

## Enhancing Corporate Governance: Female Board Influence on Non-Financial Reporting Effectiveness in Managing Agency Costs

Nicken Destriana<sup>1\*</sup>; Shalma Atika Putri<sup>2)</sup>

<sup>1)</sup> [ndestriana@stietrisakti.ac.id](mailto:ndestriana@stietrisakti.ac.id), Trisakti School of Management, Jakarta, Indonesia

<sup>2)</sup> [shalmaatikaputri@gmail.com](mailto:shalmaatikaputri@gmail.com), Trisakti School of Management, Jakarta, Indonesia

\*) Corresponding Author

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### ABSTRACT

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**Objectives:** This study examines how non-financial disclosures influence agency costs in Indonesian manufacturing companies, emphasizing the moderating effect of female board members. It offers a new perspective on corporate governance by exploring the female board's role in this relationship.

**Methodology:** Using secondary data from 32 manufacturing companies listed on the Indonesia Stock Exchange from 2021-2023, the research employs multiple linear regression and purposive sampling. Agency costs are proxied by two expense ratios and an asset utilization ratio.

**Findings:** Non-financial disclosures significantly impact agency costs. Female board representation strengthens this relationship for expense ratio measures, suggesting enhanced transparency and reduced agency costs. However, this moderating effect is not significant when agency costs are measured by the asset utilization ratio, implying female board members are more effective in moderating operational agency costs than investment-related ones.

**Conclusion:** This research uniquely shows how gender dynamics on boards affect non-financial disclosure's effectiveness in mitigating agency costs within a male-dominated manufacturing sector. It offers valuable insights for corporate governance and investment practices.

**Keywords:** Agency Costs; Non-financial Disclosures; Female on Board.

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## INTRODUCTION

Sustainability reports, or non-financial disclosures, reveal a company's environmental, social, and governance performance (European Commission 2011). These reports are gaining importance for strengthening investor trust and mitigating information asymmetry and agency costs. Mandated by Indonesian Financial Services Authority (OJK) Regulation No. 51/2017, these reports, particularly those focused on sustainability, address diverse stakeholder information needs by providing a comprehensive view of company performance, thus reducing potential agency problems (Wu and Yuan 2020).

Jensen and Meckling (1976) argue that agency problems stem from information asymmetry between managers (agents) and shareholders (principals). Managers, having direct control, possess more information about the company than shareholders. This imbalance, coupled with potentially conflicting objectives between management and owners, can lead to agency costs. Transparency is key to mitigating these issues. When stakeholders have equal access to information, they can effectively monitor management, encouraging decisions aligned with overall stakeholder interests (Rossi and Harjoto 2020).

Enhanced transparency can be achieved through disclosing non-financial information. Companies that disclose more information signal to stakeholders their dedication to minimizing conflicts of interest and agency costs (Brealey et al. 1977, Healy and Palepu 2001). While agency problems remain pertinent Hendrastuti and Harahap (2023), research linking transparency via non-financial disclosure to reduced agency costs is limited but growing (Luo et al. 2018; Rossi and Harjoto 2020; Wu and Yuan 2020; Zhou et al. 2018 specifically regarding Chinese firms).

The impact of female board representation on agency costs provides mixed results. Some studies find that gender diversity in the boardroom reduces agency costs (Ain et al. 2020, Ongsakul et al. 2022, Teng and Wu 2024), where women commissioners can provide more effective oversight and improve the governance structure. This effect is particularly pronounced in more advanced state-owned and regional companies (Ain et al. 2020). This result is in line with the findings of Amin et al. (2022) which shows that a board of commissioners with a larger number of women tends to reduce agency costs. So that with tighter supervision, the female board of commissioners tends to prevent actions that harm shareholders, thereby minimizing agency conflicts. This is supported by research Adams and Ferreira (2009) which concluded that women tend to ask different critical questions than men, thereby improving oversight and the quality of decision-making. In addition, female commissioners tend to be more conscientious and have a high sense of responsibility (Li and Li 2020).

While a growing body of literature suggests that gender diversity in the boardroom mitigates agency costs through enhanced oversight, the existing evidence remains fragmented and provides mixed results. Proponents argue that female directors improve governance by fostering high levels of conscientiousness and asking distinct critical questions. However, a counter narrative suggests that diverse leadership styles may occasionally impede decision making speed, potentially increasing administrative agency costs. To address these conflicting perspectives, this research shifts the focus toward the specific moderating conditions, such as non-financial transparency, under which female board representation effectively bridges the information gap between management and shareholders.

By examining the role of the female board of commissioners as a moderating variable, this study offers a fresh perspective on corporate governance within the traditionally male-dominated manufacturing sector. In this context, the presence of female commissioners

introduces unique dynamics in oversight that may significantly influence the relationship between corporate transparency and agency costs. Ultimately, this investigation seeks to determine how gender dynamics at the board level enhance the effectiveness of non financial disclosures, thereby providing a deeper understanding of how diversity can be leveraged to minimize agency conflicts.

This research makes a significant contribution to emerging market literature by contextualizing the relationship between non-financial transparency and agency costs within the unique regulatory and cultural framework of Indonesia. Specifically, it addresses the critical gap in empirical evidence regarding the effectiveness of mandated sustainability reporting under Indonesian Financial Services Authority Regulation No. 51/2017. By examining these dynamics, the study provides a localized understanding of how transparency initiatives serve as vital signaling mechanisms to reduce information asymmetry in regions with developing governance structures. Furthermore, this investigation enriches the discourse on board diversity by focusing on the traditionally male-dominated Indonesian manufacturing sector, offering fresh insights into how female board representation introduces unique oversight dynamics that can be leveraged to minimize agency conflicts. Ultimately, these findings offer a practical roadmap for Indonesian firms to align their governance practices with global standards while navigating the specific challenges of a rapidly evolving emerging economy.

## LITERATURE REVIEW

### *Agency Theory and Agency Cost*

Agency theory focuses on the contractual relationship between two parties, the principal (shareholder) and the agent (company manager). The principal delegates decision-making authority to the agent to carry out its best interests. However, since the agent also maximizes his personal utility, there is a potential for the agent to act against the principal's interest. This mismatch leads to agency costs, which arise from the mismatch between the agent's decisions and the principal's welfare maximization objective (Jensen and Meckling 1976).

The concept of agency costs is closely related to agency theory. This theory describes the relationship between two parties, principals (owners or shareholders) who delegate tasks to agents (Jensen and Meckling, 1976). Company owners certainly hope that managers will make decisions that benefit the company as a whole, so that the value of their ownership increases. However, managers, as humans, tend to have personal goals. Managers may be more interested in decisions that can increase their salaries, bonuses, or personal reputation, even if such decisions do not necessarily benefit the company. This conflict of interest is often the root of the problem in the relationship between principals and agents (Megarani et al. 2019).

Agency costs are grouped into three main components, namely monitoring costs, bonding costs, and residual loss (Jensen and Meckling 1976). Monitoring cost is the cost of monitoring agent behavior, including the cost of measuring, observing, and controlling agent behavior. Bonding cost is the cost of establishing and complying with mechanisms that ensure that the agent will behave in the principal's interest or that the agent will compensate the principal if the agent acts in a manner contrary to the principal's interest. Meanwhile, residual loss is a loss that occurs because the agent still has the freedom to make decisions that may be different from the ideal decision for the principal (Godfrey et al. 2010).

Therefore, the problem that arises with this form of corporate ownership is that managers do not always make decisions that are in the best interest of the principals, resulting in a loss of wealth for shareholders. For example, shareholders may prefer to maximize wealth in the long

run by undertaking long-term projects that seek high returns, while managers may focus on short-term gains to maximize their personal goals, such as high salaries and bonuses. Therefore, the solution to agency problems lies in information transparency and supervision and control of corporate management (Huu Nguyen et al. 2020). It is evident that agency costs in the company can be reduced one of them by disclosing non-financial information according to Luo et al. (2018), Rossi and Harjoto (2020), Wu and Yuan (2020) and can also be strengthened by the presence of a female board of commissioners (Ain et al. 2020 and Amin et al. 2022).

In this study, agency theory serves as the primary grand theory, providing the essential framework for understanding the fundamental conflicts of interest between shareholders (principals) and management (agents). By focusing on the necessity of oversight, this perspective justifies the presence of female board members as a critical monitoring mechanism designed to reduce residual loss and ensure that managerial actions remain aligned with owner interests. Within this framework, board diversity is not merely a social goal but a strategic governance tool used to minimize agency costs and protect shareholder value.

### ***Signaling Theory***

Signaling theory explains how companies that have more information about their internal conditions can "signal" to outsiders such as investors and creditors. These signals can be in the form of financial statements, disclosure of non-financial information, or other management actions. The main objective of this theory, as explained by Wang et al. (2009), is to reduce the information gap between the inside (management) and the outside of the company. By signaling, management tries to provide a clearer picture of the company's condition, so that outsiders can make better decisions and invest with more confidence.

According to signal theory Brealey et al. (1977), companies that are open in disclosing non-financial information, such as sustainability reports, signal to investors and other stakeholders that management is committed to transparency and accountability. In other words, such companies demonstrate that they have better information about the company's performance and are willing to share it with the public. This can help reduce the information gap between management and outsiders, thereby reducing costs arising from mistrust and uncertainty.

Signaling theory acts as a supporting mechanism that explains the transmission of information to the market. While agency theory focuses on internal monitoring, signaling theory illustrates how non-financial disclosure serves as a costly signal that reduces information asymmetry.

### ***Corporate Non-Financial Disclosure***

Corporate non-financial disclosure is a report issued by a company that contains information about the results of environmental, social and corporate governance performance. Disclosure of corporate sustainability reports is a process of conveying the social and environmental impacts of the company's economic activities on society and shareholders (Darwinsyah 2018 and Fitriana et al. 2023). The sustainability report covers important aspects that reflect the company's commitment to sustainable growth, such as environmental protection, employee welfare, and social contributions. Along with the increasing attention to sustainability issues, non-financial disclosures have become the centerpiece of a company's communication with stakeholders (Liu et al. 2023).

The disclosure of non-financial information serves several important strategic purposes in a company's operations. First, it increases transparency. This disclosure aims to reduce

information asymmetry between management and stakeholders, such as investors, employees, customers and the public. This transparency allows stakeholders to make better decisions based on more accurate information, thereby improving the relationship between the company and its stakeholders (Pigatto et al. 2023). Second, voluntary non-financial disclosures can also be viewed in terms of agency theory. In this context, voluntary disclosures help reduce agency problems by providing more information to shareholders and other stakeholders, ultimately minimizing potential conflicts between shareholders and management (Rossi and Harjoto 2020).

### ***Female on Board***

The board of commissioners has an important role in supervising the performance of company management. One of its duties is to supervise and ensure that management acts in accordance with the interests of shareholders. Research shows that women on boards of commissioners tend to have different characteristics to men. They are often more independent, diligent, have a high sense of responsibility, and act as strict supervisors (Li and Li 2020). The presence of women on the board also contributes to increased attendance and decreased internal conflict. Eagly and Johannesen-Schmidt (2001) found that women in leadership positions, such as directors, tend to pay more attention to interpersonal relationships and the well-being of others. They are more open to feedback from subordinates and strive to be inspirational leaders. In contrast, men in leadership positions are often more focused on achieving goals and tend to make decisions independently without much involvement from others. In addition, traits such as caring, kindness and empathy are more often associated with women. This suggests that women tend to have a more social orientation than men (Amin et al. 2022).

Some previous research Adams and Ferreira (2009), García-Sánchez et al. (2017), Gull et al. (2018), Levi et al. (2014), and Khan et al. (2020), studies have consistently shown that women tend to make more cautious and careful decisions than men. For example, female boards often request more in-depth audits, act as stricter watchdogs, and contribute to improving the quality of board decisions and the company's reputation. In addition, female boards also play an important role in maintaining accountability, encouraging innovation, and ensuring more rational and long-term oriented decision-making (Faccio et al. 2016, Usman et al. 2018, and Xie et al. 2020).

Research shows that the presence of women on boards brings a diverse range of perspectives and valuable expertise (Pizzi et al. 2021). This gender diversity enriches the decision-making process within the company, increases access to relevant resources, and allows the company to be more adaptive to changes in the business environment (Rao and Tilt 2016). In addition, women commissioners play an important role in encouraging companies to disclose non-financial information (Fernandez et al. 2019, Wasiuzzaman and Wan Mohammad 2020). This is reflected in the female board of commissioners producing higher levels of non-financial disclosures for the benefit of the company's various stakeholders. Therefore, women on the board of commissioners play an important role in reducing agency costs through effective supervision while encouraging increased transparency in the disclosure of corporate non-financial information.

### ***Corporate Non-Financial Disclosure and Agency Costs***

Jensen and Meckling (1976) in its agency theory explains that the difference in interests between owners and management can lead to three types of costs. First, the owner must incur costs to supervise and control management actions or called monitoring costs. Second,

management must also bear the cost of ensuring that their actions are in line with the interests of the owner or called bonding costs. Finally, despite monitoring efforts, there is still the possibility of losses due to deviant management actions. This loss is a cost that must be borne by the owner (residual loss).

We argue that disclosure of non-financial information can be a mechanism to reduce agency costs arising from information asymmetry between owners and management. Luo et al. (2018) found that companies that are transparent in reporting financial and non-financial performance provide more complete information to investors, thereby reducing uncertainty and enabling more effective oversight of management. In addition, shareholders often rely on annual reports, including the non-financial information section, to assess management performance and ensure that their interests are protected (Healy and Palepu 2001, Jensen and Meckling 1976).

Wu and Yuan (2020), Rossi and Harjoto (2020), Luo et al. (2018), and Obeng et al. (2021) state that the company's non-financial disclosure has a negative effect on agency costs so that if the company discloses non-financial information it will reduce agency costs. This happens because by disclosing non-financial information, companies are able to increase transparency and accountability, thereby reducing the gap between management objectives and shareholder interests (Rossi and Harjoto 2020).

By synthesizing these theoretical foundations, it becomes clear that non-financial disclosure functions as more than a simple reporting obligation. It acts as a strategic conduit for aligning the divergent interests of management and shareholders. While traditional agency theory focuses on the financial burdens of monitoring, bonding, and residual loss, contemporary research suggests that transparency is a preemptive mechanism that mitigates the information asymmetries fueling these costs. When companies provide a comprehensive view of their environmental and social governance, they effectively reduce the uncertainty that allows for managerial opportunism, thereby fostering a climate of accountability that minimizes both operational and administrative agency conflicts. Consequently, the weight of academic evidence supports the premise that robust disclosure practices are fundamentally linked to enhanced governance efficiency and a measurable reduction in agency costs. Based on this synthesis, the following hypothesis is proposed:

H<sub>1a,b,c</sub>: Non-financial disclosure reduces agency costs.

### ***Female on Board and Agency Costs***

Gender diversity in the board not only brings different perspectives in decision making, but also improves the quality of supervision so as to overcome agency problems. In addition, due to stricter supervision, female commissioners tend to prevent actions that harm shareholders, thus minimizing agency conflicts (Ain et al. 2020 and Amin et al. 2022). According to Harris et al. (2019), there are significant differences in leadership styles between men and women, such as communication skills and ethics. This is in line with Orazalin (2020) and Shawver et al. (2006) which suggests that women do not engage in unethical business practices. In addition, female commissioners tend to be more conscientious and have a high sense of responsibility (Li and Li 2020). These studies show that the presence of a female on board who prioritize stricter supervision, ethical actions, a more conscientious attitude, and a more responsible attitude than men is predicted to support the interests of shareholders and reduce agency costs.

Different research results were found by Smith et al. (2006), Jadiyappa et al. (2019), Wellalage and Locke (2013). These studies show that despite the benefits of having women on

boards, differences in perspectives and leadership styles between men and women can slow down the decision-making process and increase agency costs. However, the results of research conducted by Wellalage and Locke (2013), Ain et al. (2020), Amin et al. (2022) states that female on board has an influence on agency costs.

The scholarly discourse regarding gender diversity within corporate boards reveals a critical tension between enhanced oversight capabilities and operational decision making speed. Proponents of gender diversity argue that female directors significantly elevate the quality of board supervision by introducing distinct leadership styles characterized by superior communication and high ethical standards. These qualities help create a responsible culture that serves as a vital safeguard against risky management decisions that might harm shareholders. Conversely, On the other hand, some research suggests that having many different viewpoints can sometimes slow down the decision making process, which might increase administrative costs. Despite these procedural complexities, the overall academic view is that the benefits of transparency and ethical behavior are essential for reducing conflicts within a company. By focusing on careful monitoring and ethical values, female board members act as a key mechanism to ensure that management's actions align with the long-term interests of the owners. By prioritizing stricter monitoring and ethical rigor, female board members act as a strategic mechanism to align management behavior with the long-term interests of the owners. Based on this synthesis of conflicting perspectives and governance benefits, the following hypothesis is proposed:

H<sub>2a,b,c</sub>: Female board representation can mitigate agency costs.

### ***Corporate Non-financial Disclosures and Agency Costs moderated by Female on Board***

According to Carter et al. (2003), Amin et al. (2022) shows that gender diversity in the board of commissioners can increase supervisory effectiveness. This is due to differences in leadership styles and perspectives between men and women, which allow critical questions to arise so as to improve the quality of decision making and ultimately reduce agency costs.

Some recent research Liu et al. (2023), Nicolò et al. (2022), Peng and Chandarasupsang (2023) shows that women commissioners actively encourage companies to be more transparent in reporting non-financial issues such as corporate social responsibility. This is due to the different perspectives and values that women bring and indicates that women play an important role in increasing corporate transparency and accountability regarding social and environmental issues.

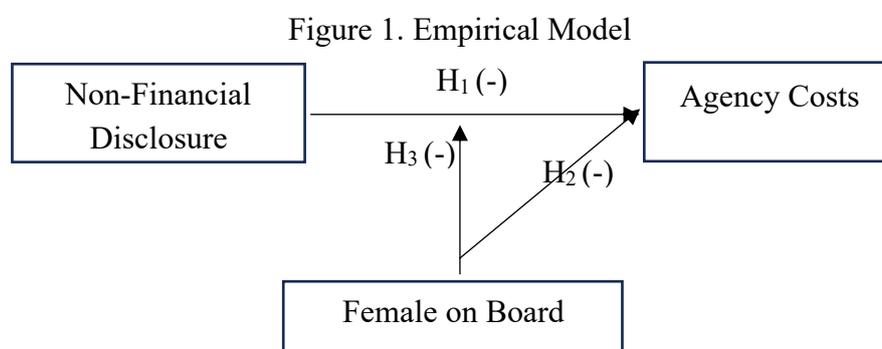
Building on the foundation of improved oversight, research suggests that the presence of women on boards significantly enhances a firm's supervisory effectiveness. Because female directors often bring diverse perspectives and distinct leadership styles, they are more likely to raise critical questions that refine the quality of decision making and, consequently, reduce agency costs. Recent studies further highlight that female commissioners play a vital role in driving corporate transparency, particularly regarding non-financial issues such as corporate social responsibility. By advocating for more comprehensive and accountable reporting on social and environmental matters, these directors help bridge the information gap between management and shareholders.

When a company commits to high-quality non financial disclosure, the presence of female board members acts as a powerful catalyst, ensuring that this transparency is effectively used to monitor management behavior. In this way, gender diversity does not just reduce agency costs directly. It strengthens the existing link between transparent reporting and improved governance. Therefore, the combination of robust non financial disclosure and female board

representation creates a more rigorous environment for reducing agency conflicts than disclosure alone. Based on this reasoning, the following hypothesis is proposed:

H<sub>3a,b,c</sub>: The presence of women on the board enhances the negative connection between a company's non-financial disclosures and its agency costs.

The conceptual framework informs the following empirical model:



## METHOD

This causal study examines Indonesian manufacturing companies listed on the IDX from 2021-2023. The manufacturing sector's sensitivity to ESG issues underscores the importance of non-financial disclosures for maintaining reputation and attracting investment, making it a compelling context for exploring the relationship between such disclosures and agency costs. The 2021-2023 period offers a unique perspective, encompassing the post-COVID-19 pandemic recovery and providing insights into how manufacturing firms adapted to the changing business environment and its impact on agency costs. Table 1 presents the results of the sample selection based on the criteria:

Table 1. Sample Selection

No	Criteria	Firms
1.	Maintained a continuous listing on the IDX	161
2.	Failed to release annual reports between 2021 and 2023	(16)
3.	The fiscal year end is not December 31 <sup>st</sup>	(2)
4.	Does not utilize Indonesian Rupiah	(27)
5.	Lack of female board representation	(63)
6.	Incomplete data	(21)
	Sample	32
	Data observation	96

This study utilizes secondary data derived from audited financial, annual, and sustainability reports. The initial dataset was refined to exclude 63 companies that lacked female board representation during the observation period. This exclusion was statistically imperative to maintain the validity of the moderating variable, as the research specifically examines the influence of gender dynamics rather than their absolute absence. Furthermore, data constraints necessitated the removal of an additional twenty-one companies: one due to zero revenue, fourteen for insufficient sustainability reporting (GRI scores of zero or unreadable

image-based formats), and six for failing to provide granular breakdowns of administrative expenses. Consequently, while this selection process ensures internal validity, it implies that the findings are most representative of firms with existing gender diversity and may not be fully generalizable to exclusively male-dominated corporate environments.

### ***Variable Definitions and Measurement***

#### ***Agency Costs***

Agency costs are costs that arise due to a mismatch between the decisions of the agent (company manager) and the goal of maximizing the welfare of the principal (shareholder) (Godfrey et al. 2010 and Ain et al. 2020). Agency costs are measured on a ratio scale using three measurement proxies, namely the ratio of selling and administrative expenses to the company's net sales (Rossi and Harjoto 2020), ratio of administrative expenses to net sales (Amin et al. 2022), and asset utilization ratio (Obeng et al. 2021). These three ratios effectively reflect management's discretionary spending of company resources and assess the efficacy of their investment choices and asset utilization (Ang et al. 2000).

#### ***Non-Financial Disclosure***

Corporate non-financial disclosures are information that is not related to finance, but which relates to economic performance, corporate governance, and corporate social responsibility (CSR) (Rossi and Harjoto 2020). Variable is measured on a ratio scale using GRI (Global Reporting Initiative) G4 (Wu and Yuan 2020, Steelyana et al. 2024). The GRI G4 guidelines, effective in Indonesia since 2013, comprise 91 indicators across three categories: economic (9 indicators), environmental (34 indicators), and social (48 indicators covering labor practices, human rights, community, and product responsibility). A company's GRI score is calculated by assigning 0 for undisclosed aspects and 1 for disclosed aspects within their sustainability report.

While more recent universal GRI Standards have since been introduced, the utilization of the GRI G4 framework in this research is strategically justified to ensure methodological consistency and comparability with existing longitudinal studies within the Indonesian context. By adhering to the GRI G4 guidelines, this study maintains alignment with the reporting environment that was prevalent during the sample period, thereby avoiding standard-shifting bias that could occur if newer criteria were applied retrospectively to historical data. Furthermore, the granularity of the 91 indicators within GRI G4 provides a robust and detailed metric for evaluating the multi-dimensional aspects of sustainability reporting, allowing for a precise assessment of how female board members influence specific non-financial disclosure categories. This approach ensures that the results remain comparable to foundational benchmarks in regional literature while providing a comprehensive basis for testing the moderating role of board diversity on agency costs.

#### ***Female on Board***

Female on board is the presence of women on the board (Amin et al. 2022). Female on board is measured using a ratio scale by measuring the number of female board commissioners, then divided by the total board of commissioners of the company (Liu et al. 2023, Jurnal and Manurung 2023, Reynald et al. 2023). According to Liu et al. (2023), the decisions of the board of commissioners are the result of comprehensive discussions among all directors (both male and female). Therefore, any impact of female characteristics on non-financial information

disclosure would be revealed through the measurement of female board representation. Table 2 shows the measurement of variables.

Table 2. Variables Measurement

Variable	Measurement
Agency costs (Y)	
Selling and administrative expenses (EXP1)	Selling and administrative expenses to the company's net sales (Rossi and Harjoto 2020).
Administrative expenses (EXP2)	Administrative expenses to net sales (Amin et al. 2022).
Assets Utilization Ratio (AUR)	Total revenues/total asset (Obeng et al. 2021).
Non-Financial Disclosure (GRI)	Total GRI score disclosed/total maximum GRI score (Dara 2022).
Female on Board (FP)	Number of female on board /total board (Amin et al. 2022, Hassan et al. 2023).

Source: articles

Multiple regression analysis (multiple regression) is utilized to test the hypothesis proposed with the SPSS statistical test tool. The following regression equation is used:

$$Y = \beta_0 + \beta_1 \text{GRI} + \beta_2 \text{FP} + \beta_3 \text{GRI} \times \text{FP} + \varepsilon \dots\dots\dots(1)$$

This research model has passed the normality test and is free from classical assumption problems (multicollinearity, autocorrelation and heteroscedaticity).

**RESULTS AND DISCUSSION**

Table 3 illustrates the results of descriptive statistical testing of 96 company data.

Table 3. Descriptive Statistic

Variable	N	Minimum	Maximum	Mean	Standard Deviation
EXP1	96	0.0401	0.9940	0.1771	0.1552
EXP2	96	0.0138	0.8817	0.0817	0.1095
AUR	96	0.2005	2.3170	0.9533	0.4293
GRI	96	0.0110	0.5165	0.2117	0.1101
FP	96	0.1000	0.6667	0.3118	0.1267

Source: SPSS output; Note: EXP1: Selling and Administrative Expenses; EXP2: Administrative Expenses; AUR: Assets Utilization Ratio; GRI: Non-Finacial Disclosure; FP: Female on Board.

Based on Table 3, the average agency cost using the EXP1 proxy is 17.71%, indicating that companies are generally efficient in managing selling and administrative expenses. This suggests that managers (agents) are maximizing company profits by controlling costs. The average agency cost with the EXP2 proxy is 8.17%, demonstrating that companies, on average,

maintain low administrative expenses. This efficiency indicates alignment between manager and owner objectives, minimizing agency costs. The average agency cost using the AUR proxy is 95.33%, signifying that managers effectively utilize assets to generate revenue. These three conditions suggest that agents manage expenses and assets in accordance with the best interests of the company.

Non-financial disclosure shows an average value of 21.17%, which is still below 50%. This means that, on average, companies lack transparency in disclosing their sustainability reports according to GRI Standards. Of the 91 GRI indicators, the most frequently disclosed pertains to energy consumption within the organization. Across the three sustainability categories, companies demonstrate better disclosure practices in the environmental category (31.16%), followed by the economic category (24.07%), and lastly, the social category (13.54%). Female board representation has an average value of 31.18%, indicating a relatively low percentage of women on the boards of manufacturing companies. This implies male dominance in these boards.

### Hypothesis Test

Table 4 are deemed appropriate for use in the study, as their significance values are all below the 0.05 alpha threshold. The results suggest that the relationships observed in those models are likely not due to random chance and are therefore considered statistically reliable for the purposes of the study.

Table 4. F Test

Model	F	Sig.
EXP1	8.637	0.000
EXP2	11.399	0.000
AUR	3.775	0.013

Source: SPSS output; Note: EXP1: Selling and Administrative Expenses; EXP2: Administrative Expenses; AUR: Assets Utilization Ratio.

Table 5. t Test

Variable	$\beta$	Sig.	Adjusted R <sup>2</sup>
EXP1			
(Constant)	-0.152	0.022	
GRI	1.212	0.000	0.015
FP	-0.994	0.000	
GRI×FP	-3.752	0.000	0.196
EXP2			
(Constant)	-0.900	0.002	
GRI	0.613	0.000	0.053
FP	-0.471	0.000	
GRI×FP	-1.790	0.000	0.251
AUR			
(Constant)	1.415	0.000	
GRI	-2.284	0.009	0.066
FP	-0.937	0.134	
GRI×FP	4.368	0.113	0.082

Source: SPSS output; Note: EXP1: Selling and Administrative Expenses; EXP2: Administrative Expenses; AUR: Assets Utilization Ratio; GRI: Non-Financial Disclosure; FP: Female on Board.

Table 5 shows an increase in the Adjusted R-squared value from the before and after interaction GRI and FP is added to the regression models, at 0.181, 0.198, and 0.016, respectively. This increase indicates that the female board members as a moderating variable function well for three models.

#### ***Agency Cost with Proxy of Expenses (EXPI and EXP2)***

The analysis in Table 5 indicates that non-financial disclosure has a significant positive influence on agency costs, as evidenced by a significance value of 0.000 and a positive coefficient across two expense ratio proxies. The finding that non-financial disclosure is positively associated with agency costs can be interpreted through both agency theory and signaling theory. From an agency theory perspective, the costs of preparing, verifying, and reporting non-financial information represent a form of bonding cost that management (the agents) must bear to demonstrate their alignment with the interests of shareholders (the principals). In the short term, these expenses can elevate a firm's operational overhead, manifesting as higher agency costs. Simultaneously, signaling theory suggests that non-financial disclosure acts as a costly signal used by management to communicate the firm's long-term sustainability and quality to the market. While this signal reduces information asymmetry, its initial implementation requires significant resource allocation, which explains the positive coefficient observed in the initial models.

In contrast, the negative relationship between female board representation and agency costs aligns with the core tenets of agency theory regarding oversight. Female commissioners function as an enhanced monitoring mechanism that mitigates the opportunistic behavior of management. By bringing diverse perspectives and a more conscientious approach to board dynamics, they reduce the residual loss, the cost to shareholders resulting from management actions that do not maximize firm value. This findings suggest that gender diversity on the board of commissioners is a vital tool for narrowing the information gap between management and owners.

The interaction between non-financial disclosure and female board representation yielded a significant negative coefficient ( $p < 0.05$ ). This finding indicates that the presence of women on the board effectively weakens the positive relationship between non-financial disclosures and agency costs. Essentially, female board members act as a critical monitoring mechanism that ensures the accuracy of disclosures and reduces the potential for managerial opportunism. This ensures that while non-financial reporting may be costly, the oversight provided by a diverse board ensures these resources are used efficiently to reduce the information gap between management and owners.

#### ***Asset Utilization (AUR) and Information Disclosure***

The analysis in Table 5 reveals that non-financial disclosure has a significant negative coefficient (beta = -2.284\$,  $p = 0.009$ ) regarding the Asset Utilization Ratio. From the perspective of agency theory, this finding suggests that the transition to comprehensive reporting frameworks, such as GRI G4, initially represents a high bonding cost for the firm. These substantial expenditures in time, labor, and financial resources are intended to align management's actions with shareholder interests, but in the short term, they may divert focus from core operational activities, thereby reducing the efficiency of asset utilization. Simultaneously, signaling theory posits that while non-financial disclosure is a costly signal designed to reduce information asymmetry, investors may initially perceive these extensive reporting requirements as a trade-off against immediate asset optimization. This could lead to

a perceived risk of operational inefficiency, explaining the observed positive relationship with agency costs when measured through this specific proxy.

Regarding female board representation, the lack of statistical significance ( $p > 0.05$ ) indicates that gender diversity may not have a direct, immediate impact on financial efficiency ratios like AUR. Through the lens of agency theory, this suggests that female board members may prioritize the monitoring of qualitative governance aspects, such as ethical compliance and social responsibility, which are not always captured by quantitative asset turnover metrics. Furthermore, signaling theory suggests that while the presence of women on the board enhances the credibility of a firm's governance signals, the impact of such diverse oversight may be indirect and require a longer observation period to manifest in a company's long-term asset management and investment efficiency.

Finally, the interaction term did not reach statistical significance, suggesting that female representation does not moderate the relationship between non-financial disclosure and agency costs when measured through AUR. This outcome may indicate that the Asset Utilization Ratio is less sensitive to the specific nuances of agency conflicts compared to other metrics, such as the ratio of selling and administrative expenses to sales. Rather than concluding a lack of influence, these results suggest that the impact of female directors might be better captured through board dynamics, individual expertise, or committee-specific roles rather than a simple proportion of representation.

## CONCLUSION

Expense ratios and asset utilization ratios represent different manifestation of agency costs. Expense ratios reflect the costs incurred by a company to run its operations (represents operational overhead), while asset utilization ratio reflects the efficiency of revenue generation from a company's assets. This study finds that female board members are significantly more effective at moderating agency costs linked to operating expenses rather than those associated with investment efficiency. This suggests that the influence of women in the boardroom is most pronounced in areas requiring direct oversight of discretionary spending and administrative costs.

This targeted impact may be attributed to the tendency of female directors to prioritize non-financial disclosures, such as corporate social responsibility and environmental governance. By fostering a focus on these non-financial pillars, female board members enhance the transparency of disclosures, which in turn acts as a pivotal mechanism for reducing agency conflicts.

Despite the clear benefits of diversity, female empowerment within the Indonesian manufacturing sector remains limited. On the Indonesia Stock Exchange, only 32 companies consistently maintain female representation on their boards, indicating that many firms have yet to fully leverage gender-inclusive governance. Furthermore, the average sustainability disclosure score for companies utilizing the GRI G4 framework remains notably low at 21.17%. This suggests that, despite existing regulations, companies lack the internal motivation to provide in-depth disclosures, further highlighting the need for diverse board oversight to drive transparency.

From a policy perspective, these findings advocate for corporate governance strategies that prioritize gender diversity as a tool for tangible financial and non-financial improvement. To actively minimize agency conflicts, companies should empower female directors by integrating their perspectives directly into audit committees and sustainability reporting

workflows. Such inclusion serves as a catalyst for firms to improve the depth and quality of their reporting, ultimately aligning management interests with shareholder transparency.

This research is subject to several limitations that provide context for the interpretation of the findings. First, the relatively constrained sample size may result in insufficient statistical power to comprehensively detect all potential relationships between board dynamics and reporting effectiveness. Second, the process of assigning GRI G4 scores involves a degree of inherent subjectivity. To enhance objectivity, future research could employ more structured assessment methods, such as the involvement of multiple independent assessors to ensure inter-rater reliability. Furthermore, data identification was hindered by inconsistencies in financial disclosures, specifically several sampled companies did not clearly segregate selling expenses, administrative expenses, or revenues in their public statements.

Additionally, this study does not incorporate formal robustness checks or sensitivity analyses, such as testing alternative proxies for agency costs or employing different econometric models to validate the stability of the results. Consequently, the findings may be sensitive to the specific model specifications used in this analysis. Most significantly, the exclusion of sixty-three companies that lacked female board representation during the observation period, while statistically imperative for examining the moderating influence of gender, restricts the generalizability of these results. Consequently, the findings should be interpreted as a focused analysis of gender diverse boards rather than a representation of the entire manufacturing sector or exclusively male-dominated corporate environments.

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