Article

Sustainability Reporting and Value Relevance of Financial Statements

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Abstract: This study examines whether information about the winners of the Sustainability Reporting Award (SRA) contributes to the usefulness of the information in the financial statements. This study used a sample consisting of 110 winners of SRA (SRA firms) and 110 companies that did not receive SRA (non-SRA firms) from 2008 to 2016. The study found that earnings per share (EPS), book value per share (BVPS), and earnings per share change (EPSC) are value relevant information. Results of comparison between SRA firms and non-SRA firms, this study found that EPS positive association with stock price and with returns for SRA firms is higher than that for non-SRA firms. Findings of this study also show that, value relevance of BVPS for non-SRA firms is higher than that for SRA firms. When measures of Price and BVPS are transformed into natural logarithm, the value relevance of BVPS for SRA firms is higher than that for non-SRA firms. Thus, the results are sensitive to measures of the variables. The findings of this study indicate that information about the winners of SRA contributes to the usefulness of financial statements.

Keywords: sustainability reporting award (SRA), financial statements, value relevance, earnings per share (EPS), earnings per share change (CEPS), book value per share (BVPS).

1. Introduction

The importance of the financial markets, institutions and instruments has grown markedly during the last five decades. Nowadays, also with fewer and fewer barriers to international trade and financial flows, and with communications technology directly linking each major financial centre, the dimensions of international finance and financial markets is becoming more and more unique. [1]

In making investment decisions in the capital market, investors need to determine the intrinsic value of securities, such as stocks, which are used as the basis for investment decision making. The market price of the stock, which is the price agreed upon by the seller and the buyer, reflects the valuation of the stock performed by the investors trading the stock. [2] The stock prices may rise or fall due to factors that affect the prices. Performance of a company and its prospects are important factors that affect the stock prices. Information on the performance and the prospects of the company is reflected in the financial statements presented for investment decision-making purposes. Therefore, many studies have been conducted to examine the usefulness of accounting information including financial statements by examining the value relevance of accounting information, which among other things is done by examining the relationship between accounting information and stock prices or stock returns. Many previous studies also examined and found factors affecting the relationship between accounting information and stock prices or stock returns. For example, the factors include increased working capital efficiency [3], financial crises [4], the sustainable cross-border cooperation [5], stakeholders pressure [6] errors occurrence in accounting [7] and presentation of financial statements based on International Financial Reporting Standards (IFRS) [8]. The current study examines whether sustainability reporting award (SRA) is a factor that affects the value relevance of accounting.
information. In this study, accounting information is the information contained in the financial statements. Therefore, more specifically this study examines the impact of SRA on the value relevance of financial statements.

Sustainability reporting is an issue that has been the focus of the business world in recent years [9]. In Indonesia, companies are interested in following the sustainability reporting award (SRA) organized by the National Center for Sustainability Reporting (NCSR). Sustainability reporting is the reporting by companies or organizations on the economic, environmental and social impacts caused by their daily activities. Studies on sustainability reporting have been undertaken, and the results of these studies describe companies that implement sustainability reporting, such as having the objective of seeking organizational legitimacy [10], beginning to take into account the oversight of the board and the arrangement of sustainability responsibilities, as well as attention to compliance, ethics and external verification [11], has reported stakeholder issues and achievements in engaging stakeholders [12]. In relation to stock prices, Ansari [13] found that sustainability reporting had a positive effect on stock prices of real estate companies. Findings of other previous studies such as Loh et al. (14) and Lourencço et al. (15) also show the usefulness of sustainability reporting. However, previous research findings also show that there are weaknesses in sustainability reporting, such that sustainability reporting is more helpful for internal communication than in external communications [10, 16], sustainability reporting provides information on the financial value more qualitatively than quantitatively [17], Other views by Gray [18] and Gray and Milne [19] even disagree or less agree with the usefulness of existing sustainability reporting.

The current study aims to explore whether sustainability reporting award (SRA) has a positive impact on the value relevance of financial statements. More specifically, whether companies receiving SRA have a higher value relevance of financial statements than firms that do not receive SRA. The results of this study are expected to contribute to the accounting research literature particularly in explaining by providing empirical evidence as to whether the SRA has a role in making investment decisions based on accounting information.

The organization of the paper for the following sections is as follows. Section 2 provides an overview of the literature review of sustainability reporting award and the value relevance of accounting information. Section 3 presents research methods that include statistical models, research variables, and sample selection. Section 4 reports the results of the study and its discussion. Section 5 presents conclusions, implications, limitations, and suggestions for further research.

2. Literature Review

2.1. Value Relevance of Financial Statements

Based on the conceptual framework, the purpose of financial reporting is to provide useful information for users, especially investors and creditors in making investment decisions. The scope of financial reporting includes the financial statements and disclosures outside of the financial statements that are the products of accounting. The study on the usefulness of financial information for investment decisions often uses the term ‘study on the value relevance of accounting information’, since accounting information is relevant in determining the intrinsic value of securities/stocks and subsequently used for investment decisions as reflected in the stock market price. Therefore, the study on the value relevance of accounting information is often carried out by examining the relationship between information in financial statements and/or disclosures outside of the financial statements, called accounting information, and stock prices or stock returns. An early study that examined the usefulness of accounting information was undertaken by Ball and Brown [20] which was then followed by many subsequent studies. The study on the value relevance of accounting information is a field of financial accounting research whose results are widely published and gives direction to new research in the field [21].

A previous study by Mohan and John [22] on the value relevance of financial information, examined the association between earnings per share (EPS) and/or other information such as earnings
per share change (CEPS) and book value per share (BVPS). Other studies examined the impact of various contextual factors on the value relevance of accounting information in various countries such as accounting practices in six Asian countries [23], investor protection in many countries [24], macro factors and bank-level factors in many countries [25], premium/discount firm in the United States [26], intellectual capital or intangible assets in Taiwan [27], improvements in working capital efficiency in Malaysia [3], financial crisis in Turkey [4], and adoption of international financial reporting standards (IFRS) in Norway [28], in Europe [29], in China [30], in Indonesia [8].

Several previous studies on sustainability reporting linkages with firm performance have been conducted. For example, Ching et al. [31] investigate whether there is a relationship between the quality of sustainability reporting and financial performance. Their findings show that there is no association between the quality of sustainability reporting and financial performance. Increasing the quality of sustainability disclosure over time does not indicate an improvement in financial performance. On the other hand, Loh et al. [14] examined and found that firms with sustainability reporting had higher firm values than firms that did not present sustainability reporting. In addition, the quality of sustainability reporting also has an impact on firm value. Lourenc¸o et al. [15] examines the relationship between sustainability reporting and the value relevance of book value and net operating income. More specifically, the examine whether companies included in the Dow Jones Sustainability United States Index (DJSI US) have a higher value relevance of book value and net operating income. Companies that are included in DJSI are used as indicators of reputation for sustainability leadership. They found that companies which has reputation for sustainability leadership has a higher value relevance of net operating income. To contribute to the accounting research literature particularly on the value relevance of accounting information, the present study examines the impact of the sustainability reporting award (SRA) on the value relevance of information contained in financial statements particularly book value per share, earning per share, and earnings per share change using data from an emerging market, Indonesia, that recently organised SRA participated voluntarily by companies.

2.2. Sustainability Reporting

Sustainability reporting is based on the Standard of the Global Reporting Initiative (GRI). The sustainability reporting reflects global best practices for reporting public economic, environmental and social impacts. The GRI standard provides information about the positive or negative contribution to the sustainable development provided by the organization. The GRI is a non-governmental organization based in the Netherlands. As an initiative of the United Nations Environment Program, it began in 1997 and became independent in 2002. In 2005, Indonesia established a non-profit organization namely National Center for Sustainability Reporting (NCSR) by five organizations, namely the Institute of Management Accountants Indonesia (IAM), the Forum for Corporate Governance in Indonesia (FCGI), the National Committee on Governance (NCG), the Indonesian Association of Issuers (AEI) and the Indonesian-Netherlands Association (INA). NCSR has been appointed as a GRI member since 2006 and is a GRI training partner in Southeast Asia, including Indonesia, Malaysia, Singapore and the Philippines. NCSR organizes Sustainability Reporting Award (SRA) every year in order to encourage sustainability reporting by companies in Indonesia.

The GRI standard, as noted above, provides information about the organization’s positive or negative contribution to sustainable development, which according to WCED (1987) is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [32]. According to Gray and Milne [19], sustainability reporting in the public domain, in essence, is absent anywhere in the world, because sustainability reporting is extremely difficult or impossible. However, after the GRI Guideline was published, many studies on sustainability reporting were conducted. Hedberg and Malmborg [10] reviewed the use and experience of GRI in ten companies in Sweden. From interviews with all Swedish companies using GRI guidelines, they found that companies that implement corporate sustainability reporting (CSR) using GRI guidelines are based on a variety of reasons: to seek organizational legitimacy, to meet expectations of increasing CSR credibility, availability of templates for the preparation of CSR reports, has been more helpful in
internal communication than in external communications, and to help companies learn about themselves and see what the company has done. According to Hedberg & Malmborg, GRI guidelines require further development. In contrast to the findings of Hedberg and Malmborg [10], Gray [18] argues that “substantive social and environmental reporting and, especially, high-quality reporting on (un)sustainability will demonstrate that modern international financial capitalism and the principle organs which support it are essentially designed to maximise environmental destruction and the erosion of any realistic notion of social justice”.

Despite the different or even contradictory views of sustainability reporting as described above, the study of sustainability reporting continues. Kolk [11] studied 250 Fortune Global companies and found that many companies have begun to pay attention to board supervision and sustainability accountability structure, although the detailed disclosure has not been widely practiced. Astupan and Schönbohm [33] in a descriptive study on the sustainability reporting performance of the WIG 20 and mWIG 40 companies in Poland provide empirical evidence that the sustainability reporting performance is relatively low. Mulkan [12] in a content analysis study on Corporate Social Responsibility (CSR) Reporting in the Indonesia Sustainability Reporting Award (ISRA) 2010 found that 60 percent of 10 leading companies use guidelines of the Global Reporting Initiative (GRI). Furthermore, Mulkan also found that the companies have reported stakeholder issues and their achievements in engaging stakeholders. Findings from the descriptive study conducted by Lins et al. [17] in the top ten mining companies indicates that quantitative information is less communicated than qualitative information, and the financial value of environmental, social, and governance (ESG) measures is not fully communicated by the top ten leaders of the mining sector in their report. A study conducted by Farneti and Guthrie [16] on seven public sector organizations in Australia also found that from the perspective of information providers, the disclosure of sustainability information is more widely used for internal stakeholders, and results of the study is in line with the findings of the Hedberg and Malmborg [10] study. In addition, sustainability reporting is generally conducted using the annual report media. Truant et al. [34] report that sustainability risk disclosure of a sample of large Italian organizations is positively influenced by the international presence and sustainability experience, but it is not affected by the presence of external assurance. Dobre et al. [35] found that environmental and social protection reported by Romanian listed companies could have an effect on the long-run financial performance.

2.3. Sustainability Reporting and Value Relevance of Accounting Information

Previous studies of sustainability reporting have also examined its relationship with accounting information. Ansari et al. using an event study methodology with a global sample (Europe, the United States, and Australia) found that sustainability reporting has a positive effect on stock prices of real estate firms. Based on these findings Ansari et al. [13] suggest that because sustainability and its communications do have an impact on the valuation of the company, relevant in decision making for shareholders, efforts to promote the sustainability of the company need to be done.

Findings from the studies on sustainability reporting as described above indicate that there is a positive support trend towards the existence of sustainability reporting [36, 37]. Nevertheless, it has also been described above that there are sustainability reporting weaknesses as proposed by Gray and Milne [17] and Gray [18].

The current study explores and examines whether sustainability reporting award (SRA) can improve the value relevance of the financial statements as part of accounting information. This study uses two theoretical foundations, namely decision usefulness theory or called decision usefulness approach to financial reporting [38]. This approach is an approach in the engineering of financial reporting system that aims to generate financial information that is useful for investors in making investment decisions. The study of value relevance of accounting information is mostly done to test the decision usefulness of the accounting information. The decision usefulness approach to financial reporting is done by providing relevant information and full disclosure. However, not all information about the company revealed through the financial reporting system can be ‘captured’ by investors.
Therefore, managers need to convey signals to investors about ‘good information’ to assist them in using financial information for investment decision making. ‘A signal is an action taken by a high-type manager that would not be rational if that manager was low type’ [38]. This signaling theory is based on Spence’s [39] work. Several previous studies related to sustainability reporting have used signaling theory, such as Dawkins and Ngunjiri [40], Mishra and Suar [41], Robinson et al. [42], Thorne et al. [43], and Reimsbach and Hahn [44]. The current study explores and examines whether sustainability reporting award (SRA) can improve the value relevance of the financial statements as part of accounting information based on the decision usefulness approach to financial reporting and signaling theory. If the SRA is relevant, i.e. it is captured as a positive signal by the investor, then the investor will use information about SRA to support accounting information. Thus, the value relevance of the financial statements of firms receiving the SRA (SRA firms) is higher than that of firms that do not receive SRA (non-SRA firms). Conversely, if the SRA is irrelevant i.e. it is not captured as a positive signal by investors, then the investor will not use information about SRA to support accounting information. Thus, the value relevance of accounting information of firms receiving SRA (SRA firms) is not different than that of the firms that do not accept SRA (non-SRA firms). The present study aims to provide empirical evidence that answers the research questions.

3. Methods

3.1. Regression Models

To examine the impact of sustainability reporting award (SRA) on the value relevance of financial statements, this study uses the following regression models.

\[
P = \alpha_0 + \alpha_1 \text{EPS} + \alpha_2 \text{BVPS} + \alpha_3 \text{EPSxSRA} + \alpha_4 \text{BVPSxSRA} + \varepsilon \quad (1)
\]

\[
P = \beta_0 + \beta_1 \text{EPS} + \beta_2 \text{BVPS} + \beta_3 \text{EPSxSRA} + \beta_4 \text{BVPSxSRA} + \beta_5 \text{EPSxEPSPOS} + \beta_6 \text{BVPSxEPSPOS} + \upsilon \quad (2)
\]

\[
R = \gamma_0 + \gamma_1 \text{EPS} + \gamma_2 \text{EPSC} + \gamma_3 \text{EPSxSRA} + \gamma_4 \text{EPSCxSRA} + \omega \quad (3)
\]

\[
R = \delta_0 + \delta_1 \text{EPS} + \delta_2 \text{EPSC} + \delta_3 \text{EPSxSRA} + \delta_4 \text{EPSCxSRA} + \delta_5 \text{EPSxEPSPOS} + \delta_6 \text{BVPSxEPSPOS} + \delta \quad (4)
\]

\[
P = \pi_0 + \pi_1 \text{EPS} + \pi_2 \text{BVPS} + \pi_3 \text{EPSPOS} + \xi \quad (5)
\]

\[
R = \rho_0 + \rho_1 \text{EPS} + \rho_2 \text{EPSC} + \rho_3 \text{EPSPOS} + \zeta \quad (6)
\]

Equation (2) and equation (4) are expanded using year-dummy variables as follows. Equation (2a) is the equation (2) with year-dummy variables. Equation (4a) is the equation (4) with year-dummy variables.

To show the impact of SRA on value relevance of EPS, BVPS, and EPSC, the following equation (5a) and equation (6a) are used. Equation (5a) is the equation (5) which are applied for SRA firm subsample and for non-SRA firm subsample with year-dummy variables. Equation (6a) is the equation (6) with year-dummy variables which are applied for SRA firm subsample and for non-SRA firm subsample.

Additional tests of the impact of SRA on value relevance of EPS, BVPS, and EPSC use the following equation (5c), equation (5d), equation (6c) and equation (6d). Equation (5c) is the equation (5) without variable independent EPSPOS which are applied for positive EPS. Equation (5d) is similar to Equation (5c) with year-dummy variables. Equation (6c) is the equation (6) without variable independent EPSPOS which are applied for positive EPS. Equation (6d) is similar to Equation (6c) with year-dummy variables.

3.2. Variables

This study uses stock price (P) and stock return (R) as dependent variables. P is the annual closing price of the stock of the firm j in year t, whereas R is the change in the closing price of the annual stock.
which is divided by the firm’s average price in year t and in year t-1. The independent variables consist of earnings per share (EPS), earnings per share change (EPSC), and book value per share (BVPS). EPS is the annual earnings per share of company j in year t. BVPS is the book value of equity per share at the end of the year (on financial reporting date) of company j in year t. EPSC is the change of annual earnings per share which is divided by the firm’s average EPS in year t and in year t-1.

Sustainability reporting award (SRA) in this study is a dummy variable which serves as a moderating variable. A winner of SRA (SRA firm) is given a value of 1, whereas a non-SRA winner (non-SRA firms) is given a value of 0. Thus, SRA is SRA firm j in year t or non-SRA firm j in year t. Furthermore, the SRA variable is multiplied by independent variables to form the following interaction variables EPSxSRA, BVPSxSRA, and EPSCxSRA. These interaction variables serve to compare the impact of SRA on the value relevance of the financial statements of SRA firms with the impact of SRA on that of non-SRA firms.

3.3. Data and Sample

Data of dependent variables and independent variables that include stock price (P), earnings per share (EPS), and book value per share (BVPS) for 2008-2015 were obtained from Fact Book 2009-Fact Book 2016 (Table of Financial Data and Ratios). Data of stock price, earnings per share, and book value per share for 2016 are derived from Performance Summary of Listed Companies or from the financial statements available on the Indonesia Stock Exchange (IDX) website due to Fact Book 2017 which contains 2016 data is not yet available at the time of this research data collection. The sustainability reporting award (SRA) data for 2008-2016 were accessed from the website of the National Center for Sustainability Reporting (NCSR) organizing the SRA. The lists of SRA winners also serves as a sample frame.

The initial sample derived from the lists of winners of the SRA includes 261 SRAs for the years 2008-2016. The relatively small number of SRA firms is due to participation in the SRA which is voluntary. This study requires stock price data in testing the value relevance of financial statements. Therefore, the winners of SRA that are not listed on the Indonesia Stock Exchange (IDX) of 121 observations are deducted from the initial sample. A company may receive more than one SRA within a year. Thus, the number of SRAs (140) is greater than the number of SRA firms (110) because some SRA firms receive more than one SRA. In such cases, the SRA firms are included in the sample only once. Accordingly, the SRA(s) outside the first SRA received by a company of 30 observations was excluded from the sample and resulted in a sample of 110 firm-year observations—the final sample becomes 110 (140-30). To test the impact of the SRA winner on the value relevance of the financial statements, this study requires 110 firm-year observations that do not receive the SRA for the purpose of matched pair comparison. Accordingly, the selection of the non-SRA firms is done with the following criteria. A non-SRA firm: (1) has never obtained SRA, (2) belongs to the same industry sub-sector or industry sector, for an example, if a SRA firm is in the industry sector of ‘property, real estate and building construction’ and in the industry sub-sector of ‘construction’, then a company selected as non-SRA firm is also a company in the same industry subsector; (3) the size of the selected non-SRA firm is as close as possible to the corresponding firm’s SRA size (as measured by the natural logarithm of total assets), and (4) in the same year as the SRA firm. The selection criteria for the non-SRA firms are intended to minimize the bias in the sample selection. This step resulted in a final sample of 220 firm-year observations consisting of 110 SRA firms and 110 non-SRA firms. The sample selection procedure is presented in Table 1.
Table 1. Sampling procedure

| Sampling Procedure                                                                 | Observations |
|-----------------------------------------------------------------------------------|--------------|
| Initial sample: Total SRAs                                                         | 261          |
| Firms not listed in the IDX                                                        | 121          |
| Firms listed in the IDX                                                            | 140          |
| The number of SRA(s) received by a company outside the first SRA received within the same year | 30           |
| Final sample:                                                                     |              |
| SRA firms                                                                         | 110          |
| NonSRA firms (Control firms)                                                      | 110          |
| SRA firms and NonSRA firms                                                        | 220          |

SRA = Sustainability Reporting Award; SRA firms = Firms as winners of SRA; IDX = Indonesia Stock Exchange

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive statistics are presented in Table 2 consisting of descriptive statistics for the full sample (Panel A), for the subsample of non-SRA winners or non-SRA firms (Panel B), and for the subsample of SRA winners or SRA firms (Panel C). The subsample of SRA firms has a higher mean value of stock price (P) and book value per share (BVPS) compared to non-SRA subsample but it has a lower mean of EPS. These results may be related to positive relationship P with BVPS but not with EPS. The mean value of R for SRA firms is lower than the mean of R for non-SRA firms but, conversely, the mean value of EPSC for SRA firms is higher than the mean of EPSC for non-SRA firms. These results may indicate that there is no positive association between R and EPSC. The full sample shows the mean values between the two subsamples.
Table 2. Descriptive statistics

| Variable | Minimum | Maximum | Mean | Std. Deviation |
|----------|---------|---------|------|---------------|
| Panel A: Non-SRA Firms and SRA Firms (N = 220) | | | | |
| P        | 50      | 74000   | 6346 | 8947          |
| EPS      | -516    | 62654   | 696  | 4249          |
| BVPS     | 23      | 18734   | 2544 | 3304          |
| R        | -1.85   | 1.96    | 0.05 | 0.65          |
| EPSC     | -6.53   | 2.19    | -0.04| 0.65          |
| Panel B: Non-SRA Firms (N = 110)   | | | | |
| P        | 50      | 22700   | 3926 | 4884          |
| EPS      | -516    | 62654   | 794  | 5968          |
| BVPS     | 23      | 16351   | 2163 | 3344          |
| R        | -1.71   | 1.75    | 0.07 | 0.65          |
| EPSC     | -64.67  | 6.38    | -0.98| 7.20          |
| Panel A: SRA Firms (N = 110)      | | | | |
| P        | 50      | 74000   | 8766 | 11188         |
| EPS      | -368    | 5273    | 598  | 799           |
| BVPS     | 37      | 18734   | 2926 | 3233          |
| R        | -1.85   | 1.96    | 0.02 | 0.66          |
| EPSC     | -6.53   | 2.19    | -0.08| 0.92          |

4.2. Correlations

The results of correlation analysis are presented in Table 3 consisting of Panel A-the correlation for the full sample, Panel B-the correlation for the subsample of non-SRA firms, and Panel C-the correlation for the subsample of SRA firms. Table 3 shows that P has a positive correlation with BVPS and is significant at the 0.01 level. There is a moderate positive relationship between P and BVPS for Panels A and Panel B and a strong positive relationship between P and BVPS Panel C. P has strong positive relationship with EPS but only for Panel C. These results are consistent with the value relevance of BVPS, but the value relevance of the EPS is only for SRA firms. Table 3 shows that there is no correlation between R and EPSC for Panels A, Panel B, and Panel C. These results indicate that EPSC has no value relevance. The positive correlation of R with EPS indicates that EPS has value relevance but only for SRA firms.
Table 3. Correlations

| Variable | P   | EPS | BVPS | R    | EPSC |
|----------|-----|-----|------|------|------|
| Panel A: Non-SRA Firms and SRA Firms (N = 220) |     |     |      |      |      |
| P        | 1   |     |      |      |      |
| EPS      | .145* | 1   |      |      |      |
| BVPS     | .644** | .088 | 1    |      |      |
| R        | .259** | .041 | .082 | 1    |      |
| EPSC     | 0.000 | 0.051 |      | .199** | 0.011 | 1 |
| Panel B: Non-SRA Firms (N = 110) |     |     |      |      |      |
| P        | 1   |     |      |      |      |
| EPS      | .127 | 1   |      |      |      |
| BVPS     | .555** | .019 | 1    |      |      |
| R        | .195* | .025 | -.008 | 1    |      |
| EPSC     | -0.112 | 0.05 |      | .310** | 0.013 | 1 |
| Panel C: SRA Firms (N = 110) |     |     |      |      |      |
| P        | 1   |     |      |      |      |
| EPS      | .875** | 1   |      |      |      |
| BVPS     | .755** | .846** | 1    |      |      |
| R        | .344** | .247** | .0183 | 1    |      |
| EPSC     | 0.166 | .213* | .107 | .057 | 1    |

**. Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

4.3. Regression Results

Table 4 presents the regression results with the stock price (P) as the dependent variable. The regression results consist of results for model (1), model (2), and model (2a) with a sample of 220 observations. The results of the three models show that the F values are significant at the 0.01 level. The F-test is highly significant, thus it can be assumed that the model explains a significant amount of the variance in P. The R Square and Adjusted R Square values are greater than 0.7. This means that the linear regression explains more than 70.0% of the variance in the data. The regression results for model (1), model (2), and model (2a) show that the EPSxSRA coefficient is positive and significant at the 0.01 level. These results indicate that the value relevance of the EPS for the SRA firms is higher than that for the non-SRA firms. The regression results model (1), model (2), and model (2a) show that the BVPSxSRA coefficient is negative and significant at the 0.01 level model (1), model (2), and model (2a). These results indicate that the value relevance of the BVPS for the SRA firms is lower than that for the non-SRA firms. However, the results change when natural logarithms are used to measure P and BVPS, that is the value relevance of the BVPS for the SRA firms is higher than that for the non-SRA firms (Note: regression results are not presented). Coefficients of EPSxEPSPOS BVPSxEPSPOS as controlling variables representing EPS and BVPS for positive EPS are not significant. Use of year-dummy variables increase the R Square.
Table 4. Regression results - full sample (dependent variable: Price)

| Variable            | Model 1          |          | Model 2          |          | Model 2a         |          |
|---------------------|------------------|----------|------------------|----------|------------------|----------|
|                     | Coef.            | Sig.     | Coef.            | Sig.     | Coef.            | Sig.     |
| (Constant)          | 1741.728000      | 0.000    | 1663.948000      | 0.000    | 617.661100       | 0.590    |
| EPS                 | 0.100947         | 0.192    | -4.694605        | 0.468    | -6.169837        | 0.345    |
| BVPS                | 0.856329         | 0.000    | 0.594069         | 0.048    | 0.553438         | 0.069    |
| EPSxSRA             | 11.530460        | 0.000    | 11.571520        | 0.000    | 11.257350        | 0.000    |
| BVPSxEPSPOS         | -0.746169        | 0.007    | -0.795819        | 0.005    | -0.752536        | 0.010    |
| Year-dummies        | No               |          | No               |          | Yes              |          |
| N                   | 220              |          | 220              |          | 220              |          |
| F                   | 135.461          | 0.000    | 90.135           | 0.000    | 40.301           | 0.000    |
| R Square            | 0.716            | 0.000    | 0.717            | 0.000    | 0.733            |          |
| Adjusted R Square   | 0.711            |          | 0.709            |          | 0.715            |          |

EPs = Earnings per share; BVPS = Book value per share; SRA = 1 if a firm is an SRA winner, 0 if a firm is a non-SRA winner; EPSPOS = 1 if EPS is positive, 0 if EPS is negative. Year-dummies: No if year-dummy variables are not included in the model, Yes if year-dummy variables are included in the model; Results are not presented.
Table 5. Regression results - full sample (dependent variable: Return)

| Variable      | Model 3       | Model 4       | Model 4a      |
|---------------|---------------|---------------|---------------|
|               | Coef. | Sig. | Coef. | Sig. | Coef. | Sig. |
| (Constant)    | 0.004239 | 0.932  | -0.028132 | 0.583  | -0.696957 | 0.000  |
| EPS           | 0.000004 | 0.695  | 0.000146 | 0.863  | 0.000422 | 0.589  |
| EPSC          | -0.000227 | 0.979  | -0.005251 | 0.558  | -0.007127 | 0.390  |
| EPSSxSRA      | 0.000135 | 0.056  | 0.000153 | 0.030  | 0.000135 | 0.038  |
| EPSCxSRA      | 0.021540 | 0.756  | -0.039165 | 0.588  | 0.009177 | 0.892  |
| EPSxEPSPOS    | -0.000146 | 0.863  | -0.000416 | 0.594  |
| EPSCxEPSPOS   | 0.135039 | 0.006  | 0.129401 | 0.005  |

Year-dummies: No if year-dummy variables are not included in the model, Yes if year-dummy variables are included in the model; Results are not presented.

Table 6 presents the regression results with the stock price (P) as the dependent variable for the subsample of SRA firms and for non-SRA firm subsample. For non-SRA firms, the coefficient of BVPS are significant at the 0.01 level indicating the value relevance of BVPS is higher for non-SRA firms than that for SRA firms. For SRA firms, the coefficient of EPS are significant at the 0.01 level indicating the value relevance of EPS is higher for SRA firms than that for non-SRA firms. However, using natural logarithm for P and BVPS, the results change (Note: Regression results are not presented). The BVPS coefficient is positively significant at the 0.01 level for both model (5) and model (5a) of the SRA firms and non-SRA firms. These results indicate that BVPS have value relevance, both for SRA firms and for non-SRA firms.
### Table 6. Regression results - Non-SRA Firms and SRA Firms (dependent variable: Price)

| Variable | Non-SRA Firms | | | | SRA Firms | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Model 5 | Model 5a | Model 5 | Model 5a | | | | |
| Coef. | Sig. | Coef. | Sig. | Coef. | Sig. | Coef. | Sig. | Coef. | Sig. |
| (Constant) | 1326.790 | 0.199 | 737.151 | 0.612 | 1594.948 | 0.521 | 184.259 | 0.945 | |
| EPS | 0.090 | 0.169 | 0.118 | 0.076 | 11.633 | 0.000 | 12.077 | 0.000 | |
| BVPS | 0.795 | 0.000 | 0.835 | 0.000 | 0.184 | 0.547 | 0.046 | 0.894 | |
| EPSPOS | 1326.790 | 0.199 | 658.714 | 0.542 | 184.259 | 0.945 | | | |
| Year-dummies | | | No | Yes | No | Yes | | | |
| N | 110 | 110 | 110 | 110 | | | | | |
| F | 17.575 | 0.000 | 6.218 | 0.000 | 115.621 | 0.000 | 32.059 | 0.000 | |
| R Square | 0.332 | 0.011 | 0.766 | 0.000 | 0.783 | 0.000 | | | |
| Adjusted R Square | 0.313 | 0.011 | 0.759 | 0.000 | 0.758 | 0.000 | | | |

EPS = Earnings per share; BVPS = Book value per share; EPSPOS = 1 if EPS is positive, 0 if EPS is negative. Year-dummies: No if year-dummy variables are not included in the model, Yes if year-dummy variables are included in the model; Results are not presented.

Regression results with stock return (R) as the dependent variable for the subsample of SRA firms and for non-SRA firm subsample are presented in Table 7. The EPS coefficient is positive and significant at the 0.01 level for the SRA firms, but the EPS coefficient is not significant for non-SRA firms. The EPSC coefficient is positive but not significant either for the SRA firms or for non-SRA firms. These results are consistent with the regression results presented in Table 5 which indicate that the value relevance of the EPS for the SRA firms is higher than that for the non-SRA firms, but the EPSC has no value relevance either to the subsample of SRA firms as well as for non-SRA firms.

### Table 7. Regression results - Non-SRA Firms and SRA Firms (dependent variable: Return)

| Variable | Non-SRA Firms | | | | SRA Firms | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Model 6 | Model 6a | Model 6 | Model 6a | | | | |
| Coef. | Sig. | Coef. | Sig. | Coef. | Sig. | Coef. | Sig. | Coef. | Sig. |
| (Constant) | 0.80 | 0.02 | 0.520286 | 0.000 | 3.000019 | 0.000 | 0.007610 | 0.000 | |
| EPS | -0.041895 | 0.596898 | 0.000008 | 0.000191 | 0.000019 | 0.000190 | 0.000190 | 0.000190 | 0.000190 |
| EPSPOS | 0.83 | 0.43 | 0.000191 | 0.000191 | 0.000191 | 0.000191 | 0.000191 | 0.000191 | 0.000191 |
| Year-dummies | | | No | Yes | No | Yes | | | |
| N | 110 | 110 | 110 | 110 | | | | | |
| F | 0.194399 | 2.063 | 2.938 | 0.03 | 7 | 5.868 | 0.000 | | |
| R Square | 0.005472 | 0.018 | 0.077 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Adjusted R Square | -0.022675 | 0.097 | 0.051 | 0.03 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
Results of the additional tests of the impact of SRA on value relevance of EPS, BVPS, and EPSC that use the equation (5b) and equation (6b) are presented in Table 8 and Table 9. Table 8 show that the use of positive EPS subsample, BVPS is positively associated with P for non-SRA firms, while EPS is positively with P for SRA firms. Table 9 show that using positive EPS subsample, EPS is positively associated with R for SRA firms, while CEPS is positively with R for non-SRA firms. Thus, CEPS has positive association with R for firms with positive EPS.

Table 8. Regression results - Non-SRA Firms and SRA Firms (dependent variable: Price) for positive EPS subsample

| Variable       | Non-SRA Firms |          |          | SRA Firms |          |          |
|----------------|---------------|----------|----------|-----------|----------|----------|
|                | Model 5c      | Model 5d |          | Model 5c  | Model 5d |          |
| (Constant)     | 2313.870      | 0.000    | 1346.294 | 0.381     | 1261.637 | 0.093    |
| EPS            | 0.091         | 0.197    | 0.118    | 0.100     | 11.710   | 0.000    |
| BVPS           | 0.817         | 0.000    | 0.877    | 0.000     | 0.166    | 0.595    |
| Year-dummies   | No            |          | Yes      | No        |          | Yes      |
| N (Positive EPS)| 91            | 91       | 91       | 91        |          |          |
| F              | 18.109        | 0.000    | 4.924    | 0.000     | 161.911  | 0.000    |
| R Square       | 0.292         | 0.381    | 0.760    | 0.078     |          |          |
| Adjusted R Square | 0.275      | 0.304    | 0.756    | 0.754     |          |          |

Table 9. Regression results - Non-SRA Firms and SRA Firms (dependent variable: Return) for positive EPS subsample

| Variable       | Non-SRA Firms |          |          | SRA Firms |          |          |
|----------------|---------------|----------|----------|-----------|----------|----------|
|                | Model 6c      | Model 6d |          | Model 6c  | Model 6d |          |
| (Constant)     | 0.027274      | 0.709    | -0.484218| 0.033     | -0.072565| 0.374    |
| EPS            | -0.000001     | 0.909    | 0.000005 | 0.632     | 0.000188 | 0.006    |
| EPSC           | 0.140692      | 0.009    | 0.127888 | 0.019     | -0.016881| 0.871    |
| Year-dummies   | No            |          | Yes      | No        |          | Yes      |
| N (Positive EPS)| 91            | 91       | 91       | 91        |          |          |
| F              | 3.613969      | 0.031    | 2.526    | 0.011     | 2.757    | 0.068    |
| R Square       | 0.075901      | 0.240    | 0.051    | 0.386     |          |          |
| Adjusted R Square | 0.054899  | 0.145    | 0.033    | 0.321     |          |          |
4.4. Discussion

This study examines the value relevance of the financial statements that include earnings per share (EPS), changes in earnings per share (EPSC), and book value per share (BVPS) and compares whether the value relevance of the financial statements for firms receiving sustainability reporting award (SRA firms) is higher than that for non-SRA firms. The study found that BVPS and EPS have value relevance, whereas EPSC does not. Further findings indicate that the value relevance of BVPS for SRA firms is higher than that for non-SRA firms, whereas the value relevance of EPS for SRA firms does not differ from that for non-SRA firms. The results of this study indicate that investors respond positively to BVPS as a relevant accounting information in stock valuation, and the market response to the BVPS for the SRA winners is higher than the market response to BVPS for non-SRA winners. From the perspective of signaling theory, the market captures information about the winners of SRA, provided by the National Center for Sustainability Reporting (NCSR) and which is pursued by participating companies of SRA, as a positive signal because the SRA participating companies and SRA winners are considered managed by high-type managers, that is, managers who have inside information about future prospects in favor of sustainability development. This information may be viewed in line with the interests of shareholders who expect a sustained return on their investment. This is indicated by the positive relationship between book value per share (BVPS) and stock price, which means that BVPS is the main factor in stock valuation. Nevertheless, the study finds that although EPS has value relevance, there is no difference in the value relevance of the EPS for the SRA firms from the non-SRA firms. In addition, the results of this study show that EPSC has no value relevance for the two subsamples. The EPSC that is unrelated to return can be caused by other factors that affect returns other than EPSC. The findings of this study indicate that EPS, instead of EPSC, has value relevance, i.e. EPS plays a role in stock return determination, and the value relevance of EPS for SRA firms is higher than that for non-SRA firms. Thus, BVPS and EPS are important information for investors in determining stock value, and the information about the winners of SRA has a positive impact on the value relevance of BVPS and EPS.

5. Conclusion

This study aims to examine whether the information on sustainability reporting award (SRA) winners has an impact on the value relevance of the financial statements, that include earnings per share (EPS), change in earnings per share (EPSC), and book value per share (BVPS). The results of this study indicate that EPS have value relevance, and the value relevance of EPS for the SRA firms is higher than that for firms that the non-SRA firms. The value relevance of BVPS for SRA firms is also higher than that for non-SRA firms when measures of price (P) and BVPS use natural log of those variables. This means that the higher the BVPS the higher the stock price and the relationship between BVPS and stock price is higher for SRA firms than for non-SRA firms. The study found that there is no value relevance of EPSC, which indicates that EPSC is not related to stock returns, either for SRA firms or for non-SRA firms when stock return (R) and EPSC are measured with price change and EPS change in percentage. When the change is measured in Rupiah, the results are consistent with that for EPS. Thus, information about the winners of SRA has an impact on the value relevance of the financial statements. The implication of the findings of this study is that the determination of the SRA winners to the SRA participants can improve the usefulness of information in financial statements, especially information about BVPS and EPS.

This study has limitations, among others, that the number of observations selected for the sample is relatively small. This is due to the limited participants and winners of SRA organized by the National Center for Sustainability Reporting (NCSR). Participating the SRA is voluntary and only part of the participants receive SRA. The winners of SRA, not participants of SRA, were selected as factors that
impacted the value relevance of financial statements because the winners of the SRA indicated a relatively high quality in implementing the SRA. The number of observations in the sample becomes even less due to the use of criteria that the winners of SRA are companies listed on the Indonesia Stock Exchange (IDX). This criterion is required in this study because of the need for information about stock prices for testing the value relevance of financial statements. The selection of samples with these specific criteria limits the generalization of the results of this study. Further studies using a greater number of observations, when data is available, and/or testing the usefulness of accounting information with other methods, can be done to test the validity of the results of this study. Further study can also be conducted to examine whether the signal captured from information about the winners of SRA is in line with the future performance of the companies. In addition, future studies can also be undertaken to investigate whether the SRA winners empirically indeed contribute more to sustainable development. These two issues are interesting issues that are beyond the current study.

Supplementary Materials:

Sources of data:

Data of stock price (P), earnings per share (EPS), and book value per share (BVPS) for 2008-2015 were obtained from Fact Book 2009- Fact Book 2016 (Table of Financial Data and Ratios);

Link: http://www.idx.co.id/en-us/home/publication/factbook.aspx

Data of stock price, earnings per share, and book value per share for 2016 are derived from (1) Performance Summary of Listed Companies available on the Indonesia Stock Exchange (IDX) website due to Fact Book 2017 which contains 2016 data is not yet available at the time of this research data collection or (2) from the financial statements;

Link (1): http://www.idx.co.id/en-us/home/publication/performancesummaryoflistedcompanies.aspx
Link (2): http://www.idx.co.id/en-us/home/listedcompanies/financialannualreport.aspx

The sustainability reporting award (SRA) data for 2008-2016 were accessed from the website of the National Center for Sustainability Reporting (NCSR) organizing the SRA.National Center for Sustainability Reporting (NCSR);

Website of NCSR: http://sra.ncsr-id.org/; for example, data of SRA winner 2016 can be accessed as follows: http://sra.ncsr-id.org/winner-sra-2016/

Author Contributions:

All authors have read and approved the final manuscript.

Conflicts of Interest:

The authors declare no conflict of interest.

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