

## The Impact of Firm Characteristics on Sustainability Disclosure and Firm Value (Empirical Evidence from the Indonesia Stock Exchange)

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**Key words:** Firm characteristics, sustainability disclosure level, firm value

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Page No.: 362-369

Volume: 16, Issue 12, 2021

ISSN: 1816-949x

Journal of Engineering and Applied Sciences

Copy Right: Medwell Publications

**Abstract:** The purpose of this study was to examine the effect of firm characteristics (managerial ownership, firm size and leverage) on the sustainability disclosure level and its implications for firm value. The population of this study is all companies listed on the Indonesia Stock Exchange during 2016-2019. Purposive sampling technique was used to determine the sample. Data from 40 companies were obtained for hypothesis testing. Path analysis with SPSS v. 26 is used to data processing. The results show that managerial ownership, firm value and leverage have no significant effect on the sustainability disclosure level. Furthermore, leverage has a significant effect on firm value, while managerial ownership, firm size and sustainability disclosure level do not have a significant effect on firm value.

## INTRODUCTION

Sustainability has become a crucial issue in modern companies. The KPMG survey states that the practice of sustainability disclosure in the world's largest companies (N100 Companies) has reached 93%<sup>[1]</sup>. There are several benefits derived from the practice of sustainability reporting, namely: improving financial performance, facilitating access to capital, encouraging innovation, efficiency and waste reduction, improving risk management, improving company reputation and consumer trust and obtaining superior human resources in recruitment and increasing employee loyalty<sup>[2]</sup>.

In Indonesia, very few companies practice sustainability disclosure. Only about 30% of the top 100 companies listed on the Indonesia Stock Exchange have published sustainability reports.

Based on the above phenomenon, we examines the effect of the firm characteristics (managerial ownership,

size and leverage) on the sustainability disclosure level and its implications for firm value in the Indonesian context, especially for companies listed on the Indonesia Stock Exchange during 2016-2019.

## MATERIALS AND METHODS

**The agency theory:** Agency theory is often used to explain the motivation for sustainability disclosure. This theory explains the agency relationship between managers (agents) and shareholders (principals) and the problems that arise from these relationships. Information asymmetry and differences in interests between agents and principals lead to agency costs. Agency costs consist of monitoring costs, bonding costs and residual loss<sup>[3]</sup>.

The concept of information asymmetry is very important when studying sustainability disclosure. It is assumed that, the information between the agent and the

principal is not evenly distributed where the agent has more access to internal information than the principal.

**The signaling theory:** In general, signaling theory addresses the problem of information asymmetry and explains how this problem can be solved<sup>[4]</sup>. The construction of signaling theory consists of a signaler, signal, receiver and feedback<sup>[5]</sup>. Signalers are defined as insiders who have a privileged perspective through their access to information about the quality of an individual, product or organization. Receivers, on the other hand, are outsiders who do not have the information but want to receive it, as it enables profitable decision making. Regarding signaling, Connelly *et al.*<sup>[5]</sup> argue that the intentional disclosure of positive information that reveals positive aspects of an individual or organization is central to signaling theory. The feedback which is sent back by the receiver to the signaler, helps the receiver to achieve more efficient signaling.

**The managerial ownership:** Managerial ownership is defined as the proportion of company shares owned by management/agents<sup>[6-9]</sup>. Managerial ownership is measured by dividing the total company shares owned by management (agents) by the total company shares outstanding<sup>[8]</sup>.

**The firm size:** Firm size basically represents the total assets owned by the company<sup>[10-13]</sup>. The firm size is measured by the logarithm of total assets<sup>[13]</sup>.

**The leverage:** Leverage basically represents company's funding structure, namely the ratio between total debt and total equity<sup>[14-18]</sup>. Leverage is measured by debt to equity ratio/DER<sup>[14]</sup>.

**Sustainability disclosure level:** De Villiers and Alexander<sup>[19]</sup> describe sustainability disclosure as the disclosure of social and environmental information in annual reports and on websites which are mostly voluntary. According to Michelon *et al.*<sup>[20]</sup>, sustainability disclosure is triggered by a company's sense of accountability to stakeholders with the aim of increasing transparency which results in sustainability reporting practices. This practice includes the preparation of stand-alone reports, the use of reporting guidelines and information disclosure aimed at improving the quality of information, ensuring its reliability and enhancing stakeholder engagement processes.

In this study, the sustainability disclosure level is defined as the proportion of information items disclosed by the company compared to information items that

should be disclosed by the company in the sustainability report<sup>[21-30]</sup>. The sustainability disclosure level is measured by Sustainability Disclosure Indices (SDIs) which are calculated based on the disclosure standards of the Global Reporting Initiative<sup>[30]</sup>.

**The firm value:** Firm value represents market expectations of the company<sup>[31-34]</sup>. Firm value is measured by Tobin's Q<sup>[31]</sup>.

**The effect of managerial ownership on sustainability disclosure level:** Managers have an interest in improving company performance. For this reason, various mechanisms/practices will be implemented to improve company performance including sustainability disclosure mechanisms/practices. Thus, managers who are also owners of the company through managerial ownership will have an effect on the level of sustainability disclosure. With this argument, it is believed that managerial ownership has a significant effect on the sustainability disclosure level. This argument is supported by empirical evidence as shown by, among others: Zhou<sup>[14]</sup>, Laksmi and Kamila<sup>[9]</sup>, Agustia *et al.*<sup>[35]</sup>, Nurleni *et al.*<sup>[36]</sup>, Isa and Muhammad<sup>[37]</sup> and Soliman *et al.*<sup>[38]</sup> which states that managerial ownership has a significant effect on the sustainability disclosure level:

- H<sub>1</sub>: the managerial ownership has a significant effect on sustainability disclosure level

**The effect of firm size on sustainability disclosure level:** Firm size is believed to affect the sustainability disclosure level with the argument that the larger the size of the company, the greater its ability to disclose sustainability as a mechanism to maintain the survival and growth of the company in the future. With this argument, it is believed that the firm size has a significant effect on the sustainability disclosure level. This argument is supported by empirical evidence as shown by, among others: Zhou<sup>[14]</sup>, Anatami *et al.*<sup>[25]</sup>, Alotaibi *et al.*<sup>[24]</sup>, Aliyu<sup>[23]</sup>, Bansal *et al.*<sup>[8]</sup>, Wuttichindanon<sup>[39]</sup>, Welbeck *et al.*<sup>[12]</sup>, Khalid *et al.*<sup>[40]</sup>, Izcan<sup>[41]</sup>, Issa<sup>[42]</sup>, Muttakin *et al.*<sup>[43]</sup> and Majeed *et al.*<sup>[44]</sup> which states that firm size has a significant effect on the level of sustainability disclosure:

- H<sub>2</sub>: the firm size has a significant effect on sustainability disclosure level

**The effect of the leverage on sustainability disclosure level:** Leverage is also believed to affect the sustainability disclosure level with the argument that the higher the

leverage, the greater the creditor's demands on the company to make sustainability disclosures as a mechanism for creditors to obtain more comprehensive information about the company such as information disclosed through sustainability reports. With this argument, it is believed that leverage has a significant effect on the sustainability disclosure level. This argument is supported by empirical evidence as shown by, among others: Zhou<sup>[14]</sup>, Salehi *et al.*<sup>[15]</sup>, Akanfe *et al.*<sup>[16]</sup>, Ghabayen *et al.*<sup>[17]</sup> and Habbash<sup>[18]</sup> which states that leverage has a significant effect on the sustainability disclosure level:

- H<sub>3</sub>: the leverage has a significant effect on sustainability disclosure level

**The effect of sustainability disclosure level on firm value:** The sustainability disclosure level can be interpreted as a signal sent by the company (signal sender) to parties interested in the company (signal receiver). The better the signal sent (through sustainability disclosure), the better the signal receiver's response to the company which is reflected in the firm value. Based on this argument, it is believed that the sustainability disclosure level has a significant effect on firm value. This argument is supported by empirical evidence as shown by, among others: Mukhtaruddin *et al.*<sup>[45]</sup>, Emeka-Nwokeji and Osisioma<sup>[46]</sup>, Orbaningsih *et al.*<sup>[47]</sup>, Nekhili *et al.*<sup>[48]</sup>, Loh *et al.*<sup>[48]</sup> and Gherghina and Vintila<sup>[50]</sup> which state that the sustainability disclosure level has a significant effect on firm value:

- H<sub>4</sub>: the sustainability disclosure level has a significant effect on firm value

**The effect of managerial ownership on firm value:** Managers have an interest in the firm value. Various efforts or mechanisms will be carried out by managers to increase the firm value. Managerial ownership can be a stimulus for managers to work better in improving the firm performance which will be responded by investors and potential investors in the formation of the firm market value which in turn will affect the firm value. With this argument, it is believed that managerial ownership has a significant effect on firm value. This argument is supported by empirical evidence as shown by, among others: Masidonda *et al.*<sup>[51]</sup>, Sulastri<sup>[52]</sup>, Suryanto and Day<sup>[53]</sup>, Kamardin<sup>[54]</sup>, Sulong *et al.*<sup>[55]</sup> and Lin<sup>[56]</sup> which state that managerial ownership has a significant influence on firm value:

- H<sub>5</sub>: the managerial ownership has a significant effect on firm value

**The effect of the firm size on firm value:** The larger the firm size, the greater the capacity/ability of the firm to

make efforts/mechanisms/practices to maintain the survival and growth of the firm in the future. Signals about the firm size can be a stimulus for investors and potential investors in the formation of the market value of the firm which in turn will affect the firm value. Based on this argument, it is believed that firm size has a significant effect on firm value. This argument is supported by empirical evidence as shown by, among others: Shuaibu *et al.*<sup>[31]</sup>, Hirdinis<sup>[57]</sup>, Rana and Wairimu<sup>[58]</sup> and Palaniappan<sup>[59]</sup> which states that firm size has a significant influence on firm value:

- H<sub>6</sub>: the firm size has a significant effect on firm value

**The effect of leverage on firm value:** Leverage reflects the company's source of funding that comes from debt. The greater leverage can be interpreted as the greater the availability of funds owned by the company (in addition to sources of funds from shareholders/investors) to carry out productive and profitable activities. Signals about leverage can be a stimulus for investors and potential investors in the formation of the firm market value which in turn will affect the firm value. Based on this argument, it is believed that leverage has a significant effect on firm value. This argument is supported by empirical evidence as shown by, among others: Hirdinis<sup>[57]</sup>, Ahmed and Afza<sup>[60]</sup>, Masidonda *et al.*<sup>[51]</sup>, Sulong *et al.*<sup>[55]</sup> which states that leverage has a significant effect on firm value:

- H<sub>7</sub>: the leverage has a significant effect on firm value

**Research methods:** The population of this study is all companies listed on the Indonesia Stock Exchange during 2016-2019. The purposive sampling technique was used to determine the sample. Data from 40 companies were obtained for hypothesis testing. Path analysis with SPSS v. 26 was used to data processing.

Managerial ownership is measured by dividing the total company shares owned by management (agents) by the total company shares outstanding<sup>[8]</sup>. The firm size is measured by the logarithm of total assets<sup>[13]</sup>. Leverage is measured by debt to equity ratio/DER<sup>[14]</sup>. The sustainability disclosure level is measured by Sustainability Disclosure Indices (SDIs) which are calculated based on the disclosure standards of the Global Reporting Initiative<sup>[30]</sup>. Firm value is measured by Tobin's Q<sup>[31]</sup>.

## RESULTS AND DISCUSSION

**Descriptive statistic:** This study uses data from 40 companies listed on the Indonesia Stock Exchange during the 2016-2019. The descriptive statistics of the data are presented in Table 1.

Table 1: Descriptive statistics

Description	Maximum	Minimum	Average	SD
Managerial Ownership (MO)	0.0293	0.0000	0.0014	0.0047
Firm Size (FS)	34.8871	28.7130	31.5047	1.5085
Leverage (LEV)	12.0800	-2.3513	2.8163	2.9048
Sustainability Disclosure Indices (SDIs)	0.7241	0.1186	0.3924	0.1126
Firm Value (PV)	2.9487	0.4024	1.2235	0.4215

Data processing result in 2021

**Hypothesis testing:** To test the Hypothesis, we used path analysis with SPSS v. 26. Based on the results of Hypothesis testing, we find that: Managerial ownership has no a significant effect on sustainability disclosure level, firm size has no a significant effect on sustainability disclosure level, leverage has no a significant effect on sustainability disclosure level, Sustainability disclosure level has no a significant effect on firm value, Managerial ownership has no a significant effect on firm value, Firm size has no a significant effect on firm value and Leverage has a significant effect on firm value.

**The effect of managerial ownership on sustainability disclosure level:** Not as expected, the results of hypothesis testing indicate that managerial ownership does not have a significant effect on sustainability disclosure level. These results are inconsistent with the previous studies conducted by, among others: Zhou<sup>[14]</sup>, Laksmi and Kamila<sup>[9]</sup>, Agustia *et al.*<sup>[36]</sup>, Nurleni *et al.*<sup>[36]</sup>, Isa and Muhammad<sup>[37]</sup>, Soliman *et al.*<sup>[38]</sup>. However, this result is not surprising. The previous studies also show that managerial ownership does not have a significant effect on sustainability disclosure level as shown by study conducted by Yusuf *et al.*<sup>[61]</sup>.

The average value of managerial ownership in the sampled companies is 0.14%. This value is a very low. This value indicates the low participation of managers in company ownership. The low managerial ownership causes managers to not have sufficient stimulus to implement the best mechanism/strategy to maintain the survival and growth of the company in the future, one of which is through sustainability disclosure. These results indicate that low managerial ownership is a barrier for managers to make sustainability disclosures.

**The effect of firm size on sustainability disclosure level:** Not as expected, the results of hypothesis testing indicate that firm size does not have a significant effect on sustainability disclosure level. These results are inconsistent with the previous studies conducted by, among others: Zhou<sup>[14]</sup>, Anatami *et al.*<sup>[25]</sup>, Alotaibi *et al.*<sup>[24]</sup>, Aliyu<sup>[23]</sup>, Bansal *et al.*<sup>[8]</sup>, Wuttichindanon<sup>[39]</sup>, Welbeck *et al.*<sup>[12]</sup>, Khalid *et al.*<sup>[40]</sup>, Izcan<sup>[41]</sup>, Issa<sup>[42]</sup>, Muttakin *et al.*<sup>[43]</sup> and Majeed *et al.*<sup>[44]</sup>.

However, this result is not surprising. The previous studies also show that firm size does not have a significant effect on sustainability disclosure level as shown by studies conducted by, among others: Anazonwu *et al.*<sup>[62]</sup>, Wang<sup>[63]</sup>, Isa and Muhammad<sup>[37]</sup> and Bansal *et al.*<sup>[8]</sup>.

These results indicate that sustainability disclosure level is not affected by firm size. Large firms do not necessarily make extensive sustainability disclosures even though they basically have the capacity to do so. The firm chooses to make or not make sustainability disclosures based on the desired impact of sustainability disclosures. If the firm estimates that the sustainability disclosure level will have a positive impact on the firm, the firm will disclose it widely, vice versa.

**The effect of leverage on sustainability disclosure level:** The results of hypothesis testing about the effect of leverage on sustainability disclosure level also show results that are not as expected. The results show that leverage does not have a significant effect on sustainability disclosure level. These results are inconsistent with previous studies conducted by, among others: Zhou<sup>[14]</sup>, Salehi *et al.*<sup>[15]</sup>, Akanfe *et al.*<sup>[16]</sup>, Ghabayen *et al.*<sup>[17]</sup> and Habbash<sup>[18]</sup>.

However, this result is also not surprising. The previous study show that leverage does not have a significant effect on sustainability disclosure level as shown by Issa (2017). These results indicate that creditors do not put pressure on firms to carry out sustainability initiatives and disclosures widely. As a result, firms choose not to undertake extensive sustainability initiatives and disclosures which are relatively costly.

**The effect of sustainability disclosure level on firm value:** The results of hypothesis testing indicate that sustainability disclosure level does not have a significant effect on firm value. These results are inconsistent with the previous studies conducted by, among others: Mukhtaruddin *et al.*<sup>[44]</sup>, Emeka-Nwokeji and Osisioma<sup>[46]</sup>, Orbaningsih *et al.*<sup>[47]</sup>, Nekhili *et al.*<sup>[48]</sup>, Loh *et al.*<sup>[49]</sup>, Gherghina and Vintila<sup>[50]</sup>. However, these results are consistent with the previous studies conducted by, among others: Nguyen and Tran<sup>[32]</sup>, Horn *et al.*<sup>[64]</sup> and Sopian and Mulya<sup>[65]</sup>.

These results indicate that investors in Indonesia have not based their decisions on a company's stock price on sustainability disclosures which in turn does not affect the firm value. This is understandable because sustainability initiatives and sustainability disclosure practices have not yet become common (popular) initiatives and practices in Indonesia. Most investors still base their assessment of the firm based on the firm's ability to generate profits (profitability). This is one of the reasons why sustainability disclosure level does not have a significant

effect on firm value. Thus, the disclosure of information about sustainability disclosure level is not considered as a signal for investors in determining the firm value.

**The effect of the managerial ownership on firm value:**

Not as expected, the results of hypothesis testing indicate that managerial ownership does not have a significant effect on firm value. These results are inconsistent with previous studies conducted by, among others: Masidonda *et al.*<sup>[51]</sup>, Suryanto and Day<sup>[53]</sup>, Kamardin<sup>[54]</sup>, Sulong *et al.*<sup>[55]</sup> and Lin<sup>[56]</sup>. However, this result is not surprising. The previous studies also show that managerial ownership does not have a significant effect on sustainability disclosure level as shown by studies conducted by Berke-Berga *et al.*<sup>[66]</sup> and Rehman and Shah<sup>[67]</sup>.

The average value of managerial ownership in the sampled companies is 0.14%. This value is a very low. This value indicates the low participation of managers in company ownership. The low managerial ownership causes managers to not have sufficient stimulus to find the best mechanism/strategy to maintain the survival and growth of the company in the future. The low value of managerial ownership is not a signal for investors in determining the firm value. This is one of the reasons why managerial ownership does not have a significant effect on firm value.

**The effect of firm size on firm value:** Not as expected, the results of hypothesis testing also show that firm size does not have a significant effect on firm value. These results are inconsistent with the previous studies conducted by, among others: Shuaibu *et al.*<sup>[31]</sup>, Hirdinis<sup>[57]</sup>, Rana and Wairimu<sup>[58]</sup> and Palaniappan<sup>[59]</sup>. However, this result is not surprising. Several previous studies also show that firm size does not have a significant effect on firm value as shown by the previous studies conducted by, among others: Setiadharna and Machali<sup>[68]</sup> and Astuti *et al.*<sup>[69]</sup>.

These results indicate that the firm size is not considered as a signal for investors in perceiving the firm which in turn will determine the firm value. Investors may think that large firms are unable to manage their assets effectively and efficiently, so that, they are unable to improve financial performance. This is one of the reasons why firm value does not have a significant effect on firm value. This indicates that disclosure of information about firm size is not considered a signal for investors in determining firm value.

**The effect of leverage on firm value:** As expected, the results of hypothesis testing indicate that leverage has a significant effect on firm value. These results are consistent with the previous studies conducted by,

among others: Hirdinis<sup>[57]</sup>, Ahmed and Afza<sup>[60]</sup>, Masidonda *et al.*<sup>[51]</sup> and Sulong *et al.*<sup>[55]</sup>. These results indicate that information about leverage is one of the factors considered by investors in determining firm value. The effect with a negative correlation indicates that the higher the leverage, the lower the firm value. These results indicate that investors are concerned that the higher leverage will reduce the firm's ability to distribute its income to investors because most of the income will be distributed for debt and interest payment. Thus, it can be interpreted that disclosure of information about leverage is considered as a signal by investors in determining the value of the company.

## CONCLUSION

Based on the results and discussion above, we conclude that: the participation of managers in the structure of ownership is very low, the sustainability disclosure level made by companies in Indonesia is still low, the managerial ownership, firm size and leverage do not have a significant effect on the sustainability disclosure level, managerial ownership, company size and sustainability disclosure level have no significant effect on firm value and leverage has a significant effect on firm value.

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