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The Effect of Sustainability Assurance on Asymmetry Information: Evidence Indonesia

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A B S T R A C T

The objective of this research is to examine whether there is a correlation between the issuance of sustainability reporting assurance by publicly listed companies in Indonesia and a decrease in information asymmetry, thereby enhancing the trustworthiness of these reports among investors and other stakeholders. Given the limited adoption of sustainability assurance practices among Indonesian companies, this research employs multivariate analysis on a dataset consisting of 250 sustainability reports from listed companies period 2017 - 2021. The focus is on elucidating how voluntary sustainability assurance contributes to mitigating issues related to asymmetric information. Moreover, the study aims to evaluate by using bid-ask spread as an indicator.

Keywords: Sustainability report, Sustainability Assurance, Bid-ask Spread, Asymmetry Information

1. Introduction

Sustainability reporting in Indonesia still has many challenges, both in terms of measurable and clear sustainability reports, as well as increasing sustainability reports for companies in Indonesia. One of the challenges faced - according to the Supreme Audit Agency (BPK) - is increasing the assurance of existing sustainability reports. Initiatives in providing independent assurance for sustainability reports are still lacking. The Financial Audit Agency (BPK), the B20 Integrity & Compliance Task Force (TFIC), the National Supervisory Board of the Indonesian Accounting Association (DPN IAI), as well as leaders of G20 countries and other global business communities continue to strive to encourage and improve initiatives to provide independent assurance for sustainability reports which has been set. In addition, sustainability assurance have a positive effect on investors. If investors consider the information provided by the company to be reliable, then they will consider it in assessing the company. By providing assurance of sustainability reports, company management aims to convince investors that the sustainability report information can be trusted.

According to a survey conducted by KPMG in 2013, there was a significant increase in the publication of sustainability reports with Assurance by the 250 largest companies in the world. Data shows that the percentage of companies publishing these reports has increased from 29% in 2002 to 59% in 2013 (KPMG 2013). Differences in information received are generally associated with the concept of agency theory.

Within the framework of agency theory, agents refer to company management, both in the context of financial accounting and sustainability reporting. The agent has the information that the principal wants, and more importantly, that information can only be obtained with the agent's help. Therefore, agency theory describes the information inequality that arises between agents (company) and actors (stakeholders). This in itself is not a problem, but when the goals of the principal and agent differ, there is a large risk that the utility maximizing party will experience information asymmetry between them. It is not difficult to imagine how actors (investors or different stakeholders in sustainability settings) might suffer from this relationship, but agency theory, especially when retold in the context of explaining financial audits (Jensen and Meckling 1976), shows how agents can also experience loss.

Collateral means that the collateral provider reviews the report the agent prepares for the principal and checks whether the proposition made corresponds to the reality it seeks to represent. In short, assurance is a method used in conjunction with company boards, company annual reports, and annual shareholder meetings at various levels. This method functions as a control mechanism to overcome agency problems. The purpose of this research is to investigate the impact of independent assurance on the sustainability reports of companies listed in Indonesia.

Several studies highlight the importance of ensuring sustainability and the impacts and benefits obtained by stakeholders and companies. An initial study suggested that assurance was able to increase users' views of the trustworthiness of voluntary reports, strengthen trustworthiness, and improve perceptions of report credibility (Park and Brorson, 2005; Hodge et al., 2009; Fonseca, 2010; Pflugrath et al., 2011). In addition, collateral can help reduce information asymmetry and agency costs (Simnett et al., 2009). Therefore, several companies apply assurance to sustainability reports, for example the Certified Sustainability Reporting Assurer (CSRA). A CSRA has the skills to ensure company sustainability reports comply with the AA1000AS standards set by AccountAbility.

In Indonesia, initiatives that provide assurance for corporate sustainability reports are still very limited. This is in accordance with the requirements listed in Appendix II of the Financial Services Authority Regulation (POJK) Number 51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies, especially in point (7) which includes written verification from an independent party, if necessary. There are still few or low assurance for sustainability reports in Indonesia, making the Indonesia Integrity & Compliance Task Force (I&C TF) B20 provide support for policy actions to increase the initiative of Indonesian companies in providing independent assurance for sustainability reports. Apart from the Indonesia Integrity & Compliance Task Force (I&C TF) B20, the Indonesian Accountants Association (IAI) together with the International Federation of Accountants (IFAC) also support the recommended policy action.

Several previous studies have discussed sustainability assurance and efforts to reduce information asymmetry. A study conducted by Sellami and Hlima in 2019 resulted that the demand for sustainability assurance from companies in France contributed to a decrease in the bid-ask spread, thereby increasing stock market liquidity. The implication is that there is a reduction in the level of information asymmetry through assurance statements related to sustainability reporting. These results suggest that sustainability assurance can be a key factor in reducing corporate information asymmetry, supporting the application of signaling theory in the context of European financial markets. Other findings also emphasize that company size, trading volume, and stock returns have an important role in information asymmetry. For example, Cuadrado-Ballesteros et al. 2017 research investigated the role of sustainability assurance in mitigating information asymmetry. They find that sustainability reporting is effective in reducing information asymmetry when the information is assured, especially if assurance is provided by accounting professionals and practitioners who express a fair or high opinion of the sustainability report. The design of a high-quality assurance process reduces the level of information asymmetry (Fuhrmann et al., 2016). However, it is important to note that an assurance process that solely assurance a moderate level of assurance is not effective enough. Detailed testing of numerical data by assurance providers was also identified as a factor that could further reduce information asymmetry.

However, unfortunately, research on sustainability assurance and its influence in reducing information asymmetry in sustainability reporting in Indonesia is still very low. Searched using Google Scholar, there are only 69 journals about sustainable assurance and only 9 journals and articles about the influence of sustainability assurance in reducing information asymmetry in sustainability reports in Indonesia. Meanwhile, in business, investors demand sustainability performance information, regulators require disclosure of this information, and companies prefer to disclose sustainability performance information to differentiate themselves from companies that are less sustainable, less social, and less environmentally responsible. Sustainability reports are considered useful if they are complete, accurate, and their reliability, objectivity and credibility are assured by the assurance provider (auditor).

2. Literature Review

The importance of sustainability began to receive greater attention after the global crisis of 2007-2009 to ensure the long-term sustainability of public companies and their accountability to various stakeholders. Investor demands and regulatory obligations mean that companies are obliged to disclose their sustainability reports to various stakeholders. Sustainability reports are also used by global investors and international businesses to view information regarding sustainability performance that goes beyond company finances in making business and investment decisions (Rogers, 2015).

In Indonesia, the legal basis that requires companies to disclose and summarize sustainability reports is based on the Financial Services Authority Regulation (POJK) Number 51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies. In addition, in accordance with Law Number 40 of 2007 Article 1 paragraph 3 concerning Limited Liability Companies, Corporate Social Responsibility is interpreted as the Company's commitment to participate in sustainable economic development, with the aim of improving the quality of life and environment. This is done to provide significant benefits, both for the company itself, local communities, and society in general.

Sustainability Reports are not just documentation of the results of corporate social responsibility activities, but also include policies related to performance in economic, environmental, and social aspects, as well as the impact of organizational and product performance on society (Lukman, 2012). Based on agency theory, managers have access to more comprehensive information regarding the company's sustainability performance. Although this information can be useful in assessing company performance, disclosure of this information is not mandatory (Dhaliwal et al., 2012; Moser and Martin, 2012). The existence of information asymmetry between company management and investors drives the need for voluntary disclosures such as in sustainability reports. However, because managers are given incentives to make self- serving voluntary disclosures, voluntary disclosures are only partially informative (Crawford and Sobel 1982). Difficulties arise in assessing whether the information provided in a company's sustainability reporting can be trusted. Only if report users consider sustainability reporting to be credible will they consider it in assessing the company.

Research shows that credibility can be enhanced when voluntary disclosures have a large audience, as is the case with sustainability reporting (Farrell and Gibbons 1989). Information intermediaries, such as audit or assurance providers, play an important role in enhancing the credibility of disclosures (Healy and Palepu 2001). By adding statements from assurance providers, the propositions in sustainability reports become stronger (Hodge et al. 2009; IAASB 2017).). According to the standard (which is based on the standards setter of the primary accounting sustainability assurance provider, the IAASB), however, an assurance engagement is not necessarily an audit engagement. From a juridical point of view, this is an important distinction because an audit provides greater assurance, as the auditor then makes his statement with “reasonable certainty”, whereas for other assurance engagements, the level of assurance may be lower (ISAE 3000). Regardless of the level of assurance, an audit is a form of assurance and is therefore theoretically the same. From the perspective of audit professional assurance standards (IAASB 2017), assurance is a “broader” concept, of which audit is a specific form. In the context of providing sustainability assurance, there are two standards that are generally recognized globally, namely ISAE 3000 and AA1000AS. This international standard, ISAE 3000 is published by the International Auditing and Assurance Standards Board (IAASB) which operates under the supervision of the International Federation of Accountants (IFAC) in 2008 (IFAC 2008, 2011). The assurance statement provided under ISAE 3000 focuses primarily on the procedural details of the assurance process (Oelschlaegel 2005). Meanwhile, Assurance AccountAbility 1000 (AA1000AS) is currently the preferred assurance standard applied (CorporateRegister.com 2008, KPMG 2008). AA1000AS aims to align the assurance process with the material requirements and expectations of all stakeholders ('inclusivity stakeholders', AA 2008). The difference between the two assurance standards is: reasonable and limited apply to ISAE 3000, while high and moderate apply to AA1000AS (AA 2008, IFAC 2008, 2011). Both warranty standards have similar requirements regarding the content of warranty statements. Since assurance providers may be engaged for testing of details (i.e. verification of data contained in sustainability reports) or analytical procedures, these providers must determine the scope of the assurance assignment and the work to be performed (O'Dwyer and Owen 2005). However, these two assurance standards also have distinctive characteristics. ISAE 3000 requires assurance providers to state any qualifications in the conclusion of the assurance statement (the 'cautionary approach', see O'Dwyer and Owen 2005). AA1000AS requires a description of the assurance provider's competency and the inclusion of recommendations. In addition to increasing trust between shareholders and companies, sustainability assurance also have other benefits for companies and assurance service providers.

Most large companies are owned by many shareholders and investors. Such companies are characterized by a clear separation between property and control, which is the basis of agency theory. According to this theory, stakeholders give responsibility for managing the company to managers. The latter party is expected to move in line with the goals and intentions of the former party; however, principals and agents have varying interests, so managers take actions according to their personal interests. Limited access to company information between principals and agents can give rise to takeover problems because of information asymmetry between the two (Shleifer & Vishny, 1992). In the context of this agency relationship, companies can overcome market obstacles by increasing the level of corporate information disclosure, thereby encouraging optimal capital market functioning (Healy & Palepu, 2001).

Companies that consistently provide quality disclosures are considered to consistently provide quality disclosures and tend to have less risk of hiding or withholding unfavorable information, so they have lower risks in the market (Sengupta, 1998). Therefore, investors highly value this information and use it to evaluate their investment opportunities (Barberis & Thaler, 2003).

In this context, several studies show that corporate disclosure tends to reduce information asymmetry as a form of agency costs. For example, Healy, Hutton, and Palepu (1999), as well as Leuz and Verrecchia (2000), found a negative relationship between disclosure quality and the company's bid-ask difference as an indicato2r8of information asymmetry. Voluntary sustainability disclosure contributes to reducing information asymmetry that arises from differences in information available and owned by stakeholders (Cormier, Ledous, & Magnan, 2011; Healy et al., 1999; Leuz & Verrecchia, 2000; Verrecchia, 2001). Informed stakeholders – usually managers – have access to more data than uninformed stakeholders, who only have access to public information.

Research conducted by Sellami and Hlima (2019) tests whether the voluntary demand for sustainability assurance by French companies is associated with lower information asymmetry. The results show that the demand for sustainability assurance by French companies contributes to reducing the bid-ask spread and thereby increasing stock market liquidity. As a result, there is a weakening of the level of information asymmetry with the statement of sustainability assurance. These results suggest that sustainability assurance is likely to be an important factor in reducing corporate information asymmetry, supporting the application of signaling theory in the context of European financial markets. Other results also show that company size, trading volume and stock returns are important factors in the occurrence of information asymmetry.

Assessing the quality of sustainability reporting is important for investors but expensive. Thus, investors will rely on observable measures to make judgments (Cohen et al., 2010; Moroney et al., 2009). Voluntary demand for sustainability assurance by companies is an observable measure that investors can use in assessing quality sustainability reporting. Peters and Romi (2013) show that companies that experience high levels of information asymmetry tend to voluntarily request sustainability assurance. This is done with the aim of increasing the credibility of the information presented in their sustainability reports, thereby reducing the gap in expectations between investors and reducing the profits of investors who have access to more information. In this case, sustainability assurance have a positive effect on investors' perceptions of the quality of the sustainability report information disclosed and reduce the problem of information asymmetry.

Cuadrado-Ballesteros and colleagues (2017) also show, based on a sample of international listed companies, that assurance of sustainability information influences the level of information asymmetry measured through analyst forecasts. In summary, the literature confirms that sustainability assurance provides confidence in the quality of sustainability report disclosures, increases trust in capital markets (Zhou et al., 2013; Cheng et al., 2015), and contributes to reducing information asymmetry. The market gives a positive assessment of sustainability reporting because it can reduce information asymmetry between market players, and at the same time reduce transaction costs for investors (Patten, 2002; Frias-Aceituno et al., 2013; Akrout and Ben Othman, 2016; Martínez-Ferrero et al. , 2016). Since sustainability assurance is a mechanism that increases the credibility of this kind of reporting, it enables the reduction of information asymmetry and is an important basis for the benefits of sustainability reporting regarding information asymmetry. Based on these arguments, this research tests the hypothesis:

H: Voluntary demand for assurance on sustainability reporting is negatively associated with information asymmetry.

The distinctive feature of this research, which differentiates it from previous studies, is its focus on evidence on companies listed in Indonesia that disclose and include independent assurance statements. In contrast, previous research explores the perspective of evidence from French listed companies.

3. Research Method

The research method for this study is quan5ti8tative with descriptive research type. The main data source comes from secondary data, especially sustainability reports from companies listed in Indonesia. In addition, information regarding historical data on company shares during the 2017-2021 obtained from the Yahoo Finance platform. The research targets include companies listed on the Indonesia Stock Exchange (BEI). The initial sample consisted of 827 companies in Indonesia listed on the Indonesia Stock Exchange until 2022. Sample selection involved eliminating companies that did not present annual reports and sustainability reports. Furthermore, this research ignores which does not provide comprehensive annual reports and sustainability reports for the 2017-2021 period. Data related to sustainability assurance is collected from sustainability reports available on the company's official website.

Research variables.

The independent variable of this research includes providing sustainability assurance and sustainability reports for corporate, while the dependent variable is the level of information asymmetry in sustainability reports. Previous studies, such as the work of Boone (1998), Greenstein and Sami (1994), Raman and Tripathy (1993), Stoll (1978), and Akrout and Ben Othman (2016), used spreads between buying price and selling price (bid-ask spread) as a proxy for measuring information asymmetry. Specifically, this proxy refers to the daily relative spread which is calculated based on the difference between the ask and bid prices each day. Next, the annual average difference of the bid-ask spread for each company that is the focus of the research is calculated. The formula that reflects the relative spread of stock i on day d of year t, as described by Sellami and Hlima (2019), is as follows: Regarding requests for sustainability assurance, this variable is defined as a binary variable that has the value 1 if a company's sustainability reporting is assured, and 0 if not. This approach has also been applied in previous studies, including the work of Simnett et al. (2009), Kolk and Perego (2010), Zorio et al. (2013), Cho et al. (2014), Casey and Grenier (2015), and Martínez-Ferrero and García-Sánchez (2017). In an effort to avoid potential bias in the results, this study also incorporates several control variables that have been shown to have an influance on liquidity. Specifically, company size is measured using the natural logarithm of the company's market capitalization (Merton, 1987; Daadaa and Rajhi, 2011; Vo and Bui, 2016). Volume is defined as the natural logarithm of the number of shares traded (Gregoriou et al., 2005; Akrout and Ben Othman, 2016). RET (share return) is calculated using the formula RET 2= Ln (Pt + Dt) – Ln (Pt – 1), with Pt as the share price, and Dt as dividends (Dumontier and Maghraoui, 2006; Hakim and Omri, 201030). VOLAT (standard deviation of returns) is measured to describe the level of fluctuation in stock returns (Almutairi et al., 2009; Hakim and Omri, 2010).

Regression Model

To test the hypothesis of determining the effect of voluntary assurance company sustainability information on information asymmetry, researchers will use previous research by Sellami and Hlima (2019) which proposed an equation where the dependent variable represents the level of information asymmetry (SPREAD), which is explained by voluntary sustainability assurance and other control variables. This relationship was tested empirically through regression as follows (Sellami and Hlima 2019):

$$\text{Relative Spread}_{i,d,t} = \frac{\text{Ask Price}_{i,d,t} - \text{Bid Price}_{i,d,t}}{\left(\frac{\text{Ask Price}_{i,d,t} - \text{Bid Price}_{i,d,t}}{2}\right)}$$

$SPREAD_{it} = \beta_0+\beta_1 ASSURANCE_{it} + \beta_2 SIZE_{it} + \beta_3 VOLUME_{it} + \beta_4 RET_{it} + \beta_5 VOLAT_{it} + \varepsilon_i$.

This research utilizes multiple linear analysis methods to assess the extent of impact between the independent variable and the dependent variable.

4. Results and Discussion

The results of the regression test in the research show that the independent variable (Assurance) together the same as the Control Variables (SIZE, VOLUME, RET and Volat) influence the dependent variable SPREAD with a coefficient (constant) of -2.688 and the Assurance variable coefficient of 0.054 so that the hypothesis in this study is accepted, namely that Assurance's voluntary request for sustainability reporting is negatively related to information asymmetry.

Table Result

Variable	**Coefficient Regression**	**t Count**	**Sig.**
Constant	-2.668		
ASSURANCE	0.054	2.091	0.038
SIZE	-0.073	-8.483	0.000
VOLUME	0.059	10.333	0.000
RET	0.13	0.349	0.727
VOLAT	1.172	17.462	0.000
F count	122.224		
R square	0.715		

Source: data processing SPSS 2023

Table result shows a negative and very significant relationship between sustainability assurance and the level of information asymmetry. Based on this table, the Assurance variable coefficient obtained is 0.054 (t=2.091; Sig=0.038) which further strengthens the hypothesis in this research that voluntary demand for sustainability assurance has an opposite or negative correlation with information asymmetry, indicating that the use of Sustainability Assurance can reduce the level of information asymmetry. This finding is also in line with previous research findings by Husted et al., (2012), Cuadrado-Ballesteros et al. (2017), Martinez & Garcia (2017), Sellami & Hlima (2019) which shows that independent assurance of sustainability reports plays an important role in mitigating information asymmetry. Based on results of previous research, it also provides support for the proposition that companies whose sustainability information is verified externally enjoy lower information asymmetry, thereby increasing the credibility and reliability of social and environmental information, as proposed by Hodge et al. (2009) and Birkey et al. (2016). The implementation of Sustainable Assurance is interpreted as a positive signal that restores market confidence and attracts investors. In addition, research by Kolk & Perego (2010) recognizes that a company's decision to assurance a sustainability report depends on the decision to publish the report. Previous research also shows that the application of sustainability assurance provides positive influences, such as: reducing information asymmetry (Husted et al., 2012) thereby increasing the credibility of sustainability reports and increasing the trust of investors and other stakeholders, advancing the literature that promotes sustainability assurance as a mechanism. effective monitoring for managers (Watts & Zimmerman, 1983), increasing the credibility of company information and reducing information inequality arising from agency conflicts (Coram et al., 2009). In this case, assurance and voluntary disclosure of information can reduce agency conflicts because they increase the amount of information that can be accessed by shareholders and interested parties regarding strategy companies (Coram et al., 2009; Martinez and Garcia, 2017). At the same time, it increases the credibility and trustworthiness of sustainability information (Simnett et al., 2009). Furthermore, research on Sustainability Assurance at the international level (eg Kolk & Perego, 2010; Peters & Romi, 2014): Sustainability Assurance achieves a reduction in information asymmetry between companies and society/society in general. The results of this discussion are also supported by previous research because sustainability assurance has a positive impact on the credibility of externally verified reports (Pflugrath et al., 2011) and the perception of report users (Hodge et al., 2009). In addition, by ver4if7ying sustainability reports externally, companies can meet shareholders' and stakeholders' needs for information, and moreover, for more credible and transparent information (Martinez and Garcia, 2017) because such assurance has a positive impact on the credibility of verified reports . externally (Pflugrath et al., 2011) and user perceptions of the report (Hodge et al., 2009).

In reporting on the impact of achieving the UN's Sustainable Development Targets (SDG), Adams et al. (2020) outlined that the credibility of Sustainable Development Goals (SDGD) Disclosures will have an impact on report users' reliance on this information in their decision-making processes. They argue that retaining documentary evidence in the form of “Evidence Examples” adds credibility and strength to the organization's approach to SDGDs. “Examples of Evidence” can be used to address sustainability issues such as Governance (examples consist of Board meeting minutes and Audit and Risk Committee minutes), Strategy (Documented results of Board strategy meetings, Strategic Plan and supporting documents), Management approach (Provisions Audit and Risk Committee references, internal documents and policies related to monitoring risks and opportunities), and Performance and targets (for example, Data sources, Data protocols, and documents justifying the choice of indicators). Adams et al. (2020) further suggest that “Evidence Examples” can be used by assurance providers to expand the scope of engagements to include narrative reporting on governance, strategy and management approaches. This is an example of a low-cost credibility-enhancing technique that can complement or replace traditional assurance approaches. In feedback to the recommendations, a number of issues raised in relation to the provision of assurance (Adams, 2020) were the lack of qualified/well-educated assurance practitioners, the stage of development of assurance standards, and the limited coverage of many warranties. Assignment and collateral costs are considered to represent barriers to assurance, and therefore to the credibility of the reported information.

Regarding control variables, table result shows a very strong positive and significant relationship between SIZE and SPREAD. According to table result, the coefficient of the SIZE variable is -0.073 (t=-8.483; Sig=0.000), indicating that the SIZE variable has a significant impact, but in the opposite direction, in contrast to other control variables which have positive coefficients. This finding also indicates that company dimensions have a direct effect on the level of information asymmetry, so that the greater the company dimensions, the higher or greater the information asymmetry. These findings are different from the results of previous research (Sellami and Hlima, 2019), but are in line with and supported by studies conducted by Akrout and Ben Othman (2016).

Specifically, companies that voluntarily disclose sustainability information, especially those who choose an assurance system for this information, it is hoped that it can increase its credibility. Investors then tend to expect a lower rate of re3turn for investing in the company (Dhaliwal et al., 2011, 2012; Peters & Romi, 2014; Simnett et al.8, 2009; Weber, 2014). As a result, companies that have larger dimensions may be more easily monitored and more susceptible to public scrutiny and institutional pressure, so they are less likely to adopt assurance systems (Simnett et al.,392009). A study by Kolk & Perego (2010) recognizes that a company's decision to provide assurance on a sustainability report is related to the decision to publish the report. The research findings also confirm that the control variable SIZE has a significant impact. Companies that implement Sustainable Assurance on average show greater and better performance compared to companies that do not adopt it (Claire Gi2ll7ett-Monjarret, 2015).

In table result, the coefficient for the volume variable is obtained at 0.059 (t=10.333; Sig=0.000) which shows that the control v37ariable VOLUME has a real positive influence on the SPREAD variable. These results contradict the findings of previous research carried out by Sellami and Hlima (2019) which has a negative influence but still has the same meaning (the opposite effect), namely by increasing the VOLUME variable as a control variable, it will reduce the SPREAD variable, in other words reducing information asymmetry. The results of previous research (Sellami and Hlima, 2019) state that the more active a security is, the lower the potential losses that market players can bear. In fact, if the security is active, the information asymmetry that characterizes it is weak.

Based on table result, other control variables also show a negative and very significant relationship, namely the VOLAT variable with a coefficient of 1.172 (t=17.462; Sig=0.000), this means that the VOLAT control variable has a quite significant positive impact on the SPREAD variable. The results of this study contradict the findings expressed by Sellami and Hlima (2019), which did not show a correlation between VOLAT and information asymmetry. However, the overall results of this research remain consistent and are supported by previous research conducted by Hakim and Omri (2010) which shows that the VOLAT variable is statistically significant and has the expected sign; bid-ask spread reduces volatility.

Finally, the research findings show that only the control variable RET is shows an insignificant coefficient. The RET variable does not seem to have a significant relationship with providing sustainability assurance to reduce information asymmetry in corporate sustainability reports. These results are different from the previous study by Sellami and Hlima (2019), however, according to the research findings of Hasan et al. (2019), which shows that Assurance does not have a significant impact on the company's rate of return. Even though the RET control variable does not show a significant impact individually on the SPREAD variable, it has an overall impact together with the Assurance variable and other control variables, as can be seen from the results of the F test and coefficient of determination. The findings from the Simultaneous F Test and coefficient of determination show that the Volatility variable has a correlation with information asymmetry and simultaneously the Collateral, SIZE, Volume and Volatility variables contribute 0.715 or 71.5% to the SPREAD variable, which is the level of company information asymmetry.

5. Conclusion

Regression analysis shows that the independent variable, namely Assurance, together with the control variables (SIZE, VOLUME, RET, and Volatility), has an influence on the dependent variable SPREAD with a constant coefficient. From Table result, there is a very strong negative and significant correlation between sustainability assurances and the level of information asymmetry. Based on this table, the Assurance variable coefficient obtained is 0.054 (t=2.091; Sig=0.038), which further validates the hypothesis in this research that voluntary requests for sustainability reporting through Assurance are negatively related to information asymmetry. This means that the use of Sustainability Assurance can reduce the level of information asymmetry. These findings are consistent with the results of previous research, including the works of Husted et al. (2012), Cuadrado-Ballesteros et al. (2017), Martinez & Garcia (2017), Sellami & Hlima (2019), which emphasize that independent assurance in sustainability reports plays a significant role in mitigating information asymmetry.

Previous studies also provide support for the proposition that companies that engage in external verification of their sustainability information experience lower levels of information asymmetry, which in turn increases the credibility and reliability of social and environmental information. This understanding has been revealed by research by Hodge et al. (2009) and Birkey et al. (2016). Previous research also shows that implementing sustainability assurance in sustainability reports has a positive impact, such as reducing information asymmetry (Husted et al., 2012), thereby increasing the credibility of sustainability reports and gaining the trust of investors and other stakeholders. This study continues the growing literature that examines sustainability assurance as an effective monitoring mechanism for managers (Watts & Zimmerman, 1983), increasing the credibility of company information, and reducing information imbalances that arise due to agency conflicts (Coram et al., 2009). In this context, assurance and voluntary disclosure of information can reduce agency conflicts by increasing the amount of information which can be accessed by shareholders and stakeholders related to company strategy (Coram et al., 2009; Martinez and Garcia, 2017). Furthermore, through external verification of sustainability reports, companies can meet the demands of shareholders and parties who have an interest in information, especially information that is more credible and transparent (Martinez and Garcia, 2017), because this assurance has a positive impact on the credibility of the report provided. have been verified externally (Pflugrath et al., 2011) and report user perceptions (Hodge et al., 2009).

Regarding control variables, table result shows a positive and very significant relationship between SIZE and SPREAD. Based on table result, the coefficient for the SIZE variable is -0.073 (t=-8.483; Sig=0.000), indicating that the SIZE variable has a significant but negative impact. The results of this study contradict previous findings by Sellami and Hlima (2019), but are in line with the research results of Akrout and Ben Othman (2016). In particular, companies that voluntarily present sustainability information and adopt assurance systems for such information tend to increase credibility, and as a result, investors may demand lower rates of return for investing in such companies (Dhaliwal et al., 2011, 2012; Peters & Romi, 2014; Simnett et al., 2009; Weber, 2014). Therefore, large companies tend to more visible and, therefore, more vulnerable to public scrutiny and institutional pressure, resulting in the adoption of bail systems (Simnett et al., 2009).

Based on the data in Table result, the volume variable coefficient is 0.059 (t=10.333; Sig=0.000), indicating that the VOLUME control variable has a significant positive influence on the SPREAD variable. This finding is in contrast to the results of research carried out previously by Sellami and Hlima (2019), which, although it shows a negative influence, has a similar meaning, namely that increasing VOLUME as a control variable can reduce the SPREAD variable or information asymmetry. Previous research (Sellami and Hlima, 2019) states that the more active a security is, the lower the potential losses that market players may bear.

Furthermore, in Table result, other control variables show a negative and significant relationship, especially the VOLAT variable with a coefficient of 1.172 (t=17.462; Sig=0.000), indicating that the VOLAT control variable has a positive and significant influence on the SPREAD variable. This finding is different from the research results of Sellami and Hlima (2019) which found no correlation between VOLAT and information asymmetry. However, this research remains consistent with the research results of Hakim and Omri (2010) which show that the VOLAT variable is statistically significant and has the expected direction; the spread of buying and selling prices reduces volatility.

Finally, the research results show that only the RET control variable has an insignificant coefficient. The RET variable does not seem to have a significant relationship with sustainability assurance to reduce information asymmetry in corporate sustainability reports. This result is different from the findings of Sellami and Hlima (2019), but is in line with research by Hasan et al., (2019), which indicates that Assurance does not have a significant impact on the company's rate of return.

REFERENCES

AA. (2008). AA1000 Assurance Standard 2008. London: AccountAbility

Adams, C. A., Druckman, P. B., and Picot, R. C. (2020). Sustainable Development Goals (SDGD) Recommendations. ACCA, Chartered Accountants ANZ, ICAS, IFAC, IIRC and WBA. Last accessed September 2021

Akrout, M.M. and Ben Othman, H. (2016). Environmental disclosure and stock market liquidity: evidence from Arab MENA emerging markets. Applied Economics, Vol. 48, pp.1840–1851. doi: 10.1080/00036846.2015.1109041

Almutairi, A.R., Dunn, K.A. and Skantz, T. (2009). Auditor tenure, auditor specialization, and information asymmetry. Managerial Auditing Journal, Vol. 24 No. 7, pp. 600-623. doi:10.1108/02686900910975341

Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. Handbook of the Economics of Finance, 1, 1053–1128. doi:10.3386/w9222

Boone, J.P. (1998). Oil and gas reserve value disclosures and bid-ask spreads', Journal of Accounting and Public Policy, Vol. 17, No. 1, pp.55–84. doi:10.1016/S0278-4254(97)10005-9

Casey, R.J. and Grenier, J.H. (2015). Understanding and contributing to the enigma of corporate social responsibility (CSR) 'assurance in the United States'. Auditing: A Journal of Practice and Theory, Vol. 34, No. 1, pp.97–130. doi:10.2139/ssrn.2172519

Cheng, Mandy & Green, Wendy & Ko, John. (2015). The Impact of Strategic Relevance and Assurance of Sustainability Indicators on Investors' Decisions. AUDITING: A Journal of Practice & Theory. 34. 131-162. doi:10.2308/ajpt-50738.

Cho, Charles & Michelon, Giovanna & Patten, Dennis & Roberts, Robin. (2014). CSR report assurance in the USA: An empirical investigation of determinants and effects. Sustainability Accounting. 5. doi:10.1108/SAMPJ-01-2014-0003.

Claire Gillet-Monjarret. (2015). Assurance of Sustainability Information: A Study of Media Pressure. Accounting in Europe. doi:10.1080/17449480.2015.1036894

Cohen, Jeffrey & Holder-Webb, Lori & Wood, David & Kanellakou, Leda. (2010). Retail Investors' Perceptions of the Decision-Usefulness of Economic Performance, Governance and Corporate Social Responsibility Disclosures. Behavioral Research in Accounting. 23. doi:10.2308/bria.2011.23.1.109.

Coram, P. J., Monroe, G. S., & Woodliff, D. R. (2009). The Value of Assurance on Voluntary Nonfinancial Disclosure: An Experimental Evaluation. Auditing: A Journal of Practice & Theory, 28, 137-151. doi:10.2308/aud.2009.28.1.137

Cormier, D., Ledoux, M. and Magnan, M. (2011). The informational contribution of social and environmental disclosures for investors. Management Decision, Vol. 49 No. 8, pp. 1276-1304. doi:10.1108/00251741111163124

CorporateRegister. (2008). Assurance View: The CSR Assurance Statement Report, CorporateRegister.com, London.

Crawford, V. P., and J. Sobel. (1982). Strategic information transmission. Econometrica: Journal of the Econometric Society: 1431-1451. doi:10.2307/1913390

Cuadrado, Ballesteros Beatriz, Jennifer Martínez-Ferrero and Isabel María García-Sánchez. (2017). Mitigating information asymmetry through sustainability assurance: The role of accountants and levels of assurance. Elsevier: International Business Review. Vol 26, issue 6 :1141-1156. doi:10.1016/j.ibusrev.2017.04.009

Daadaa, Wissem & Rajhi, Mohamed. (2011). Stock splits, stock dividends and abnormal trading volume: Evidence from Tunisia stock exchange. International Journal of Monetary Economics and Finance. 4. 77-94. doi:10.1504/IJMEF.2011.038269.

Dhaliwal, D., Li, O., Tsang, A., and Yang, Y. (2011). Voluntary nonfinancial disclosure and cost of equity capital: the initiation of corporate social responsibility reporting. The Accounting Review, 86, 59–100. doi:10.2308/accr.00000005

Dhaliwal, Dan & Radhakrishnan, Suresh & Tsang, Albert & Yang, George. (2012). Nonfinancial Disclosure and Analyst Forecast Accuracy: International Evidence on Corporate Social Responsibility Disclosure. The Accounting Review, Vol. 87, No. 3, pp.723–759. doi:10.2139/ssrn.1596458.

Dumontier, P. & Maghraoui, R. (2006). Adoption volontaire des IFRS, asymétrie d'information et fourchettes de prix : l'impact du contexte informationnel. Comptabilité Contrôle Audit, 12, 27-47. doi:10.3917/cca.122.002

Farrell, J. and Gibbons, R., (1989). Cheap talk with two audiences. American Economic Review, 79 (5), 1214–1223. https://www.jstor.org/stable/1831447

Fonseca, A. (2010). How credible are mining corporations' sustainability reports? a critical analysis of external assurance under the requirements of the international council on mining and metals. Corp. Soc. Responsib. Environ. Mgmt, 17: 355-370. doi:10.1002/csr.230

Frias-Aceituno, Jose-Valeriano & Rodríguez-Ariza, Lazaro & Sánchez, Isabel. (2013). The Role of the Board in the Dissemination of Integrated Corporate Social Reporting. Corporate Social Responsibility and Environmental Management. 20. doi:10.1002/csr.1294.

Fuhrmann, Stephan , Christian Ott, Elisabeth Looks & Thomas W. Guenther. (2016). The contents of assurance statements for sustainability reports and information asymmetry. Accounting and Business Research. doi:10.1080/00014788.2016.1263550

García-Sánchez, I. M., and Martínez-Ferrero, J. (2017). Independent Directors and CSR Disclosures: The moderating effects of proprietary costs. Corp. Soc. Responsib. Environ. Mgmt., 24: 28–43. doi: 10.1002/csr.1389.

Greenstein, M.M. and Sami, H. (1994). The impact of the SEC's segment disclosure requirement on bid-ask spreads. Accounting Review, Vol. 69, No. 1, pp.179–199.

Gregoriou, A., Ioannidis, C. and Skerratt, L. (2005). Information asymmetry and the bid-ask spread: evidence from the UK. Journal of Business Finance and Accounting, Vol. 32, Nos. 9–8, pp.1801–1825.

Hakim, F. and Omri, M.A. (2010). Quality of the external auditor, information asymmetry, and bid-ask spread: Case of the listed Tunisian firms. International Journal of Accounting & Information Management, Vol. 18 No. 1, pp. 5-18. doi:10.1108/18347641011023243

Hassan, A., Elamer, A.A., Fletcher, M. and Sobhan, N. (2020). Voluntary assurance of sustainability reporting: evidence from an emerging economy. Accounting Research Journal, Vol. 33 No. 2, pp. 391-410. doi:10.1108/ARJ-10-2018-0169

Hassan, Aminu. (2019). Verbal tones in sustainability assurance statements: An empirical exploration of explanatory factors. Sustainability Accounting, Management and Policy Journal. Vol. 10 No. 3, pp. 427-450. doi: 10.1108/SAMPJ-06-2017-0051.

Hay, D.C., Kend, M., Sierra-García, L. and Subramaniam, N. (2023). Sustainability assurance and provider choice: a meta-regression analysis. Sustainability Accounting, Management and Policy Journal, Vol. 14 No. 6, pp. 1183-1208. doi:10.1108/SAMPJ-08-2022-0405

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. Journal of Accounting and Economics, 31(1 ‑ 3), 405 ‑ 440. doi:10.1016/S0165-4101(01)00018-0

Healy, P. M., Hutton, A. P., & Palepu, K. G. (1999). Stock performance and intermediation changes surrounding sustained increase in disclosure. Contemporary Accounting Research, 16(3), 485–520. doi:10.1111/j.1911-3846.1999.tb00592.x

Hodge, K., Subramaniam, N., & Stewart, J. (2009). Assurance of sustainability reports: Impact on report users' confidence and perceptions of information credibility. Australian Accounting Review, 19(3), 178 ‑ 194. doi:10.1111/j.1835-2561.2009.00056.

Husted, B. W., Jamali, D., & Saffar, W. (2012). Location, clusters, and CSR engagement: The role of information asymmetry and knowledge spillovers. Academy of Management Proceedings, 2012(1), 1–1. doi:10.5465/AMBPP.2012.72

IAASB. (2017). Handbook of international auditing, assurance, and ethics pronouncements. New York: International Federation of Accountants.

IFAC, (2011). Proposed International Standard on Assurance Engagements (ISAE): ISAE 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information. New York: International Federation of Accountants.

IFAC, 2008. ISAE 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information. New York: International Federation of Accountants.

Jensen, Donald & Ramirez, Donald. (2013). Revision: Variance Inflation in Regression. Advances in Decision Sciences. 2013. doi: 10.1155/2013/671204.

Jensen, M.C. and Meckling, W.H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics, 3, 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Kolk, A. and Perego, P. (2010). Determinants of the adoption of sustainability assurance statements: an international investigation. Business Strategy and the Environment, Vol. 19, No. 3, pp.182–198. https://doi.org/10.1002/bse.643Citations: 163

KPMG. (2013). The KPMG survey of corporate responsibility reporting. Retrieved from http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013.pdf.

Krasodomska, J., Simnett, R and Street, D. L. (2021). Extended External Reporting Assurance: Current Practices and Challenges. Journal of International Financial Management and Accounting. Vol. 32, No. 1, pp. 104-142. https://doi.org/10.1111/jifm.12127

Leuz, C., & Verrecchia, R. (2000). The economic consequences of increased disclosure. Journal of Accounting Research, 38(Supplement), 91–124. doi:10.1016/j.jfineco.2005.06.002

Lorenzo Simoni & Laura Bini & Marco Bellucci. (2020). Effects of social, environmental, and institutional factors on sustainability report assurance: evidence from European countries. Meditari Accountancy Research, Emerald Group Publishing Limited, vol. 28(6), pages 1059-1087, April. doi: 10.1108/MEDAR-03-2019-0462

Lukman, Hendro. (2012). Analysis of the Commitment of Company Stakeholders and Shareholders to Social and Financial Performance. Accounting journal. Volume XVI/01/Januari/2012. ISSN 1410-3591. Halaman 112-126.

Martínez-Ferrero, J, García-Sánchez, I-M. (2017). Sustainability assurance and cost of capital: Does assurance impact on credibility of corporate social responsibility information?. Business Ethics: A Eur Rev. 2017; 26: 223–239. doi:10.1111/beer.12152

Martínez-Ferrero, J. and García-Sánchez, I.M. (2017). Coercive, normative and mimetic isomorphism as determinants of the voluntary assurance of sustainability reports. International Business Review, Vol. 26, No. 1, pp.102-118. doi:10.1016/j.ibusrev.2016.05.009.

Martínez-Ferrero, J., García-Sánchez, IM. (2018). The Level of Sustainability Assurance: The Effects of Brand Reputation and Industry Specialisation of Assurance Providers. J Bus Ethics 150, 971–990. doi:10.1007/s10551-016-3159-x

Merton, R.C. (1987). A simple model of capital market equilibrium with incomplete information. The Journal of Finance, Vol. 42, No. 3, pp.483–510. doi:10.1111/j.1540-6261.1987.tb04565.x

Moroney, Robyn & Windsor, Carolyn & Aw, Yong. (2009). Evidence of Assurance Enhancing the Quality of Voluntary Environmental Disclosures: An Empirical Analysis. Accounting and Finance. 52. doi:10.2139/ssrn.1340227.

Moser, Donald V., Patrick R. Martin. (2012). A Broader Perspective on Corporate Social Responsibility Research in Accounting. The Accounting Review; 87 (3): 797–806. doi:10.2308/accr-10257

O'Dwyer, B., & Owen, D. (2005). Assurance Statement Practice in Environmental, Social and Sustainability Reporting: A Critical Evaluation. The British Accounting Review, 37, 205-229. doi:10.1016/j.bar.2005.01.005

O'Connor, Matt & Casey, Leanne & Clough, Bonnie. (2014). Measuring mental health literacy – a review of scale-based measures. Journal of mental health (Abingdon, England). 23. doi: 10.3109/09638237.2014.910646.

O'Dwyer, Brendan & Owen, David & Unerman, Jeffrey. (2011). Seeking Legitimacy for New Assurance Forms: The Case of Assurance on Sustainability Reporting. Accounting, Organizations and Society. 36. 31-52. doi:10.1016/j.aos.2011.01.002.

Oelschlaegel T, Schwickart M, Matos J, Bogdanova A, Camasses A, Havlis J, Shevchenko A, Zachariae W. (2005). The yeast APC/C subunit Mnd2 prevents premature sister chromatid separation triggered by the meiosis-specific APC/C-Ama1.120(6):773-88. doi: 10.1016/j.cell.2005.01.032. PMID: 15797379.

Park, Jeehye & Brorson, Torbjörn. (2005). Experiences of and views on third-party assurance of corporate environmental and sustainability reports. Journal of Cleaner Production. 13. 1095-1106. doi: 10.1016/j.jclepro.2004.12.006.

Patten, Dennis. (2002). The Relation Between Environmental Performance and Environmental Disclosure: A Research Note. Accounting, Organizations and Society. 27. 763-773. doi:10.1016/S0361-3682(02)00028-4.

Peraturan Otoritas Jasa Keuangan (POJK) Nomor 51 /POJK.03/2017, Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan , Emiten , dan Perusahaan Publik

Perego, Paolo & Kolk, Ans. (2012). Multinationals' Accountability on Sustainability: The Evolution of Third-party Assurance of Sustainability Reports. Journal of Business Ethics. 110. doi:10.1007/s10551-012-1420-5.

Peters, G. F. and A. M. Romi. (2014). Does the voluntary adoption of corporate governance mechanisms improve environmental risk disclosures? Evidence from greenhouse gas emission accounting, Journal of Business Ethics, 125 (4), pp. 637–666. doi:10.1007/s10551-013-1886-9

Peters, Gary & Romi, Andrea. (2013). The Association between Sustainability Governance Characteristics and the Assurance of Corporate Sustainability Reports. AUDITING: A Journal of Practice & Theory. 34. doi:10.2139/ssrn.2198068.

Pflugrath, G., Roebuck, P. and Simnett, R. (2011). Impact of assurance and assurer's professional affiliation on financial analysts' assessment of credibility of corporate social responsibility information. Auditing: A Journal of Practice and Theory, Vol. 30, No. 3, pp.239–254. doi:10.2308/ajpt-10047

Power, M. (1999). The audit society. Oxford: Oxford University Press.

Rahman, D. Cahya, dkk. (2014). Uji Normalitas dengan Shapiro Wilk. Jakarta: Sekolah Tinggi Ilmu Statistik.

Raman, K. and Tripathy, N. (1993). The effect of supplemental reserve-based accounting data on the market microstructure. Journal of Accounting and Public Policy. Vol. 12, No. 2, pp.113–133. doi:10.1016/0278-4254(93)90008-Y

Reimsbach D., Rüdiger Hahn & Anil Gürtürk. (2018). Integrated Reporting and Assurance of Sustainability Information: An Experimental Study on Professional Investors' Information Processing, European Accounting Review, 27:3, 559-581, doi: 10.1080/09638180.2016.1273787

Rezaee, Z. (2016). Business sustainability research: A theoretical and integrated perspective", Journal of Accounting Literature, Vol. 36 No. 1, pp. 48-64. doi:10.1016/j.acclit.2016.05.003

Rogers, J. 2015. Why investors should look beyond a company's financials. Fortunes, August 11, 2015. Available at http://fortune.com/2015/08/11/why-investors-should-look-beyond-a-companys-financials/

Rossi, A. and Tarquinio, L. (2017). An analysis of sustainability report assurance statements: Evidence from Italian listed companies", Managerial Auditing Journal, Vol. 32 No. 6, pp. 578-602. doi:10.1108/MAJ-07-2016-1408

Schreck, Philipp & Raithel, Sascha. (2018). Corporate Social Performance, Firm Size, and Organizational Visibility: Distinct and Joint Effects on Voluntary Sustainability Reporting. Business & Society. 57. 742-778. doi:10.1177/0007650315613120.

Sellami, Yosra Mnif & Nada Damak Ben Hlima. (2019). The effect of sustainability assurance demand on information asymmetry: evidence from French companies. International Journal of Monetary Economics and Finance. Inderscience Enterprises Ltd. Vol. 12(1), pages 25-38.doi:10.1504/IJMEF.2018.10012038

Sengupta, P. (1998). Corporate disclosure quality and the cost of debt. The Accounting Review, 73(4), 459–474.

Shleifer, A. and Vishny, R.W. (1992). Liquidation Values and Debt Capacity: A Market Equilibrium Approach. The Journal of Finance, 47: 1343-1366. doi:10.1111/j.1540-6261.1992.tb04661.x

Simnett, R., Vanstraelen, A., & Chua, W. F. (2009). Assurance on sustainability reports: an international comparison. The Accounting Review, 84(3), 937–967. doi:10.2308/accr.2009.84.3.937

Simnett, Roger & Zhou, Shan & Hoang, Hien. (2021). The History and Future of Sustainability Assurance in Adams, C A (editor). Handbook of Accounting and Sustainability, Edward Elgar Publishing Ltd. doi:10.4337/9781800373518.00023

Stoll, H.R. (1978). The pricing of security dealer services: an empirical study of NASDAQ stocks', The Journal of Finance, Vol. 33, No. 4, pp.1153–1172. doi:10.1111/j.1540-6261.1978.tb02054.x

Stoll, H.R. (1989). Inferring the components of the bid-ask spread: theory and empirical tests', The Journal Of Finance, Vol. 44, No. 1, pp.145–134. https://doi.org/10.1111/j.1540-6261.1989.tb02407.x

Trotman, Andrew & Trotman, Ken. (2015). Internal Audit's Role in GHG Emissions and Energy Reporting: Evidence from Audit Committees, Senior Accountants, and Internal Auditors. AUDITING: A Journal of Practice & Theory. 34. 199-230. doi: 10.2308/ajpt-50675.

Undang-undang Nomor 40 tahun 2007 Pasal 1 ayat 3, Perseroan Terbatas

Verrecchia, R. E. (2001). Essays on disclosure. Journal of Accounting and Economics, 32(1), 97–180. doi:10.1016/S0165-4101(01)00025-8

Vo, X.V. and Bui, H.T. (2016). Liquidity, liquidity risk and stock returns: evidence from Vietnam', International Journal of Monetary Economics and Finance, Vol. 9, No. 1, pp.67–89.

Wallace, W. (1980). The economic role of the audit in free and regulated markets. Open Educational Resources. 2. https://scholarworks.wm.edu/oer/2.

Watts, R. L., & Zimmerman, J. L. (1983). Agency problems, auditing, and the theory of the firm: Some evidence. Journal of Law and Economics, 26(3), 613–633. doi:10.1086/467051

Weber, J. L. (2014). Corporate social responsibility disclosure level, external assurance and cost of equity capital (Doctoral dissertation) University of Colorado at Boulder. doi:10.1108/JFRA-12-2017-0112

Zhou, S., Simnett, R. and Green, W. (2013). The Effect of Legal Environment and CorporateGovernance on the Decision to Assure and Assurance Provider Choice: Evidence From the GHG Assurance Market, Working Paper, The University of New South Wales.

Zorio-Grima, Ana & García Benau, María & Sierra, Laura. (2013). Sustainability Development and the Quality of Assurance Reports: Empirical Evidence. Business Strategy and the Environment. 22. doi:10.1002/bse.1764.