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Amplifying the Influence of CSR Disclosure on Investment Inefficiency by Choosing Woman Directors: Is it Effective?

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Abstract:
Research Aims: The article was written with the intention to inspect the amplified impact of CSR disclosure by choosing women on the boards of directors in the companies on investment inefficiency.
Design/Methodology/Approach: The sample studies were non-financial companies listed on IDX during 2018-2019 that published sustainability and annual reporting.
Research Finding: This research revealed that, in the latest two years, overinvestment was done by most of the sample companies (76%). Hereafter, there was a negative effect on investment inefficiency due to the increasing corporate social responsibility disclosure. Nevertheless, women on the board of directors had no effect as moderating variable.
Theoretical Contribution: This study adds literature on investment inefficiency issues, especially on amplifying the influence of corporate social responsibility disclosure on investment inefficiency by choosing women on the board of directors.
Research Limitation: Very limited position on the board of directors for women in companies causes it to have no effect as a moderating variable. Moreover, this research did not categorize investment efficiency in the overinvestment and underinvestment schemes.
Keywords: Investment Inefficiency; CSR Disclosure; Women Directors

Introduction

Investment efficiency is explained as the rate of return on capital as expected from an investment. The company will be considered successful in investing efficiently if all the projects carried out have a positive NPV (Net Present Value) without market fraction. However, companies will undoubtedly experience difficulties overcoming market fractions due to several challenges, such as moral hazards and adverse selection. Then, the corporation will be responsible for investing in inefficiency (Zhong & Gao, 2017). The ineffectiveness of investment happens when over-invested and underinvested investment conditions have taken place.

The most important considerations for avoiding ineffective investments are increasing information transparency, eliminating information asymmetry, and reducing agency problems in a company.

According to earlier findings, one strategy to accomplish it is to enhance company information, such as high-quality financial information (Biddle et al., 2009). Non-financial information is also being explored, including corporate social responsibility (CSR) disclosure. As a result, currently, such voluntary unveiling has become essential for any kind of business. In this case, stakeholders are concerned with the companies' profitability and wield a more intense call for CSR. Additionally, Ho et al. (2022) stated that the supplemental information from reported social responsibility of companies might facilitate communication with stakeholders.

The latest records unveil how CSR disclosure predisposes investment efficiency for European companies. Anwar and Malik (2020) and Samet and Jarboui (2017) affirmed that companies that disclose high-quality CSR information result in information symmetry, reducing the risks of withholding information; this makes them less likely to make inefficient investments. More comprehensive disclosure, such as CSR disclosure, is proven to minimize information asymmetry, which in the end, can restrain management from making investments that can bring losses to shareholders. Benlemlih and Girerd-Potin (2017) supported with a similar paper in the US market. Also, a previous paper from Ho et al. (2022) provided CSR publishing as additional information that may assist the business in engaging with stakeholders and eliminating informational asymmetries; as a result, CSR disclosure can solve the problem of inefficiencies investments more efficiently. It will be interesting, especially for non-financial companies with more significant environmental/social impact than other sectors. It means that CSR disclosures to non-financial corporations will be more extensive.

Previous research also disclosed how women as directors incline to have a greater risk-averse character and be more cautious (Vieito & Khan, 2012). Chen et al. (2011) supported that female leadership helps attenuate information asymmetry and agency conflicts between principals and agents. Women directors are also analogous to being deficient in agency risk and managerial opportunism. It can be interpreted that women on boards have the potential to make CSR information widely available (Hadya & Susanto, 2018) and also increase investment inefficiency (Ullah et al., 2020).

Therefore, the current researchers expect female directors could amplify the impact of corporate social responsibility disclosure. The researchers also believe that the potential emergence of investment inefficiency could be reduced by women’s presence in companies as directors. Thus, this research was targeted to inspect the extent of women directors’ role in amplifying CSR disclosure’s impact on investment inefficiency. This study also targeted the women director variable as a moderating variable since several research results have proven that companies led by women tend to have more concerns for the environment so that the company's CSR disclosures can increase, which, in the end, makes investment more efficient since, among stakeholders and managers, the extent of asymmetrical information can be suppressed. In addition, this research conducted by the authors refers to the studies by Ho et al. (2022), Hadya and Susanto (2018), and Ullah et al. (2020).

The researchers can contribute both empirically and practically through the research results obtained. Empirically, the researchers can prove the effect of CSR on investment inefficiency. However, the researchers have not proven that women directors may strengthen the influence of CSR disclosure on investment inefficiencies. Meanwhile, the researchers can practically provide a reference for managers who wish to improve their company's investment efficiency by disclosing social responsibility. With good CSR disclosure, companies can suppress information asymmetry and positively impact investors and the public. In addition, this research provides a new perspective for companies on the importance of gender diversity on the board of directors, especially related to the positioning of women in companies as directors.

Literature Review and Hypotheses Development

This study is based on agency theory. In this regard, there have been inefficiencies in investments because of information asymmetry and agency issues. Adverse selection and information asymmetry involve the company's internal information, which can only be known by one party, resulting in the possibility of the other party making the wrong decision. These two agency issues will later affect companies' project decisions and mostly suggest underinvestment (Myers & Majluf, 1984). In addition, agency models point out that shareholders and managers might not always be in line with interests (Jensen & Meckling, 1976). It can be interpreted that it is so easy for the manager to realize the ineffective investment of the business. Empirical evidence supports both and documents that investment inefficiency positively correlates with information asymmetry and agency costs (Richardson, 2006).

Investment inefficiency shall be degraded by suppressing agency costs and asymmetrical information, on which they work as the two major factors. In this case, high-quality information on financial information (Biddle et al., 2009) and non-financial information like CSR disclosure the company issued can reduce investment inefficiency effectively (Ho et al., 2022). The increasing breadth of non-financial disclosures through CSR is proof that companies carry out business activities not only within their responsibilities to company owners but also to employees, the government, the environment, and the surrounding community, as well as those who are directly or indirectly affected by company decisions (Hadi & Mangoting, 2014). In several studies conducted by Benlemlih and Bitar (2018), Benlemlih and Girerd-Potin (2017), Cook et al. (2019), Zhong and Gao (2017), Samet and Jarboui (2017), and Ho et al., (2022), it was stated that investment inefficiency in companies takes an impact from CSR disclosure .

Moreover, Hillman et al. (2000) stated that female directors improve the quality of the board of directors for two reasons. First, women tend to have a higher education level and experience outside the business world to assess another point of view. The second reason is that women, in most cases, have further concerns about environmental and social issues. (Giannarakis, 2014) also claimed from her experience and previous research that female boards of directors provide their differences and uniqueness in perspective and leadership style, prioritizing reporting on corporate responsibility.

Other earlier studies have also demonstrated the positive influence on corporations' value increase due to the appointment of women as directors (Lückerath-Rovers, 2013; Ararat et al., 2015). With a certain percentage of woman directors, companies can communicate CSR better (Hadya & Susanto, 2018). Furthermore, female directors have a lower risk (Vieito & Khan, 2012). Chen et al. (2011) supported that, between agents and principals, certain conflicts and asymmetrical information shall be mitigated through the authority of a female. Women directors are also analogous to being deficient in agency risk and managerial opportunism. Then, CSR disclosure will be broader as the boards of directors, to some extent, are occupied by women. However, they also have the potential to reduce the inefficiency of corporate investment (Ullah et al., 2020).

Corporate Social Responsibility on Corporate Investment Inefficiency

Due to manifold internal contraventions in companies, investment inefficiency might occur, of which adverse selection and moral hazards are the most influential factors—also giving rise to asymmetrical information outside the company between investors and management. This matter can be avoided by increasing the extent of the company's financial (Biddle et al., 2009) and non-financial disclosures, such as having good qualified financial and corporate social responsibility reports. Studies regarding the negative effect on corporate investment inefficiency have been carried out previously by Zhong and Gao (2017); Samet and Jarboui (2017); Benlemlih and Girerd-Potin (2017); Cook et al. (2019), Anwar and Malik (2020); Ho et al. (2022).

Corporate social responsibility is companies' commitment to social and environmental consequences drawn upon their business activities. These responsibilities include matters relating to the economy, the environment, community, legislation, corporate ethics, and societal expectations of the company over a while (Carroll, 1979). According to Dhaliwal et al. (2014), companies' commitment to the surrounding community and environment, as well as economic development, are reflected and manifested by CSR as a fundamental and essential contributor. Companies with environmental and social concerns will meet shareholder expectations, such as achieving the maximum profit so that, in the end, managers will be more efficient in investing company funds. In addition, companies are expected to uphold substantial ethical and cultural standards; it means that bad news is less potentially hidden by management, including not taking harmful measures to stakeholders.

It gives us an idea that aside from financial reports, the quality of disclosure of corporate responsibility reports also affects investment inefficiency and investor assessment. From this research conception, the researchers can conclude the study hypothesis:

***H_1**: CSR disclosure decreases companies' investment inefficiency levels.*

Women Board of Directors Moderate Corporate Social Responsibility Disclosure and Affect Company Investment Inefficiency.

Agency conflicts cause the issue of inefficient investment. Managers, in principle, prefer to invest company funds in assets that are expected in the future to increase the value of their company. However, in reality, managers often do not carefully weigh their investments, causing overinvestment or even under-investment, ultimately harming shareholders.

On the other hand, the potential for the emergence of agency conflicts can be minimized, one of which is through wider disclosures of financial information (Biddle et al., 2009) and non-financial information, such as CSR disclosure (Anwar & Malik, 2020; Benlemlih and Bitar, 2018; Ho et al., 2022). In this regard, non-financial disclosures have begun to be considered in minimizing conflicts of interest. Among the non-financial disclosures intended are environmental and social disclosures (CSR). It is said that companies with concern for CSR tend to avoid actions that can harm shareholders. In addition, all forms of disclosure made by the company can minimize agency conflicts as the primary contributor to inefficient investments.

Furthermore, there are exciting things regarding considering the role of women in a company. Women are seen as increasing the effectiveness of investments by providing additional knowledge and being more rigorous in terms of oversight (Shaukat et al., 2016; Rao & Tilt, 2015; Fuente et al., 2017). Chen et al. (2011) supported that, between agents and principals, certain conflicts and asymmetrical information shall be mitigated through the authority of a female. Women directors are also analogous to being deficient in agency risk and managerial opportunism. Understandably, CSR disclosure will be broader as the boards of directors, to some extent, are occupied by women (Rao & Tilt, 2015; Ibrahim & Hanefah, 2016; Fuente et al., 2017; Hadya & Susanto, 2018) and decrease investment efficiency (Ullah et al., 2020).

Thus, the authors suspect that the existence of women's authority in companies is the potential to establish CSR disclosures carried out considerably and inclined to denote a way better CSR performance. If this is the case, the company's management may find it more challenging to make inefficient investments because companies with good social and environmental performance will not take detrimental actions to shareholders; therefore, the investment will be more efficient. Based on such a conception, the research hypothesis is:

***H_2**: Disclosure of corporate responsibilities moderated by women board of directors affects investment inefficiency.*

Research Method

Sample Determination

This study’s sample was selected using the purposive sampling method under several specific and stipulated requirements: (a) non-financial companies (excluding the service, trade, and investment sectors) listed on the IDX and the GRI websites. Non-financial companies were chosen because the sample companies were required to carry out trading or sales activities to calculate investment efficiency, and non-financial companies directly impact the environment and allow wider CSR disclosure. (b) The companies had complete annual reports for two years (2018-2019). Companies with complete annual reports, including financial statements and minutes of shareholder meetings, have made good financial disclosures and provided useful information for users of financial statements, such as the board of directors who served in that period. (c) The companies had complete corporate social responsibility disclosure following the applicable GRI standards in 2018-2019. A total of 33 non-financial companies that met these criteria were tested to meet the BLUE assumption. The tests used were normality, heteroscedasticity, and multicollinearity tests. Then, the researchers tested all hypotheses using a multiple linear regression test with the following equation:

Model 1:

$Inv\_Ineff = \alpha_0 + \beta CSR_{i,t} + e$ … (1)

Model 2:

$Inv\_Ineff = \alpha_0 + \beta_1 CSR + \beta_2 WOM + (\beta_3 CSR \times WOM) + e$ … (2)

Annotation:
α : Coefficient; $\beta_1 .. \beta_6$: Constants; Inv_Ineff: Investment inefficiency; CSR : CSR Disclosure; WOM: Women board of directors; e: Error

Variable Measurement

Investment Inefficiency

The level of company inefficiency was calculated using the residual value introduced by Biddle et al. (2009) with the following equation formulation:

$Inv\_Ineff_{i,t} = \beta 0 + \beta 1\ Sales\ Growth_{i,t-1} + \varepsilon_{i,t}$ … (3)

Annotation:
In_Ineff $_{i,t}$ = The sum of company (i) investment within a year (t), enumerated based on intangible and tangible assets accretion; Sales Growth = Company (i) annual sales difference percentage between periods t-1 and (t). The deviation and the level of company investment are reflected in the residual value of the regression model, which will later become a proxy for investment efficiency. This variable will be the absolute value of the residual multiplied by -1, resulting in the highest value as a parameter indicating high investment efficiency.

CSR Disclosure

The assessment of CSR disclosure used the content analysis method based on GRI, an indicator of disclosure of companies registered in the GRI and BEI databases. This calculation formula was previously used (Hadya & Susanto, 2018).

$$CSR\ GRI\ Standar = \frac{\sum Xn}{148}$$

$\sum Xn$ = The number of disclosures from sample companies; 148 = The number of disclosure items based on GRI standard

Women Board of Directors

It was the moderating variable in this study. Gender diversity is based on the absence or presence of women as directors and was calculated under the consideration of the total members of women directors (in %). The calculation used the formula from (Jia & Zhang, 2012) as follows:

$$Board\ Gender\ Diversity = \frac{Number\ of\ Women\ Directors}{Total\ number\ of\ board\ of\ directors\ members}$$

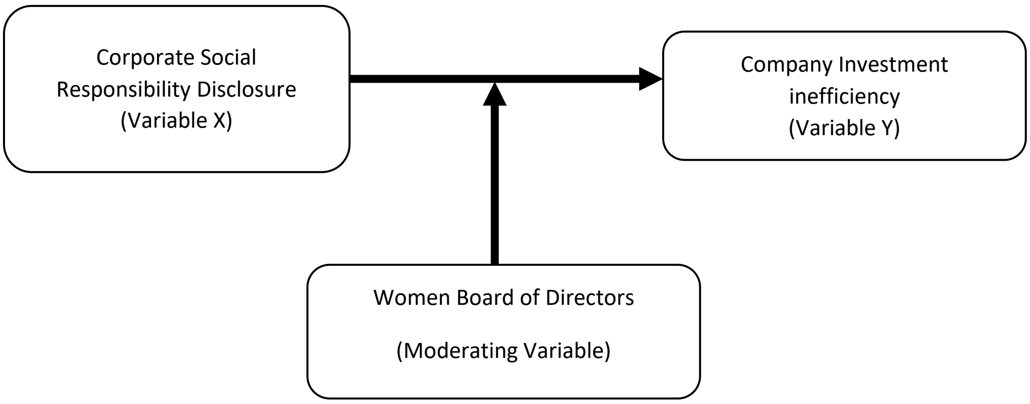

Figure 1. Research Model

Result and Discussion

Results

Before testing the hypotheses, the researchers carried out several tests, such as descriptive statistical and classical assumption tests (normality, heteroscedasticity, multicollinearity, and autocorrelation). The results revealed that all elements of the classical assumption test have been met. Furthermore, from descriptive statistical tests, most companies experienced overinvestment. In the Table 1, the categorization of investment efficiency was divided into three quartiles.

Table 1 Investment Efficiency Classifications

Q0	-68.6744	*Over Investment*	33	50%
Q1	-2.5874			
Q2	-1.4375	*Efficient*	16	24%
Q3	-0.67604	*Underinvestment*	17	26%
Q4	1.2439			
			66	100%

The upper quartile (Q0-Q1) indicates overinvestment, the middle quartile (Q2) reflects efficient investment, and the lower quartile (Q3-Q4) signifies inefficient underinvestment. From 66 research data, 76% of the companies experienced inefficient investments. Only 24% of them managed to invest efficiently.

Table 2 Statistic Descriptive Testing Results

	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic
Investment Inefficiency	-68.6744	1.2440	-2.7507	8.4144
CSR Disclosure	0.2568	0.6757	0.4224	0.0881
Women Board of Directors	0.0000	0.5000	0.0665	0.1325

N = 66

Based on Table 2, the mean investment inefficiency statistic was -2.7507, in the first quartile range, indicating that most investment companies in Indonesia in the 2018-2019 period experienced overinvestment. CSR disclosure variables based on descriptive statistics showed that in 2018, the mean CSR disclosure was 0.4133 or 41.33%, which increased in 2019 by 0.4314 or 43.14%. In addition, concerning women on the board of directors, from the existing sample during 2018-2019, only 11 companies had women members on their board of directors or 33.3% of the sample.

Then, the researchers tested the classical assumption. Then, the classical assumption test showed the results of 0.682 (>0.05). Furthermore, the researchers also conducted a multicollinearity test with a tolerance value >1 and a VIF <1. There was an indication of multicollinearity in one of the variables due to the lack of sample size to support the study optimally.

In the heteroscedasticity test, the scatterplot test was used, where there were no symptoms of heteroscedasticity in both regression models, indicated by the well-distributed points randomly. The researchers then performed an autocorrelation test, and the results showed no indication of autocorrelation in the variables studied. Furthermore, the researchers tested the hypothesis using the MRA test, which showed that the CSR disclosure variable affected investment inefficiency by 7.1%. Then, the women's board of directors influenced CSR disclosure, affecting investment inefficiency by 12.3%. The coefficient of determination test (R2) revealed that investment inefficiency was weakly affected by the CSR disclosure variable even though the women's board of directors moderated it. In the F-test (ANOVA value), for the first regression model, CSR disclosure influenced investment inefficiency with an ANOVA value of less than 0.05. Meanwhile, for the regression model with women's board of directors, the ANOVA value was 0.053. Therefore, it can be said that the moderated CSR disclosure did not affect investment inefficiency.

After testing the model, a t-test or partial hypothesis testing was carried out with the following results:

Table 3 Hypotheses Testing Results

Model	Beta	Sig
(constant)	0.914	0.441
CSR	-6.478	0.027
FCEOs	-1.913	0.824
CSR*FCEOs	10.576	0.599

Dependent variable: Investment Inefficiency (sig. at alpha 5%)

Based on Table 3, CSR disclosure had a significance value of 0.027 (less than 0.05 probability); thus, hypothesis one was accepted. For the equation model in which women directors moderating influence was incorporated, the significance value was 0.599 (more than 0.05 probability), so the second hypothesis was rejected.

Discussion

The results uncovered that CSR disclosure affected the company's efficiency investment, accepting hypothesis one. It proves that the higher the company's disclosure, the greater the possibility of suppressing investment inefficiency caused by agent-related issues and asymmetrical information (Richardson, 2006). Thus, better financial reporting can help reduce information asymmetry with CSR disclosure.

Moreover, mutual trust and communication between stakeholders and management shall be strengthened in case active social responsibilities are taken seriously, enticing other investors. Companies with environmental and social concerns will respond to shareholder expectations by achieving maximum profit so that managers can invest the company's funds more efficiently. The researchers have shown that companies taking on the greatest responsibility on social issues uphold substantial ethical and cultural standards; the bad news is less potentially hidden by management, including not taking action that leads to stakeholder loss. Studies by Samet and Jarboui (2017), Anwar and Malik (2020), and Benlemlih and Bitar (2018) shared similar conditions in which they explained that the more widely CSR disclosure is performed, the higher investment efficiency the companies will have. Another study (Lee, 2020) in Taiwan on the Asian market also showed that CSR disclosure reduced investment inefficiency in Taiwanese companies. Also, Ho et al. (2022) supported and showed that CSR disclosure is more effective in an emerging market.

As for the second hypothesis, the results showed that CSR disclosure moderated by women's authority did not indicate any impact on companies’ CSR disclosure, which would also affect the company's investment efficiency. Such results might be due to the lack of female board of directors in the sample companies; thus, under this study, women's authority impact on CSR disclosure was less than optimal.

Data disclosed that the mean presence of women's authority was no more than 6%, far below 50%. This low proportion of women on the board of directors would reduce the ability of women to influence and drive change. It also made it difficult for female directors to minimize information asymmetry and agency problems. Therefore, it would impact ineffective disclosure of CSR and investment inefficiency. Previous research by Seierstad et al. (2015) noted that a female director's presence is essential, and this is merely for the sake of impartiality. Thus, the company's image will improve from the stakeholder's perspective. As such, women’s authority presence is not complementary only. In this case, companies want to show the stakeholders that they care about gender equality.

Conclusion

The study results revealed that non-financial disclosures, such as CSR disclosures, could reduce a company's information asymmetry. Of course, companies will look for ways to increase CSR disclosure if that is the case. CSR disclosure also negatively impacts investment inefficiency. It can be interpreted that CSR disclosure effectively reduces inefficient corporate investment. However, in this study, the women board of directors did not have a moderate effect on increasing the company's CSR disclosure to investment inefficiency. Such a condition might occur due to a finite amount of female director members; hence, the effect was insignificant.

Furthermore, this research provides the following implications. The researchers have proven that CSR disclosure can indeed overcome investment inefficiency in companies. However, the aim regarding the influential presence of women’s authority in increasing CSR disclosure was still not proven; it provides another perspective to the management of companies regarding the benefits and importance of CSR disclosure and how it affects the company's efficiency. For company stakeholders, increasing CSR disclosure will certainly provide broad information for the parties, especially principals who do not always have the opportunity to monitor the company's performance from time to time.

The limited number of women boards of directors positioned in companies caused women on board of directors to have no effect as a moderated variable. Moreover, this research did not categorize investment efficiency in the overinvestment and underinvestment schemes. Hence, the researchers suggest that for further research, the following things be considered: (1) The targeted observation years can be increased to several years back and in the future (latest data); thus, the number of samples studied can be maximized (in terms of companies or reports being analyzed). (2) The next researchers can categorize investment inefficiency as underinvestment and overinvestment.

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