effect of CSR disclosures on earnings quality in Nigeria beyond the conventional wisdom of statistical significance.

Design/methodology/approach – The sample consists of 300 company-year observations from 2013 to 2018 of listed companies on the Nigerian Stock Exchange. The research hypothesis was tested using multivariate linear regression on the total sample and subsamples. Pre-study statistical power analysis was carried out to ensure that the study is adequately powered to detect an effect if it exists.

Findings – The main results suggest that corporate giving is not related to earnings quality. Though, additional analysis for the income-decreasing subsample was statistically significant, the effect size for both the primary and additional analyses is weak, negligible, and unlikely to be of any practical significance. The results retained their robustness after further analysis.

Practical implications – The findings could inspire policymakers and regulators to shift attention to other areas of CSR that matters. It could also serve as an input to the current debate on CSR, especially the ongoing consideration of a Bill for an Act to regulate corporate giving in Nigeria.

Originality/value – This is probably the first papers to provide critical results index needed for substantive comparison of future studies. Hence, the paper serves as a baseline for future research on the topic.

Keywords Earnings quality, Corporate giving, Corporate social responsibility disclosures, Effect size, Confidence intervals.

1. Introduction

Apart from the fact that corporate social responsibility (CSR) activities and reporting has become a regular practice in

business (Inekwe et al., 2019), and a salient subject matter in shareholder meetings, and public discourse (Jauernig and Valentinov, 2019), it has emerged as an important academic construct (Sanclemente-Téllez, 2017). Although a considerable amount of literature has been published on CSR (Bonsón and Bednárová, 2015), of recent attention has shifted from the link between CSR and corporate financial performance (Chih et al., 2010; Inekwe et al., 2020) to the role of CSR in improving financial reporting quality (Moratis and van Egmond, 2018). Despite this theoretical contention relating CSR to financial reporting quality, empirical evidence in support of such a relationship is limited. The few available results are conflicting. For example, some studies found that CSR engagement may be linked to firms reporting earnings of higher quality (e.g. Pyo and Lee, 2013; Timbate and Park, 2018). Other studies failed to find such a relationship (e.g. Moratis and van Egmond, 2018; Rahmawati and Dianita, 2011). One feature of these prior studies is that their conclusions were reached on the bases of a statistical significance (p value) research design. Hence, the studies have missed out an important aspect of the research design that is capable of providing insights into the practical significance of the results.

It is against this backdrop and conflicting results that this paper seeks to re-examine the effect of corporate giving on earnings quality with a research design that is practical significance focused. The study is important and contributes to the understanding of the limitations of overdependence on statistically significance results, particularly in an overly neglected setting, developing economy context which lack the luxury of large samples obtainable in the developed economy. The issue is worth looking into because statistical significance is usually related to large sample (Peeters, 2016; Sullivan and Feinn, 2012), and the fact that, more often than not, statistical significant relationship found in large sample studies are economically insignificant (Cuervo-Cazurra et al., 2013). In a similar vein, a statistically nonsignificant result could be practically significant (Sun et al., 2010). Transcending statistical significance, this paper could provide insights into the conflicting results obtained in past studies. Furthermore, this study is probably the first to provide vital results index (e.g., effect size and confidence interval) necessary for a useful comparison of future research results on this topic. This paper is also a response to the call by journal editors for the use of effect size (Michiels et al., 2016) as against the current practice of drawing conclusion solely on p value basis.

Thus, this paper fills this literature gaps in the relation of CSR to earnings quality research and addresses the following question:

RQ - Are firms that engage in corporate giving disclosure more likely to have higher earnings quality?

Based on a sample of 300 firm-year observations for the period 2013 – 2018 from listed companies on the Nigerian Stock Exchange (NSE), the findings suggest that corporate giving is philanthropic rather than a tool for earnings quality signal. Though the results of the main analysis suggest that corporate giving is not related to earnings quality, additional analyses based on signed discretionary accrual showed a significant positive relationship between CSR and earnings quality among the income-decreasing discretionary accruals subsample. This notwithstanding, both the primary and additional analysis results showed a weak and negligible effect of corporate giving disclosures on earnings quality.

The rest of the paper is organized as follows: Section 2 presents the literature review and hypothesis. Section 3 discusses the research methodology. The results and discussion of the results are reported in Section 4, and section 5 concludes the paper.

2. Literature review and hypothesis

2.1. *The state of CSR in Nigeria*

Historically, formalized CSR in Nigeria may be traced to CSR practices by multinationals in the oil and gas sector which focus on the provision of social amenities to the community of operations and remedying the effects of their extraction activities (Uadiale and Fagbemi, 2012). Whether the oil and gas firms effectively achieved this remains a fierce debate.

As it is in many other climates, currently CSR engagements in Nigeria is voluntary. It is also emerging and not well developed as it is the case in the Western world. Consistent with this development, a study that investigates the association between corporate environmental visibility and the level of CSR among listed selected firms (30) in Nigeria for the period 2006 – 2010, reported that, in no small extent, the level of CSR disclosures among the selected firms is low and still in its infancy stage (Uwuigbe *et al.*, 2011). Members of the National Assembly, during the deliberation of the amendment to Financial Reporting Council Act, 2011 to align with CSR proposed Bill, also noted the fact that CSR in Nigeria has remained at a developmental stage (Olatunji, 2018). Furthermore, it has been observed that in Nigeria, CSR is perceived and practiced as corporate philanthropy (Amaeshi *et al.*, 2006; Ihugba, 2012).

Recently, attempts have been made by the government to make corporate philanthropic contribution mandatory. To this end, in 2008, a Senate member sponsored a Bill for an Act to provide for the Establishment of CSR Commission (Nwagwu, 2016). The Bill provides the following among others as functions of the Commission: to ensure that a company undertakes activities of not less than 3.5 percent of its gross annual profit for that year; ensure that companies are accountable not only to employees and their trade unions but to investors, consumers, host communities and the wider environment; sanction through fines or offer incentives to companies who default or comply with CSR rules and principles.

Besides the CSR Bill, a Bill to amend the Financial Reporting Council Act 2011 to reflect CSR has been proposed. The Bill has scaled the second reading of the National Assembly and committed to the relevant committee for further input (Olatunji, 2018). One of the key proposed amendments is that there shall be a mandatory percentage of CSR responsibility requirement by companies that earned an average of N50,000,000 and above in profits in three succeeding years. Although, the Bills are yet to be passed into law, the foregoing reconfirm the assertion that CSR in Nigeria is mainly centred on corporate philanthropic giving.

2.2. *Theoretical considerations*

The association between earnings quality or EM and CSR may be considered from several theoretical standpoints. Regarding this study, agency theory, stakeholder theory, and legitimacy theory are considered relevant in positing a relationship between corporate giving and earnings quality.

Agency theory hinge on the separation of corporate ownership from management. It assumes that managers, as agents

are self-seeking (Miles, 2012). In trying to keep the managers (agents) under control to perform in the best interest of the owners (principal) costs is incurred. Thus, an association between EM and agency theory is documented in prior studies because EM heightens agency costs (Prior et al., 2008). Herein lies the body of the concept of earnings quality or EM. Pratt (Hodge, 2003, p. 41) define earnings quality as the “extent to which net income reported on the income statement differs from true earnings”. In other words, earnings quality or EM captures the degree to which the amount of earnings represents the firm’s results (Dichev et al., 2016). Alternatively, EM can be described as management use of judgement in accounting policy choices in representing the desired level of earnings over a particular reporting period (Drever et al., 2007).

Furthermore, CSR practices by firms are viewed as a sign of agency problem (Laguir et al., 2019). This perception gave rise to the notion of managers’ use of CSR for self-entrenchment (Choi et al., 2013; Prior et al., 2008). However, recently a body of literature predicated on the element of information asymmetry of the agency theory is emerging. This aspect of the theory posits that various information as it relates to the performance of the firm can be used to decrease asymmetries (Bonsón and Bednárová, 2015; Lemus, 2016). Given this line of thought, CSR is viewed as relevant to information asymmetry reduction. CSR performance disclosures have information asymmetry reduction capacity (Dhaliwal et al., 2014). Consistent with this argument, a study by Hu *et al.* (2019) provide evidence that CSR reports publications reduces the information asymmetry and therefore decrease the likelihood of fraud.

Another theory considered is the stakeholder theory. The theory implies that organizational stability and progress rely on achieving both its economic and noneconomic goals by fulfilling the needs of the various stakeholders of the firm (Rahim et al., 2011). Given that stakeholder theory concerns how to behave responsibly or appropriately towards stakeholders (Rahim *et al.*, 2011), it is linked with CSR (Öberseder et al., 2013). This line of thought can be gleaned from the definition of the concept of CSR. Though the definition of CSR is diverse in the extant literature, they tend to converge, to a large extent on the same elements. For example, CSR is defined by The World Business Council for Sustainable Development as the “continuing commitment by business to behave ethically and contribute to economic development while improving the quality of the workforce and their families as well as of the local community and society at large” (Fontaine, 2013, p. 112). Alternatively, it may be described as the economic, legal, ethical, and philanthropic expectation that firms are saddled with at a given point in a given society (Carroll, 1979; Carroll, 1991). According to Davis, CSR may also be seen as a “company’s acceptance of its social obligation beyond the requirements of the law” (Sanclemente-Téllez, 2017, p. 8).

The central ideas in the above definitions are the same. Thus, firms are challenged in managing several interests as stakeholders. Since the interest of these different stakeholders are diverse and occasionally in conflict (Schreck, 2009), this paper contends that the accuracy of reported earnings is of common interest to all stakeholders. It is, therefore, believed that a firm that is ethically sound in earnings quality apart from meeting an aspect of the needs of the stakeholders, trust, would also gain legitimacy. Where this element of transparency is lacking, CSR disclosures by firms tend to bear a semblance of marketing tools designed at improving corporate image (Boiral, 2013).

Legitimacy theory underscores how organizations are continuously seeking to ensure that they act within the norm and expectations of the society in which they operate (Bhutta and Saeed, 2011). In other words, compliance with societal

ethics and expectations are qualifications for a firm to operate (Bonsón and Bednárová, 2015). Thus, legitimacy theory is in harmony with stakeholder theory.

2.3. Hypothesis development

As highlighted earlier several theories have been used to study CSR. Empirical studies based on these theories have yielded different results. For example, using a sample of 225 firm-year observations of Saudi listed companies for the period 2015 to 2016, Habbash and Haddad, (2019) document that CSR is positively and significantly related to EM practices. In a similar vein, a positive relationship between CSR and EM was recorded by Uyagu and Dabor (2017). They used a sample of 52 Nigerian listed companies from the manufacturing sector, covering 2001 to 2015. Further, Prior *et al.* (2008) used a sample of 593 firms from 26 countries between 2002 and 2004 and concluded there is a positive impact of EM practices on CSR. However, the findings of Grougiou *et al.* (2014) suggest caution of the notion that CSR intensifies agency problems. Their study examined U.S commercial banks and found that though banks that engage in EM practices are also actively involved in CSR, the reverse relationship is not significant.

In addition to the foregoing, other studies provide evidence of a negative association between CSR and earnings quality. Consistent with this fact, Timbate and Park (2018) observed that past research that examined the consequences of CSR found that best corporate citizen firms report a higher quality of earnings than others. Calegari *et al.* (2010) found that CSR induces better earnings reporting quality. They studied 3,467 firms from 1991 to 2008 using KLD Social Rating developed from five categories (Community, Diversity, Employment relation, Environment, and Product quality) to proxy CSR. Also, in a sample of Chinese public listed firms covering 2003 to 2009, Qian *et al.* (2015) found a positive relationship between corporate giving and financial transparency. They equally find a significantly negative association between corporate giving and corporate misconduct for non-state-owned enterprises, but not for state-owned enterprises. Furthermore, a study by Pyo and Lee (2013) provides evidence that firms active in CSR are likely to report earnings of a higher quality. Other studies such as Choi *et al.* (2013) and Gras-Gil *et al.* (2016) find that CSR is negatively related to the level of EM.

The above results notwithstanding, several studies document no relationship between CSR and EM (see, e.g., Kim *et al.*, 2012; Moratis and van Egmond, 2018; Rahmawati and Dianita, 2011). Kim *et al.* (2012)'s study was based on KLD data from 23,391 firm-year observations covering 1991 to 2009. Moratis and van Egmond (2018), on their part, used 5,494 observations of U.S listed companies from 2003 to 2009 to arrive at their conclusion. In the case of Rahmawati and Dianita (2011), their conclusion was based on a sample of 27 Indonesian listed firms from 2006 to 2008.

The above review indicates that there is no empirical consensus on whether CSR disclosures enhance earnings quality or not. Hence, the issue of the relation between CSR disclosures and earnings quality remains an open empirical question. Since the theoretical considerations in this study takes the view that CSR activities disclosures can be a common denominator in satisfying the needs of diverse stakeholders for financial transparency, it is expected that a firm that engages in corporate giving disclosures is less likely to engage in EM, and therefore has higher earnings quality. Hence, the following hypothesis:

A firm that engages in corporate giving disclosures is more likely to have a higher level of earnings quality

Thus, a negative relationship between corporate giving (donations) and earnings quality (discretionary accruals) is expected. In other words, the more a firm indulge in corporate giving the less likely for the firm to indulge in earnings management.

3. Methodology

3.1. Data and sample description

Data were hand-collected from the annual reports of the Nigerian listed companies on the Main Board for the period 2012 to 2018. Consistent with prior studies dealing with EM, financial companies were excluded from the sample due to their peculiar nature. Also excluded are companies with insufficient data. In arriving at the sample for the study, any firm without corporate giving (donations) for two years and above were excluded, resulting in a total of 300 firm-year observations. The study covered the period between 2012 and 2018 because Nigerian listed companies adopted International Financial Reporting Standards (IFRS) on January 1, 2012. Thus, the contamination of current results by the effect of moving from the local accounting standards to the IFRS is unlikely. Furthermore, as at the time of the study year, 2018 was the most current available data as per the annual financial reports. It is worthy of note that though data was collected for seven years (2012-2018), only the period of six years (2013 – 2018) was available for the analysis because 2012 was lost in the computation of discretionary accruals. The sample selection procedure is summarized in Table I.

Table I. Sample description	
Description	No. of companies
Total number of listed companies on NSE Main Board	164
Financial services companies	(53)
Companies with insufficient data	(61)
Final sample	50
Period covered	6
Total observations	300

To ensure that the sample size possesses statistical power to detect an effect if, at all it exists, a power analysis test was conducted using online software, Free Statistical Calculators, Version 4.0. It is a power calculator designed for a-priori minimum sample size determination for multiple regression. Although power tables exist, power analysis conducted with an online power calculator or computer program is more reliable (Ellis, 2010).

For a one-tailed test with an input of the anticipated effect size of 0.10 desired statistical power level of 0.95, number of predictors 5 and alpha level of 0.05, the minimum required sample size was 204. With a total of 300 observations, this study can be said to be sufficiently powered to detect an effect if it exists. Past studies failed to provide information on effect size on which future research could take a clue. Hence, the anticipated effect size of 0.10 was chosen based on the authors' conviction that it is the smallest effect that could be considered important in the CSR association with earnings quality. In terms of coefficient of determination (r^2), an effect size of 0.10 only explains as little as 1 percent of the relationship. This approach is in line with the general guidelines advocated for effect sizes if previous findings and knowledge are lacking in the studied area (Kotrlík et al., 2011).

3.2. Variable measurement

3.2.1. Dependent variable

Earnings quality is the dependent variable in this study. Extant literature documents four attributes as earnings quality indicators. These are accrual quality, earnings persistence, earnings predictability, and earnings smoothness (Li, Abeysekera et al., 2014). Ewert and Wagenhofer (2015) evaluated these earnings quality measures, among others and concluded that higher discretionary accruals and smoother earnings reflect greater earnings quality. Hence, this study uses discretionary accruals as a measure of earnings quality. The use of discretionary accruals as a proxy for earnings quality or EM is consistent with past studies (e.g. Bilal et al., 2018; Orazalin, 2019).

Discretionary accrual is estimated using Kothari et al. (2005) model. The model improved on the Jones and modified Jones model by controlling for operating performance (Constantatos et al., 2016). The model is commonly used in prior studies (e.g. Bouaziz et al., 2020; Song, 2016). See Appendix B for discretionary accruals computation details.

In the primary analysis, the absolute value of discretionary accruals is used to proxy earnings quality while the signed value is used in the additional analysis. The use of absolute value is consistent with several prior research (e.g. Bouaziz et al., 2020; Ravenda et al., 2018). Use of the signed value of discretionary accruals in empirical studies is equally documented in extant literature (e.g. Chen et al., 2011; Francis and Yu, 2009). Higher values of ABS_DA convey low earnings quality. For the additional analyses, income-increasing accruals are consistent with low earnings quality while income-decreasing accruals convey higher earnings quality.

3.2.2. Independent variable

CSR disclosures, the independent variable of interest in this study is measured by CSR philanthropy (i.e. corporate giving). That is the amount of corporate donations made by a firm yearly as reported in the annual financial statements. The problem in the measurement of CSR is well documented in the existing literature. For example, it is argued that the operationalization of CSR is needlessly complicated (Prior et al., 2008). Consistent with this line of argument (Seifert et al., 2004) contend that measurement of CSR that is not in monetary terms lacks comparability across firms. Generally, CSR measurement based on charitable giving helps overcome the shortcoming of current disclosures which is incapable of

providing direct information on CSR expenditure (Moser and Martin, 2012).

Moreover, corporate donations are not only measurable, comparable across firms and time but are richly available and credible since external auditors review them in the course of annual audit (Lev *et al.*, 2010). In addition to the above, and though the use of corporate philanthropy as a measure of CSR is consistent with past studies (e.g. Qian *et al.*, 2015; Uyagu and Dabor, 2017), CSR is measured by corporate giving because it is the most reliable in the context of Nigeria. Measurement on the basis of diversity, employees, environment, and product, for example, are less developed in Nigeria. The natural logarithm of corporate donation amounts is used as a measure of CSR disclosure.

3.2.3. Control variables

Consistent with prior studies, several control variables were included. Studies indicate that the Big4 constrain EM more than non-Big4 (Eshleman and Guo, 2014a; Noor *et al.*, 2015), hence the inclusion of auditor firm size. It is expected that the BIG4 is associated with higher earnings quality. Leverage was included because many research document a relationship between EM and the level of leverage (e.g. Bassiouny, 2016; Goel, 2018). Higher leverage is expected to be associated with lower earnings quality. Return on assets (ROA) is included to control for profitability. The expectation is that increase in profitability is associated with higher earnings quality. The variable, financial distress, was included to controls for the effect of corporate distress on earning quality (Agrawal, 2015; Howe and Houston, 2016). It is predicted that financial distress is related to low earnings quality. Following (De Villiers and Marques, 2016), Year dummies is included to control for any effects specific to a particular year.

3.3. Model specification

The proposed hypothesis on the effect of CSR disclosures on earnings quality was tested using the following regression model:

$$ABS_DA = \beta_0 + \beta_1 CSR_{it} + \beta_2 BIG4_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 DIST_{it} + \text{Year dummies} + \varepsilon_{it} \quad (1)$$

where ABS_DA is the absolute value of discretionary accruals, as proxy for earnings quality; CSR is corporate social responsibility disclosures; BIG4 is the auditor type; LEV is financial leverage; ROA is return on assets as proxy for profitability; and DIST is financial distress. See Appendix A for variable definitions.

The Hausman test was performed to determine the more appropriate model specification. The results of the Hausman test indicates that the difference between the fixed effects and random effects is not statistically significant, χ^2 statistics of 9.10 ($p = 0.5224$). The result suggests that the random-effects model is more appropriate for this study.

The statistical analysis of the model was carried out using STATA software, version 14.0. However, given that STATA by default is two-tailed, the p-values were halved to arrive at the appropriate value for a one-tailed test (Acock, 2014), and

the confidence intervals recomputed to appropriate intervals.

4. Results and discussion

4.1. Descriptive statistics

Table II presents the descriptive statistics of the variables used in the research model. Given that the number of outliers is small and are not random errors, no action was taken on the outliers. Since the data points are not erroneous deleting or truncating such data will deprive it of its representativeness of the population (Wicklin, 2017).

Table II. Descriptive statistics					
Variables	Obs.	Mean	Std. Dev	Min	Max
ABS_DA	300	0.1020987	0.0993700	0.0002570	0.7672171
CSR_D	300	8.2464970	3.0255370	0.0000000	14.5491700
BIG4	300	0.6700000	0.4709984	0	1
LEV	300	0.5490922	0.2559437	0.04100330	2.2106880
ROA	300	0.0386454	0.1220907	-0.55196950	0.5395941
DIST	300	0.1100000	0.3134125	0	1

See Appendix A for variable definitions.

The mean value of discretionary accruals (ABS_DA) is 0.1021 with a standard deviation of 0.0994 while the minimum value and maximum value range from 0.0003 to 0.7672, respectively. The average amount of CSR donations (CSR_D) is 8.2465 with a standard deviation of 3.0255, while the minimum corporate donations are 0, and the maximum is 14.5492. It is instructive to note, however, that the minimum of 0 represents no donations by the firm in that year. In the selection of firms for the sample, to avoid pronounced gaps that could affect the results, any firm that has no donations above two firm-year was excluded. Therefore, any firm included in the sample has at least corporate giving for four firm-year out of the six firm-year under investigation. This approach gave rise to 19 firm-year observations without corporate giving, leaving a total of 281 firm-year observations with donations. Considering that the power analysis gave a minimum of 204 observations, it is believed that the 19 firm-year observation without corporate giving has no significant effect on the power of the study. Secondly, since the applicable firms categorically stated that they did not make any donations in those years, the observations were not treated as errors or missing values.

For the control variables, financial leverage (LEV) has a mean value of 0.5491 and standard deviation of 0.2559 with a minimum value of 0.0410 and a maximum value of 2.2107. Regarding return on assets (ROA), it has a mean value of 0.0386 with a standard deviation of 0.1221, and a minimum and maximum value of -0.5520 and 0.5396, respectively. Furthermore, on average, 67 percent of the sampled firms are audited by the Big4 audit firms (BIG4). Also, on average, 11

percent of the sampled firms are financially distressed (DIST).

4.2. Correlation analysis

Table III reports the pairwise correlation matrix, indicating the correlations among the independent variables.

Table III. Correlation matrix						
	CSRD	BIG4	LEV	ROA	DIST	L_TA
CSRD	1.0000					
BIG4	0.2198	1.0000				
LEV	0.0344	0.1235	1.0000			
ROA	0.2542	0.1040	-0.3441	1.0000		
DIST	-0.0395	0.0655	0.6223	-0.4951	1.0000	
L_TA	0.6670	0.2638	0.1826	0.1146	0.0374	1.0000

See Appendix A for variable definitions except L_TA is firm size measured by natural logarithm of total assets.

As seen in Table III, it is worthy of note that firm size as measured by the natural logarithm of total assets (L_TA) was initially included as a control variable. However, it was highly correlated with CSRD (0.67). Although the level of correlation between L_TA and CSRD is less than the rule of thumb benchmark of 0.80, an additional collinearity test confirmed that the variance inflation factor (VIF) value of L_TA as 27.31 and CSRD as 13.22. That firm size could be highly correlated to CSR is well documented in previous literature. For example, a study that used corporate citizenship index (3C-Index) to proxy CSR in Nigeria for the period 2013-2017, showed a significant positive relationship between CSR rating and the size of the firms. Hence, the firm size was dropped as a control variable in the current study. Upon dropping firm size as a control variable, the highest VIF among the variable was CSRD at 7.73 which is below the critical threshold of 10 (Montgomery et al., 2012; Wooldridge, 2013). Additional analysis shows that the removal of firm size as a control variable did not affect the magnitude or directions of the other variables.

This approach is consistent with the guidelines that high multicollinearity (VIF) can only be safely ignored if the variables with high VIFs are control variables (L_TA in this case) while the variables of interest are without high VIF (CSRD in this case) (Allison, 2012). So, since the variable of interest is highly correlated with the control variable, high collinearity cannot be safely ignored. Ignoring high collinearity may lead to spurious results. Furthermore, the existence of multicollinearity, even when the correlation coefficient is largely below the rule of thumb of 0.80 confirms the caution expressed by Field (2013), and Freund and Wilson (2003). These authors warned that low valued correlations might miss certain multicollinearity, and therefore the use of pairwise correlation is not very reliable.

4.3. Regression analysis results

Table IV shows the results of the multiple regression analysis. Before undertaking a discussion of the results, it is worthy to note that Wooldridge test of autocorrelation in panel data was performed. The results indicate that serial correlation is unlikely, $F(1, 49) = 0.419$, $P > 0.5206$. Also, the STATA histogram plot of the residuals suggests a near-perfect normal distribution, suggesting that heteroskedasticity is unlikely to affect the results.

Table IV. Regression results – full sample			
ABS_DA	COEF	SE	CI
CSR	-0.0022	0.0022	-0.0055 0.0011
BIG4	0.0055	0.0153	-0.0192 0.0302
LEV	0.1292	0.0323	0.0766 0.1818
ROA	0.1567	0.0624	0.0547 0.2587
DIST	0.0106	0.0280	-0.0355 0.0567
2014	-0.0034	0.0177	-0.0325 0.0257
2015	-0.0152	0.0177	-0.0443 0.0139
2016	0.0084	0.0176	-0.0206 0.0374
2017	-0.0038	0.0178	-0.0255 0.0331
2018	0.0194	0.0179	-0.0101 0.0489
CONS	0.0362	0.0275	-0.0090 0.0814
R ²	0.13		
Wald (χ^2 , p-value)	30.40 (0.001)		

The statistical tests are one-tailed for the variables. Variables are as defined in the model specification subsection.

The variable of interest in Table IV is CSR. The results show that the association between CSR and ABS_DA is negative and not significant, -0.0022 ($P > 0.162$, CI -0.0055 0.0011) (i.e. one-tailed). Therefore, though the sign was as expected the hypothesis is not supported. Thus, on the one hand, the current result is in contrast with Timbate and Park (2018), Pyo and Lee (2013), and Gras-Gil *et al.* (2016). On the other hand, this result is consistent with Moratis and van Egmond (2018) and Rahmawati and Dianita (2011). It is instructive to note that past studies cannot be completely relied upon to compare the findings of the current study. This is because these studies do not provide necessary results index (e.g. effect size and confidence intervals) that allows for a better comparison and enhance substantive conclusion.

In the current study, the narrow confidence interval width suggests that the results have a considerable level of precision, an indication that the statistical power of the study was adequate to detect the anticipated effect of 0.10 or even less. This notwithstanding, given the CSR coefficient of 0.002 and because CSR was log-transformed, the effect size, the shared variation between CSR and ABS_DA, r^2 (i.e. 0.00002²) is 4e-10 percent. This effect is considered too weak to be of practical significance. This finding is interpreted as inconsistent with the notion that corporate giving is used opportunistically by the firms.

For the control variables, ROA and LEV are found to be significantly positively related to ABS_DA (earnings quality) as shown by the confidence intervals. Hence, the relationship between leverage (LEV) and earnings quality is as expected. However, that of profitability (ROA) is not in line with expectation. The reason probably might be as a result of the use of absolute value to proxy earnings quality. Using the absolute value of discretionary accruals to proxy earnings quality (or EM) presupposes that all discretionary accruals are equivalently harmful to earnings management (Eshleman and Guo, 2014b). The BIG4 and DIST variables have a positive association with ABS_DA but not statistically significant as, indicated by the confidence intervals. None of the years is statistically significant.

4.4. Additional analysis

To test whether the relationship between corporate giving disclosure and earnings quality is conditional on the sign of the discretionary accruals, the research model was re-estimated (modified) with sub-samples. That is income-increasing discretionary accruals and income-decreasing discretionary accruals. For the details of applicable regression model see Appendix B.

Table V. Regression results - subsamples

	Panel A				Panel B			
	INCIN_DA				INCDE_DA			
	COEF	SE	CI		COEF	SE	CI	
CSRD	0.0020	0.0032	-0.0033	0.0073	0.0048	0.0026	0.0005	0.0091
BIG4	-0.0023	0.0191	-0.0337	0.0291	-0.0228	0.0182	-0.0527	0.0071
LEV	0.1497	0.0391	0.0854	0.2140	-0.0569	0.0466	-0.1336	0.0198
ROA	-0.0881	0.0813	-0.2218	0.0456	-0.4596	0.0888	-0.6057	-0.3135
DIST	-0.0328	0.0316	-0.0848	0.0192	-0.0542	0.0509	-0.1382	0.0295
2014	0.0020	0.0308	-0.0487	0.0527	0.0111	0.0219	-0.0249	0.0471
2015	-0.0166	0.0308	-0.0673	0.0341	0.0078	0.0215	0.0276	0.0432
2016	0.0000	0.0302	-0.0497	0.0497	-0.0078	0.0225	-0.0448	0.0292
2017	0.0055	0.0285	-0.0414	0.0524	0.0232	0.0268	-0.0209	0.0673
2018	0.0070	0.0289	-0.0405	0.0545	-0.0135	0.0266	-0.0573	0.0303
CONS	0.0003	0.0374	-0.0612	0.0618	-0.0667	0.0338	-0.1223	-0.0111
R ²	0.09				0.28			
Wald (χ^2 , p-value)	24.48 (0.006)				37.12 (0.000)			
Observations	154				146			

The statistical tests are one-tailed for the variables. Variables are as defined in the model specification subsection. INCIN_DA is income-increasing (positive) discretionary accruals while INCDE_DA is income-decreasing (negative) discretionary accruals

Results of estimation of the model (3) and (4) are summarized in Panel A and B of Table V. The results indicate, on the one hand, that CSR is not statistically significant in the income-increasing discretionary accruals (INCIN_DA) subsample. On the other hand, it is statistically significant in income-decreasing discretionary accruals (INCDE_DA) subsample, 0.0048 ($p > 0.031$, CI 0.0005 0.0091). However, the relationship is positive. This can be interpreted as; for every 1 percent increase in corporate giving, earnings quality decreases by about $4.8e-5$ among the income-decreasing discretionary accruals subsample. Even though this result seems to support the notion that CSR is used opportunistically by corporate managers, the effect size of $4.8e-5^2$ (i.e. $2.304e-9$) is weak, negligible and possibly of no practical importance. The result provides insights into the issue of contradictory results reported in prior research. That is, using an absolute or signed discretionary accruals could lead to conflicting results. Furthermore, this result reaffirms the caution sounded in the extant literature about over-emphasizing statistical significance because it may not translate to practical significance.

Regarding the control variables, only LEV is significant and positive in the income-increasing discretionary accruals subsample. This indicates that among the income-increasing subsample, as leverage increases, earnings quality decreases. For the income-decreasing discretionary accruals sub-sample, ROA is significant and negatively related to INCDE_DA. This result suggests that an increase in profitability is associated with higher earning quality. All other control variables, including the years are not statistically significant.

4.5. Robustness and sensitivity tests

To check the robustness and consistency of the results, a number of robustness and sensitivity tests were performed (untabulated for brevity). First, an investigation of the robustness of the results with an alternative proxy for CSR disclosures was carried out. Following Ding *et al.* (2018) and Bowman and Haire (1975) who used CSR word count and some mention of CSR in the annual reports respectively, CSR disclosure was measured by the mention of CSR or its various synonyms in the annual reports. The results are consistent with corporate donations proxy. However, the sign of the relationship was positive. Second, Grougiou *et al.* (2014) pointed out that CSR and earnings quality might be endogenously determined. Research studies have demonstrated that endogeneity could be driving most of the empirical findings in corporate social performance research (Garcia-Castro *et al.*, 2010). Hence, a further analysis using two-stage least squares (2SLS) estimation was conducted. The results of the second-stage regression, which contain the residuals obtained from the first-stage as a variable indicate that the residual is not statistically significant ($p > 0.738$). This suggests that CSR is not endogenous. Thus, the possibility of a reverse relationship running from earnings quality to CSR disclosures is precluded.

Furthermore, to check that the inclusion of year dummies did not drive the results, re-estimation was performed without year dummies in the models, and the results remained similar to the primary results. Also, to check if the results are sensitive to outliers, the continuous variables were winsorized except those that are logged, at 1 percent level on each tail. This approach is consistent with past research (e.g. Allen *et al.*, 2013; Li, Luo, *et al.*, 2014). The results indicate that

outliers do not noticeably affect the regression estimations. Finally, the models were re-estimated using the robust standard error to check whether heteroskedasticity and serial correlation was a problem, but the results remained unchanged.

5. Conclusion, implications, and future research

This paper examines the relationship between CSR disclosures and earnings quality in the context of Nigeria, a developing economy. It was hypothesized that firms that engage in corporate philanthropy disclosures are more likely to provide higher earnings quality. The findings do not support the conjecture. The results of the additional analysis show that CSRD is positive and significant among the income-decreasing discretionary accruals sub-sample. However, even though the results indicate that increase in corporate giving is related to increased conservative accounting (income-decreasing subsample) it is instructive to note that the effect size, both for the primary results and the sub-sample are weak, negligible, and therefore unlikely to be of any practical significance. Thus, the results suggest that corporate giving is not likely to be an agency problem in Nigeria. Taken together, corporate giving in Nigeria could be said to be philanthropic and not a signal for earnings quality.

The results are robust to a battery of robustness and sensitivity tests. By reporting statistical power, effect size and confidence interval, this study provides the necessary benchmark for comparison of future studies.

This study has important policy implications. First, the current study provide an interesting contrasts to the initial study on the relationship between corporate giving and earnings management in Nigeria by Uyagu and Dabor (2017). Their findings led them to call for a regulation of the maximum amount that could be expended on corporate giving in Nigeria. In contrast, the current results suggest that corporate giving is not detrimental to earnings quality in Nigeria. The practical implication of this findings is that since corporate giving is intended by companies to give back to the community and/or society in which the operate, the current study could serve as the basis for policymakers and regulators to pay more attention at bringing more companies into the corporate giving net rather than concern themselves with the effect of corporate giving on earnings quality. Secondly, the findings from this study could provide the members of the legislature with the necessary input in the current debate in the consideration of a Bill for an Act to regulate CSR in Nigeria.

On the theoretical level, the implication of this research findings is twofold. First, the results indicate that the use of only unsigned discretionary accruals as a measure of earning quality or financial reporting quality without undertaking sensitivity test of an alternative model using signed discretionary accruals or verse versa could, in part explain many of the conflicting findings reported in previous studies. Second, the study provides academics and researchers with insights into the warning (though neglected) in extant literature that research results could reach statistical significance without being of practical or economic importance.

As with all studies, this research is subject to a number of limitations. First, this study is based on firms listed on the NSE. Therefore, generalization of the results to other countries is limited. Second, the results from the sub-samples should be interpreted with caution. Although the confidence interval ranges from the sub-samples suggest that the study possesses

power in this regard, one may not be certain since the pre-study power determination was focused on the entire sample. Therefore, having the sample divided into sub-samples could reduce the predetermined power. This notwithstanding, the confidence interval range helps in overcoming the limitation to a large extent. Second, given computational differences of discretionary accrual between financial and non-financial companies, the study excludes companies in the financial services industry.

Appendix

Appendix A. Variable definitions

Variable	Definition
ABS_DA_{it}	the absolute value of discretionary accruals for firm <i>i</i> in year <i>t</i> (see Appendix B)
CSR_{Dit}	CSR disclosures for firm <i>i</i> in year <i>t</i> measured by the natural logarithm of the amount of philanthropic donations
BIG4_{it}	auditor type for firm <i>i</i> in year <i>t</i> measured as a dummy variable that equals 1 if the firm is audited by the Big4 and 0 otherwise
LEV_{it}	financial leverage for firm <i>i</i> in year <i>t</i> measured as total liabilities divided by total assets
ROA_{it}	the return on assets for firm <i>i</i> in year <i>t</i> measured as net income before extraordinary items divided by total assets
DIST_{it}	financial distress for firm <i>i</i> in year <i>t</i> measured as dummy variable that equals 1 if firm is distressed and 0 otherwise (see Appendix C)

Appendix B. Measurement of dependent variable, earnings quality

For the main analysis, absolute discretionary accruals are the measure of the dependent variable, earnings quality. In additional analyses, however, the total sample was decomposed into subsamples (income-increasing and income-decreasing) and signed discretionary accruals was used. Kothari *et al.* (2005) was used because it is an improvement on

earlier models controlling firm's performance (Constantatos *et al.*, 2016). Thus, in the determination of earnings quality, the following models is estimated:

$$TA_{it} / A_{it-1} = \beta_0 + \beta_1(1 / A_{it-1}) + \beta_2(\Delta REV_{it} / \Delta REC_{it} / A_{it-1}) + \beta_3(PPE_{it} / A_{it-1}) + \beta_4ROA_{it-1} + \varepsilon_{it} \quad (2)$$

$$INCIN_DA = \beta_0 + \beta_1CSR_{it} + \beta_2BIG4_{it} + \beta_3LEV_{it} + \beta_4ROA_{it} + \beta_5DIST_{it} + \text{Year dummies} + \varepsilon_{it} \quad (3)$$

$$INCDE_DA = \beta_0 + \beta_1CSR_{it} + \beta_2BIG4_{it} + \beta_3LEV_{it} + \beta_4ROA_{it} + \beta_5DIST_{it} + \text{Year dummies} + \varepsilon_{it} \quad (4)$$

where TA_{it} is total accruals for firm i in year t , ΔREV_{it} is change in revenue for firm i in year t , ΔREC_{it} is change in receivables for firm i in year t , PPE_{it} is the gross property, plant and equipment for firm i in year t , ROA_{it-1} is return on assets for firm i at the end of year $t-1$; and ε_{it} is the residual for firm i in year t . Eq. (3) and Eq. (4) are decomposition of Eq. (2) based on the sign values of discretionary accruals. $INCIN_DA$ is income-increasing discretionary accruals, and $INCDE_DA$ is income-decreasing accruals. All variables were deflated by total assets at the beginning of the year to control for heteroskedasticity. Total accruals were estimated as net income before extraordinary items (i.e. other comprehensive income) minus cash flow from operations. Discretionary accruals which are the residuals of Eq. (2) is estimated by subtracting non-discretionary accruals from total accruals.

Appendix C. Financial distress variable construction

Financial distress was computed based on Zmijewski's x-score model. The model is widely used in extant literature for predicting corporate distress (Waqas and Md-Rus, 2018; Md Nasir *et al.*, 2018). The Zmijewski's model is given as follows:

$$X\text{-Score} = -4.336 - 4.513X_1 + 5.679X_2 - 0.004X_3 \quad (5)$$

where X_1 = net income/total assets, X_2 = total debt/total assets and X_3 = current assets/current liabilities. Upon the computation of X-Score, firms with values above 0.5 were categorize as distress (an indicator variable which equals 1) while those with values up to 0.5 are regarded as non-distress (an indicator variable which equals 0).

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