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CSR Practice and Asymmetry Information of Indonesian Public Listed Companies

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ABSTRACT

Our study examines the relationship between Corporate Social Responsibility (CSR) practice and asymmetry information in the Indonesian Stock Exchange. We conjecture that these two concepts are negatively associated. To empirically test their association, we use the availability of CSR report, environmental score, and social score as the surrogate indicators of CSR practice. While, bid/ask spread (BAS) and price volatility (PV) are employed as the proxies of Asymmetry information. Using the quarterly data spans from the second quarter of 2012 to the fourth quarter of 2016, we collect as many as 39 companies that voluntarily disclosed their CSR-related information. To investigate the importance of CSR practice in the truncation of asymmetry information, we use the univariate analysis and multivariate analysis. We find that CSR practice is negatively associated with the asymmetry information. Our results remain consistently after we control for the firm-specific, year, and industry fixed-effect.

SARI PATI

Penelitian kami menguji hubungan antara praktik Corporate Social Responsibility (CSR) atau tanggung jawab sosial perusahaan dan asimetri informasi di pasar modal Indonesia. Kami menduga bahwa kedua konsep tersebut saling berasosiasi negatif. Agar dapat menguji asosiasinya secara empiris, kami menggunakan ketersediaan laporan CSR, skor lingkungan, and skor sosial sebagai indikator wakil dari praktik CSR. Sementara itu, bid/ask spread (BAS) dan volatilitas harga saham (PV) digunakan sebagai proksi dari asimetri informasi. Dengan menggunaan data quarter mulai dari quarter kedua tahun 2012 sampai dengan quarter keempat 2016, kami mengumpulkan sebanyak 39 perusahaan yang secara sukarela mempublikasikan informasi yang berhubungan dengan kegiatan CSR. Untuk menginvestigasi pentingnya praktik CSR dalam mengurangi asimetri informasi, kami menggunakan analisis univariat dan multivariat. Kami menemukan bahwa praktik CSR berasosiasi negatif dengan asimetri informasi. Hasil yang kami peroleh juga konsisten setelah melakukan kontrol terhadap firm-specific, tahun, dan industry fixed-effect.

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INTRODUCTION

Research on management accounting indicates that key stakeholders are starting to questioning the full value of financial performance, particularly in explaining the risks and potential business opportunity in the future (E&Y, 2017). The report of Reputation Institute in 2018 additionally documents that the importance of financial performance to key stakeholders (Investors, consumers, and employees) has dropped by 6.5 percent. This is not because the key stakeholders not consider the financial information as they used to, but it is due to the CEO activism, and companies' attention to the sustainable development are outperforming the companies which solely focuses on financial indicators. The key stakeholders believe that either CEO or companies engagement in social and environmental issue will be able to generate positive and better performance in the future (E&Y, 2017; KPMG, 2017; KPMG, 2015; Reputation, 2018)

Disclosing nonfinancial information regarding the environmentally and socially responsible action is considered as company discretion (Odriozola & Baraibar-Diez, 2017; Simpson, 2010). The decision to publish CSR-related information to the public is also based on the cost and benefit analysis (Bagnoli & Watts, 2017). If the manager through his/her discretion believes that the obtained benefits would be able to outweigh the cost of engaging and reporting in CSR-related activities, the companies incline to engage with CSR reporting practice and *vice versa* (Bondy, Moon, & Matten, 2012). In this circumstance, prior studies have empirically tested the benefits of disclosing nonfinancial information to the public. Take, for instance, voluntary disclosure of nonfinancial information can help the companies to increase the number of following analysts, broaden the analyst coverage, and minimize the plausibility of analysts forecast error (Botosan & Harris, 2000; Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012). This is also followed by the opportunity with better access to finance and lower level of cost of capital (Dhaliwal, Li, Tsang, & Yang, 2011).

The positive benefits of voluntary disclosure can only be perceived by the companies if they properly engage in CSR-related activities, and further disclose the information in fair and adequate manner. For example, the study of Odriozola & Baraibar-Diez, (2017) documents that the disclosure of environmental, social, and governance information is inherent in regards to the CSR strategy. By having the sample from Ibex35 companies (stock market index of the Bolsa de Madrid) with the time period of observation spans from 2006 to 2011, they report that the increasing number of reported information and its quality positively associated with the likelihood of having a higher reputation in the future. This could be considered as a signal that voluntary decision to report the CSR-related information is not only deemed as the media for legitimacy, but also as the media to truncate the level of asymmetry information among stakeholders. In line with the study of Cho et al., (2013), CSR performance measured by KLS STAT helps the stakeholder to diminished the level of asymmetry information as surrogated by bid/ask spread.

Nonetheless, apart from the positive impact of engaging with CSR-related information, there is a constant discussion among the academia that providing CSR report is related to impression management tool, camouflaging tool, greenwashing effort, and deemed as strategic reputation risk management (Adams, 2008; Alon & Vidovic, 2015; Bebbington, Larrinaga, & Moneva, 2008; Cho, Michelon, & Patten, 2012; Michelon, Pilonato, & Ricceri, 2015; Michelon, Pilonato, Ricceri, & Roberts, 2016; Neu, Warsame, & Pedwell, 1998; Parguel, Benoît-Moreau, & Larceneux, 2011). Also, disclosing nonfinancial information is utilized as the tool to manage the investors' and stakeholders' perception (Aerts & Cormier, 2009; Bebbington, Larrinaga-González, & Moneva-Abadía, 2008; Cormier & Magnan, 2015; Milne & Patten, 2002). The paper of Michelon et al., (2016) shows that there is a nuance that a particular camouflaging motive is employed in the process

of sustainability reporting. They note that there is a potential that engages in sustainability reporting from the perspective of social and accounting research, related to the concept of hypocrisy, organization facades, and functional stupidity of the organization or institution (Michelon et al., 2016). Moreover, the study of Merkl-Davies & Brennan, (2007) points out that as long as the voluntary disclosure of nonfinancial information is not well-regulated in a specific legal framework, there is always a room for an impression management motive in the reported information. This situation is eventually quite tricky and problematic since it might not help the stakeholders to decrease the level of asymmetry information, but lead to the increased number of misleading information.

Concerning the exposition of prior studies, our study is questioning whether the companies with CSR disclosure can help the investors in truncating the level of asymmetry information? Further, is environmental score can better help the investors to convince themselves that companies have properly behaved in a more responsible way to the sustainability of environment? Last, we are questioning whether the CSR practice measured with the social score help the investors to understand better whether companies have behaved in more socially-responsible ways that lead to the decreasing level of asymmetry information. By actively engaging in CSR-related activities, companies are expecting the right to operate from the community and society. In this regard, companies have been dealing with a signaling process that the companies themselves have positively considered the sustainability either in environmental or social issues as important issues to be released in their CSR report.

The purpose of this paper is threefold. First, we investigate whether the voluntary disclosure of nonfinancial information (i.e., publishing CSR report) diminish the level of asymmetry information. Second, we study whether the environmental score plays a certain role in influencing the way companies disclosing their nonfinancial information and behaving in more responsible ways. Third, we seek whether the social score takes into account in truncating the level of asymmetry information. In this sense, our study contributes to understand better the role of CSR practice in offsetting the circumstance of asymmetry information in Indonesian Stock Exchange (IDX). This study is potentially expected to open a new venue for the plausibility of future research by empirically identifying the important role of disclosing CSR-related information. It may also be useful for the government as the regulator to design an appropriate rule relating to the sustainability in social, economic and environmental issue.

This paper further proceeds as follows: the section of introduction reflects the motivation, relevance of study and acts as the support for the baseline story in the development of our hypotheses. The section of literature review and hypotheses development provides literature support in the related field, particularly to strengthen the logic of association among the variable of interest. The research method provides the data and sample selection procedures, all together with the proposed statistical model in the empirical test. The section of results and discussion further elaborate the obtained results and the relevance of our results to advance the current knowledge in CSR studies. Finally, the last section is conclusion remarks and implication for the future.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Organizational Legitimacy and CSR practice

Literature in the CSR studies shows that there is an increasing number of stand-alone and integrated annual report with respect to CSR-related information (Cho, Michelon, Patten, & Roberts, 2015; Cho & Patten, 2013; Michelon et al., 2015). Companies decision to deal with the disclosure information could be due to several reasons. Take, for instance; companies have to obtain their right to

operate by effectively engage in environmental and socially responsible behavior. The right to operate is associated with business legitimacy, which is constructed from the social interaction. In this respect, Suchman, (1995) defines the legitimacy itself as a generalized perception or assumption that the action of an entity is desirable, proper, or appropriate with some socially constructed system of norms, values, beliefs, and definition (Suchman, 1995 page. 574). Due to the fact that companies operational activities mainly interact with the community, companies have to gain their legitimacy since their business operational activities are being scrutinized by the stakeholders (Cho & Patten, 2007; Patten, 1992).

As regard to the scrutiny of stakeholder, companies also have to consider the pressure from the institutional legal point of view. Take, for example, the study of Manchiraju & Rajgopal, (2017) discover interesting results, in which they investigate whether or not the companies compliance with CSR practice truly create value from a legal framework. In this case, they examine the impact of the Indian Companies Act 2013. Their results indicate that the regulatory change and pressure from the government cause 4.1 percent decrease in the stock price of firms forced to spend money in the CSR-related activities. Otherwise, firms that already spent and allocated a particular budget for addressing the CSR-related activities were not experiencing negative effect due to the law enactment. This suggests that when the companies voluntarily engage in good CSR reporting and truly provide the fair information to the public, will help the companies themselves either to obtained or to maintain the legitimacy.

Asymmetry Information and CSR practice

The literature in asymmetry information states that companies have private information that is not shared to the outsiders. In relation to the CSR studies, private information exists when the company decides to engage in disclosing nonfinancial information (Axjonow, Ernstberger, & Pott, 2016). Companies, through the manager as the decision maker, need to do the cost and benefit analysis whether the decision to disclose the CSR-related information will result in positive outcomes for the companies. Moreover, when the company decides to disclose the CSR-related information, they need to decide whether having the CSR report assured by the third-independent party or not. In the next stage, this is also followed by the decision whether to choose the assurance provider from the accounting profession, or from the certified body and or environmental consultants (Fifka, 2013). Stakeholders have no idea about the level of companies' engagement in the CSR-related activity. However, when the companies publish the CSR report, stakeholders can better observe what has been done and what the next steps that companies want to deal with (Bagnoli & Watts, 2017)

Companies decision to disclose their CSR-related information will enable the outsiders to better monitor the companies' impacts on the sustainability. Therefore, the circumstance of natural asymmetry information can be truncated when the report is released to public (Bagnoli & Watts, 2017). The investors and other key stakeholders can further observe the reported information and see whether the companies are complying with the environmentally and socially responsible activities. Prior studies have shown that there is no specific regulation about the disclosure framework since it is unregulated (Merkl-Davies & Brennan, 2007). However, there is a disclosure framework which is widely adopted by the companies around the worldwide called as Global Reporting Initiatives (GRI) (Brown, de Jong, & Levy, 2009; Hahn & Lulfs, 2014).

The decision of adopting a specific framework enable the companies to better provide the material information to public. The study of Beretta & Bozzolan, (2008) documents that the amount of disclosed information per se is not enough to help stakeholders to understand the degree of

companies' involvement on the CSR-related issue. They are aware that the increasing of complexity of the legal rules, business-riven contexts, and firms' strategies make the stakeholder face some difficulties in understanding the true value and the substance of financial information. Therefore, the explanation either related or non-related information to financial issue is needed. By having the additional nonfinancial information in the annual report, will enable the stakeholder to better assess the potential risk exposure and business opportunity (E&Y, 2017; KPMG, 2017; Martínez-Ferrero & García-Sánchez, 2016).

Signaling and CSR Practice

The literature in signaling theory documents that companies incline to do some corporate action to distinguish their position from the other competitor in the industry. In relation to the CSR-related information, companies' effort to disclose their CSR information to public could be considered as a signal that they have been trying to engage with the stakeholders' expectation. The study of Toms, (2002) reports that by utilizing the framework of corporate environmental reputation, there is a link to connect between the resource-based view of the firm and the reflection of quality of signaling through the accounting disclosure. In more detail, when the companies take into consideration the implementation, monitoring the action of environmental disclosure information, environmental strategy, policies, and further disclose them in the annual report will contribute to the increase of environmental reputation (Toms, 2002).

With respect to our notion, we conjecture that publishing the CSR information to public is considered as sending a signal. The logic is, this signal suggests that the companies try to distinguish their business with the other business entities in the same industry. CSR information will be further scrutinized by the public and stakeholders, in which allows the public to value the companies based on their engagement as informed in the reports. When the companies are recognized as having the positive impact on the sustainability of environment and social, the stakeholders will value the companies positively. At the same time, it is supposedly attracting more attention from the general public and investors who have huge concern about the sustainability issues. This, in turn, affects the level of asymmetry information, where the bid/ask spread is expected to get smaller. Also, the price volatility is expected to be more sustainable, due to the expectation that CSR information will drive the companies to acquire price premium and low cost of capital (see the studies of Dhaliwal et al., 2011; Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012; Espinosa & Trombetta, 2004 for further insight).

According to the discussion on the underlying theories, prior empirical studies which show us the empirical evidence of CSR practice-asymmetry information nexus, and the logic of research, we eventually proposed three hypotheses in investigating the association between the concept of CSR practice and asymmetry information. Hypothesis one, two, and three are available as follows.

Hypothesis 1: CSR reporting practice is negatively associated with asymmetry information.

Hypothesis 2: Environmental score is negatively associated with the asymmetry information.

Hypothesis 3: Social score is negatively associated with the asymmetry information.

Our proposed hypotheses are also visualized to better shows the CSR practice-Asymmetry information nexus. The concept of CSR practice and Asymmetry information is manifested into several proxies. The more detail relationship which links the association between CSR practice

and asymmetry information can be seen in the following Figure 1.

Figure 1 displays the overall idea of our research model. Initiated through the utilization of legitimacy theory, signaling theory, and asymmetry theory, we start our notion that companies' decision to voluntarily disclose nonfinancial information in CSR report will help the investors to truncate the level of asymmetry information. Therefore, our idea departs from the main two concepts (CSR report & asymmetry information), and we would like to further investigate these two concepts through an empirical analysis. To empirically deal with this issue, we employ several relevant proxies for manifesting the two concepts into several measurable indicators. The boxes under the dotted line are the proxies for our conceptual variables. Whilst, the lowest box is a number of control variables which are retrieved from the fundamental financial information.

METHODS

Data and Sample

The data in our study is collected from the Thomson Reuters EIKON data stream international. In this database, the information whether the companies publish their nonfinancial information is available in the sub-database of ASSET4. Moreover, the data of environmental and social score are also retrieved from the ASSET4 database. To further develop the data collection, we need the financial information. The data of financial information itself is collected through the EIKON database.

The procedure of sample selection refers to the purposive sampling method. We deliberately design several criteria in the sampling procedure. First, we only choose our sample which is publicly listed in Indonesian stock exchange (IDX). Second, we determine the timeline of study spanning from the second quarter of 2012 to the fourth

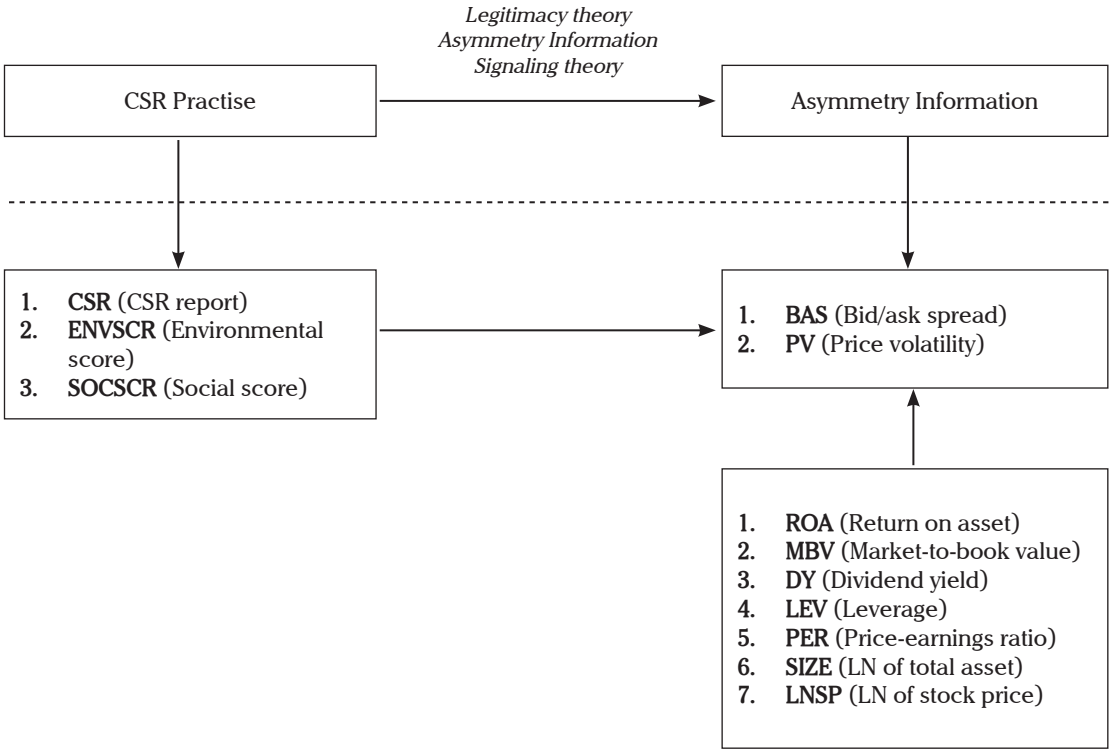

Figure 1. Reseach Model

quarter of 2016[1]. The reason we use quarterly data is due to the fact that companies provide their reporting based on the quarter budget allocation. Also, when the companies are dealing with CSR-related activities, the companies are not solely only using the annual or stand-alone CSR report, but they also timely circulate the news through many channels (e.g., video, website-based information, twitter, facebook, and or news channel). Third, the sample should indicate whether they have a stand-alone CSR report or CSR information in the annual report. Fourth, the sample should be indexed in the ASSET4 database to empirically extract the data of environmental and social score. Five, the sample should have the complete observation of financial information, in which we use the quarterly financial information from the first quarter of 2012 to the fourth quarter of 2016.

It is important to note that without controlling the proposed empirical model with a group of control variables, our results could be bear by the spurious conclusion as resulted from the endogeneity problem. We are aware that the endogeneity problem in the form of omitted variable bias could mislead our estimate (Baltagi, 2008; Mertens, Pugliese, & Recker, 2016; Pedhazur, 1997). Therefore, to better dealing with this issue, we employ seven control variables which are taken from the financial information (firms-specific). After dealing with the purposive sampling criteria, we finally end up with 39 companies, in which these companies have indicated the complete observations in our dataset. The information of sample selection procedure is shown in Table 1.

After meticulously identifying the sample, we discover that there are 39 public listed companies (PLCs) with complete observations, fundamental financial data, CSR/related information, environmental and social score. We find that companies from the coal mining (10.26 percent), real estate (10.26 percent), and banking industry (12.82 percent) are majority sample that voluntarily discloses their CSR-related information. This propensity directly shows that companies operating in environmentally and socially sensitive industry incline to engage in CSR reporting to

Tabel 1. Sample selection procedures

	Sample construction procedures	Number of companies (n)	Firm-quarterly observations
1	Companies listed in the Indonesian capital market until 2018.	592	11,248
3	Companies that have no CSR report data as covered by ASSET4 database from 2012 to 2016.	(530)	(10,070)
4	Companies with no Environmental and social score in ASSET4 database from 2012 to 2016.	(23)	(437)
5	Companies with complete observation and financial fundamental data (control variables).	39	741

Notes: Table 1 describes the procedures of sample selection with regard to the screening process from the Thomson Reuters EIKON data stream and ASSET4 database. The final sample is drawn for the specific queries in Indonesian equity market (IDX). The sample is also considered to bear with the issue of sample survivorship. However, we consider that by having the longitudinal study with balance panel data analysis will allow us to better understand the cross-section indication effect of engaging with CSR report.

[1] The study of Botosan & Harris, (2000) investigates the determinants of manager's decision to start quarterly segment reporting, and further identifies the effect of decision to report on the asymmetry information and the number of analyst following. Their study documents that when the companies initiated the quarterly segment of nonfinancial disclosure, it also triggers the increasing number of analyst following and the decreasing of asymmetry information

obtain the legitimacy from the key stakeholders. More detail sample distribution according to their industry is available in Table 2.

The sample as provided in Table 2 is extracted from Thomson Reuters EIKON data stream. To further classify the sample based on its industry category, we use the industry level 6 subsector name. In this case, level 6 groups mean that the data stream has classified the equities at the most detailed level appropriate. The companies are further grouped by main activity according to the sector definitions published by the FTSE (Financial Times Stock Exchange) actuaries.

Proposed Empirical Model

To empirically answer the proposed hypotheses, we need to transform the a priori hypotheses into an empirical predictive regression model. As indicated in the characteristic of sample, this study solely focuses on investigating whether the association between CSR practice and asymmetry information exist in the context of Indonesian *stock* exchange.

$$AI_{i,t}\,(BAS;PV) = \delta + \delta 1CSR_{i,t} + \delta 2ENVSCR_{i,t} + \delta 3SOCSCR_{i,t} + \delta \sum Controls + \delta \sum Years + \varepsilon$$

Tabel 2. Industry Group of sample

Industry Group	No of companies	Percentage (%)
Auto Parts	1	2.56
Banks	5	12.82
Building Mat.& Fix.	2	5.13
Heavy Construction	1	2.56
Fixed Line Telecom.	1	2.56
Food Products	1	2.56
Farm Fish Plantation	1	2.56
Food Products	1	2.56
Farm Fish Plantation	1	2.56
Gas Distribution	1	2.56
Broadline Retailers	1	2.56
Comm. Vehicles, Trucks	1	2.56
Nonferrous Metals	1	2.56
Transport Services	1	2.56
Broadcast & Entertain	3	7.69
Coal	4	10.26
General Mining	1	2.56
Mobile Telecom.	2	5.13
Personal Products	1	2.56
Pharmaceuticals	1	2.56
Real Estate Hold, Dev	4	10.26
Industrial Suppliers	1	2.56
Telecom. Equipment	1	2.56
Tobacco	2	5.13
Total	39	100

The above empirical model is the transformation of hypothesis adopted from Figure 1. In this regard, asymmetry information is considered as the function of CSR report, environmental score, social score and several other control variables. Asymmetry information (*AI*) as the dependent variable is proxied by two surrogate indicators, namely Bid/Ask spread (*BAS*) and price volatility (*PV*). Whilst, the independent variables of interest are CSR report, environmental score, and social score. In order to deal with the endogeneity problem, several controlling variables are employed. The usage of control variable is deemed pivotal to neutralize the confounding effect of the panel data analysis, in which the variation of the dependent variable is also explained by the firm characteristics and industry-specifics. Controlling variables with respect to firm-specifics are return on asset (*ROA*), market-to-book value (*MBV*), dividend yield (*DY*), leverage (*LEV*), price earnings ratio (*PER*), the logarithm natural of total asset (*SIZE*), and the logarithm natural of stock price (*LNSP*). Meanwhile, the industry-specific is measured by utilizing binary data for each industry category.

The subscript of $_i$ denotes the information for company $_i$ and the subscript $_t$ indicates the time period of data with regard to company $_i$. Variable asymmetry information is proxied by two dependent variables. First, variable $BAS_{i,t}$ denotes as bid/ask spread, and second, variable $PV_{i,t}$ denotes as price volatility. These two variables indicate the asymmetry information in the context of stock price indication. Apart from the dependent variable, the independent variable as written in the proposed empirical model is composed of; variable $CSR_{i,t}$ denotes as the CSR report published by the companies either in a stand-alone report or in a dedicated space in the annual report. Second, variable $ENVSCR_{i,t}$ indicates the environmental score of companies impact in their routine business activity. Third, $SOCSCR_{i,t}$ which reflects the social score of companies in their routine business activity. The following variables are classified as controlling variables. The definition and the measures of control variable are available in Table 3.

Due to the fact that we use the quarterly data and it shows an indication of repeated measurements overtime at the firm level and industry level, we utilize several control variables and add random effects at the firm level and years dummies to control for the time effects. In line with the previous studies in the CSR literature, we use the firms' specific information which is extracted from the financial information such as ROA, MBV, DY LEV, PER, and SIZE. We do acknowledge that even though we conjecture the decision to engage in CSR publication is value relevance, the information of financial performance could not be neglected. Therefore, we put all together the financial information with the nonfinancial information. Furthermore, we are aware that by employing the control variables will help us to deal with the endogeneity problem and to neutralize the confounding effect resulted from the estimation output. More specific information about the operational definition of control variable could be seen in the section of variable definition.

Variable Definition

To empirically test the association among the variables, it is important to define the variables, measures, and their data sources. Hereby is enclosed the information of variable definition in Table 3.

RESULTS AND DISCUSSION

Results

We start to disclose our results by reporting the outcome of the univariate analysis. In this sense, we do the descriptive study to exhibit the characteristic of sample and variables. The descriptive information is divided into three panels, followed by the information of mean, standard deviation, minimum value, 25 percentiles, median, 75 percentiles and the maximum value for the 741 quarterly observational data from 2012 to 2016. The

Tabel 3. Variable definition

No	Variable	Measure	Definition	Previous studies	Data Source
Panel A. Dependent Variables					
1	*BAS*	$\frac{Ask_{i,t} - Bid_{i,t}}{(Ask_{i,t} + Bid_{i,t})/2}$	Bid/Ask spread	(Cho et al., 2013; Nurazi et al., 2016)	EIKON
2	*PV*	The standard deviation of stock price	Price volatility		EIKON
Panel B. Independent Variable of Interest					
3	*CSR*	Binomial data; 1 for the companies with the disclose CSR-related information, 0 otherwise.	CSR report		ASSET4
4	*ENVSCR*	Continuous data from 0 to 100 percent.	Environmental score		ASSET4
5	*SOCSCR*	Continuous data from 0 to 100 percent.	Social score		ASSET4
Panel C. Independent Control Variables					
6	*ROA*	$\frac{Net\ income}{Total\ asset}$	Return on asset		EIKON
7	*MBV*	$\frac{Market\ capitalization}{Net\ book\ value}$	Market-to-book value		EIKON
8	*DY*	$\frac{Annual\ dividens\ per\ share}{price\ per\ share}$	Dividend yield		EIKON
8	*LEV*	$\frac{Total\ liabilities}{Total\ shareholders'\ equity}$	Leverage	(Cho et al., 2013)	EIKON
10	*PER*	$\frac{Market\ value\ per\ share}{Earnings\ per\ share}$	Price earning ratio		EIKON
11	*SIZE*	Logarithm natural of total asset	Company size	(Cho et al., 2013)	EIKON
12	*LNSP*	Logarithm natural of stock price	Stock price		EIKON

Source: own elaboration from various sources of study.

detail information about the descriptive statistics is available in Table 4.

Table 4 displays the information of Univariate analysis. In this respect, the descriptive statistics are utilized to better understand the characteristic of the sample. We divide the variables into three panels. The first panel is Panel A, which provides the information about the dependent variable (*BAS* and *PV*). Panel B reflect the information concerning the main independent variables (*CSR, ENVSCR*, and *SOCSCR*). Whilst, Panel C displays the characteristics of control variables (*ROA, MBV, DY, LEV, PER, SIZE, and LNSP*). The mean value of variable *BAS* as indicated in panel A notes that of the 741 quarterly observations data, there is a positive mean value which documented as 0.011 on average. This information is followed

Tabel 4. Univariate analysis (descriptive statistics)

Variables	Obs	mean	stdv	Min	p25th	Median	p75th	Max
Panel A. Dependent Variable								
BAS	741	0.011	0.102	-0.400	0.003	0.005	0.008	1.302
PV	741	32.674	7.451	18.870	27.495	32.030	36.920	62.050
Panel B. Independent Variables								
CSR	741	0.653	0.476	0	0	1	1	1
ENVSCR	741	45.280	28.538	9.350	15.780	45.680	69.800	95.240
SOCSCR	741	57.781	29.253	6.250	28.860	63.500	85.440	96.080
Panel C. Control Variables								
ROA	741	12.113	11.803	-9.050	3.775	8.706	17.097	48.775
MBV	741	606	8,329	-23,404	1.925	3.110	4.430	116,575
DY	741	2.373	2.217	0.000	1.140	1.975	2.945	29.130
LEV	741	71.600	238.927	-883.330	13.100	45.825	77.130	2,834
PER	741	37.187	91.091	3.500	13.650	19.500	28.450	1,176
SIZE	741	24.402	1.288	21.773	23.524	24.105	24.959	27.663
LNSP	741	8.313	1.267	5.481	7.515	8.237	9.068	11.147

Data source: Thomson Reuters EIKON data stream and ASSET4, for years 2005-2012.

by the minimum *BAS* as -0.400 and 1.302 as the maximum value. The variable of *PV* also indicates a positive mean value as 32.674 on average. While, the lowest *PV* stands at 18.870.

In panel B, we focus more on elaborating the information of independent variables as the proxies of CSR practice. The first proxy of CSR practice is whether or not companies disclose their CSR-related information. This is measured by using categorical data. The obtained information reveals that around 65.3 percent (the mean value of CSR is 0.653 on average) companies voluntarily disclosure their CSR-related information, either through the stand-alone report or in the annual report. Furthermore, the mean value of variable *ENVSCR* stands for 45.28 percent on average, followed by its minimum value at 9.35 percent and 95.25 percent for the maximum value. Whilst, the univariate analysis of variable *SOCSCR* report that the mean value stands for 57.78 percent. This is followed by the minimum value as 6.25 percent and 96.08 percent as the maximum value. Further information in Panel C provides the descriptive statistics for the control variable. In this Panel, we transformed several variables from their original data to natural logarithm form (*SIZE, LNSP*). Also, to afford the balance panel data analysis, we do the truncation on our data at 1 percent level and 99 percent for the all continuous variables. In the next stage, we continue our analysis to correlation test as depicted in Table 5.

The output of Pearson correlation provides the information for the correlation between the employed variables. In this study, we have two dependent variables that we want to investigate. As can be observed in Table 5, variable *BAS* and *PV* are the dependent variables. While variable *CSR, ENVSCR,* and *SOCSCR* are utilized as the main independent variable of interest. Further, the remaining variables namely *ROA, MBV, DY, LEV, PER, SIZE,* and *LNSP* are employed as the control variable. The obtained output reflects that variable *CSR* ($p<0.05$), and *ENVSCR* ($p<0.1$) are negatively and significantly correlated with variable *BAS*. Variable *SOCSCR* shows a negative correlation, but insignificant ($p>0.1$). Whilst, variable *CSR* ($p<0.01$),

Tabel 5. Pearson correlation among variables

	Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	*BAS*	1											
2	*PV*	-0.094*	1										
3	*CSR*	-0.118**	-0.209***	1									
4	*ENVSCR*	-0.092*	-0.162***	0.644***	1								
5	*SOCSCR*	-0.057	-0.235***	0.694***	0.840***	1							
6	*ROA*	0.229***	-0.177***	-0.280***	-0.005	-0.053	1						
7	*MBV*	-0.02	0.034	-0.099**	-0.044	-0.019	0.199***	1					
8	*DY*	-0.037	0.008	0.240***	0.358***	0.313***	0.218***	-0.042	1				
9	*LEV*	-0.04	-0.058	0.071	-0.099**	-0.027	-0.100**	0.105**	-0.064	1			
10	*PER*	-0.161***	0.445***	0.093*	0.026	0.025	-0.220***	-0.003	-0.180***	-0.061	1		
11	*SIZE*	-0.149***	-0.259***	0.455***	0.336***	0.345***	-0.551***	-0.135***	-0.021	0.02	0.01	1	
12	*LNSP*	0.098**	-0.533***	0.257***	0.334***	0.301***	0.329***	0.053	0.282***	-0.038	-0.319***	0.157***	1

Data source: Thomson Reuters EIKON data stream and ASSET4 datasets, for years 2005-2012.
The continuous variables are winsorized at the 1th percent and 99th percentiles to control for outliers. Table 4 displays Pearson correlation coefficients among the employed variables. Each asterisk indicates statistical significance where; *** p<0.01, ** p<0.05, and * p<0.1 respectively using two-tail test.

BAS : Bid/ask spread
PV : Price volatility (the variance of stock price)
CSR : Binomial data, 1 if the companies publish a stand-alone CSR report of CSR-related information in a dedicated space in the annual report, 0 otherwise
ENVSCR : Environmental pillar score published by ASSET4 (continuous data from 0 to 100)
SOCSCR : Social pillar score published by ASSET4 (continuous data from 0 to 100)
ROA : Return on asset
MBV : Market-to-book value
DY : Dividend yield
LEV : Debt-to-equity ratio
PER : Price-earnings ratio
SIZE : Logarithm natural of total asset
LNSP : Logarithm natural of stock price

ENVSCR (p<0.01) and *SOCSCR* (p<0.01) also indicate the similar propensity, where these three main independent variables of interest are negatively and significantly correlated with variable *PV*. These correlation outputs suggest an association, in which in line with our proposed hypotheses. By referring to the correlation matrix output, it could be considered that the presence of *CSR* report, companies' performance in terms of environmental score (*ENVSCR*) and social score (*SOCSCR*) are value relevance in diminishing the condition of asymmetry information. In the next step, we provide our results in the multivariate analysis (OLS outcomes) as can be seen in Table 6.

The continuous variables are winsorized at the 1th percent and 99th percentiles to control for outliers. See Table 3 for more detail information of variable definition.

Table 6 reports the estimation results of model whose dependent variable is *BAS* and *PV*. These statistical outputs are calculated based on panel data analysis with inserting the year fixed-effect and industry-fixed effect.

Table 6 provides the information about the panel test outcome when the independent variables are tested to the dependent variables. As can be seen

Tabel 6. Multivariate analysis (OLS regression)

$$(BAS;PV) = \delta + \delta 1CSR_{i,t} + \delta 2ENVSCR_{i,t} + \delta 3SOCSCR_{i,t} + \delta \sum Controls + \delta \sum Years + \varepsilon$$

Variables	Expected sign	(1) *BAS*	(2) *PV*
CSR	**-**	**-0.0018**	**-2.1050*** **
		(0.0038)	**(0.5890)**
ENVSCR	**-**	**-0.0005*** **	**-0.0612*** **
		(0.0002)	**(0.0131)**
SOCSCR	**-**	**0.0004** **	**-0.0606*** **
		(0.0001)	**(0.0120)**
ROA	+/-	0.0017**	-0.1640***
		(0.0007)	(0.0265)
MBV	+/-	-9.14e-07*	6.68e-05***
		(4.74e-07)	(1.51e-05)
DY	+/-	-0.0047*	0.8040***
		(0.0026)	(0.1140)
LEV	+/-	-1.49e-05	-0.00117
		(1.89e-05)	(0.00187)
PER	+/-	-0.0001*	0.0273***
		(7.16e-05)	(0.0083)
SIZE	+/-	-0.0034*	-1.5690***
		(0.0020)	(0.1990)
LNSP	+/-	0.0040*	-2.0200***
		(0.0021)	(0.2703)
Constant		0.0602	88.9800***
		(0.0428)	(5.0450)
Year fixed effect		YES	YES
Industry fixed effect		YES	YES
Observations		741	741
R-squared		0.0910	0.5000

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 respectively using a two-tail test.

in the predictive model, dependent variable is surrogated by two proxies, namely *BAS* and *PV*. In this case, we have been expecting in the hypothesis one that the presence of CSR information (*CSR*) either in annual integrated report or stand-alone report is negatively associated with the asymmetry information (*BAS* and *PV*). This suggests that the presence of nonfinancial information, is deemed as value relevance to the truncation of asymmetry information among investors and between investors and companies. More specifically, in the first test (see column 1) we find that the association between *CSR* report and *BAS* is negative however statistically insignificant (p>0.1). This is somehow still in line with our a priori expectation in the proposed hypotheses one. The second test (see column 2) on the association between *CSR* and *PV* also indicates a negative and significant relation

($p<0.01$). Due to the output that even though the association between *CSR* and *BAS* does not provide us with significant results, we report that **hypothesis one is partially supported**.

We go onward with testing the hypothesis two and three. In relation to hypothesis two, we report that there is a negative and significant ($p<0.01$) association between *ENVSCR* and *BAS*. This is also followed by a consistent outcome, in which the association between *ENVSCR* and *PV* is reportedly negative and statistically significant ($p<0.01$). In this respect, we report that **hypothesis two is supported**. Moreover, we empirically test the hypothesis three. The empirical test using OLS regression model documents that the association between *CSR* and *BAS* indicates a significant ($p<0.5$) and positive sign. This is somehow different from what we expect in our a priori hypothesis. In fact, the outcome notifies that the increase in the social score (*SOCSCR*) positively related to the increase in the *BAS* value. On the contrary, the test using the second dependent variable provides us with the consistent result with the proposed hypothesis three. We document that there is a negative and significant ($p<0.01$) association between *CSR* and *PV*. Due to the empirical output that one of the association behave differently from what we might expect, we arrive at a conclusion that **hypothesis three is partially supported**.

To further expand our analysis, we engage in the independent sensitivity analysis to better investigate the association between the independent variables of interest with the two dependent variables (*BAS* and *PV*). Therefore, we do the stepwise analysis to observe the magnitude of the employed variables in response to the additional information of the control variables. The complete empirical outcomes are available in Table 7 and 8.

Information in Table 7 displays the sensitivity analysis in terms of the magnitude of independent variables. At the first column, we find that *CSR* ($p<0.05$) and *ENVSCR* ($p<0.01$) are negatively and significantly associated with BAS. However, similar to our hypothesis testing, *SOCSCR* ($p<0.05$) is positively associated with *BAS*, which is completely different from our expectation. The interesting part is shown in the next consecutive columns, in which the signs of *CSR* remain consistent with our prediction. However, the values of magnitudes are getting smaller and insignificant. We argue that this trend could be due to the fact that the current disclosure cannot be directly responded by the market participants. Therefore, the time-lag analysis is necessary to be conducted. The second independent variable reflects negative and consistent results with the proposed hypothesis, where the signs of coefficient remain negative and statistically significant at one percent level ($p<0.01$). The different outcome is indicated by the association between variable *SOCSCR* and *BAS*. We report that there is no negative association between *SOCSCR* and *BAS*. In response to this outcome, we argue that the social parameter (*SOCSCR*) is not fully considered as value relevance by the investors to diminish the gap of asymmetry information, which is proxied by the bid/ask spread (*BAS*). Further sensitivity analysis is implemented to the association between the independent variables on price volatility (*PV*).

Sensitivity analysis in Table 8 provides the evidence that the association between *CSR-PV, ENVSCR-PV,* and *SOCSCR-PV* are consistent. The magnitude for variable CSR remains negative even after we put the control variable. The same propensity can be found in the association between *ENVSCR* and *PV*. The coefficient of variable *ENVSCR* still negative and statistically significant ($p<0.01$) even though we put additional control variables. This also applies to the association between variable *SOCSCR* and *PV*, in which the coefficient values are negative and statistically significant ($p<0.01$).

Discussion

Our study discovers that disclosing nonfinancial information is deemed value-relevance to truncate

Tabel 7. Sensitivity analysis with bid/ask spread (BAS) as the dependent variable

$$BAS_{i,t} = \delta + \delta 1CSR_{i,t} + \delta 2ENVSCR_{i,t} + \delta 3SOCSCR_{i,t} + \delta \sum Controls + \delta \sum Years + \varepsilon$$

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CSR	**-0.0290****	**-0.0049**	**-0.0059**	**-0.0038**	**-0.0029**	**-0.0005**	**0.0004**	**-0.0018**
	(0.0126)	**(0.0037)**	**(0.0041)**	**(0.0035)**	**(0.0033)**	**(0.0033)**	**(0.0034)**	**(0.0038)**
ENVSCR	**-0.0004*****	**-0.0006*****	**-0.0006*****	**-0.0005*****	**-0.0005*****	**-0.0005*****	**-0.0005*****	**-0.0005*****
	(0.0001)	**(0.0002)**	**(0.0002)**	**(0.0002)**	**(0.0002)**	**(0.0002)**	**(0.0002)**	**(0.0002)**
SOCSCR	**0.0004****	**0.0004****	**0.0004****	**0.0004****	**0.0004****	**0.0004****	**0.0004****	**0.0004****
	(0.0001)	**(0.0001)**	**(0.0001)**	**(0.0001)**	**(0.0001)**	**(0.0001)**	**(0.0001)**	**(0.0001)**
ROA		0.0019**	0.0020**	0.0022**	0.0022**	0.0020**	0.0019**	0.0017**
		(0.0007)	(0.0008)	(0.0009)	(0.0009)	(0.0009)	(0.0008)	(0.0007)
MBV			-9.35e-07**	-1.00e-06**	-9.67e-07**	-8.97e-07*	-8.98e-07*	-9.14e-07*
			(4.57e-07)	(4.97e-07)	(4.63e-07)	(4.67e-07)	(4.68e-07)	(4.74e-07)
DY				-0.0034	-0.0034	-0.0044*	-0.0045*	-0.00472*
				(0.0025)	(0.0025)	(0.0025)	(0.0025)	(0.0026)
LEV					-9.52e-06	-1.48e-05	-1.52e-05	-1.49e-05
					(1.33e-05)	(1.80e-05)	(1.85e-05)	(1.89e-05)
PER						-0.0001*	-0.0001**	-0.0001*
						(7.23e-05)	(7.28e-05)	(7.16e-05)
SIZE							-0.0022	-0.0034*
							(0.0017)	(0.0020)
LNSP								0.0040*
								(0.0021)
Constant	0.0214***	-0.00506	-0.00591	-0.00459	-0.00368	0.00501	0.0589	0.0602
	(0.0074)	(0.0045)	(0.0049)	(0.0045)	(0.0043)	(0.0045)	(0.042)	(0.0428)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	741	741	741	741	741	741	741	741
R-squared	0.019	0.064	0.070	0.074	0.075	0.089	0.090	0.091

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 respectively using a two-tail test.

the level of asymmetry information between companies and the stakeholders (investors, employees, consumers, government, community, etc.). Our study further advances the prior study which tests the role of CSR report to the asymmetry information. In line with the study of Cho et al., (2013), we find that corporate social responsibility performance in terms of environmental and social score is negatively related to asymmetry information. Our results indicate hold output even after we investigate the sensitivity of coefficient with the different control variables.

Current studies have shown that stakeholders pressure on the companies' operation activities requires them to better interact and engage with

Tabel 8. Sensitivity analysis with price volatility (PV) as the dependent variable

$$PV_{i,t} = \delta + \delta 1CSR_{i,t} + \delta 2ENVSCR_{i,t} + \delta 3SOCSCR_{i,t} + \delta \sum Controls + \delta \sum Years + \varepsilon$$

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CSR	**-1.6690****	**-3.6480*****	**-3.5790*****	**-3.9100*****	**-3.7120*****	**-4.3410*****	**-3.2840*****	**-2.1050*****
	(0.793)	**(0.706)**	**(0.707)**	**(0.671)**	**(0.707)**	**(0.647)**	**(0.661)**	**(0.589)**
ENVSCR	**-0.0370*****	**-0.0527*****	**-0.0545*****	**-0.0438*****	**-0.0392*****	**-0.0324****	**-0.0525*****	**-0.0612*****
	(0.0136)	**(0.0140)**	**(0.0141)**	**(0.0144)**	**(0.0151)**	**(0.0138)**	**(0.0144)**	**(0.0131)**
SOCSCR	**-0.0712*****	**-0.0651*****	**-0.0672*****	**-0.0682*****	**-0.0671*****	**-0.0625*****	**-0.0581*****	**-0.0606*****
	(0.0137)	**(0.0136)**	**(0.0138)**	**(0.0135)**	**(0.0134)**	**(0.0133)**	**(0.0131)**	**(0.0120)**
ROA		-0.161***	-0.169***	-0.197***	-0.199***	-0.147***	-0.271***	-0.164***
		(0.0271)	(0.0280)	(0.0268)	(0.0270)	(0.0241)	(0.0295)	(0.0265)
MBV			6.11e-05***	7.16e-05***	7.88e-05***	6.01e-05***	5.87e-05***	6.68e-05***
			(1.34e-05)	(1.54e-05)	(2.04e-05)	(1.56e-05)	(1.50e-05)	(1.51e-05)
DY				0.548***	0.544***	0.816***	0.733***	0.804***
				(0.106)	(0.105)	(0.133)	(0.135)	(0.114)
LEV					-0.00200	-0.000604	-0.00102	-0.00117
					(0.00377)	(0.00209)	(0.00230)	(0.00187)
PER						0.0380***	0.0337***	0.0273***
						(0.00990)	(0.00940)	(0.00832)
SIZE							-2.193***	-1.569***
							(0.217)	(0.199)
LNSP								-2.020***
								(0.273)
Constant	36.20***	38.38***	38.43***	38.22***	38.42***	36.09***	89.63***	88.98***
	(0.511)	(0.650)	(0.652)	(0.658)	(0.750)	(0.806)	(5.639)	(5.045)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	741	741	741	741	741	741	741	741
R-squared	0.065	0.121	0.126	0.147	0.151	0.349	0.428	0.500

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 respectively using a two-tail test.

stakeholder interest. In this context, stakeholders interest is widely driven by many factors by which the stakeholders are classified in. At the point of view of investors, they need more information to better help them diminish the level of asymmetry information. It is crucial since the public timely and availability of either financial or nonfinancial information related to their portfolio of investment. The study of Nurazi, Kananlua, & Usman, (2015); Nurazi et al., (2016); Nurazi & Usman, (2015); Usman & Tandelilin, (2014) report that public attention is higher on the specific information provided by the companies through internet. Moreover, consumers and general public put more attention on how are companies dealing with the issue of sustainability (Sierra, Zorio, & García-Benau, 2013).

Based on the above empirical evidence, our study contributes to the advancement of literature in the field of CSR and asymmetry information research. First, we provide the evidence that CSR information (*CSR*) shows a negative association either with bid/ask spread (*BAS*) or price volatility (*PV*). Second, our result by testing the relationship between *ENVSCR* and two proxies of asymmetry information (*BAS* and *PV*) remains consistent, in which the variable of *ENVSCR* negatively associated either with *BAS* or *PV*. Third, we provide information that *SOCSCR* are positively associated with *BAS* but negatively associated with *PV*.

More specifically, in relation to the study of Nurazi et al., (2016), the transaction of stock trading activity in the Indonesian stock exchange adopts the order-driven market system and continue auction system. When the bid/ask spread moves up and down, it means that the buyers and sellers of securities need the broker to initiate the transaction in the order-driven market. Concerning this issue, Indonesian investors cannot directly decide to commence their transaction without the assistance of a broker. Regarding the usefulness of CSR information and its connection with investors' decision, it is widely known that 60 percent of Indonesian stock exchange is dominated by the public ownership (Nurazi, Santi, & Usman, 2015). The general public is putting more attention and pressure on the sustainability of social and environmental. Recall back to the empirical results which show that *CSR* negatively associated with the *BAS* and *PV*; it indirectly suggests that investors and general public consider companies' engagement in CSR-related commitment as value relevance to them.

ROBUSTNESS CHECK

We do realize that the effect of nonfinancial information (*CSR*) to the truncation of asymmetry information could not be instantaneously experienced by the investors. Therefore, we design a robustness check to see whether companies' decision to voluntarily published *CSR* report shows an association with *BAS* and *PV*. The robustness check will investigate whether the companies' decision to publish CSR-related information in the prior year shows association with the current *BAS* and *PV*. The empirical result of the robustness check outputs is available in Table 9.

As we concern in the research method section, we use the quarterly data since we are aware that companies engage in their environmental and social activities at the different point of time. Companies are considered to have the incentive to deal with CSR-related activities. Therefore, since there first quarter, companies have allocated the budget for CSR engagement and its reporting. Regularly providing nonfinancial information also helps the company to increase the number of analyst following, which helps the analyst to create better earnings forecast on the related firms (Botosan & Harris, 2000). Moreover, even though the report is eventually compiled into a stand-alone report or in a specific dedicated section in the annual report, companies have various channels during the year that they have engaged in CSR related activities. This information is further circulated to various types of media, such as twitter, facebook, youtube, news channel and website-based approach (Amran, Ooi, Mydin, & Devi, 2015; Colleoni, 2013). In respect to the indirect impact of CSR-related activities, we further test the robustness of our result by using one-quarter time-lag. The obtained results note that multivariate test (OLS regression) with one-quarterly lag is hold and consistent with the output of hypotheses testing in Table 6.

MANAGERIAL IMPLICATIONS

Recall back to the result of empirical test, it is discernibly seen that the association between CSR practice and asymmetry information is negative. Our notion is in line with the prior studies which conjecture that the disclosure of nonfinancial information is value relevant and can be utilized to help the related stakeholders to diminish the level of asymmetry information. With regard to

Tabel 9. Robustness check with time/lag model (t-1)

$$AI_{i,t}(BAS;PV) = \delta + \delta 1CSR_{i,t-1} + \delta 2ENVSCR_{i,t-1} + \delta 3SOCSCR_{i,t-1} + \delta \sum Controls + \delta \sum Years + \varepsilon$$

Variables	Expected sign	(1) BAS	(2) PV
$CSR_{i,t-1}$	**-**	**-0.0020**	**-2.1210*** **
		(0.0034)	**(0.6150)**
$ENVSCR_{i,t-1}$	**-**	**-0.0005****	**-0.0612*** **
		(0.0002)	**(0.0132)**
$SOCSCR_{i,t-1}$	**-**	**0.0003****	**-0.0583*** **
		(0.0001)	**(0.0121)**
$ROA_{i,t-1}$	+/-	0.0013*	-0.1620***
		(0.0007)	(0.0273)
$MBV_{i,t-1}$	+/-	-6.59e-07*	6.09e-05***
		(3.91e-07)	(1.67e-05)
$DY_{i,t-1}$	+/-	-0.0031	0.7940***
		(0.0021)	(0.1140)
$LEV_{i,t-1}$	+/-	-7.22e-06	-0.0011
		(1.67e-05)	(0.0019)
$PER_{i,t-1}$	+/-	-0.0001*	0.0276***
		(7.55e-05)	(0.0087)
$SIZE_{i,t-1}$	+/-	-0.0024	-1.5420***
		(0.0019)	(0.2050)
$LNSP_{i,t-1}$	+/-	0.0033	-2.0430***
		(0.0020)	(0.2820)
Constant		0.0399	88.2200***
		(0.0405)	(5.1860)
Year fixed effect		Yes	Yes
Industry fixed effect		Yes	Yes
R-squared		0.082	0.502

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 respectively using a two-tail test.
The continuous variables are winsorized at the 1th percent and 99th percentiles to control for outliers. See Table 3 for more detail information of variable definition.
This Table replicates the results in Table 6 with the lag-match model (t-1). Every variable instead of the dependent variable is turned into one-quarter time lag. t statistics are calculated using standard errors corrected for autocorrelation that is reflected in the parentheses.

the managerial implication, our study suggests that it is important for the Indonesian companies to consider the role of disclosing nonfinancial information to public. Also, in more detail action such as engaging with CSR-related activities is deemed as positive value for stakeholder, in which the companies are positively valued by the communities. In respect of government as the regulator and standard setter, the implementation of nonfinancial information disclosure could be one of the potential consideration to create a more efficient market. Apart from that, by having the CSR report disclosed to public, will enable the general public and communities to control and do market discipline mechanism regarding the sustainability of either environment or social activities.

CONCLUSION

Our study provides an important contribution in expanding the literature of CSR and asymmetry

information in the context of emerging country (Indonesia). We note several implications as we have previously explained in our proposed hypotheses. We find that there is a negative association between CSR practice and asymmetry information for the 39 public listed companies in the Indonesian stock exchange. We report that, the companies' decision to engage and report in environmentally and socially responsible activities help them to diminished the informational gap between companies and the stakeholders. Our data agreed quite well with the predicted multivariate analysis outcomes and the robustness check results. Over all, we document a negative relationship. However, in a certain case, we report that social score (*SOCSCR*) shows a positive association with the variable bid/ask spread (*BAS*). This result is slightly conflicting with our a priori expectation. Due to the fact that this issue emerges, we note that the industry-specific to some extent become our encounter argument, where in this study we did not separate our sample and test it into the industry categorization. As suggested by the study of Bagnoli & Watts, (2017), the data of companies in the environmentally sensitive industry and those companies in the socially sensitive industry might behave differently. Also, the CSR information of these two different industries might be responded differently by the stakeholders. However, our results still provide hold evidence after we control for the effect of control variable (firms'-specific, year, and industry fixed effect) in the sensitivity analysis.

Furthermore, the implication of our study suggests that CSR practice is deemed as value relevant in truncating the level of asymmetry information in the Indonesian stock exchange. In the particular case, the presence of CSR-related information is crucial for those companies operating in the environmentally sensitive industry, in which their business activity directly interact with the environment. The business impact to the sustainability of environmental is pivotal since the companies cannot only exploit the available resources, but they need to consider the sustainability of environment due to the fact that it is also related to the business sustainability. We are also aware that our study is undeniably not free from the limitation. Our main limitation is caused by the inability to control the self-selection sample bias. First, we only use the sample with CSR report, environmental, and social information as extracted from the Thomson Reuters EIKON and ASSET4 database. Therefore, our estimation is potentially affected by the endogeneity problem which is very tricky and problematic in the accounting and finance research (see the discussion of Lennox, Francis, & Wang, (2012); Tucker, (2010) for more detail explanation of selection bias in accounting and finance research). We would strongly recommend for the future research to address this problem, particularly by employing the appropriate statistical method such as testing the self-selection bias and generating the inverse mills ratio by using the Heckman 2SLS procedure. Second, we do not clearly indicate the causal-effect by conducting an observational study. To better understand the behavior and the causal-effect of engaging in voluntary disclosure (CSR reporting), we would recommend the next researchers to adopt the Propensity Score Matching (PSM) method and create the control group and treated group for an observational study purpose. ■

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